HOW TO USE THIS BULLETIN

The information in this bulletin is current at the time of publication. If you are pursuing a degree, you are obligated to fulfill the requirements as they are listed in the bulletin for the semester in which you enroll in that program.

If the requirements change after you have enrolled in the program, you have the option of fulfilling either the old or new requirements. If you elect to fulfill the old requirements and find that necessary courses have been eliminated or substantially revised, you may substitute other courses with the approval of the dean of the college. If the revision is required by an external accreditation certification body, and this body submits a written statement to the University that the accreditation of a program or certification of its graduates is in jeopardy unless students fulfill the new requirements, the option of fulfilling the old requirements shall not apply.

If your study in the program or the University is interrupted for more than two semesters, your college dean will decide which program requirements must be fulfilled.

Find out more about the University of Kentucky at: **www.uky.edu**.

Information about the Kentucky Community & Technical College System is available at: **www.kctcs.edu/**.

COMPLIANCE WITH REGULATIONS

The University of Kentucky complies with the federal and state constitutions, and all applicable federal and state laws, regarding nondiscrimination. The University provides equal opportunities for qualified students in all aspects of University operations, and does not discriminate on the basis of race, color, national origin, ethnic origin, religion, creed, age, physical or mental disability, veteran status, uniformed service, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, social or economic status, or whether the person is a smoker or nonsmoker, as long as the person complies with University policy concerning smoking. Compliance with the Title IX of the Educational Amendments of 1972, which prohibits sex discrimination, and with Title VI of the Civil Rights Act of 1964 is coordinated by the Equal Opportunity Office, Main Bldg., University of Kentucky, Lexington, KY 40506-0032, 859-257-8927.

Efforts to comply with the laws and regulations applicable to people with disabilities are also coordinated by the Office of Institutional Equity and Equal Opportunity, as required by Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990.

Questions concerning compliance with regulations may be directed to UK's Office of Institutional Equity and Equal Opportunity, or to the Director of the Office for Civil Rights, U.S. Department of Education, Washington, D.C.

Qualified students with disabilities should contact the associate dean and director of the Disability Resource Center at (859) 257-2754 to request reasonable accommodation.

The University is in compliance with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act Amendment of 1989. Questions may be directed to the Vice President for Student Affairs or the Office of the Associate Vice President for Human Resources.

Questions about admission to the University should be directed to the appropriate admissions office.

OAK RIDGE ASSOCIATED UNIVERSITIES (ORAU)

Since 1946, students and faculty of the University of Kentucky have benefited from its membership in Oak Ridge Associated Universities (ORAU). ORAU is a consortium of over 100 colleges and universities and a contractor for the U.S. Department of Energy (DOE) located in Oak Ridge, Tennessee. ORAU works with its member institutions to help their students and faculty gain access to federal research facilities throughout the country; to keep its members informed about opportunities for fellowship, scholarship, and research appointments; and to organize research alliances among its members.

Through the Oak Ridge Institute for Science and Education (ORISE), the DOE facility that ORAU operates, undergraduates, graduates, postgraduates, as well as faculty enjoy access to a multitude of opportunities for study and research. Students can participate in programs covering a wide variety of disciplines including business, earth sciences, epidemiology, engineering, physics, geological sciences, pharmacology, ocean sciences, biomedical sciences, nuclear chemistry, and mathematics. Appointment and program length range from one month to four years. Many of these programs are especially designed to increase the numbers of underrepresented minority students pursuing degrees in science- and engineering-related disciplines. A comprehensive listing of these programs and other opportunities, their disciplines, and details on locations and benefits can be found in the *ORISE Catalog of Education and Training Programs*, which is available at **www.orau.gov/orise/educ.htm**, or by calling either of the contacts below.

ORAU's Office of Partnership Development seeks opportunities for partnerships and alliances among ORAU's members, private industry, and major federal facilities. Activities include faculty development programs, such as the Ralph E. Powe Junior Faculty Enhancement Awards, the Visiting Industrial Scholars Program, consortium research funding initiatives, faculty research and support programs as well as services to chief research officers.

For more information about ORAU and its programs, contact:

Lisa A. Cassis
Interim Vice President for Research
ORAU Councilor for University of Kentucky

Monnie E. Champion
ORAU Corporate Secretary (865-576-3306); or
Visit the ORAU Home Page at: **www.orau.org**

STATEMENT OF MISSION, VISION AND VALUES

MISSION

The University of Kentucky is a public, land grant university dedicated to improving people's lives through excellence in education, research and creative work, service and health care. As Kentucky's flagship institution, the University plays a critical leadership role by promoting diversity, inclusion, economic development and human well-being.

VISION

The University of Kentucky will be one of the nation's 20 best public research universities.

VALUES

The University of Kentucky is guided by its core values:

- Integrity
- Excellence
- Mutual respect and human dignity
- Diversity and inclusion
- Academic freedom
- Personal and institutional responsibility and accountability
- Shared governance
- A sense of community
- Work-life sensitivity
- Civic engagement
- Social responsibility

University of Kentucky is accredited by the Southern Association of Colleges and Schools Commission on Colleges to award associate, baccalaureate, masters, and doctorate degrees. Contact the Commission on Colleges at 1866 Southern Lane, Decatur, Georgia 30033-4097, call 404-679-4500, or online at *www.sacscoc.org* for questions about the accreditation of University of Kentucky.

An Equal Opportunity University

NOTIFICATION OF RIGHTS UNDER FERPA FOR POSTSECONDARY INSTITUTIONS

www.uky.edu/Registrar/ferpa.html

The Family Educational Rights and Privacy Act (FERPA) affords students certain rights with respect to their education records. They are:

(1) The right to inspect and review the student's education records within 45 days of the day the University receives a request for access. Students should submit to the registrar, dean, head of the academic department, or other appropriate official, written requests that identify the record(s) they wish to inspect. The University official will make arrangements for access and notify the student of the time and place where the records may be inspected. If the records are not maintained by the University official to whom the request was submitted, that official shall advise the student of the correct official to whom the request should be addressed.

(2) The right to request the amendment of the student's education records that the student believes is inaccurate. Students may ask the University to amend a record that they believe is inaccurate. They should write the University official responsible for the record, clearly identify the part of the record they want changed, and specify why it is inaccurate. If the University decides not to amend the record as requested by the student, the University will notify the student of the decision and advise the student of his or her right to a hearing regarding the request for amendment. Additional information regarding the hearing procedures will be provided to the student when notified of the right to a hearing.

(3) The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosure without consent. One exception which permits disclosure without consent is disclosure to school officials with legitimate educational interests. A school official is a person employed by the University in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the University has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. A school official has a legitimate educational interest if the official needs to review an education record in order to fulfill his or her professional responsibility.

Upon request, the University discloses education records without consent to officials of another school in which a student seeks or intends to enroll. [Note: FERPA requires an institution to make a reasonable attempt to notify the student of the records request unless the institution states in its annual notification that it intends to forward records on request.]

(4) The right to file a complaint with the U.S. Department of Education concerning alleged failures by the University of Kentucky to comply with the requirements of FERPA. The name and address of the office that administers FERPA is: Family Policy Compliance Office, U.S. Department of Education, 400 Maryland Avenue, SW, Washington, D.C., 20202-4605.

The University may release information without the student's consent where the information is classified as "Directory information." The following categories of information have been designated by the University as directory information: name, address, telephone listing, email address, photograph, place of birth, major field of study, participation in officially recognized activities and sports, weight and height of members of athletic teams, dates of attendance, degrees and awards received, full-time/part-time status*, and the most recent previous educational institution attended by the student.

Direct questions concerning this law and the University's policy concerning release of academic information to the Student Records Office, (859) 257-7157. Students who do not wish such information released without their consent should notify the Student Records Office in writing. For complete information on (1) adding and removing a privacy flag to prevent the release of directory information; (2) the definition of education records; (3) the types of directory information that may be made available without the student's consent; and (4) the annual FERPA notification deadline for prevention of release of directory information, please visit: **www.uky.edu/registrar/obligation-privacy**.

*For a description of full-time and part-time status, see Notes 2 and 3 under "Tuition and Fees" on page 30.

ANNUAL DISCLOSURE STATEMENT

Student Right-to-Know Act (P.L. 101-542)

University of Kentucky

2015-2016

Section 103 of the Student Right-to-Know and Campus Security Act of 1990 (Public Law 101-542) as amended by the Higher Education Technical Amendments of 1991 (Public Law 102-26) requires public disclosure of relevant graduation rate information for students enrolled in colleges and universities receiving federal financial assistance annually beginning July 1, 1993. The following statement is the University of Kentucky's official disclosure statement in accordance with the requirements of P.L. 101-542 Section 103 for the 2015-2016 academic year.

Graduation Rate of Entering Freshmen

The graduation rate for all students entering the University of Kentucky as first-time freshmen during the 2008-2009 academic year* was **60.2 percent**. This graduation rate represents the percentage of students entering the University of Kentucky as first-time (i.e., new) full-time degree-seeking freshmen during the 2007 Summer and Fall terms who subsequently were awarded baccalaureate degrees by the University of Kentucky within **six** calendar years (i.e., through August 2014). This rate was calculated under definitions and procedures established by the National Collegiate Athletic Association (NCAA), and reported to the NCAA on the University's 2013 Graduation Rate Disclosure Form in March 2015.

Final regulations and guidelines for the calculation, reporting, and disclosure of graduation rate information required under the Student Right-to-Know Act have not yet been issued by the Department of Education. Definitions of the entering student cohort in the Department of Education's **proposed** regulations (*Federal Register*, July 10, 1992) and the NCAA Graduation Rate Disclosure Form differ slightly. However, the University has determined that the graduation rate information in the annual NCAA report is substantially comparable to the information required under the Student Right-to-Know Act, and is reporting that information at this time pending release of final federal regulations.

March 2015

* The information to be disclosed by July 1 of each year is "the graduation rate for the most recent cohort of entering students that all have had an opportunity to complete or graduate from their respective programs" in the specified completion period (which for the University of Kentucky is six years). The most recent entering cohort meeting this requirement is the 2008-2009 freshman class.

2015-2016 Calendar

Check the **Academic Calendars** for any calendar changes that may have been approved after the publication of this Bulletin.

2015 Fall Semester

December 1, 2014 – Monday - Early action deadline for freshmen who are applying for Fall 2015

February 1 – Sunday - Deadline for submission of all application materials, College of Medicine, for the 2015 Fall Semester

February 1 – Sunday - Deadline for submission of all application materials for the School of Interior Design

February 15 – Sunday - Priority deadline for freshman applicants. Applicants for the 2015 Fall Semester by this date who meet selective admission criteria will be offered general admission; applicants after this date or deferred decision candidates will be considered on a space-available basis only.

February 15 – Sunday - Priority filing deadline for the 2015-2016 academic year for financial aid for entering freshmen

February 28 – Saturday - Last day for filing an application for an August 2015 undergraduate degree online in myUK

March 1 – Sunday - Deadline for all applicants to the College of Architecture

March 15 – Sunday - Priority filing deadline for the 2015-2016 academic year for financial aid for continuing and transfer students

March 15 – Sunday - Deadline for international applications to be submitted to The Graduate School for the 2015 Fall Semester

April 1 – Wednesday - Deadline for NAAB Architecture transfer applicants

April 15 – Wednesday - Deadline for applying with college deans for reinstatement after a second academic suspension for the 2015 Fall Semester

May 1 – Friday - Enrollment deposit due for freshmen entering in Fall 2015

May 15 – Friday - Deadline for students to schedule an appointment for reinstatement in all colleges for the 2015 fall semester

May 15 – Friday - Deadline for undergraduate international applicants to submit 2015 Fall Semester application

June 15 – Monday - Earliest date to submit application for regular and Early Decision Program admission, College of Medicine, for the 2016 Fall Semester

June 15-July 16 – Monday through Thursday - "see blue" U Orientation for new freshmen, transfers, and readmitted students enrolling for the 2015 Fall Semester

June 20-September 20 – Saturday through Sunday - Approved time period to apply online in myUK for a December 2015 degree from the Graduate School

June 30 – Tuesday - Last day for filing an application for a December 2015 undergraduate degree online in myUK

July 17 – Friday - Deadline for applying for admission to the Graduate School for the 2015 Fall Semester

July 17-August 15 – Friday through Saturday - Add/Drop for registered students

August 1 – Saturday - Final deadline for submission of all required documents to the Office of Admissions for undergraduate admission, excluding freshmen for the 2015 Fall Semester, who will be considered on a space-available basis

August 1 – Saturday - Deadline for application for Early Decision Program, College of Medicine, for the 2016 Fall Semester

August 5 – Wednesday - Last day for students in the Employee Educational Program registered through August 5 to submit EEP form to Human Resource Services to confirm 2015 registration and tuition waiver

August 18-24 – Tuesday through Monday - Registration for new program graduate students

August 18-24 – Tuesday through Monday - Fall registration for new undergraduate and new program graduate students who entered the University in either the 2015 Four-Week Intersession or Eight-Week Summer Session

August 20-24 – Thursday through Monday - Fall registration for new postbaccalaureate students admitted for the Four-Week Intersession, Eight-Week Summer Session or Fall Semester

August 21 – Friday - "see blue" U Orientation and Registration for new international students who have been cleared for admission but did not priority register

August 21-29 – Friday through Saturday - K Week for all new undergraduate students

August 22 – Saturday - Payment deadline of registration fees and/or housing and dining fees – if total amount due is not paid as indicated on the account statement, a late payment fee of 1.25 percent of the amount past due will be assessed

August 24 – Monday - "see blue" U Orientation and Registration for new freshmen and transfer students who have been cleared for admission but did not priority register including registration for Evening and Weekend

August 24-25 – Monday and Tuesday - Opening-of-term add/drop for registered students

August 24-28 – Monday through Friday - Approved time period for students to change academic majors (note: please check with college for admission deadline)

August 25 – Tuesday - Last day a student may officially drop a course or cancel registration with the University Registrar for a full refund of fees

August 25 – Tuesday - "see blue" U Orientation and Registration for readmission and non-degree students who have been cleared for admission but did not priority register including registration for Evening and Weekend

August 26 – Wednesday - First day of classes

August 26-September 1 – Wednesday through Tuesday - Late registration for returning students who did not priority register and new applicants cleared late for admission. A late fee is assessed students who register late.

September 1 – Tuesday - Last day to add a class for the 2015 Fall Semester

September 1 – Tuesday - Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

September 1 – Tuesday - Last day for students in the Employee Educational Program who registered and/or changed schedules after August 5 to submit EEP form to Human Resource Services to confirm 2015 Fall Semester registration and tuition waiver

September 7 – Monday - Labor Day – Academic Holiday

September 16 – Wednesday - Last day to drop a course without it appearing on the student's transcript

September 16 – Wednesday - Last day to change grading option (pass/fail to letter grade or letter grade to pass/fail; credit to audit or audit to credit)

September 20 – Sunday - Last day for doctoral candidates for a December degree to submit a Notification of Intent to schedule a final examination in The Graduate School

September 20 – Sunday - Last day to apply for fall (December) 2015 degree (graduate school)

September 23 – Wednesday - Last day to officially withdraw from the University or reduce course load and receive a 50 percent refund

September 24 – Thursday - Deadline for submission of application and all required documents to the Office of Undergraduate Admission and University Registrar for change of residency status for 2015 Fall Semester

September 28-November 25 – Monday through Wednesday - Students are prohibited from changing academic major

October 12-23 – Monday through Friday - Midterm Grading window is open. The mid-term grading window will close at midnight on October 23.

October 15 – Thursday - Deadline for submission of application and all required documents to the Office of Admissions for undergraduate applicants planning to attend November "see blue" U Orientation (including registration for spring classes)

October 19 – Monday - Midterm of 2015 Fall Semester

November 2 – Monday - Deadline for completed AMCAS application, College of Medicine, for the 2016 Fall Semester

November 2-24 – Monday through Tuesday - Priority registration for the 2016 Spring Semester

November 12 – Thursday - Last day candidates for the December 2015 degree can schedule a final examination in the Graduate School

November 13 – Friday - Last day to withdraw from the University or reduce course load. Students can withdraw or reduce course load after this date only for "urgent non-academic reasons."

November 20 – Friday - 2016 Spring Semester "see blue" U Orientation for new and readmitted undergraduate students

November 25-28 – Wednesday through Saturday - Thanksgiving – Academic Holidays

November 30 – Monday - Last day for filing an application for a May 2016 undergraduate degree online in myUK

December 1 – Tuesday - Deadline for submission of application and receipt of all materials for admission, readmission or transfer to the College of Law for the 2016 Spring Semester

December 2-21 – Wednesday through Monday - Add/Drop for registered students for the 2016 Spring Semester

December 3 – Thursday - Last day candidates for a December 2015 degree can sit for a final examination

December 7 – Monday - Deadline for applying for admission to the Graduate School for the 2016 Spring Semester

December 7-21 – Monday through Monday - Final Grading window is open. The final deadline for submission of grades online in the grading portal is midnight, December 21.

December 9 – Wednesday - Last day for students in the Employee Program registered through December 9 to submit EEP form to Human Resource Services to confirm 2016 Spring Semester registration and tuition waiver

December 11 – Friday - Last day of classes

December 11 – Friday - Last day for candidates for a December 2015 degree to submit thesis/dissertation for format review to the Graduate School

December 14-18 – Monday through Friday - Final Examinations

December 18 – Friday - End of 2015 Fall Semester

December 18 – Friday - Last day for candidates for a December 2015 degree to submit a thesis/dissertation to the Graduate School

December 18 – Friday - December Commencement

2015-2016 Winter Intersession

October 15, 2015 – Thursday - Priority deadline for admission to the Winter Intersession

October 26-November 17, 2015 – Monday through Tuesday - Priority registration for Winter Intersession

November 13, 2015 – Friday - Winter Intersession registration for newly-admitted students

December 18, 2015 – Friday - Deadline for admission to the Winter Intersession

December 18, 2015 – Friday - Last day a student may drop a course or cancel registration with the University Registrar for a full refund of fees

December 21, 2015 – Monday - First day of class

December 21, 2015 – Monday - Last day to add a class for the 2015-2016 Winter Intersession

December 21, 2015 – Monday - Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

December 22, 2015 – Tuesday - Payment deadline of registration fees – if total amount is not paid as indicated on the account statement, a late payment fee of 1.25 percent of the amount past due will be assessed

December 25, 2015-January 1, 2016 – Friday through Friday - Academic Holidays

January 4, 2016 – Monday - Last day to officially withdraw from the University or reduce course load and receive a 50 percent refund

January 4, 2016 – Monday - Last day to drop a course without it appearing on the student's transcript

January 4, 2016 – Monday - Last day to change a grading option (pass/fail to letter grade or letter grade to pass/fail; credit to audit or audit to credit)

January 6, 2016 – Wednesday - Last day to withdraw from the University or reduce course load. Students can withdraw or reduce course load after this date only for urgent non-academic reasons.

January 12, 2016 – Tuesday - Final Examinations

January 12, 2016 – Tuesday - End of 2015-2016 Winter Intersession

January 15, 2016 – Friday - Final deadline for submission of grades online in the grading portal is midnight

2016 Spring Semester

February 15, 2015 – Sunday - Priority filing deadline for the 2015-2016 academic year for financial aid for entering freshmen

February 28, 2015 – Saturday - Last day for filing an application for an August 2015 undergraduate degree online in myUK

March 15, 2015 – Sunday - Priority filing deadline for the 2015-2016 academic year for financial aid for continuing and transfer students

August 15, 2015 – Saturday - Deadline for international applications to be submitted to The Graduate School for the 2016 Spring Semester

September 15, 2015 – Tuesday - Deadline for applying with college deans for reinstatement after a second academic suspension for the 2016 Spring Semester

September 20-February 20 – Sunday through Saturday - Approved time period to apply myUK for a May 2016 degree from the Graduate School

October 1, 2015 – Thursday - Deadline for students to schedule an appointment for reinstatement in all colleges for the 2016 spring semester

October 15, 2015 – Thursday - Deadline for submission of application and all required documents to the Office of Admissions for undergraduate applicants planning to attend November "see blue" U Orientation (including registration for spring classes)

October 15, 2015 – Thursday - Deadline for undergraduate international applicants to submit 2016 Spring Semester application

November 20, 2015 – Friday - "see blue" U Orientation for freshmen, transfer, readmission students admitted for spring 2016

November 30, 2015 – Monday - Last day for filing an application for a May 2016 undergraduate degree online in myUK

December 1, 2015 – Tuesday - Final deadline for submission of application and all required documents to the Office of Admissions for undergraduate admission for the 2016 Spring Semester

December 2-21, 2015 – Wednesday through Monday - Add/Drop for registered students for the 2016 Spring Semester

December 7, 2015 – Monday - Deadline for applying for admission to the Graduate School for the 2016 Spring Semester

December 9, 2015 – Wednesday - Last day for students in the Employee Educational Program registered through December 9 to submit EEP form to Human Resource Services to confirm 2016 Spring Semester registration and tuition waiver

January 6-11 – Wednesday through Monday - Registration for new program graduate students

January 7-11 – Thursday through Monday - Registration for new post baccalaureate students

January 8 – Friday - International Student "see blue" U Orientation

January 11 – Monday - "see blue" U Orientation and Registration for new freshmen and transfer students who have been cleared for admission but did not priority register including registration for Evening and Weekend

January 11-12 – Monday and Tuesday - Opening-of-term add/drop for registered students

January 12 – Tuesday - Last day a student may officially drop a course or cancel registration with the University Registrar for a full refund of fees

January 12 – Tuesday - "see blue" U Orientation and Registration for readmission and non-degree students including registration for Evening and Weekend

January 13 – Wednesday - First day of classes

January 13-20 – Wednesday through Wednesday - Late registration for returning students who did not priority register and new applicants cleared late for admission. A late fee is assessed students who register late.

January 18 – Monday - Martin Luther King Birthday – Academic Holiday

January 20 – Wednesday - Last day to add a class for the 2016 Spring Semester

January 20 – Wednesday - Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

January 20 – Wednesday - Last day for students in the Employee Educational Program who registered and/or changed schedules after December 10 to submit EEP form to Human Resource Services to confirm 2016 Spring Semester registration and tuition waiver

January 22 – Friday - Payment deadline of registration fees and/or housing and dining fees – if total amount due is not paid as indicated on the account statement, a late payment fee of 1.25 percent of the amount past due will be assessed

February 1 – Monday - Deadline for international applications to be submitted to The Graduate School for the 2016 Fall Semester

February 1 – Monday - Preferred deadline for submitting application for admission to the College of Dentistry for the 2016 Fall Semester

February 3 – Wednesday - Last day to drop a course without it appearing on the student's transcript

February 3 – Wednesday - Last day to change grading option (pass/fail to letter grade or letter grade to pass/fail; credit to audit or audit to credit)

February 10 – Wednesday - Last day to officially withdraw from the University or reduce course load and receive a 50 percent refund

February 11 – Thursday - Deadline for submission of application and all required documents to the Office of Undergraduate Admission and University Registrar for change of residency status for 2016 Spring Semester

February 20 – Saturday - Last day for doctoral candidates for a May degree to submit a Notification of Intent to schedule a final examination in The Graduate School

February 20 – Saturday - Last day to apply for May 2016 degree (in the Graduate School) online in myUK

February 28 – Sunday - Last day for filing an application for an August 2016 undergraduate degree online in myUK

February 29-March 11 – Monday through Friday - Midterm Grading window is open. The mid-term grading window will close at midnight on March 11.

February 29-April 20 – Monday through Wednesday - Students are prohibited from changing academic major

March 1 – Tuesday - Last day for submission of application for admission to the College of Law for the 2016 Fall Semester

March 7 – Monday - Midterm of 2016 Spring Semester

March 14-19 – Monday through Saturday - Spring Vacation – Academic Holidays

March 28-April 19 – Monday through Tuesday - Priority registration for the 2016 Fall Semester and both 2016 Summer Sessions

April 1 – Friday - Last day to withdraw from the University or reduce course load. Students can withdraw or reduce course load after this date only for "urgent non-academic reasons."

April 7 – Thursday - Last day for candidates for a May 2016 degree to schedule a final examination in the Graduate School

April 8 – Friday - Deadline for applying for admission to the Graduate School for the 2016 Four-Week Summer Session

April 21 – Thursday - Last day for candidates for a May 2016 degree to sit for a final examination

April 25-May 9 – Monday through Monday - Final Grading window is open. The final deadline for submission of grades online in the grading portal is midnight, May 9.

April 26-May 2 – Tuesday through Monday - Four-Week Intersession registration and add/drop continue for students enrolled in the 2016 Spring Semester

April 26-June 1 – Tuesday through Wednesday - Eight-Week Summer Session registration and add/drop continue for students enrolled in the 2016 Spring Semester

April 29 – Friday - Last day of classes

April 29 – Friday - Last day candidates for a May 2016 degree to submit thesis/dissertation for formal review to The Graduate School

May 2-6 – Monday through Friday - Final Examinations

May 3-June 18 – Tuesday through Saturday - Add/Drop for priority registered students for the 2016 Fall Semester

May 6 – Friday - End of 2016 Spring Semester

May 6 – Friday - Last day for candidates for a May 2016 degree to have a thesis/dissertation accepted by The Graduate School

May 8 – Sunday - Commencement

May 9-August 19 – Monday through Friday - College of Pharmacy 15-Week Summer Term

2016 Four-Week – First Summer Session

February 20-June 20 – Saturday through Monday - Approved time period to apply online in myUK for an August 2016 degree from The Graduate School

February 28 – Sunday - Last day for filing an application for an August 2016 undergraduate degree online in myUK

March 15 – Tuesday - Priority filing deadline for financial aid for the 4 week and/or the 8 week summer term(s)

April 8 – Friday - Deadline for applying for admission to the Graduate School for the 2016 Four-Week Summer Session.

April 15 – Friday - Deadline for submission of application and all required documents to the Office of Admissions for undergraduate admission for the 2016 Four-Week Intersession

April 26-May 2 – Tuesday through Monday - Four-Week Intersession registration and add/drop continue for students enrolled in the 2016 Spring Semester

May 9 – Monday - Beginning of College of Pharmacy 15-week Summer Term

May 9 – Monday - "see blue" U Orientation and Registration for new and returning students

May 9 – Monday – Deadline for applying for admission to the Graduate School for the 2016 Eight Week Summer Session

May 10 – Tuesday - First day of classes

May 10 – Tuesday - Last day a student may officially drop a course or cancel registration with the University Registrar for a full refund of fees

May 10-11 – Tuesday through Wednesday - Late registration for returning students not already registered and new applicants cleared late for admission. A late fee is assessed students who register late.

May 11 – Wednesday - Last day to add a class for the 2016 Four-Week Intersession

May 11 – Wednesday - Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

May 11 – Wednesday - Last day for students in the Employee Educational Program to submit EEP form to Human Resource Services for tuition waiver for the 2016 Four-Week Intersession

May 16 – Monday - Last day to drop a course without it appearing on the student's transcript

May 16 – Monday - Last day to change grading option (pass/fail to letter grade or letter grade to pass/fail; credit to audit or audit to credit)

May 17 – Tuesday - Last day to officially withdraw from the University or reduce course load and receive a 50 percent refund

May 18-June 8 – Wednesday through Wednesday - Eight-Week registration and add/drop for students who entered the University in the 2016 Four-Week Intersession

May 22 – Sunday - Payment deadline of registration fees and/or housing and dining fees – if total amount due is not paid as indicated on the account statement, a late payment fee of 1.25 percent of the amount past due will be assessed

May 23 – Monday - Midterm of 2016 Four-Week Intersession

May 25 – Wednesday - Last day to withdraw from the University or reduce course load. Students can withdraw or reduce course load after this date only for "urgent non-academic reasons."

May 30 – Monday - Memorial Day – Academic Holiday

May 30-June 10 – Monday through Friday - Final Grading window is open. The final deadline for submission of grades online in the grading portal is midnight, June 10.

June 1 – Wednesday - Last day for doctoral candidates for an August degree to submit a Notification of Intent to schedule a final examination in The Graduate School

June 7 – Tuesday - Final Examinations

June 7 – Tuesday - End of 2016 Four-Week Intersession

June 8 – Wednesday - Deadline for submission of application and all required documents to the Office of Undergraduate Admission and University Registrar for change of residency status for the Four-Week and the Eight-Week Summer Sessions

2016 Eight-Week – Second Summer Session

February 28 – Sunday - Last day for filing an application for an August 2016 undergraduate degree online in myUK

March 15 – Tuesday - Priority filing deadline for financial aid for the 4 week and/or the 8 week summer term(s)

April 8 – Friday - Deadline for applying for admission to The Graduate School for the 2016 Four Week Summer Intersession

April 15 - Wednesday - Last day to apply for August 2016 degree in the Graduate School to be on the early list (degree will be conferred in August)

April 26-June 1 – Tuesday through Wednesday - Eight-Week Summer Session registration and add/drop continue for students enrolled in the 2016 Spring Semester

May 9 – Monday - Deadline for applying for admission to the Graduate School for the 2016 Eight Week Summer Session.

May 15 – Sunday - Deadline for submission of application and all required documents to the Office of Admissions for undergraduate admission for the 2016 Eight-Week Summer Session

May 18-June 8 – Wednesday through Wednesday - Eight-Week registration and add/drop for students who entered the University in the 2016 Four-Week Intersession

June 8 – Wednesday - Deadline for submission of application and all required documents to the Office of Undergraduate Admission and University Registrar for change of residency status for the Eight-Week Summer Session

June 8 – Wednesday - "see blue" U Orientation and Registration for new and returning students including registration for Evening and Weekend

June 9 – Thursday - First day of classes

June 9 – Thursday - Last day a student may officially drop a course or cancel registration with the University Registrar for a full refund of fees

June 9-10 – Thursday through Friday - Late registration for returning students not already registered and new applicants cleared late for admission. A late fee is assessed students who register late.

June 10 – Friday - Last day to enter an organized class for the 2016 Eight-Week Summer Session

June 10 – Friday - Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

June 10 – Friday - Last day for students in the Employee Educational Program to submit EEP form to Human Resource Services for tuition waiver for the 2016 Eight-Week Summer Session

June 13 – Monday - Deadline for international applications to be submitted to The Graduate School for the Spring Semester

June 20 – Monday - Last day to accept application for degree to receive an August 2016 degree (in The Graduate School)

June 20 – Monday - Last day for notification and last day to apply for August 2016 degree

June 20 – Monday - Last day to change grading option (pass/fail to letter grade or letter grade to pass/fail; audit to credit or credit to audit)

June 20 – Monday - Last day to drop a course without it appearing on the student's transcript

June 20-July 15 – Monday through Friday - Summer "see blue" U Orientations for new freshmen, (transfer) students, auditors, non-degree and readmitted students enrolling for the 2016 Fall Semester

June 22 – Wednesday - Payment deadline of registration fees and/or housing and dining fees – if total amount due is not paid as indicated on the account statement, a late payment fee of 1.25 percent of the amount past due will be assessed

June 23 – Thursday - Last day to officially withdraw from the University or reduce course load and receive a 50 percent refund

June 30 – Thursday - Last day for filing an application for a December 2016 undergraduate degree online in myUK

July 4 – Monday - Independence Day – Academic Holiday

July 7 – Thursday - Midterm of 2016 Eight-Week Summer Session

July 7 – Thursday - Last day for candidates for an August degree to schedule a final examination in the graduate school

July 13 – Wednesday - Last day to withdraw from the University or reduce course load. Students can withdraw or reduce course load after this date only for "urgent non-academic reasons."

July 21 – Thursday - Last day for candidates for an August degree to sit for the final examination in The Graduate School

July 22 – Friday - Deadline for applying for admission to the Graduate School for the 2016 Fall Semester

July 25-August 8 – Monday through Monday - Final Grading window is open. The final deadline for submission of grades online in the grading portal is midnight, August 10.

August 3 – Wednesday - Last day for students in the Employee Educational Program registered through August 5 to submit EEP form to Human Resource Services to confirm 2016 Fall Semester registration and tuition waiver

August 4 – Thursday - Last day for candidates for an August degree to have a thesis/dissertation approved in the graduate school

August 4 – Thursday - Final Examinations

August 4 – Thursday - End of 2016 Eight-Week Summer Session

August 20 – Saturday - End of College of Pharmacy 15-week Summer Term

College of Dentistry Academic Calendar

DMD, Orofacial Pain, Orthodontics, Pediatric Dentistry, and Periodontics Programs

Fall 2015

June 8 – Monday - Academic Year Begins for 4th Year DMD Students (Externships)

July 1 – Wednesday - Academic Year Begins for 1st Year Periodontics Students

July 1 – Wednesday - Pediatric Dental Residency Begins for new 1st Years and 1st Years promoted to 2nd Years

July 1 – Wednesday - General Practice Residency Begins

July 4 – Friday - Independence Day – Academic Holiday

July 6 – Monday - Academic Year Begins for Orofacial Pain Students

July 20 – Monday - Academic Year Begins for 2nd and 3rd Year Periodontics Students

August 3 – Monday - Academic Year Begins for 1st, 2nd, and 3rd Year DMD Students

August 3 – Monday - Last day a 1st, 2nd, and 3rd Year DMD student can officially withdraw from the College of Dentistry for a full refund for the current term

August 3 – Monday - Clinical Year Begins for 4th Year DMD Students

August 3 – Monday - Academic Year Begins for 1st Year Orthodontics Students, 1st Years Promoted to 2nd Year, 2nd Years Promoted to 3rd Year

August 10 – Monday - Last day a 4th Year DMD student can officially withdraw from the College of Dentistry for a full refund for the current term

August 10 – Monday - Last day a 1st, 2nd, and 3rd Year DMD student can officially withdraw from the College of Dentistry and receive an 80 percent refund for the current term

August 17 – Monday - Last day a 4th Year DMD student can officially withdraw from the College of Dentistry and receive an 80 percent refund for the current term

September 7 – Monday - Labor Day – Academic Holiday

September 8 – Tuesday - Last day a 1st, 2nd, and 3rd Year DMD student can officially withdraw from the College of Dentistry and receive a 50 percent refund for the current term

September 8 – Tuesday - Last day a 4th Year DMD student can officially withdraw from the College of Dentistry and receive a 50 percent refund for the current term

November 26, 27 – Thursday and Friday - Thanksgiving Holidays – Academic Holidays

December (TBD) - Winter Break Begins After Last Class or Clinic for DMD, Orthodontics, and Periodontics Students

December (TBD) - Winter Break Begins for 2nd Year Pediatric Dentistry Residents

December 18 – Friday - Winter Break begins for Orofacial Pain Students

December - 1st Year Pediatric Dentistry Residents May Use Bonus Days for Winter Break if Clinic is Covered Adequately

Spring 2016

January 4 – Monday - Classes/Clinics Resume for All Students/Residents: DMD, Orofacial Pain, *Pediatric Dentistry*, Orthodontics, and Periodontics

January 4 – Monday - Last Day a 1st, 2nd, 3rd, and 4th year DMD student can officially withdraw from the College of Dentistry for a full refund for the current term.

January 11 – Monday - Last Day a 1st, 2nd, 3rd, and 4th year DMD student can officially withdraw from the College of Dentistry and receive an 80 percent refund for the current term.

January 18 – Monday - Martin Luther King, Jr. Birthday Observed – Academic Holiday

January 29 – Friday - Last Day a DMD student can officially withdraw from the College of Dentistry and receive an 50 percent refund for the current term

April (TBD) - Spring Break for DMD, Orthodontics, and Periodontics Students

(TBD) - Spring Break for Orofacial Pain Students (National Conference)

May 6 – Friday - Academic Year Ends for Graduating DMD Students

May 8 – Sunday - University Commencement

May 8 – Sunday - College of Dentistry Hooding Ceremony

May 27 – Friday - Academic Year Ends for 3rd Year Graduating Orthodontics Students

May 30 – Monday - Memorial Day – Academic Holiday

June 10 – Friday - Academic Year Ends for 3rd Year DMD Students

June 17 – Friday - Academic Year Ends for 2nd Year DMD Students

June 20-July 1 - Break for 1st and 2nd Year Orthodontics Students

June 24 – Friday - Academic Year Ends for 1st Year DMD, Orofacial Pain, 1st, 2nd, and 3rd Year Periodontics Students

June 27 – Monday - Last Day of Residency for 2nd Year Pediatric Dentistry Residents

June 27-July 8 - Break for 2nd and 3rd Year Periodontics Students

College of Law Academic Calendar

Fall 2015

August 22 – Saturday - Payment Deadline for fall 2015 fees

August 25 – Tuesday - Class work begins

August 25 – Tuesday - Add/Drop

August 25 – Tuesday - Last day a student may officially drop a course or cancel registration with the university Registrar for a full refund of fees

August 26 – Wednesday - Add/Drop

August 26 – Wednesday - Payment deadline of registration fee and/or housing and dining fees – if total amount due is not paid as indicated on the account past due will be assessed

September 1 – Tuesday - Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

September 7 – Monday - Labor Day – Academic Holiday

September 8 – Tuesday - Monday Classes Meet

September 9 – Wednesday - Last day to add a class for the 2015 fall semester

September 23 – Wednesday - Last day to change grading option (credit to audit or audit to credit)

September 23 – Wednesday - Last day to drop a course without it appearing on student's transcript

September 23 – Wednesday - Last day to officially withdraw from the University or reduce course schedule and receive a 50 percent refund

September 30 – Wednesday - Last day to file an application for a December degree

October 1 – Thursday - Deadline to apply for Kentucky residency for this semester

October 14 – Tuesday - Last day to withdraw from a course. Students may withdraw after this date only upon petition to the Dean's office specifying "reasons relating to extended illness or equivalent distress."

November 2-24 – Monday through Tuesday - Priority Registration for the 2016 Spring Semester

November 25-28 – Wednesday through Saturday - Thanksgiving Holidays – Academic Holidays

December 4 – Friday - End of class work

December 5-7 – Saturday through Monday - Law Examination Reading Period

December 8-19 – Tuesday through Saturday - Law Final Examination Period

December 19 – Saturday - End of 2015 Fall Semester

Spring 2016

January 11 – Monday - Add/Drop

January 11 – Monday - Class work begins

January 12 – Tuesday - Add/Drop

January 12 – Tuesday - Last day a student may officially drop a course or cancel registration with the University Registrar for a full refund of fees

January 18 – Monday - Martin Luther King Birthday – Academic Holiday

January 20 – Wednesday - Last day to add a class for the 2016 Spring Semester

January 20 – Wednesday Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

January 22 – Friday - Payment deadline of registration fees and/or housing and dining fees – if total amount due is not paid as indicated on the account statement, a late payment fee of 1.25 percent of the amount past due will be assessed

February 3 – Wednesday - Last day to drop a course without it appearing on your transcript

February 3 – Wednesday - Last day to change grading option (credit to audit or audit to credit)

February 10 – Wednesday - Last day to officially withdraw from the University or reduce course schedule and receive a 50 percent refund

February 11 – Thursday - Last day to file an application for a May degree

February 29 – Monday - Last day to withdraw from a course. Students may withdraw after this date only upon petition to the Dean's office specifying "reasons relating to extended illness or equivalent distress."

March 1 – Tuesday - Last day for submission of application for admission for 2016 Fall Semester

March 14-19 – Monday through Saturday - Spring Vacation – Academic Holidays

March 28-April 19 – Monday through Tuesday - Priority Registration for the 2016 Summer Session and 2016 Fall Semester

April 22 – Friday - End of class work

April 23-25 – Saturday through Monday - Law Examination Reading Period

April 26-May 7 – Tuesday through Saturday - Law Final Examination Period

May 6 – Friday - Law Commencement

May 7 – Saturday - End of 2016 Spring Semester

2016 Four-Week – First Summer Session

May 3-9 – Tuesday through Monday - Add/drop continue for students enrolled in the 2016 Spring Semester

May 10 – Tuesday - First day of classes

May 10 – Tuesday - Last day a student may officially drop a course or cancel registration with the University Registrar for a full refund of fees

May 10-11 – Tuesday through Wednesday - Late registration for returning students not already registered and new applicants cleared late for admission. A late fee is assessed students who register late.

May 11 – Wednesday - Last day to add a class for the 2016 Four-Week Intersession

May 11 – Wednesday - Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

May 16 – Monday - Last day to drop a course without it appearing on the student's transcript

May 16 – Monday - Last day to change grading option (pass/fail to letter grade or letter grade to pass/fail; credit to audit or audit to credit)

May 17 – Tuesday - Last day to officially withdraw from the University or reduce course load and receive a 50 percent refund

May 22 – Last day to pay 4 week tuition

May 23 – Monday - Midterm of 2016 Four-Week Intersession

May 24 – Tuesday - Last day to withdraw from the University or reduce course load. Students can withdraw or reduce course load after this date only for "urgent non-academic reasons."

May 30 – Monday - Memorial Day – Academic Holiday

June 3 – Friday - End of class work

June 4-5 – Saturday and Sunday - Law Examination Reading Period

June 6-7 – Monday and Tuesday - Law Final Examination Period

June 7 – Tuesday - End of Four Week Intersession

2016 Summer Term

June 9 – Thursday - Class work begins

June 9 – Thursday - Last day a student may officially drop a course or cancel registration with the University Registrar for a full refund of fees

June 10 – Friday - Last day to officially withdraw from the University or reduce course load and receive an 80 percent refund

June 10 – Friday - Last day to enter an organized class for the 2016 eight week summer session

June 20 – Monday - Last day to change grading option (credit to audit or audit to credit)

June 20 – Monday - Last day to drop a course without it appearing on student's transcript

June 22 – Wednesday - Payment deadline

June 23 – Thursday - Last day to officially withdraw from the University or reduce course schedule and receive a 50 percent refund

June 24 – Friday - Last day to file an application for an August degree

July 4 – Monday - Independence Day – Academic Holiday

July 5 – Tuesday - Last day to withdraw from a course. Students may withdraw after this date only upon petition to the Dean's office specifying "reasons relating to extended illness or equivalent distress."

July 29 – Friday - End of class work

July 30 and 31 – Saturday and Sunday - Law Examination Reading Period

August 1-4 – Monday through Thursday - Law Final Examination Period

August 4 – Thursday - End of 2016 Summer Session

College of Medicine Academic Calendar

2015 Fall Semester

July 6 – Monday - Third-year and Fourth-year rotations begin

July 6 – Monday - Last day for third-year and fourth-year students to withdraw from the College of Medicine for a full refund of tuition and fees

July 6 and 7 – Monday and Tuesday - Third-year orientation

July 8 – Wednesday - Third-year students begin rotations

July 13 – Monday - Last day for third-year and fourth-year students to withdraw from the College of Medicine and receive an 80 percent refund

July 27 – Monday - First-year students begin orientation

July 27 – Monday - Last day for first-year students to withdraw from the College of Medicine for a full refund of tuition and fees

August 3 – Monday - First-year students begin classes

August 3 – Monday - Second-year students begin classes

August 3 – Monday - Last day for first-year students to withdraw from the College of Medicine and receive an 80 percent refund

August 3 – Monday - Last day for second-year students to withdraw from the College of Medicine for a full refund of tuition and fees

August 4 – Tuesday - Last day for third-year and fourth-year students to withdraw from the College of Medicine and receive a 50 percent refund

August 10 – Monday - Last day for second-year students to withdraw from the College of Medicine and receive an 80 percent refund

August 22 – Saturday - Tuition deadline for all students

August 25 – Tuesday - Last day for first-year students to withdraw from the College of Medicine and receive a 50 percent refund

September 2 – Wednesday - Last day for second-year students to withdraw from the College of Medicine and receive a 50 percent refund

September 7 – Monday - First and second-year students – Labor Day Holiday

November 1 – Last day for candidates applying to the College of Medicine to submit their application to AMCAS

November 25-29 – Wednesday through Sunday - First- and second-year students – Thanksgiving Holiday

November 25-29 – Wednesday through Sunday - Third- and fourth-year students – Thanksgiving Holiday

December 19 – Saturday - Winter Break begins for first- and second-year students

2016 Spring Semester

January 4 – Monday - All students return to class

January 4 – Monday - Last day to withdraw from the College of Medicine and receive a full refund

January 11 – Monday - Last day to withdraw from the College of Medicine and receive an 80 percent refund

January 15 – Friday - Last day for candidates applying to the College of Medicine to submit their supplemental application materials
January 18 – Monday - First and second year students – Martin Luther King Jr.'s Birthday Holiday
January 22 – Friday - Tuition deadline for all students
February 2 – Tuesday - Last day to withdraw from the College of Medicine and receive a 50 percent refund
March 5-13 – Monday through Friday - Spring Break for first-year students
March 12-20 – Monday through Friday - Spring Break for second-year students
May 6 – Friday - End of academic year for second-year students
May 13 – Friday - End of academic year for fourth-year students
May 14 – Saturday - College of Medicine Graduation
May 27 – Friday - End of academic year for first-year students
June 17 – Friday - End of academic year for third-year students
June 20-24 and 27-28 – CPX Exam for Class of 2016
June 30 – Monday - Special graduation date

College of Pharmacy Academic Calendar

2015 Fall Term

August 12, 2015 – Wednesday - Orientation for 1st Year Professional Students
August 13, 2015 – Thursday - Orientation for 1st Year Professional Students
August 14, 2015 – Friday - Orientation for 1st Year Professional Students
August 17, 2015 – Monday - First Day of Classes for 1st, 2nd and 3rd Year Professional Students
September 7, 2015 – Monday - Labor Day – Academic Holiday
September 11, 2015 – Friday - Exams for 1st, 2nd and 3rd Year Professional Students
September 12, 2015 – Saturday - Exams for 1st, 2nd and 3rd Year Professional Students
September 14, 2015 – Monday - Exams for 1st, 2nd and 3rd Year Professional Students
September 14, 2015 – Monday - 4th Year Professional Students begin Rotation Block 4 Ends 10/23/15
October 9, 2015 – Friday - Exams for 1st, 2nd and 3rd Year Professional Students
October 10, 2015 – Saturday - Exams for 1st, 2nd and 3rd Year Professional Students
October 12, 2015 – Monday - Exams for 1st, 2nd and 3rd Year Professional Students
November 2, 2015 – Monday - 4th Year Professional Students begin Rotation Block 5 Ends 12/11/15
November 6, 2015 – Friday - Exams for 1st, 2nd and 3rd Year Professional Students
November 7, 2015 – Saturday - Exams for 1st, 2nd and 3rd Year Professional Students
November 9, 2015 – Monday - Exams for 1st, 2nd and 3rd Year Professional Students
November 25, 2015 – Wednesday - Thanksgiving – Academic Holiday
November 26, 2015 – Thursday - Thanksgiving – Academic Holiday
November 27, 2015 – Friday - Thanksgiving – Academic Holiday
December 4, 2015 – Friday - Last Day of Classes for 1st, 2nd and 3rd Year Professional Students
December 7, 2015 – Monday - Final Exams for 1st, 2nd and 3rd Year Professional Students
December 8, 2015 – Tuesday - Final Exams for 1st, 2nd and 3rd Year Professional Students
December 9, 2015 – Wednesday - Final Exams for 1st, 2nd and 3rd Year Professional Students
December 10, 2015 – Thursday - Final Exams for 1st, 2nd and 3rd Year Professional Students
December 11, 2015 – Friday - Final Exams for 1st, 2nd and 3rd Year Professional Students
December 14, 2015 – Monday - 4th Year Professional Students begin Rotation Block 6 Ends 1/22/16
January 8, 2016 – Friday - End of Fall Term

2016 Spring Term

January 11, 2016 – Monday - First Day of Classes for 1st, 2nd and 3rd Year Professional Students
January 18, 2016 – Monday - Martin Luther King, Jr. Birthday – Academic Holiday
February 1, 2016 – Monday - 4th Year Professional Students begin Rotation Block 7 Ends 3/11/16
February 5, 2016 – Friday - Exams for 1st, 2nd and 3rd Year Professional Students
February 6, 2016 – Saturday - Exams for 1st, 2nd and 3rd Year Professional Students
February 8, 2016 – Monday - Exams for 1st, 2nd and 3rd Year Professional Students
March 4, 2016 – Friday - Exams for 1st, 2nd and 3rd Year Professional Students
March 5, 2016 – Saturday - Exams for 1st, 2nd and 3rd Year Professional Students
March 7, 2016 – Monday - Exams for 1st, 2nd and 3rd Year Professional Students
March 14, 2016 – Monday - Spring Break – Academic Holiday
March 15, 2016 – Tuesday - Spring Break – Academic Holiday
March 16, 2016 – Wednesday - Spring Break – Academic Holiday
March 17, 2016 – Thursday - Spring Break – Academic Holiday
March 18, 2016 – Friday - Spring Break – Academic Holiday
March 21, 2016 – Monday - 4th Year Professional Students begin Rotation Block 8 Ends 4/29/16
April 8, 2016 – Friday - Exams for 1st, 2nd and 3rd Year Professional Students
April 9, 2016 – Saturday - Exams for 1st, 2nd and 3rd Year Professional Students
April 11, 2016 – Monday - Exams for 1st, 2nd and 3rd Year Professional Students
April 29, 2016 – Friday - Last Day of Classes for 1st, 2nd and 3rd Year Professional Students
May 2, 2016 – Monday - Final Exams for 1st, 2nd and 3rd Year Professional Students
May 3, 2016 – Tuesday - Final Exams for 1st, 2nd and 3rd Year Professional Students
May 4, 2016 – Wednesday - Final Exams for 1st, 2nd and 3rd Year Professional Students
May 5, 2016 – Thursday - Final Exams for 1st, 2nd and 3rd Year Professional Students
May 6, 2016 – Friday - Final Exams for 1st, 2nd and 3rd Year Professional Students
May 6, 2016 – Friday - Graduation Ceremony for the Class of 2016
May 7, 2016 – Saturday - Class of 2016 Graduation
May 9, 2016 – Monday - 4th Year Professional Students begin Rotation Block 1 Ends 6/17/16
May 9, 2016 – Monday - 1st and 2nd Year Professional Students begin Rotation Block A Ends 6/3/16
June 13, 2016 – Monday - 1st and 2nd Year Professional Students begin Rotation Block B Ends 7/8/16
June 20, 2016 – Monday - 4th Year Professional Students begin Rotation Block 2 Ends 7/29/16
July 18, 2016 – Monday - 1st and 2nd Year Professional Students begin Rotation Block C Ends 8/12/16
August 8, 2016 - Monday - 4th Year Professional Students begin Rotation Block 3 Ends 9/16/16
August 12, 2016 - Friday - End of Spring Term

The University

A Message from President Eli Capilouto

In February 1865, amid the still smoldering embers of the Civil War, John Bryan Bowman advocated for a public university in Lexington. Though located in the Bluegrass, the Agriculture and Mechanical College of Kentucky University would go on to serve the better interests of the entire Commonwealth. It was a profound idea that a university had the ability to change people's lives through unmatched higher education, innovative research and discovery, and outreach that uplifts and heals communities and the people it serves.

Today, at its 150-year anniversary, the University of Kentucky is pioneering new ways to carry out its mission to our students, faculty, staff, alumni and friends, and the people of the Commonwealth of Kentucky. It is the idea that we have been charged to lead as our state's flagship through a multi-faceted mission of education, research, service and health care.

We are blessed with a strong faculty core that supports more than 200 academic programs spread across 17 colleges, professional schools and the UK Library system. The UK Core, the institution's innovative undergraduate curriculum, is providing students with a comprehensive education that will prepare them for lives of leadership, meaning and purpose.

On campus, we have undertaken an innovative effort to restore and rebuild our residential communities. We are engaged in a public/private partnership with Memphis-based EdR to create living-learning spaces for our students to discover and collaborate in a way that enhances the overall college experience.

By 2016, we will add more than 5,700 modern residence hall beds in 12 new facilities on our campus – among the largest growth periods in the institution's history. Included in this purposeful expansion are 202 technology-rich academic learning spaces to enhance the college experience.

Our endeavor to build a campus that supports a new century of promise includes several capital projects vital to the long-term future of the institution: the renovation and expansion of the Gatton College of Business and Economics, a new Academic Science Building, a renovated Commonwealth Stadium and Nutter Training Center, a dramatic renewal of the student center, the continued fit-out of Chandler Hospital, a new home for the School of Art and Visual Studies, and a new multi-disciplinary medical sciences research building.

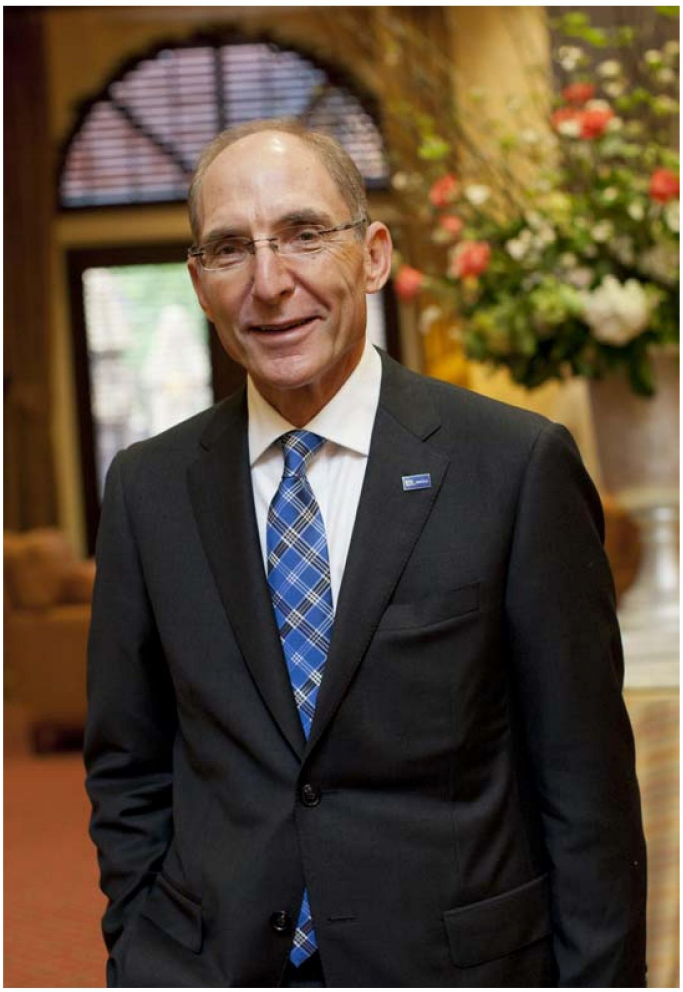
Each project will be financed through a mix of private philanthropy, creative partnerships, clinical revenue, state support and institutional resources. Most notable is the generosity of our donors who will completely finance a new Gatton College and the bold partnership with UK Athletics – one of the few self-sustaining programs in the nation – which will pay for two-thirds of the Academic Science Building.

Our capital priorities are a critical component of our future, but our campus is more than bricks and mortar – it is the faculty, staff and administrators who open doors of opportunity for our students and the programs that comprise the comprehensive college experience we offer.

The new spaces we are creating, in addition to the renewal of our dining facilities, foster a rewarding sense of community across our campus. Our goal is to create places where students build friendships, learn with and from faculty mentors, and colleagues collaborate on the next great idea.

The University's wide variety of academic opportunities are complemented by exciting co-curricular activities that add richly to what our students learn inside the classroom and encourage them to actively participate as part of a global community. We emphasize our outreach and service missions to better prepare our future generation for a world that never stops evolving.

The exciting things the University of Kentucky is doing off campus signal a diverse community engaging in a cooperative exchange of ideas. Our academic



President Eli Capilouto

mission is the core of our institution and our faculty, staff and students are at the heart of that endeavor. With students from all 120 Kentucky counties, each of the 50 states and more than 100 countries worldwide, our campus environment is the opportune setting to prepare our students for a global society.

UK HealthCare has strategically developed an incredible capacity to serve the Commonwealth through our new, state-of-the-art patient care pavilion, advanced biomedical and biological research, and a network of health care partners throughout Kentucky. Recently, UK HealthCare was distinguished as a Top Performer by the Joint Commission, the largest medical accreditation body in the nation, and won a Rising Star award from the University Health System Consortium.

Our passion for people and our vision for a medical campus of the future have inspired leading physicians and researchers from across the United States to join us in our efforts. Since their arrival, they have balanced a research agenda with outreach to our affiliate and partner hospitals so Kentucky families can receive high-quality health care at home and travel to Lexington only for the most advanced, complex medical care and procedures. Their work has led UK's evolution as a leading medical research institution and positioned us as one of

22 universities with federal research distinctions in cancer, aging and translational science.

The University of Kentucky has a vibrant fine arts program and is a cultural hub for arts engagement in the Commonwealth. UK English professor and director of the African American and Africana Studies Program, Frank X Walker, was named the 2013-14 Kentucky Poet Laureate, UK's fourth professor to hold this honor, as well as the youngest and first African American to be named to the prestigious position. Student performers in the UK Symphony Orchestra played alongside the world's best musicians in the Boston Pops tribute concert for the 75th Anniversary of Keeneland Race Course. The School of Music's Opera Program and Symphony travel across Kentucky performing at middle and high schools. UK alumnus Reginald Smith, Jr. earned one of the five winning spots in the Metropolitan Opera National Council Auditions in 2015. In many instances, our outreach program is the only access a student has to any arts program, let alone one of nationally renowned caliber.

Over the last several years, the College of Design has become a major resource for communities looking to redevelop resources in creative ways to address the economic challenges they face. Recently, faculty and staff architects have helped repurpose houseboat manufacturing facilities in southeast Kentucky to build energy efficient residences for families in the region. Additionally, a group of faculty and students are utilizing these innovative energy efficient homes to help communities like West Liberty, Ky recover and rebuild after devastation caused by natural disasters.

Closer to home, UK faculty and staff researchers commercialize their ideas and designs through the business modeling process and into burgeoning small businesses. In addition to attracting venture capital for start-up companies, UK faculty and staff lend their intellectual expertise to national and multinational companies located in Lexington. UK's 735-acre Coldstream Research Campus is home to 66 companies in the biotech, pharmaceutical, equine health and service industries, including the global headquarters and regional offices for Tempur Sealy, A&W Restaurants, and Hewlett-Packard.

In countless ways, the University of Kentucky endures as a modern flagship, land-grant research institution, emboldened anew by an enduring and timeless commitment to improve our state, region, nation and global community.

It is a vision that has been a steadfast commitment throughout our history. It is a promise that will guide us in the future.

Sincerely,



Eli Capilouto
President

University of Kentucky – The Commonwealth's Flagship Institution

The innovation, creativity, quality teaching and uplifting service under way at the University of Kentucky touch the lives of people throughout the state, the nation and the world. This is the covenant we honor through ground-breaking research, community outreach, intellectually rigorous education and technological advances that contribute to the betterment of the Commonwealth while also fostering a cultural quality of life through our museums, libraries and special events.

Founded in 1865 as a land-grant institution adjacent to downtown Lexington, UK is nestled in the scenic heart of the beautiful Bluegrass Region of Kentucky. From its early beginnings, with only 190 students and 10 professors, UK's campus now covers more than 918 acres and is home to 30,000 students and approximately 14,500 employees, including more than 2,300 full-time faculty, and operates an annual budget of more than $3.0 billion. UK is one of eight universities in the United States that has colleges of agriculture, engineering, medicine and pharmacy on a single campus, leading to groundbreaking discoveries and unique interdisciplinary collaboration. The state's flagship university consists of 17 academic and professional colleges where students can choose from more than 200 majors and degree programs at the undergraduate and graduate levels. The colleges are Agriculture, Food and Environment; Arts and Sciences; Business and Economics; Communication and Information; Dentistry; Design; Education; Engineering; Fine Arts; the Graduate School; Health Sciences; Law; Medicine; Nursing; Pharmacy; Public Health; and Social Work. Supporting and emboldening our scholarly community is a comprehensive research library system made up of nine facilities, including the world-class William T. Young library.

The student body is diverse, representing more than 100 countries, every state in the nation, and all 120 Kentucky counties. The University continues to attract the best and brightest from Kentucky and beyond. At 25.5, the average ACT score for first-year students is more than four points above the national average. Several hundred students participated in the Governor's Scholars Program or the Governor's School for the Arts; and the University enrolled 289 National Merit, National Achievement and National Hispanic Scholars in the last three years. UK students compete successfully for prestigious scholarships and awards, such as the Fulbright, Astronaut, Truman, Goldwater, Marshall, Udall and Gates. UK had its 15th and 16th Astronaut Scholars named in 2013-14. Additionally, UK has had 13 Truman Scholars since the program started, as well as 18 Goldwater Scholars since 1990. In the 2014-15 academic year, UK had its 5th Marshall Scholar, and two Gates Cambridge Scholars have been named in the past seven years. This past year, three students received the National Science Foundation Graduate Research Fellowship.

Since his arrival, President Eli Capilouto has set forth an ambitious agenda to honor our covenant with Kentucky as a modern, land-grant and flagship research university lighting the path toward a brighter tomorrow. By focusing on infrastructure growth and improvement; creating opportunities for innovative teaching and learning; fostering a robust research and creative scholarship enterprise; providing life-saving subspecialty care; empowering communities through service and outreach; and encouraging a transparent and shared dialogue about institutional priorities; the University of Kentucky will ensure a new century of promise for the people we impact.

The University

"The University of Kentucky has a broad range of resources centered on a single campus in the heart of the Bluegrass," Capilouto says. "Our wide array of programs allows us to excel in multidisciplinary studies and fosters an environment of cooperative engagement across all colleges, programs and research endeavors. Because of the lives we touch and teach, we remain anchored in our mission to Kentucky – to educate, innovate and serve. To be sure, our complex, multi-faceted mission looks different today in many ways than it did in 1865. However, our sense of responsibility to our communities on campus and across the region is resolute. The mission has evolved and grown. The vision of service to our Commonwealth and the world beyond remains the same. They remain our compass – the soul of the University of Kentucky."

In the last several years, UK has received nearly 100 national rankings for excellence in academics, research, health care and economic development. Five programs are ranked at the top of their respective fields. U.S. News and World Report ranks several of UK's graduate programs among the nation's best: the Martin School of Public Policy and Administration is ranked second in the category of public finance and budgeting, and the College of Pharmacy is ranked fifth. The University of Kentucky earned 28 Top 10 rankings and 50 Top 25 rankings over the last several years.

The College of Arts and Sciences, Department of Hispanic Studies and doctoral program in Clinical Psychology have both received top honors for faculty productivity and scholarly activity. UK's premier professional opera training program was named one of the top programs in the nation by the Tucker Foundation. The Institute for the Theory and Practice of International Relations named the Patterson School of Diplomacy and International Commerce among the top 20 master's degree programs in international affairs in the world. In the last few years, the College of Public Health (overall); the Gatton College of Business and Economics, Ph.D. in business administration; the College of Health Sciences, Physical Therapy program; the College of Medicine, Ph.D. in

physiology; and the College of Nursing (overall) have been ranked in the Top 25 in their respective fields. In addition, a study published in the Southern Economic Journal ranked the Gatton College of Business and Economics' Department of Economics 19th among public institutions in the U.S, and Gatton's Masters in Accountancy program has among the highest passage rates on the CPA exam. The College of Agriculture, Food and Environment – the foundation of our land-grant mission – boasts the nation's third largest Cooperative Extension Service, and UK's College of Law is ranked a top 10 best buy.

In 2007, the University of Kentucky became the 16th American public university – 31st of both public and private – that successfully completed campaigns of more than $1 billion. Moreover, the University was the first institution to reach this milestone in its first-ever billion-dollar capital campaign. Following the campaign, the University initiated a campus-wide review of all college, UK HealthCare, athletics and special program development efforts. As a result, UK is at its highest level of fundraising success.

With its well-manicured landscape and landmark buildings, UK's campus also offers great facilities that advance the scholarship of its students and the research endeavors of its faculty. At the heart of the campus is the iconic William T. Young Library, the most visible of several facilities that comprise UK Libraries. The stately architecture features a 93-foot-tall rotunda and a dramatic five-floor atrium allowing natural light to pour in from skylights. UK Libraries is among the world's leading research libraries with a broad scope of advanced technology that offers students, faculty, staff and Kentucky residents special access to current information online in addition to printed resources.

To match the scope, scale and grandeur of William T. Young Library, the University of Kentucky has recently engaged in an effort to revitalize student living and learning spaces. UK's public/private partnership with EdR will yield more than 5,700 modern beds and 202 active learning spaces in 12 buildings by 2016 – a $348 million investment made by our partners. The total project scope has the potential to create nearly 9,000 modern living spaces by 2018.

- Central Halls I & II opened in Fall 2013;
- Woodland Glen I & II, Haggin Hall and Champions Court I & II opened in Fall 2014;
- Woodland Glen III, IV, & V are scheduled to open in Fall 2015;
- and Limestone Park I & II are scheduled to open in Fall 2016.

Over the last four years, the University approved the construction of more than $1.6 billion in infrastructure to bolster the long-term health and success of the institution. In addition to the aforementioned residential housing projects, UK is investing:

- $65 million to renovate and expand the Gatton College of Business and Economics with the support of generous donors and friends.
- $110 million in a new Academic Science Building that will define cutting-edge, interdisciplinary education and research that spans an array of scientific fields. UK Athletics is funding nearly two-thirds of this modern learning and research space – an unprecedented move in American higher education and NCAA athletics.
- $120 million to enhance Commonwealth Stadium and $45 million to renovate and expand the Nutter Training and Recruiting Center; financed completely by self-generated revenue from UK Athletics.
- $20 million invested in the College of Fine Arts, including a new home for the School of Art and Visual Studies.
- $150 million to continue the fit-out of UK HealthCare's Chandler Hospital; financed with clinical revenue.
- $175 million to renovate and expand the student center and create a modern facility for the campus and community; financed with the support of donors and friends of the institution.
- $65 million to dramatically renew – in partnership with the state and donors – the College of Law.
- A $265 million multi-disciplinary health science research facility; financed by the state and institution.

Research at the University of Kentucky is a dynamic enterprise encompassing traditional scholarship, the humanities, health care and emerging fields and technologies. UK's research enterprise received approximately $260 million in external grants and contracts in 2014, resulting in an annual direct and indirect economic impact of $581 million, more than 8,000 jobs and $21.3 million generated in local and state taxes.

With more than 50 research centers and institutes, UK researchers are discovering new knowledge, providing a rich training ground for current students and the next generation of researchers, advancing the economic growth of the Commonwealth of Kentucky, and exploring art and creativity of diverse cultures. After working for more than 10 years on unlocking an ancient piece of history, faculty in the UK Department of Computer Science will "virtually" unroll 2,000-year old Heculaneum scrolls buried by volcanic eruption in AD 79. The discovery – made possible by first-of-its-kind software – could have profound impacts on history and literature from the Classical era.

Several centers excel in the services offered to the public. The Gluck Equine Research Center is one of only three facilities of its kind in the world, conducting research into diseases of the horse. The Center for Applied Energy Research (CAER) is pursuing groundbreaking innovation across the energy disciplines. CAER staff are pioneering new ways to sustainably utilize Kentucky natural resources through carbon-capture algae technology, biomass/coal to liquid products and the opening of UK's first LEED-certified research lab to support the development of Kentucky's growing alternative energy industry. The College of Education's P20 Innovation Lab is reforming Kentucky classrooms by implementing 21st century learning techniques derived from pedagogical research, preparing new teachers and providing additional training for school and district leadership.

Among the brightest examples of UK's investment in transformative research is the Markey Cancer Center. As a center of excellence and distinction at UK, Markey's robust research and clinical enterprise is the cornerstone of our commitment to Kentucky – fundamental to our success in uplifting lives through our endeavors and improving the general health and welfare of our state – burdened by the nation's highest rate of cancer deaths per 100,000 people. In 2013, Markey earned the prestigious National Cancer Institute designation (NCI) – one of 68 nationally and the only one in Kentucky.

Because UK is one of the few universities in the country with a research and teaching campus and a medical center in one central location, multidisciplinary research is particularly strong. Through the collaborative efforts of nearly 200 faculty and staff across 12 departments and colleges, the University of Kentucky was awarded a $20 million Clinical Translational Sciences Award (CTSA) from the National Institutes of Health (NIH). As one of only 60 institutions with this research distinction, UK was awarded the CTSA for its potential in moving research and discovery in the lab into practical field and community applications. The CTSA and NCI are part of a trifecta of federal research grants that includes an Alzheimer's Disease Center. UK is one of only 22 universities in the country to hold all three premier grants from NIH.

Established in 1957, the medical center at UK is one of the nation's finest academic medical centers and includes the University's clinical enterprise, UK HealthCare. The 569-bed UK Albert B. Chandler Hospital and Kentucky Children's Hospital, along with 256 beds at UK Good Samaritan Hospital, are supported by a growing faculty and staff providing the most advanced subspecialty care for the most critically injured and ill patients throughout the Commonwealth and beyond. Over the last several years, the number of patients served by the medical enterprise has increased from roughly 19,000 discharges to more than 36,000 discharges in 2014.

UK Chandler Hospital includes the only Level 1 Trauma Center for both adult and pediatric patients in Central and Eastern Kentucky. In addition, the dramatic growth of UK HealthCare's clinic enterprise – moving the hospital from the 85th to the 35th percentile, nationally – has created more than 5,000 additional high-paying jobs over the last several years. While our new patient care pavilion is the leading healthcare facility for advanced medical procedures in the region, our

talented physicians consult with and travel to our network of affiliate hospitals so Kentucky citizens can receive the best health care available close to their home and never need to leave the Bluegrass for complex subspecialty care.

The University has demonstrated its commitment to partnerships with business and other institutions of higher learning. In Lexington, UK is shaping a better relationship with the community by directly engaging with businesses, local government and civic service organizations. As a $3.0 billion university, UK is the region's largest employer, providing more than 12,300 full-time jobs and more than $78 million in state and local payroll taxes.

UK's reach extends far beyond the borders of Fayette County. As an anchor institution for the Bluegrass Economic Advanced Movement, UK's College of Engineering and graduates of our institution are a critical component of growing an advanced manufacturing economy in Central Kentucky. UK is also part of the Bluegrass Higher Education Consortium, a collection of 13 postsecondary institutions working together to advance the cause of learning. And we work collaboratively with other institutions to establish joint degree programs and improve the pipeline of students transferring between colleges and universities.

UK's agenda remains committed to accelerating the University's movement toward academic excellence in all areas and gain worldwide recognition for its outstanding academic programs, its commitment to students, its investment in pioneering research and discovery, its success in building a diverse community and its engagement with the larger society. It's all part of the University's mission as a 21st century flagship and land grant research university. From its first Nobel Laureate to cutting-edge work in addressing health disparities, and from the artistic wonders that stir souls to our scientific creativity that inspires minds, UK seeks a brighter future through the contributions of our faculty, staff, students and alumni.

UK's Distinguished Alumni

2015 UK Alumni Association Hall of Distinguished Alumni Honors

The UK Alumni Association Hall of Distinguished Alumni was established in 1965 in celebration of the university's centennial year. Every five years the UK Alumni Association recognizes a select group of outstanding alumni and honors them with induction into the UK Alumni Association Hall of Distinguished Alumni. This honor acknowledges UK alumni who deserve recognition for personal and professional endeavors and community leadership. This year there were 23 recipients inducted making the overall total of 306 inductees into the UK Alumni Association Hall of Distinguished Alumni. For a complete list of UK Alumni Association Hall of Distinguished recipients, visit: **www.ukalumni.net/hoda**

The 2015 inductees are:

Joyce Hamilton Berry '67, '70 – College of Education

Amy L. Bondurant '73 – College of Communication & Information

Stephen B. Bright '71 – College of Arts & Sciences; '74 – College of Law

Timothy A. Byers '81 – College of Engineering

Jennifer Burcham Coffman '69 – College of Arts & Sciences; '71 – College of Communication & Information, '78 – College of Law

L. Berkley Davis Jr. '66, '70, '72 – College of Engineering

Brady J. Deaton '66 – College of Agriculture, Food and Environment; '68 – Graduate School

Thomas B. Deen '51 – College of Engineering

Holloway Fields Jr.* '51 – College of Engineering

Ernest Lee Fletcher '74 – College of Engineering; '84 – College of Medicine

John R. Guthrie '63 – College of Communication & Information

Ardis D. Hoven '66 – College of Arts & Sciences; '70 – College of Medicine

Robert Milton Huffaker '57 – College of Arts & Sciences

Terence Hunt '67 – College of Communication & Information

Howard L. Lewis '70 – Gatton College of Business & Economics

Thomas W. Lewis '71 – College of Engineering

James W. May Jr. '65 – College of Arts & Sciences

W. Rodney McMullen '81, '82 – Gatton College of Business & Economics

Jeffrey P. Okeson '72 – College of Dentistry

Beverly Moore Eaves Perdue '69 – College of Arts & Sciences

Peter Perlman '59 – College of Arts & Sciences; '62 – College of Law

Theodore Strickland '66, '80 – College of Education

Richard E. Whitt* '70 – College of Communication & Information

**Deceased*

Undergraduate Admission

ADMISSION PHILOSOPHY

The Office of Undergraduate Admission and University Registrar supports the mission of the University of Kentucky. Consistent with the University's mission of research, service and teaching, the university seeks to enroll and retain an academically talented student body that enriches the learning community and is representative of the diverse society it serves. The following admission policies reflect this philosophy.

GENERAL INFORMATION

The Director of Undergraduate Admission and University Registrar authorizes the admission of all undergraduate students to the University. Students should direct all admissions inquiries to:

Office of Undergraduate Admission
and University Registrar
100 W. D. Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054
(859) 257-2000
www.applyuk.com

Undergraduates at UK enroll in one of thirteen colleges. Each college is supervised by an academic dean and is usually made up of several academic departments that offer different major fields of study.

The general University admission requirements and procedures for freshmen and transfer students are outlined below. **All applicants should be aware that certain colleges and some programs within colleges have additional admission standards and criteria beyond those for general University admission.** Refer to *Special Application Dates and Procedures* on page 22 for information on deadlines and procedures for particular colleges and programs. Detailed information on admission criteria is provided in the college sections of this Bulletin.

The University of Kentucky provides educational opportunities to all qualified students regardless of economic or social status. The University does not discriminate on the basis of race, color, religion, sex, marital status, beliefs, age, national origin, sexual orientation, or physical or mental disability.

Important Admission Deadlines*

December 1	Early Action freshman application deadline for admission, Competitive Scholarships and the Honors Program.
February 15	Freshman regular decision deadline for fall term. Freshman applicants who apply by this date are given full consideration for admission and orientation. Applications received after this date will be considered on a space-available basis.
May 1	"see blue." U Orientation deadline. All prospective students planning to attend an orientation (including registration for fall classes) should have transcripts and other required documents submitted to the Office of Undergraduate Admission. Students must also confirm their orientation date by May 1.
August 1	Credentials deadline for undergraduates entering in the fall term. For freshmen, this usually means a final high school transcript. For transfer students, final college transcripts are due. Failure to meet this deadline may result in a registration hold on the student's record.

All applicants should be aware that some programs have application procedures and deadlines which differ from those for general University admission. Applicants should refer to *Special Application Dates and Procedures* on page 22 for information on deadlines and procedures for selective admissions colleges and programs.

*International students – see page 20.

FRESHMAN ADMISSION TO THE UNIVERSITY

The University of Kentucky subscribes to a selective admission policy. Admission for freshman applicants is based on a holistic review including high school grades, national college admission test results, successful completion of pre-college curriculum, essay and academic letter of recommendation. Applicants may submit official scores from either the ACT Assessment or the SAT I. Official test scores must be sent directly from ACT or SAT (College Board) testing headquarters.

MINIMUM ELIGIBILITY REQUIREMENT – All students who have completed the pre-college curriculum (see below) as prescribed by the Council on Postsecondary Education and have a 2.0 high school grade-point average are encouraged to apply to the freshman class at UK. Enrollment in the freshman class is limited. Within the limits of space availability, the Office of Undergraduate Admission and University Registrar will endeavor to accommodate all eligible applicants. However, the number of freshman applications far exceeds the number of spaces available in the entering class. For this reason, **the selective and competitive admission requirements often exceed the minimum eligibility requirement.**

SELECTIVE ADMISSION – The University of Kentucky has a selective admission policy. A faculty committee of the University Senate establishes the academic criteria. A holistic review is based on factors including cumulative high school grade-point average, completion of the pre-college curriculum, ACT or SAT I score results, essay, special talents and abilities and academic letter of recommendation. Applicants are offered admission on a competitive basis, with those meeting the University's selective admission criteria receiving first offers.

DEFERRED DECISIONS – Freshman applicants who have completed the pre-college curriculum, but do not have the requisite grade-point average, test scores or both for selective admission, may have their admission decisions deferred. A portion of the freshman class may be admitted from this group of applicants. If, after the application deadline, spaces in the class remain to be filled, admission will be offered to deferred-decision applicants on a competitive basis. Admission will be offered first to those applicants with the strongest records and offers will continue until the class is filled.

Strength of record is a relative term and refers to an applicant's record in comparison with those of all other freshman applicants. Strength of record may be determined by a number of different factors beyond selective admission

Pre-College Curriculum

Incoming freshmen should have the high school preparation necessary for academic success at the college level. To be eligible for consideration at UK under the policy outlined above, an applicant must have successfully completed the following high school courses as a minimum:

English/Language Arts – 4 credits
English I, II, III, IV

Mathematics – 3 credits
Algebra I, Algebra II and Geometry (or more rigorous courses in mathematics)

Science – 3 credits
Biology I, Chemistry I, Physics I or life science, physical science, and earth/space science (at least one lab course)

Social Studies – 3 credits
From U.S. History, Economics, Government, World Geography and World Civilization (or comparable courses)

Foreign Language – 2 credits
Two credits in the same foreign language or demonstrated competency

Health – 1/2 credit

Physical Education – 1/2 credit

History and Appreciation of Visual, Performing Arts – 1 credit
History and appreciation of visual and performing arts or another arts course that incorporates such content

Electives – 7 credits
Recommended strongly: one or more courses that develop computer literacy

Additionally, high school students are encouraged to complete at least one year of mathematics beyond Algebra II.

A total of 24 credits or more must be completed in high school. Applicants should contact the Office of Undergraduate Admission and University Registrar for information concerning exceptions to this policy.

criteria. While grades and test scores are important in this assessment, course selection, senior year schedule, honors and Advanced Placement courses, extracurricular and leadership activities and a student's potential to benefit from or contribute to the learning community may also be considered. The overriding concern will always be for the student's potential to be successful in meeting the academic expectations at the University.

Special Admission Colleges and Programs

Some colleges and programs within colleges at UK have admission standards and criteria that are higher than those for general admission to the University. Also, some programs have deadlines and application procedures that differ from those for general University admission. Refer to *Special Application Dates and Procedures* on page 22 for information on procedures and deadlines for special admission programs. Detailed information on admission criteria is provided in the college sections of this Bulletin.

Matriculation Into a Degree-Granting College

All undergraduate degrees are conferred by the college offering the program of study (major). Upon admission to the University of Kentucky, all students will be enrolled either in a specific college or as undeclared students in Undergraduate Studies. With the help of academic advisors, students in Undergraduate Studies will work to select a major and gain access to one of the University's colleges.

APPLICATION PROCEDURES FOR FRESHMEN

Prospective freshmen are strongly encouraged to submit applications to the Office of Undergraduate Admission and University Registrar early in their senior year. While the deadline for application is February 15, early application can have a positive impact on housing, financial aid, institutionally administered merit-based scholarships, privately funded scholarships and other ancillary areas. All freshman applicants should submit the following:

1. the application form for undergraduate admission;
2. a non-refundable application processing fee;
3. official high school transcript;
4. official test scores from either the ACT or the SAT I. "Official" scores are reported **directly** from the testing agency to the Office of Undergraduate Admission and University Registrar. Test scores appearing on the high school transcript are not considered "official" reports; and
5. academic letter of recommendation.

High school students are strongly encouraged to take the ACT or SAT I late in their junior year and again early in their senior year. When registering for the test, please request scores to be sent to UK. It is a mistake to withhold test scores as this can cause added expense and possible delay in the processing of the application. Please request scores from all test administrations so that the Office of Undergraduate Admission and University Registrar can work with the complete test history. High school guidance counselors can provide students with registration forms, information about registration deadlines, test dates and locations.

High School Students with Exceptional Ability

Through UK's Exceptional Ability program, highly motivated students may enroll in classes at UK before they graduate from high school. Exceptional high school students may be offered admission to UK after a thorough evaluation of their academic record. Students seeking such consideration must submit an application form, official scores from the ACT Assessment or SAT I, an official high school transcript and a letter from their high school principal or guidance counselor stating the benefit to the student of entering college prior to high school completion.

High School Equivalency Certificates

The University considers admission from freshman applicants who are not high school graduates but who present a valid High School Equivalency Certificate and General Education Development test scores. Applicants must also take the ACT Assessment (or SAT I) and have the results sent **directly** to the Office of Undergraduate Admission and University Registrar from the testing agency.

TRANSFER ADMISSION TO THE UNIVERSITY

Students at other colleges or universities, including community colleges, are eligible to transfer to UK if they:

1. would have been selectively admitted to UK when they entered the first institution attended provided they have a cumulative grade-point average of 2.0 or better for all college-level work attempted. Applicants must **also** have a cumulative grade-point average of 2.0 or better for all college-level work attempted at the last institution attended, provided at least 12 credit hours (or the equivalent thereof) was attempted there.

   or

2. would not have been selectively admitted to UK but have completed 24 semester hours or more and achieved a cumulative grade-point average of 2.0 or better for all college and university work attempted. Applicants must **also** have a cumulative grade-point average of 2.0 or better for all work attempted at the last institution attended.

Please note that grade-point averages are computed by the Office of Undergraduate Admission and University Registrar and reflect the grade and credit for each course attempted, regardless of the practice of the offering institution of waiving the low grade for a repeated course.

Refer to the University Calendar on page 4 for general University admission deadlines.

Special Admission Colleges and Programs

Some colleges and programs within colleges at UK have additional admission standards and criteria beyond those for general admission to the University. Also, some programs have deadlines and application procedures that differ from those for general University admission. Refer to *Special Application Dates and Procedures* on page 22 for information on procedures and deadlines for special admission programs. Detailed information on admission criteria is provided in the college sections of this Bulletin.

APPLICATION PROCEDURES FOR TRANSFER STUDENTS

Transfer applicants from other colleges and universities should request an application packet from the Office of Undergraduate Admission and University Registrar. Applicants must submit the following to the Office of Undergraduate Admission and University Registrar:

1. an application for admission;
2. an official transcript from **each** college or university attended, containing a complete record of all courses completed at the time of application;
3. a roster of the courses in which the student is currently enrolled;
4. a final official transcript of any additional work completed before entering the University; and
5. a non-refundable application processing fee.

Refer to *Special Application Dates and Procedures* on page 22 for admissions process information. **Candidates tentatively admitted at the time of application should be aware that the University will cancel the admission and/or the early registration of an applicant whose final official record, after completion of a current semester, shows ineligibility because of suspension, dismissal, or a drop in grade-point average below the required 2.0.**

TRANSFER OF CREDIT

General Transfer Policies

Students transferring to UK are required to submit official transcripts from all previously attended institutions as part of the admissions process. Send transcripts to this address:

Office of Undergraduate Admission
and University Registrar
100 W.D. Funkhouser Building
Lexington, KY 40506-0054

- Credits earned at a fully accredited institution may be transferred to UK and applied toward a degree. A fully accredited institution is one in good standing and a member of one of the six regional academic accrediting associations.
- Transfer credit below the 100 level is considered remedial work and will not be accepted toward a UK degree.
- UK does not accept transfer grades toward the UK grade-point average. A UK grade-point average is established after the first term of classes. However, all transfer grades in all courses are included and counted in the admissions process.
- A minimum grade of D- is required for a course to be accepted by UK. Colleges and departments may require a higher grade in order for the course to apply toward degree requirements. Refer to the major sheets at **www.uky.edu/registrar/major-sheets** to determine the specific requirements for each major.
- The transferability of course credit earned at two-year institutions is limited to a total of 67 semester hours, regardless of the total number of hours earned.
- All work from any four year regionally accredited institution is posted to the UK transcript except for remedial work.
- Regardless of the number of hours accepted for transfer, all candidates for an undergraduate degree must complete 30 of their last 36 hours toward their degree at UK.

Kentucky General Education Transfer Policy

The General Education Transfer Policy facilitates the transfer of credits earned in general education requirements for students moving from one Kentucky public college or university to another Kentucky public college or university. Under this agreement, a student may satisfy the general education discipline requirements at their current college and have that requirement completion accepted at the university or college to which they may transfer.

Students that are "Fully Certified" are considered to have completed UK's baccalaureate general education requirements known as the UK Core.

Students may also transfer to UK and be Category Certified in up to 5 areas. Students who are Category Certified in each of the 5 areas will be considered "Fully Certified" at UK. **The five categories are:**

1. Arts and Humanities (AH)
2. Written Communication (WC) and Oral Communication (OC)
3. Natural Sciences (NS), plus Science Lab (SL)
4. Quantitative Reasoning (QR)
5. Social and Behavioral Sciences (SB)

The sending institution will indicate, either on the transcript or as an attachment to the transcript, whether the student is Fully Certified, Core Certified, or Category Certified in general education , or if they have completed any of the coded general education courses (i.e., AH, NS, OC, QR, SB, SL, and WC) at their institution.

Fully Certified – All general education requirements are completed (AA and AS degrees guarantee full certification.)

Core Certified – The 30 hours of core general education is completed, and remaining general education requirements of the receiving institution are still required.

Category Certified – One or more of the above categories is complete (e.g., AH Category certification means no additional courses are required in the AH category.)

Course Certified – The category is not complete, but a course will partially fulfill a given category.

For more specific information about GETA, contact the Transfer Center, 11 Funkhouser Building, (859) 218-1724.

Transfer Students with Bachelor's, AA or AS Degrees

Students who have completed a Bachelor's degree, an AA (Associate of Arts) or an AS (Associate of Science) degree from an accredited institution automatically fulfill the UK Core general education requirements.

Transfer Center

The Transfer Center serves as a hub of information for the undergraduate transfer student population at UK. The Transfer Center staff collaborates with other on-campus units to provide the necessary resources for successful progress toward graduation. Our motto, "Start There, Finish Here" represents the University of Kentucky's commitment to helping each transfer student with their transition and goal of earning a UK degree.

Students can utilize the Transfer Center to:

- Discuss transfer course equivalencies prior to admission
- Resolve specific transfer related issues by connecting with a UK staff member
- Discuss transfer planning strategies prior to enrolling at UK

For more information, contact us at:

Transfer Center
11 Funkhouser Building
(859) 218-1724
email: UKTransfer@uky.edu
www.uky.edu/Transfer

OTHER CATEGORIES OF ADMISSION

Readmission

Former University students who have not been enrolled for one semester or more, and who are in good standing are required to apply for readmission.

Applications for readmission should be submitted to the Office of Undergraduate Admission and University Registrar, along with:

1. official transcripts from all colleges and universities attended since leaving UK; and
2. a non-refundable application processing fee.

In order to be eligible for readmission, former UK students must have been in good standing at the time they left the University. Those who have been enrolled elsewhere must be eligible as transfer students on the basis of grade-point average and be in good standing at the institution most recently attended. Students under suspension from UK are not eligible for readmission, regardless of their status at another institution, until they have been reinstated to the University. If the suspension is for academic reasons, reinstatement should be requested from the dean of the college in which they intend to enroll by the stated deadline; if the suspension is nonacademic, reinstatement should be requested from the appropriate University official. **Reinstated students also must file an application for readmission in the Office of Undergraduate Admission and University Registrar by the stated deadline.**

Readmission candidates should submit an application as early as possible. This allows the Office of Undergraduate Admission and University Registrar adequate time to prepare the necessary forms for registration. Refer to the University Calendar on page 4 for general admission deadlines. Information on selective college and program deadlines and procedures appears at the end of this section.

Nondegree Students

The goal of the University of Kentucky policy for nondegree students is to provide appropriate access to academic courses for students desiring to continue their education without seeking a degree. Although degree-seeking students should have top priority with respect to University resources, the University does wish to provide access to these resources on a space-available basis to nondegree seeking students. This policy will provide reasonable access to a broader range of students without unnecessarily limiting University resources for degree-seeking students.

Nondegree status affords an opportunity for individuals to pursue lifelong learning without the structure of degree-seeking status and is consistent with the educational mission of the University.

Most nondegree students are considered "Lifelong Learners" and include the following groups: Donovan Scholars, students who have already earned degrees and non-traditional students who wish to begin their studies as nondegree students in order to be considered for degree-seeking status later. Other students eligible to enter the University in a nondegree status include visiting students from other colleges and universities, high school students of exceptional ability, and other students in special circumstances as determined by the Director of Admission. (See information about visiting students and high school students with exceptional ability earlier in this section.)

Rules Governing Admission of Nondegree Seeking Students

To be admitted as a nondegree student, an applicant must meet the following criteria:

1. The high school class of a nondegree applicant must have graduated at least two years prior to the applicant's anticipated semester of enrollment, unless the applicant will be on active military duty during his/her tenure as a nondegree student.
2. Applicants who have been denied admission as degree-seeking students may **not** in turn be enrolled as nondegree seeking students.
3. Former University degree-seeking students generally will not be enrolled as nondegree students without having earned an undergraduate degree.
4. University students under academic or disciplinary suspension may not be enrolled as nondegree students.
5. Students currently under suspension at other institutions may not be enrolled as nondegree students at UK. Failure to disclose a current suspension may result in forfeiture of eligibility for future enrollment.
6. Students are strongly encouraged to submit transcripts of high school or prior colleges at the time of admission in order to facilitate advising about appropriate course work.

Rules Governing Enrollment of Nondegree Seeking Students

1. Nondegree students must meet course prerequisites or obtain the consent of the instructor to enroll in a course.
2. No student may continue to enroll as a nondegree student after earning 24 semester hours in this status without the special permission of the dean of the college in which the student is registered. Students who wish to continue course work are encouraged to apply for admission as a degree-seeking student.
3. Credit earned as a nondegree student will be evaluated for applicability toward a degree by the dean of the college in which the student will be enrolled. Most colleges provide administrative oversight of their nondegree students. Nondegree students whose registration status does not reflect affiliation with a particular college will come under the purview of the Dean of Undergraduate Studies. Successful completion of course work as a nondegree student does not ensure admission as a degree-seeking student. No graduate or professional credit is awarded for courses taken while a student is enrolled as an undergraduate nondegree student.

Procedures

1. Nondegree students who wish to take day classes must meet regular admission deadlines for each term. They are encouraged to participate in academic advising each semester. Advisors will be assigned to these students.
2. All nondegree students who wish to continue after their first semester are expected to participate in priority registration for the following semester.

Nondegree students may apply for degree-seeking status after meeting regular University and program admission criteria. Applicants who earned fewer than 24 semester credit hours at UK must meet the University's standards for selective admission as first-time freshmen. Applicants who have earned 24 or more semester hours will be considered transfer students for admission purposes and transfer of credit policies will apply.

The dean of the college the degree-seeking student enrolls in determines how credit earned as a nondegree student is applied toward a degree.

Nondegree students applying for degree-seeking status must submit to the Office of Undergraduate Admission and University Registrar:

1. an application for admission;
2. a non-refundable application processing fee;
3. official scores from the ACT or SAT (if fewer than 24 semester hours earned); and
4. official transcripts from all previously attended institutions.

Refer to the University Calendar on page 4 for general admission deadlines.

Auditors

An **auditor** is a student who enrolls in a course but receives no grade or credit. Students in this category should indicate auditing status on their application for admission.

Auditors are charged the same tuition as students receiving credit. Auditors cannot change to credit status after the beginning of class work, and cannot be considered for admission to earn credit unless they are admitted to a degree program in the University as a regular student. To do this, the auditor must file the required documents by the deadline for a subsequent semester. A student under academic or disciplinary suspension may not enroll as an auditor.

Students who wish to apply as auditors must submit to the Office of Undergraduate Admission and University Registrar:

1. an application for admission; and
2. a non-refundable application processing fee.

Refer to the University Calendar on page 4 for general admission deadlines.

Transient Students

A **transient student** is a visiting nondegree student from another institution who intends to earn credit at UK that will be applied to degree requirements at his or her sponsoring institution. Transient students must meet the same admissions requirements as transfer students.

Transient applicants must submit to the Office of Undergraduate Admission and University Registrar:

1. an application for admission;
2. an official transcript or letter of good standing certifying grade-point average from the applicant's sponsoring institution; and
3. a non-refundable application processing fee.

Refer to the University Calendar on page 4 for general admission deadlines.

UK Students As Transients at Other Schools

UK students may earn a limited amount of credit toward a baccalaureate degree at another college or university, provided they have **prior** approval from their dean and advisor, and provided the other school is fully accredited and the course work meets the University specifications for credit acceptance. The student should consult with an advisor or dean before enrolling at another institution. Students enrolled at other institutions at the same time they are enrolled at UK must have the specific approval of the appropriate dean. Students are responsible for determining whether transfer course work is acceptable and how it applies to the degree program. The University Senate has established certain conditions for accepting credit earned at other schools; therefore, improper enrollment at other institutions will result in the loss of the credit earned there.

A University student who enrolls elsewhere for only a summer session between a spring enrollment at UK and the following fall semester does not need to reapply for admission for the fall semester. The student must arrange for transcripts of transfer work to be sent to the Office of Undergraduate Admission and University Registrar immediately following the summer session.

International Applicants

UK is authorized under federal law to enroll qualified nonimmigrant international applicants.

International applicants should apply and submit all required documents by **May 15** for fall semester admission, **October 15** for spring semester admission, and **March 1** for summer session admission. International applicants must submit to the Office of Undergraduate Admission and University Registrar:

1. an international application for admission;
2. a non-refundable application processing fee.
3. a sponsor guarantee form;
4. *bank statement;
5. **official academic transcripts and English-translated course descriptions of all college-level work completed;
6. ***TOEFL/IELTS/English proficiency;
7. ACT or SAT results for freshmen applicants wishing to apply for academic scholarships; and,
8. additional information may be requested by admission officer.

Admission is competitive and preference is given to applicants who are best qualified academically. All documents relating to academic records, financial ability, and competency in the English language must be received before permission to enroll and the proper immigration form can be issued. All documents must be official or certified as such.

Undergraduate international applicants who are otherwise admissible, but who have not yet demonstrated English proficiency, may be conditionally admitted to the University of Kentucky. Conditionally admitted students will be academically admitted to UK as full-time degree-seeking undergraduates upon demonstration of English proficiency, as defined below.

Students enrolled in Level 5 or Level 6 of CESL course work may, upon meeting criteria set forth by the CESL program, enroll for one semester as non-degree seeking students in a pre-matriculation bridge program (half-time enrollment in non-credit CESL course work and 6-8 hours of credit-bearing undergraduate course work), constituting full-time enrollment in English preparation for immigration purposes. Completion of the bridge program with grades of **A** or **B** in all classes will constitute demonstration of English proficiency for full admission to the University of Kentucky; however, some UK academic colleges and/or majors may require a TOEFL/IELTS score for admission to their programs.

*All international applicants must show proof of at least $38,500 for the first academic year. This amount covers present tuition, fees, health insurance, books and living expenses from the fall semester through the spring semester. This amount also includes room and board expenses for summer. Evidence of financial support may include bank letters verifying personal and family assets, government or private scholarships. An authorized bank official must sign the guarantee. All documents must be originals (faxes and photocopies are not accepted), dated and have appropriate seals and/or be notarized as official. **Fees are subject to change at any time.**

All international applicants are required to have university-approved health insurance.

**Official transcript from each institution attended (high school, college or university). Applicants from non-English speaking countries must provide an official literal English translation of their official school records. Students who wish to transfer credit to UK should submit course descriptions, course syllabi, and any other materials that can help determine course equivalencies. It is

recommended that applicants additionally have their transcripts evaluated by a professional evaluation agency, such as World Education Services.

***Students whose native language is other than English must score at least 527 (paper and pen), 197 (computer-based), or 71 (iBT) on the Test of English as a Foreign Language (TOEFL) to be eligible for general admission to UK. Students may also satisfy the requirement by providing an IELTS score of 6 or better. "Native language" is defined as an individual's first acquired language and the language of educational instruction. The TOEFL requirement may be waived for students who present an official transcript of satisfactory English work taken at an accredited American college, or a college in another country where English is the native language.

The Test of English as a Foreign Language (TOEFL) is offered by the Educational Testing Service and may be taken at various test centers throughout the world. Applicants must take the test early enough to ensure that the results are reported to the University by the required deadlines.

For students with marginal scores on the Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS), the Center for English as a Second Language at UK offers an intensive English program. **Successful completion of this program satisfies English language proficiency for admission to UK; however, other conditions for admission must still be met, as outlined above.** For complete details about the program, visit **http://esl.as.uky.edu**

The Office of Undergraduate Admission and University Registrar may require additional documents in order to process an application.

QUESTIONS CONCERNING ADMISSION DECISIONS

All applicants to the University of Kentucky have the right to question or appeal admission decisions. Applicants desiring to appeal a decision should contact the Office of Undergraduate Admission and University Registrar to obtain information on the appeal process as well as deadlines.

ORIENTATION TO UK

New freshmen and transfer students are oriented to the University in two steps. The first step is attending a "see blue." U Orientation. This informative event offers students and parents the opportunity to learn more about the University, student life and residence hall living. Participants attend sessions on academic expectations as well as student service departments from around campus. Students also meet with an academic advisor, plan their schedules, and register for classes.

First-year students admitted for fall attend a two-day orientation. These orientations allow students more time to meet UK faculty, staff, and students. Participants get the chance to meet with their academic advisors, take placement exams, and register for classes.

Students receive complete information about the "see blue." U Orientations after they are admitted. Freshmen must confirm a "see blue." U Orientation and pay the enrollment deposits by May 1 to hold a space in the class.

Merit Weekends

The University invites academically talented students and their parents and guests to attend special two-day advising conferences called Merit Weekends. Admitted students who have met various academic standards are invited to attend this event. The Merit Weekend program replaces the need to attend a summer "see blue." U Orientation and assures participants a higher priority in class selection. Merit Weekends are usually held in early spring.

K WEEK

New students ease their transition to campus life through participation in K Week. This welcome week begins the weekend before fall classes start and offers a variety of academic, informational, and social programs and activities. Some events, such as Big Blue U, We Are UK, and college meetings, familiarize students with University community expectations and opportunities. Other activities, such as K Team meetings and We Are UK, challenge students to expand their circle of friends and become engaged with campus life. UK FUSION, a day of community service throughout Lexington, encourages students to form important connections with other new students, student leaders, faculty, and staff while making a positive impact on the city. Students receive detailed information about K Week during the summer; all new students are expected to attend. K Week includes special programming for transfer students as well. K Week is coordinated through the Office of New Student and Family Programs. For more information, visit: **www.uky.edu/KWeek**

COMMON READING EXPERIENCE

The University of Kentucky's Common Reading Experience brings new students together for a shared reading experience that introduces them to academic discourse and engages the entire UK community in a common intellectual experience through year-long programming. New students read a book selected for their cohort the summer before their first semester on campus. Students then join a community of scholars during K Week, where they participate in small-group discussions about the book with other new and upper-class students. The entire UK community is invited to attend and participate in events coordinated around the book's themes, topics, and issues. All students, faculty, and staff are encouraged to connect with one another through this shared intellectual experience, which allows for critical reflection on the book and the collegiate experience.

UK 101, ACADEMIC ORIENTATION COURSE

UK 101 is an academic orientation course for first-year students that significantly promotes a successful transition to college life. The class is taught by a faculty or staff member and an upper-class student. Topics addressed in the course include academic expectations, learning strategies, information literacy, academic integrity, campus resources, campus involvement, and wellness.

UK 201, TRANSFER ORIENTATION COURSE

UK 201 is a pass-fail orientation course that aids transfer students in transitioning to academic life at UK. The class is taught by a faculty or staff member and an upper-class student. Topics addressed in the course include academic advising, career planning, campus involvement, and other issues specifically geared to transfer students.

SPECIAL APPLICATION DATES AND PROCEDURES

For Admission To	Submit	By Deadlines For		
		Fall	**Spring**	**Summer**
COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT				
Coordinated Program in Dietetics Upper Division Program Applicants (Students who have 71 semester hours of lower division courses)	Application, Transcript(s), Recommendations	February 1		
COLLEGE OF DESIGN				
School of Architecture				
Freshmen	ACT scores, Application Test	March 1 March 5		
Transfer Students	Application, Transcript(s), Test/Portfolio	April 1		
School of Interiors				
Upper Division Program Applicants	Application, Transcript(s), Portfolio	February 1		
COLLEGE OF HEALTH SCIENCES				
Students must request applications from the Office of Student Affairs in the College of Health Sciences. Applications for fall admission are available from September 1 to December 15; applications for spring admission are available from February 1 to April 30. Professional Program Applicants (Students who have completed 60 hours or more at UK or other accredited colleges or universities)				
Clinical Leadership and Management	UK and Professional Program Applications, All supporting credentials	August 1	December 1	April 15
Communication Sciences and Disorders	UK, Professional Program Applications, All supporting credentials	February 1		
Human Health Sciences	UK, Professional Program Applications, All supporting credentials	January 15		
Medical Laboratory Science	UK and Professional Program Applications, All supporting credentials	March 1		
COLLEGE OF LAW†				
First-year Students	Law Application LSDAS Report	March 15 March 31		
Transfer Students	Law Application, Transcript(s), Credentials	June 1	December 1	May 15
COLLEGE OF NURSING				
Pre-Nursing	ACT scores, Application	May 1	May 1	May 1
RN-B.S.N.	Application Credentials	March 1 March 1	December 1 December 15	
Second Degree B.S.N.	Application, Transcript(s) Credentials	March 1 March 15	August 15 August 15	
Professional Level B.S.N.	Application, Transcript(s)	March 1	March 1	
COLLEGE OF PHARMACY				
Professional Program Applicants (Students who have completed 64 hours or more at UK or other accredited colleges or universities)	Application, Transcript(s), Other required credentials	March 1		

†Law school applications are processed through the Law School Admission Council (LSAC), online at: **www.lsac.org**.

Fees

FEES ARE SUBJECT TO CHANGE WITHOUT NOTICE AND INCREASES MAY BE NECESSARY IN SUBSEQUENT YEARS.

FEE PAYMENT POLICY

You become financially obligated to the University of Kentucky when you register for classes. This financial obligation can only be adjusted if you add/drop hours or officially withdraw from the University. It is your responsibility to comply with the policy and schedule for paying registration fees.

A student with unpaid tuition/fees who subsequently leaves or officially withdraws from school will be held liable for a percentage of those fees and will be declared delinquent subject to the penalties imposed by the institution for financial delinquency.

Students who late register will be assessed a $40 late registration fee.

Monthly Account Statements

Account statements will be created at the end of each month itemizing that month's new charges and credits. The University must receive the **total** amount due (less estimated aid) on or before the **due date** indicated on the account statement. If full payment is not received by the due date, a late payment fee of 1.25 percent of the amount due will be assessed.

Late Registration Fee

All continuing students are expected to priority register each semester for the next semester. New students are assigned a specific date for registration. Any student who registers after the regular registration period will be charged a late registration fee of $40.

Auditors

All auditors are charged the same fees they would pay for credit.

Internship Courses

Students taking internship courses (e.g., courses numbered 399) **must** register for the course during the term the internship is taken and pay all required semester fees. In no case shall students be allowed to defer registration and payment for summer internships to the following fall semester.

Zero-Credit Courses

Some University courses are offered for 0 credit hours. The fees for these courses are based on the number of hours per week the course meets, so that the cost of a 0-credit course which meets one hour per week is the same as the cost of a 1-credit course for a student in a particular classification (i.e., resident, nonresident, graduate, undergraduate). Zero-credit courses are counted as part of the student load for fee payment purposes and for purposes of issuing ID cards.

There is no fee for a course numbered 749, or 769, if the student is approved to take the 769 course for 0 credit hours. In a few departments zero-credit courses are actually laboratories which are a required part of another course. They are numbered separately for scheduling purposes, but no additional fee is charged.

Financial Delinquency

The University of Kentucky expects students to be responsible in their financial obligations to the University or any department or division thereof. The University assesses student fees for various services, fines, and materials. Students are to be properly notified of amounts to be paid and designated payment due dates. After unsuccessful collection efforts by the department or division, the student is classified delinquent and the following may occur: financial holds, class cancellations, late fees, collection agency efforts, and denial of access to student services.

FINANCIAL OMBUD SERVICES

The Financial Ombud provides a neutral and confidential setting for current and prospective students and their parents to discuss difficult or unusual financial problems affecting tuition and fee payment. The Financial Ombud resolves problems, counsels, and makes recommendations and referrals as needed.

The Office of the Financial Ombud Services is open from 8 A.M. to 4:30 P.M. and is located in 18 Funkhouser Building. For information, questions, or appointments, call (859) 218-1360.

HEALTH CARE

For the regular fall and spring semesters, payment of the mandatory health fee by full-time students entitles them to medical and behavioral health care at University Health Service. Part-time students may pay the health fee or use the Health Service on a fee-for-service basis. The health fee is voluntary for all students for the summer sessions. Students are strongly advised to have health insurance to cover medical expenses incurred beyond those covered by the health fee. For more information on the health fee or the services provided, call (859) 323-5823; or visit us on the Web at: **www.ukhealthcare.uky.edu/uhs**

WILDCARD STUDENT ID

All students admitted to the University (both full-time and part-time) are expected to obtain a WildCard student ID. This is a permanent card, which becomes valid each semester when fees are paid. The cost of the first WildCard is $15. Payment may be made with cash, check, Plus Account, Visa or MasterCard. The following information will help you understand your responsibility and how to fully utilize your WildCard ID. For additional information, visit our website at: **www.uky.edu/UKID**

- Your WildCard ID is the official identification for class attendance and tests, the Student Employment office, and student elections.
- Stop at a circulation desk at any campus library to activate the library barcode number and you can use your WildCard to check out books and materials. Students must have their WildCard student ID card to enter the William T. Young Library between 10 P.M. and 6 A.M.
- The Plus Account is an optional debit program for University of Kentucky students. A Plus Account is automatically open and accessed as a feature of your WildCard student ID. The Plus Account is extremely flexible and widely used on campus and off campus for dining, bookstores, printing, copying, prescriptions, and much more. Residence Hall laundry and campus printing may only be accessed using a Plus Account.
- When you live in a residence hall, the WildCard ID will access your Dining and Flex Accounts. Off-campus students may also purchase a Dining Plan.
- The WildCard is your "key" if you live in a residence hall.

- Use your WildCard at University Health Service to pay for services not covered by the health fee, like vaccinations, medical equipment, or prescriptions in the student health pharmacy. Visit: **www.ukhealthcare.uky.edu/uhs/** for more information.
- Use your WildCard ID at the Singletary Center for the Arts, the Ticket Center and the Cat's Den in the Student Center.
- Pick up football and basketball tickets and use your WildCard ID for entry to other UK campus events.
- You must have your WildCard for access to the Johnson Center, the Lancaster Aquatic Center, and to check out equipment.
- Use your WildCard to open an account at the UK Federal Credit Union.

If you lose your WildCard ID, report the loss immediately to the WildCard ID Office at (859) 257-1378, Bowman's Den (next to the Singletary Center for the Arts), or the Plus Account Office at (859) 257-6159. You can also cancel your card online at: **www.uky.edu/PlusAccount**. Any financial charges/transactions made with this card are the responsibility of the student. If you lose your WildCard ID, the fee for a new card is $30. A replacement ID may be obtained for $15 (if you have your current ID and turn it in). Payment may be made with cash, check, Plus Account, Visa or MasterCard. The WildCard ID is the property of the University of Kentucky and must be surrendered upon request of authorized officials of the University.

PERSONAL EXPENSES (not payable to the University)

Books and Supplies. Range from $350-$500 up, depending on the student's major field of study and schedule of classes for the semester. Students may use their Plus Accounts (including Financial Aid Book Vouchers) for purchases at the University of Kentucky Bookstore, Kennedy Book Store, and ecampus.com's Lexington retail stores. Plus Account deposits may be made at the following locations: online at **www.uky.edu/PlusAccount** ($20 minimum; $2 convenience fee); Student Account Services ($20 minimum); or DART machines in campus computing labs (any whole dollar amount). For more information about Plus Accounts, call (859) 257-6159.

Laundry. UK's washers and dryers are equipped with a unique laundry system called WaveRider. WaveRider is a wireless credit/debit card payment and account management system. WaveRider allows for a secure method of accepting MasterCard or Visa card payments for doing laundry or via preloaded funds by scanning the machine QR codes; WaveRider is secure and PCI compliant.

To start a machine, users swipe their MasterCard or Visa credit or debit card or scan the machine QR code. Students who may not have a debit/credit card or preloaded funds may purchase a MasterCard or Visa debit/credit card at the UK Bookstore, grocery or convenience stores. All washers and dryers are tagged with usage directions and each laundry room has laundry instructions and information posted.

To set up a WaveVision Laundry Status account, visit: **www.mywavevision.com**. Or download the WaveRider Laundry App for free by visiting the App Store or Google Play and search for "WaveRider Laundry". By downloading the Laundry App students will:

- set up a user account;
- be able to preload funds onto their account for use as payment at the washer and dryer via the QR code on the machines.

Once the WaveRider Laundry application has been downloaded or an account set up via WaveVision Laundry Status, students may:

- see how many machines are available before visiting the laundry room;
- see how much time is left on machines that are currently running;
- swipe their MasterCard or Visa credit or debit card or scan QR code to start the machines;
- monitor washer and dryer cycles from their room with the Laundry Status feature;
- receive an email or text message once washer and dryer loads are finished

NOTE: All laundry rooms are equipped with High Efficiency (HE) washing machines; please be sure to use HE detergent.

WITHDRAWAL FROM THE UNIVERSITY

You may cancel your registration before the first day of class by using myUK. See below for dropping a class with a **W** grade.

All students, including degree seeking, non-degree seeking, and visiting students, who wish to leave the university during a term (fall, spring or summer) must formally withdraw.

There are **five methods** of withdrawing from the University of Kentucky:

1. withdrawing in person at the Registrar's Office in 10 Funkhouser Building;
2. requesting withdrawal from course work via UK email account;
3. requesting withdrawal from course work via fax;
4. mailing your withdrawal request to the Registrar's Office; and
5. drop or withdraw from all courses using myUK (available prior to the first day of fall/spring classes; available through the first day of summer sessions).

In person: A student is required to come to 10 Funkhouser Building between 8 a.m. and 4:30 p.m., Monday through Friday and complete an *Authorization to Withdraw* card. Additional signatures may be required depending upon the student's enrollment status. The date noted on the *Authorization to Withdraw* card will serve as the student's official withdrawal date.

Email/Fax request: There are circumstances in which a student cannot physically appear to withdraw. For these cases, the Registrar's Office will accept an emailed (from the student's UK email account) or faxed request for withdrawal. The date of the email/fax will serve as the official date of the withdrawal. The fax number is (859) 257-7160.

The information needed for the fax request is:

- **full name**
- **student number**
- **list of courses**
- **term**
- **date**
- **signature** (not required if emailed from the student's UK email account)
- **phone number**

Mail request: The student may mail a written request for withdrawal to the Registrar's Office. The address is:

Student Records
10 Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054

The postmark will serve as the official date of the withdrawal. Information for withdrawal via mail is identical to that of the fax request.

NOTE: After the last official day to withdraw from a term, the student must start the withdrawal process beginning with the dean of the student's college. (Senate Rule, V.1.8.3). A student should contact his/her college's student services office for more details concerning this process.

REFUND and FEE LIABILITY POLICY

Tuition refunds or outstanding fee liabilities for students who officially withdraw through the Registrar's Office, or who change their status from full-time to part-time or further reduce their part-time status through Add/Drop, will be made according to the following schedule. All dates are those designated in the official University Calendar.

SEMESTER	STUDENTS WHO WITHDRAW BY:	WILL RECEIVE REFUND/REDUCTION	WILL CONTINUE TO OWE
Fall 2015	August 25, 2015 September 1, 2015 September 23, 2015	100% 80% 50%	0% 20% 50%
Winter Intersession 2015-2016	December 18, 2015 December 21, 2015 January 4, 2016	100% 80% 50%	0% 20% 50%
Spring 2016	January 12, 2016 January 20, 2016 February 10, 2016	100% 80% 50%	0% 20% 50%
First Summer Session 2016	May 10, 2016 May 11, 2016 May 17, 2016	100% 80% 50%	0% 20% 50%
Second Summer Session 2016	June 9, 2016 June 10, 2016 June 23, 2016	100% 80% 50%	0% 20% 50%

After last day to officially withdraw per University Calendar – No Refund

Refunds are based solely on the date of withdrawal, regardless of whether students attend any class(es). As required under section 484B of the Higher Education Act (HEA), to assure recovery of federal financial aid funds, a special refund schedule applies to those students receiving Title IV financial assistance who withdraw (officially or unofficially) during the academic term.

A student not paying tuition fees and subsequently leaving or officially withdrawing from school will be held liable for one-half of those fees. In the case of nonpayment, he or she will be declared delinquent subject to the penalties imposed by the institution for financial delinquency.

Questions concerning fee payment procedures may be directed to the Financial Ombud, 18 Funkhouser Building, (859) 257-3406. Questions concerning tuition refunds may be directed to the Registrar's Office, Funkhouser Building, (859) 257-8729.

DINING COSTS 2015-2016

UK Dining offers five dining plans to students living on campus fall 2015 and spring 2016. These dining plans range from seven meals per week to unlimited servings per week. Up to 4 meals can be used per day, with up to 2 residential meals in a meal period or 1 residential meal and a Wildcat Deal. For more information, see "Dining Services" on page 42.

Meal Plan	Flex Per Semester	Average Price Per Swipe	Details	Price Per Semester
Unlimited Plan	$300	$5.18	Good for unlimited daily swipes 7 days a week at The Fresh Food Company and Blazer Café.	$2,150
Blue 14 Weekly	$300	$6.58	Good for up to 14 swipes per week (average 2/day) at The Fresh Food Company and Blazer Café.	$1,865
Champion 85 Block	$725	$10.29	Block of 85 is an average of 5 swipes per week at The Fresh Food Company and Blazer Café.	$1,600
White 10 Weekly	$300	$7.35	Good for up to 10 swipes per week at The Fresh Food Company and Blazer Café.	$1,550
Basic 7 Weekly	$200	$9.84	Good for up to 7 swipes per week (average 1/day) at The Fresh Food Company and Blazer Café.	$1,371

If you can't make it to the Fresh Food Company or Blazer Café, certain campus restaurants allow you to exchange up to 4 swipes per day for a Wildcat Deal. Wildcat Deals are not meant to fully replace meals in residential dining. Options and acceptance times vary by restaurant.

HOUSING COSTS
2015-2016

RESIDENCE HALLS AND GREEK HOUSING[1]

Undergraduate Residence Halls	Per Semester
UK Traditional Residence Halls (Kirwan-Blanding Complex)	
Double	$2,393
Single	$2,908
4-Person Suite (UK Premium & P3 Type A Units)	
Per Person	$3,528
2-Bedroom Suite (P3 Type B Units)	
Per Person	$4,021
4-Bedroom Suite (P3 Type C Units)	
Per Person	$4,342

UK Greek	Per Semester
Double	$2,464
Single	$3,696

Additional Housing Fees	Per Semester
UK Smith, UK Kirwan II and P3 Woodland Glen I[2]	$74

[1]*University-owned housing is prefixed with 'UK.' Housing constructed and managed as part of the public-private partnership is prefixed with 'P3.'*

[2]*UK Smith, UK Kirwan II and P3 Woodland Glen I are available during all academic recesses of the University (August 21, 2015 to May 10, 2016) to accommodate students who require break housing during these periods (Thanksgiving, Winter break, Spring break).*

UK APARTMENT HOUSING

	Per Month
Greg Page Stadium View Family Apartments	
two bedroom	$690
Shawneetown	
efficiency	$535
one bedroom	$639
two bedroom	$690
Commonwealth Village	
efficiency	$535
one bedroom	$639
Rose Lane	
efficiency	$535
German House	
single room	$628
one bedroom	$721
Lexington Theological Seminary	
625 South Limestone	
efficiency	$470
one bedroom	$625
two bedroom	$731
633 Maxwelton Court	
Townhome	$933

SUMMER SESSION HOUSING

First Summer Session *(housing only)*

Double occupancy	$742
Single occupancy	$918

Six Week Summer Session *(housing only)*

Double occupancy	$1,114
Single occupancy	$1,377

Second Summer Session *(housing only)*

Double occupancy	$1,485
Single occupancy	$1,840

TUITION AND FEES[1, 8]
2015-2016

Please note: Some courses require additional fees for lab, materials, etc. that are not listed below. The complete list of additional fees is available at: **http://www.uky.edu/registrar/tuition-fees**

Tuition and Fees Schedule		Semester Full-Time Tuition and Mandatory Fees[2]	Part-Time, Four-Week and Eight-Week Intersession Fee Per Credit Hour[3]
UNDERGRADUATE STUDENTS			
Students with 59 hours or less[4] –	Resident	$5,390.00	$436.00
	Nonresident	$12,052.00	$991.00
Students with 60 hours or more[4] –	Resident	$5,546.00	$449.00
	Nonresident	$12,216.00	$1,005.00
GRADUATE STUDENTS	Resident	$5,826.00	$617.00
	Nonresident	$13,077.00	$1,423.00
Master in Business Administration (MBA) Evening and part-time students	Resident	$6,733.00	$718.00
	Nonresident	$15,613.00	$1,704.00
Master, Professional[10]	Resident	$6,107.00	$648.00
	Nonresident	$13,376.00	$1,456.00
Master, Health Professional[11]	Resident	$6,276.00	$667.00
	Nonresident	$13,555.00	$1,474.00
Professional Practice Doctoral[13]	Resident	$7,596.00	$814.00
	Nonresident	$18,068.00	$1,977.00
COLLEGE OF LAW	Resident	$10,809.00	$1,057.00
	Nonresident	$20,418.00	$2,018.00

Fees are subject to change without notice.

TUITION AND FEES[1, 8] – continued
2015-2016

ANNUAL FULL-TIME FEE[12]
Effective July 2015

COLLEGE OF DENTISTRY[5] (Annual Charges)[12]		
	Resident	$31,088.00
	Nonresident	$63,472.00
Reduced curriculum load	**Resident**	$16,256.00
	Nonresident	$32,448.00

DOCTOR OF PHARMACY[6] (Annual Charges)[12]		
Students – entering class of fall 2011	**Resident**	$24,514.00
	Nonresident	$44,438.00
Students – entering class of fall 2012	**Resident**	$25,808.00
	Nonresident	$46,828.00
Students – entering classes of fall 2013, 2014 and 2015	**Resident**	$26,448.00
	Nonresident	$48,028.00
Reduced curriculum load	**Resident**	$13,918.00
	Nonresident	$24,708.00

COLLEGE OF MEDICINE[7] (Annual Charges)[12]		
Students – entering class of fall 2011	**Resident**	$31,907.00
	Nonresident	$58,553.00
Students – entering class of fall 2012	**Resident**	$32,889.00
	Nonresident	$60,272.00
Students – entering class of fall 2013	**Resident**	$33,870.00
	Nonresident	$62,073.00
Students – entering class of fall 2014	**Resident**	$34,888.00
	Nonresident	$63,948.00
Students – entering class of fall 2015	**Resident**	$35,929.00
	Nonresident	$65,861.00
Reduced curriculum load	**Resident**	$18,677.00
	Nonresident	$33,643.00

Fees are subject to change without notice.

TUITION AND FEES[1, 8] – continued
2015-2016

ANNUAL FULL-TIME FEE[12]
Effective July 2015

Master in Business Administration (MBA) Full-Time Students in the "Day" Program (Annual Charges)[12]		
	Resident	$12,428.00
	Nonresident	$26,964.00

Doctorate of Physical Therapy (Annual Charges)[12]		
	Resident	$18,892.00
	Nonresident	$45,074.00

UK-UofL Joint Executive Master in Business Administration[9] (17 months) (Annual Charges)[12] Effective August 2015
$67,500.00

Fees are subject to change without notice.

NOTES

1 Rates include mandatory student fees. Students taking all courses at off-campus locations (including distance learning courses) outside of Fayette County and its contiguous counties may have mandatory fees waived. However, if a student who is eligible for this waiver wants to participate in any activity supported by these fees, the student must pay the total mandatory fees. Pursuant to the Memorandum of Agreement with the Kentucky Community and Technical College System, students enrolled at the Bluegrass Community and Technical College have the opportunity to selectively choose services from the list of mandatory fees.

2 The full-time rate is charged to undergraduate students enrolled for 12 credit hours or more; graduate and professional doctoral students enrolled for 9 credit hours or more; and law students enrolled for 10 credit hours or more.

3 Students enrolled part-time are charged on a per-credit hour basis. Students considered full-time for financial aid and reporting purposes, but with less than full-time credit hours, (i.e., graduate students in residency status) will be assessed on a per-credit hour basis.

4 Lower-division undergraduate students (freshmen and sophomores) enrolled in the UK College of Engineering Extended Campus Program – Paducah are assessed tuition and fees based upon the West Kentucky Community and Technical College's tuition and fee rates. Upper-division undergraduate students (juniors and seniors) are assessed the applicable UK rates. Students enrolled in this program and residing in select contiguous counties in Illinois (Massac, Alexander and Pulaski) are also eligible for the applicable Kentucky resident rates.

5 Half-time tuition and fee rates for 2015-16 of $16,256.00 for resident students and $32,448.00 for non-resident students are established for those dental students who have been approved by the Dean of the College of Dentistry to have a reduced curriculum load.

6 Half-time tuition and fee rates for 2015-16 of $13,918.00 for resident students and $24,708.00 for non-resident students are established for those pharmacy students who have been approved by the Dean of the College of Pharmacy to have a reduced curriculum load.

7 The College of Medicine tuition and mandatory fee rates are 'locked in' for each entering class cohort. The rates do not change while students are enrolled in the program. Reduced curriculum tuition and fee rates for 2015-16 of $18,677.00 for resident students and $33,643.00 for non-resident students is established for those medical students who have been approved by the College of Medicine Student Progress and Promotion Committee to have a reduced curriculum load.

8 Students enrolled in only online distance learning courses during the fall and spring semesters will be charged the Kentucky resident rate regardless of residency status. Students enrolled in undergraduate online distance learning courses during intersessions (e.g. summer and winter terms) will be charged based on their residency status.

9 The UK-UofL Joint Executive Master in Business Administration rate will be assessed to resident and non-resident students and reflects the total price of the program including tuition, mandatory fees, and the program fee. The rate will be apportioned to each institution.

10 The "Master, Professional" tuition and mandatory fee rates are assessed to students enrolled in the following programs:
- Master of Arts in Diplomacy and International Commerce
- Master of Art Teaching World Languages
- Master of Art Teaching English as a Second Language

11 The "Master, Professional Health" tuition and mandatory fee rates are assessed to students enrolled in the following programs:
- Master of Science in Health Physics
- Master of Science in Physician Assistant Studies
- Master of Science in Radiological Medical Physics

12 Unless otherwise publicized, students enrolled in annual programs will be assessed the program's tuition and mandatory fees semi-annually for all terms within the same academic year. Rates are effective as of July.

13 The "Professional Practice Doctoral" tuition and mandatory fee rates are assessed to students enrolled in applicable programs in the following colleges:
- Health Sciences
- Nursing
- Public Health

2015-2016 MANDATORY FEE ASSESSMENT POLICY

Full-Time Students

*Full-time students are assessed 14 different mandatory activity/service fees at fixed amounts for fall and spring semesters.

Activity Fees

Athletics	$19.00
Environmental Stewardship	$3.50
International Study Abroad	$6.75
Johnson Center	$77.00
Kentucky Kernel	$1.00
Student Activities	$16.25
Student Center	$125.25
Student Center Renovation Fee	$45.00
Student Government Association	$11.00
Student Health	$175.00
Student Involvement	$27.25
Student Services	$13.50
Technology	$99.00
WRFL Student Radio	$5.00
Total	**$624.50**

Mandatory Fees for Annual Programs

(Include annualized Student Health Fee) $1,424.00

Fee Categories and Full-time Credit Hours

Undergraduate ..... 12 or more credit hours

Graduate ..... 9 or more credit hours
- Ph.D. in Public Health
- Ph.D. in Nursing
- Ph.D. in Physical Therapy
- M.A. in Diplomacy and International Commerce
- M.B.A. Evening
- M.S. in Physician Assistant Studies
- M.S. in Health Physics
- M.S. in Radiological Medical Physics

Law ..... 10 or more credit hours

Pharmacy ..... 12 or more credit hours

Dentistry ..... 1 or more credit hours
- M.B.A. Day
- Medicine
- Ph.D. in Physical Therapy (Annualized Tuition)

Exceptions

- Students with all classes in counties not contiguous to Fayette County (i.e. outside of Fayette, Bourbon, Clark, Jessamine, Madison, Scott and Woodford counties). Specific groups traditionally include Education Abroad, Rural Health and Paducah Engineering students.
- Students with all distance learning classes (if they meet the above condition).
- Students considered full-time for financial aid and reporting purposes, but with less than full-time credit hours; i.e., graduate students in residency status (zero or two hours credit).

Part-Time Students

*Part-time students are assessed 6 different mandatory activity/service fees on a per credit hour basis with a 10 credit hour cap for any semester.

*Part-time students may purchase the Student Health Fee (optional).

*Part-time students may purchase the entire suite of 12 activity fees to obtain all services available to full-time students for fall and spring semesters (optional).

Activity Fees

Johnson Center	$7.70
Student Center	$12.50
Student Center Renovation Fee	$4.50
Student Involvement	$2.60
Student Services	$1.30
Technology	$9.90
Total	**$38.50**

Fee Categories and Part-time Credit Hours

Undergraduate ..... less than 12 credit hours

Graduate ..... less than 9 credit hours
- Ph.D. in Public Health
- Ph.D. in Nursing
- Ph.D. in Physical Therapy
- M.A. in Diplomacy and International Commerce
- M.B.A. Evening
- M.S. in Physician Assistant Studies
- M.S. in Health Physics
- M.S. in Radiological Medical Physics

Law ..... less than 10 credit hours

Pharmacy ..... less than 12 credit hours

Exceptions

- Students with all classes in counties not contiguous to Fayette County (i.e. outside of Fayette, Bourbon, Clark, Jessamine, Madison, Scott and Woodford counties). Specific groups traditionally include Education Abroad, Rural Health and Paducah Engineering students.
- Students with all distance learning classes (if they meet the above condition).

Fees are subject to change without notice.

Financial Aid, Awards, and Benefits

Applicants for University financial aid are given equal consideration, regardless of race, color, religion, sex, marital status, beliefs, age, national origin, sexual orientation, or disability.

The University of Kentucky offers three types of financial aid to students:

1. Financial aid **based on financial need** is awarded to undergraduate and graduate students by the Office of Student Financial Aid and Scholarships.
2. Direct unsubsidized loans not based on financial need are available to students through the Office of Student Financial Aid and Scholarships.
3. Financial aid **based on academic merit** is awarded by the Academic Scholarship Office, as well as by certain academic departments and colleges.

Each year the amount of funds requested by eligible applicants falls short of the resources available. The Office of Student Financial Aid and Scholarships bases its decisions on a) financial need, and b) the date of application. **Students should apply as early as possible. Entering freshmen should apply by February 15. Transfer and continuing students should apply by March 15.** Undergraduate Kentucky residents are encouraged to apply as soon as possible after January 1 to increase the likelihood of receiving very limited KY College Access Program (CAP) Grant funds that are typically exhausted the first week of February. Eligible students who apply after these dates will receive assistance, but will receive less because some funds will already be exhausted. **Students should not enroll in classes with the intent of obtaining financial aid after the semester is underway.**

Graduate students should consult *The Graduate School Bulletin* for information about assistantships and fellowships.

For more information on financial aid, contact:

Office of Student Financial Aid and Scholarships
127 Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054
(859) 257-3172
www.uky.edu/financialaid/

APPLYING FOR FINANCIAL ASSISTANCE

Entering Freshmen

Apply early. Applicants should apply by completing and submitting the *Free Application for Federal Student Aid (FAFSA)* at: **www.fafsa.ed.gov** as soon as possible after January 1. A *FAFSA on the Web Worksheet* is also available at this site to assist applicants in completing the online form. Applicants who are unable to file online can obtain a paper copy of the FAFSA by calling 1-800-433-3243. Paper FAFSA forms may also be available at some high school guidance offices. Submit the online or paper FAFSA, designating UK to receive the analysis. **UK's federal school code is 001989.**

Applicants will be considered for need-based scholarships awarded by the Office of Student Financial Aid and Scholarships, Federal Pell Grants, Kentucky College Access Program (CAP) Grants, Federal Supplemental Educational Opportunity Grants (FSEOG), Federal Work-Study, Federal Perkins Loans, Health Professions Loans, Federal Direct Stafford Loans, and Federal Direct Graduate PLUS Loans and Federal Direct Parent PLUS Loans.

A student must enroll in a degree program at UK in order to be awarded financial aid. The Office of Student Financial Aid and Scholarships informs students of financial aid decisions in mid to late March (or as soon thereafter as possible). Financial aid is credited directly to the student's University account at the beginning of each semester.

Aid recipients should plan to have enough money for initial expenses for books, meals, and incidentals for the first three weeks of the semester until their aid is processed. When the amount of financial aid credits exceeds the student's billed charges, a residual (refund) check for the difference will be mailed to the student, or direct deposited for students who have signed up for this service.

Federal regulations require a number of applicants to verify the information they report. Be as accurate as possible when filling out financial aid forms. Since some of the application deals with income, plan to prepare income tax returns early. (If you have not completed income tax returns, you may use estimated figures in order to meet the February 15 priority date. You must update your information when your tax returns are completed.) FAFSA filers are strongly encouraged to use the IRS Data Retrieval Tool within the online FAFSA application to authorize transfer of tax data required for the FAFSA directly from the IRS. This tool is available approximately two weeks after tax forms have been filed with the IRS. Using this tool will decrease the likelihood of the student's FAFSA application being selected for verification. Changes in federal regulations and methodology for determining financial need may produce results which differ from year to year.

Nondegree Students

Individuals admitted by the Office of Undergraduate Admission or by the Graduate School as nondegree students generally do not qualify for financial assistance. **Nondegree students must make an appointment to see a financial aid counselor to discuss their eligibility to apply for assistance.** Nondegree students who receive and accept a financial aid award without **appropriate clearance** by their financial aid counselor will be required to repay any funds credited towards billed charges or released in a refund check. Students whose status changes to nondegree after the start of the term must notify their financial aid counselor and in most cases will be required to repay all funds disbursed during the term.

Continuing Students and Transfer Students

Continuing students and transfer students **must reapply** for financial aid (including scholarships) each year by submitting the *Free Application for Federal Student Aid (FAFSA)*. This is required in order to track changes in student or family resources that could affect the amount of an award. To reapply, students should complete and submit the FAFSA at: **www.fafsa.ed.gov** as soon as possible after January 1 and preferably before March 15. A *FAFSA on the Web Worksheet* is also available at this site to assist applicants in completing the online form. Undergraduate Kentucky residents are encouraged to apply as soon as possible after January 1 to increase the likelihood of receiving very limited KY College Access Program (CAP) Grant funds that are typically exhausted the first week of February. Applicants who are unable to file online can obtain a paper copy of the FAFSA by calling 1-800-433-3243. Submit the online or paper FAFSA, designating UK to receive the analysis. **UK's federal school code is 001989.** Completing the FAFSA is also the first step in applying for a Federal Direct Stafford Loan.

The Office of Student Financial Aid and Scholarships informs students of financial aid decisions in early June (or as soon thereafter as possible).

Medical and Dental Students

Medical students apply for financial aid through the Office of Education, College of Medicine, 138 Leader Avenue, (859) 257-1652. Dental students apply in the Office of Student Affairs, D-155 A. B. Chandler Medical Center, (859) 323-5280.

CONTINUED ELIGIBILITY FOR STUDENT FINANCIAL AID

Federal regulations mandate that all students be required to make measurable progress toward a degree in order to receive financial assistance through Title IV federal financial aid grant, loan and work programs. The University of Kentucky has adopted the following standards of satisfactory academic progress in order to comply with this federal requirement. **These standards are for financial aid purposes only** and neither replace nor override University of Kentucky academic policies. Under normal circumstances, satisfactory academic progress will be evaluated once each year at the end of the spring semester.

Minimum Credit Hour Completion Ratio: All undergraduate and graduate students will be required to complete at least two-thirds (67 percent) of all cumulative credits attempted as expressed by the number of cumulative hours successfully completed divided by the number of cumulative hours attempted, with the result rounded up to the nearest whole percent. For example: A student who attempts thirty (30) credit hours during an academic year must earn at least twenty (20) of those hours before he or she is considered to be making satisfactory academic progress for financial aid purposes. **Credit Hours Attempted** include all hours for which a student is registered as of the end of the **add** period during the first week of classes. Transfer credits hours that will be applied toward a student's degree at the University of Kentucky will be counted toward the maximum number of attempted hours in the completion ratio calculation. **Credit Hours Earned** would be grades of A, B, C, D, or pass; **unearned** credit would be grades of E, F, W, Z, or Incomplete. Transfer credits hours that will be applied toward a student's degree at the University of Kentucky will be counted toward the maximum number of earned hours in the completion ratio calculation. Hours for courses with **grades of 'incomplete' (I)** will not be counted as hours earned until the credit is received, but will be counted as hours attempted.

Cumulative Grade-Point Average: In addition to the 'minimum credit hour completion ratio' requirement indicated above, all financial aid students must maintain a cumulative grade-point average (GPA) that is consistent with the institution's requirements for graduation. Specifically, the student must earn at least a 2.0 cumulative grade-point average to be eligible for student financial aid. **Note**: GPA calculations are based **only** on hours attempted at the University of Kentucky: this is the official GPA as calculated by the Registrar.

Maximum Time Financial Aid May be Received: Each student has a maximum time frame during which they can receive financial aid. To remain eligible for financial aid at the University of Kentucky, students must complete their degree program requirements within 150 percent of the published length of their degree program. All attempted hours are counted, **including** transfer hours, whether or not financial aid was received, or whether or not the course work was successfully completed.

An **undergraduate student** enrolled at the University of Kentucky should be able to complete his or her program of study in no more than one hundred and twenty (120) credits of academic work, including any transfer credits. Therefore, a University of Kentucky undergraduate student typically may not receive federal financial aid after attempting one hundred and eighty (180) credit hours. The maximum time frame for students enrolled in programs of study requiring completion of more than one hundred and twenty credits will be 150 percent of the credits required, e.g., programs requiring 130 credits will have a 195 credit maximum. Changes in major and/or double majors do **not** increase the time frame allowed: once the allowed number of hours have been attempted, the maximum time frame is reached. By Federal regulation, if it is determined that the student has completed the requirements for a degree, regardless of whether the student has applied to receive the degree, the student will no longer be eligible to receive aid for that degree.

A **graduate student** enrolled at the University of Kentucky should be able to complete his or her program of study in no more than forty-eight (48) credits of academic work, including any transfer credits. Therefore, a University of Kentucky graduate student typically may not receive federal financial aid after attempting seventy-two (72) credit hours. The maximum time frame for students enrolled in programs of study requiring completion of more or less than forty-eight credits will be 150 percent of the credits required, e.g., programs requiring 50 credits will have a 75 credit maximum.

Students in Law, Physical Therapy, Pharmacy, and Physician Assistant programs are considered eligible as long as they are in good standing with their program requirements.

The maximum time frame requirement may be adjusted for students pursuing a second undergraduate or graduate degree. However, before this occurs, the student will be required to file an appeal to document this situation. Generally, students will be allowed to attempt up to 150 percent of the **additional** credit hours required to earn the second degree.

Failure to Complete Enrolled Courses: A student who enrolls at the University of Kentucky and fails to earn any credit for two consecutive terms, i.e., receives a 0.0 term GPA, or withdraws from all courses two consecutive terms (i.e., fall and spring semesters) is not eligible for future financial aid without an approved SAP appeal.

Special Grading Options and Situations: Repeat courses taken during the year will automatically be considered in the following spring review for progress. Note that a repeat option replaces **only** the credit hours earned for GPA calculation; **all** attempts at a course are calculated in **total** hours attempted and in the **completion ratio** calculation. **Academic Bankruptcy** will delete an early **academic** record from the University of Kentucky GPA but does **not** remove the attempted hours from the **total** cumulative hours nor from the **completion ratio** calculation. **Audited classes, credits earned through CLEP testing, or noncredit courses** are not considered in determining satisfactory academic progress. Hours earned on a **'pass-fail'** basis or paid through a **consortium** agreement and accepted by the University of Kentucky will be used in determining satisfactory academic progress. Credits assigned to **developmental (remedial) courses** will be counted in calculating hours attempted; however, these courses are not used in calculating the grade-point average (GPA).

Re-establishing Satisfactory Academic Progress: Students who have failed to meet one or more of the Satisfactory Academic Progress requirements are not eligible for financial aid; however, eligibility may be regained if the student enrolls at UK at his or her own expense in a subsequent term or terms and meets the standards according to the **cumulative** credit hours completion ratio and **cumulative** grade-point average (see Sections A and B). **Note:** Once the maximum time limit has been exceeded, then aid eligibility ends, even if the student is in compliance with the other two standards.

Right of Appeal: Federal regulations allow for certain situations in which the Office of Student Financial Aid and Scholarships may waive the standards. Appeals will be considered if a student's failure to meet the Satisfactory Academic Progress standards is due to extenuating circumstances beyond his or her control, which have since been resolved, and which will not affect future academic performance. Detailed information about the appeal process and deadlines for submission can be found at: **www.uky.edu/financialaid/rap** and will be included in the student's written notification of failure to maintain satisfactory progress.

Transfer Credits: As stated above, transfer credits hours that will be applied toward a student's degree at a University of Kentucky will be counted **(a)** toward the maximum number of attempted hours allowed to be eligible for financial aid (i.e., usually 180 credit hours for undergraduate students) and **(b)** in the credit hour completion ratio. Transfer hours are not counted in the calculation of a student's UK GPA. **Note**: If the student must take additional credits as a result of transferring from another institution, the student must submit a written appeal to the Assistant Director of Financial Aid. If the appeal is approved, the student may continue on financial aid.

Evaluation of Financial Aid Eligibility: Standards of Academic Progress are applied once each year at the end of the spring semester. At that point, a student's entire academic history at the university (even for periods he/she did not receive financial aid) will be subject to the above quantitative and qualitative standards. Currently enrolled students with a FAFSA record who do not meet the Standards

of Academic Progress will be notified by mail. Other students who do not meet the Standards of Academic Progress will be notified by mail at the time UK receives the student aid application (FAFSA) data. The student may make a written appeal or re-establish his or her eligibility by attending UK at his or her own expense to make up for any deficits. It is the student's responsibility to monitor his academic progress and to be aware of the requirements of his program, so that the degree can be completed within the time allowed by Federal regulations.

Summer School: Any credit hours earned during the four- and eight-week summer sessions will be included in the annual evaluation made at the end of the following spring term.

Notification: A summary of the criteria for maintaining satisfactory progress shall be included with a student's paper Financial Aid Notification (FAN) and is also part of the *Terms and Conditions of Awards* the student must agree to when the student views and accepts his or her financial aid awards via the **myUK** portal. All students denied financial aid for failure to maintain satisfactory progress shall be notified in writing and furnished a copy of the entire satisfactory progress policy statement.

GRANTS

A **grant** is a financial aid award that does not require repayment. Students can apply for all of the grant programs described below by completing the *Free Application for Federal Student Aid (FAFSA)*.

Federal Pell Grants

The Federal Pell Grant Program provides grants to eligible undergraduate students working on their first baccalaureate degree. Federal Pell Grants currently range in value from $626 to $5,755 per school year and are based upon the student's enrollment status and the financial circumstances of the family and applicant. Effective July 1, 2012, all students are subject to a lifetime maximum of 12 full-time equivalent semesters of Pell Grant eligibility.

The U.S. Department of Education determines eligibility according to financial need. Applicants will receive a Student Aid Report (SAR) four to six weeks after applying. Students who provide an email address on the FAFSA will receive SAR information via email.

Supplemental Educational Opportunity Grants (SEOG)

The Higher Education Act of 1980 provides Federal Supplemental Educational Opportunity Grants for undergraduate students who need financial aid to enter or remain in college. SEOG recipients must be eligible to receive a Pell Grant and have exceptional financial need. **The average SEOG award at the University is $600**. Larger awards are generally not possible, since there are more eligible applicants than available funds.

Teach Grant Program

Through the College Cost Reduction and Access Act of 2007, Congress created the Teacher Education Assistance for College and Higher Education (TEACH) Grant Program that provides grants of up to $4,000 per year to students who intend to teach in a public or private elementary or secondary school that serves students from low-income families. In exchange for receiving a TEACH Grant, the student must agree to serve as a full-time teacher in a high-need field in a public or private elementary or secondary school that serves low-income families. A TEACH Grant recipient must teach at least four academic years within eight calendar years of completing the program of study for which the student received a TEACH Grant. **Important**: If the student fails to complete this service obligation, all amounts of the TEACH Grants received will be converted to a Federal Direct Unsubsidized Stafford Loan which must then be repaid to the U.S. Department of Education. The student will be charged interest from the date the grant(s) was disbursed. To receive a TEACH Grant the student must: complete the *Free Application for Federal Student Aid (FAFSA)*, although the student does not have to demonstrate financial need; be a U.S. citizen or eligible non-citizen; be enrolled as an undergraduate, post-baccalaureate, or graduate student in a postsecondary educational institution that has chosen to participate in the TEACH Grant Program; be enrolled in course work that is necessary to begin a career in teaching or plan to complete such course work. Such course work may include subject area courses (e.g., math courses for a student who intends to be a math teacher); meet certain academic achievement requirements (generally, scoring above the 75th percentile on a college admissions test or maintaining a cumulative GPA of at least 3.25); and sign a *TEACH Grant Agreement to Serve*.

College Access Program (CAP) Grants for Kentucky Residents

The CAP Grant Program is administered by the Kentucky Higher Education Assistance Authority. CAP Grants are one-year monetary awards based on financial need. They may be renewed for a total of eight semesters if financial need is established. The current amount of the grant is $1,900 annually for full-time attendance.

To be eligible for a CAP Grant, a student must be an undergraduate, a U.S. citizen or permanent resident, a Kentucky resident, have an eligible expected family contribution (EFC), and must be enrolled at an eligible institution located within the Commonwealth of Kentucky.

For more information, contact KHEAA, P.O. Box 798, Frankfort, KY 40602; or visit their website at: **www.kheaa.com**.

Kentucky Educational Excellence Scholarships (KEES)

The Kentucky Educational Excellence Scholarship Program (KEES) was established by the Kentucky General Assembly in 1998 and is administered by the Kentucky Higher Education Assistance Authority (KHEAA). **KEES Scholarships are available to students who graduate from a Kentucky high school at the end of the 1998-99 academic year and beyond**. Kentucky residents who meet the eligibility criteria can earn up to $2,500 per year. The amount of the scholarship is based on the student's high school performance and ACT scores. Students will generally be eligible to receive the scholarship for a maximum of eight academic terms in an undergraduate program.

To receive the full award, students must be enrolled full-time. Students enrolling less than full-time (but at least half-time) will receive a proportionate award.

Renewal amounts will be determined as follows: if your cumulative GPA is at least 3.0, your full award will be renewed; if your cumulative GPA is a 2.5 to 2.99, your full award will be renewed only if you have completed enough hours to be certified as **on track to graduate** by the University's financial aid office; if your cumulative GPA is a 2.5 to 2.99, you have not earned enough hours to be considered on track to graduate, but you were enrolled full-time during the prior year, your award amount will be reduced by 50 percent; if your cumulative GPA is a 2.5 to 2.99 and you were enrolled less than full-time during the prior year and are not considered **on track to graduate** by the University's financial aid office or your cumulative GPA was below a 2.5, you will become ineligible until you meet one of the standards above at the end of the next academic year.

Students will be considered **on track to graduate** according to the following criteria: the student has earned 48 credit hours at the end of 4 terms of enrollment; 72 credit hours at the end of 6 terms of enrollment; 120 credits at the end of 8 terms of enrollment. In determining a student's **on track to graduate** status, enrollment in only the fall and spring terms will be included in the number of terms of enrollment. On track to graduate status will be determined at the end of each spring term. Any hours earned during a summer period will be included in the number of credits earned at the end of the following spring term.

Eligible students will receive official notification of their KEES award from KHEAA. The student's enrollment must be verified prior to disbursement of the award. Therefore, funds will not be available until four weeks after the start of the semester. For more information, contact KHEAA, P.O. Box 798, Frankfort, KY 40602; or visit their website at: **www.kheaa.com**.

LOANS

Loans generally supplement a student's savings, earnings, or other financial assistance. Loan funds generally are not adequate to cover **all** expenses. When possible, loans are combined with other types of financial assistance to **reduce** the amount a student must borrow.

Federal Perkins Loans

A student must demonstrate financial need to be eligible for a Federal Perkins Loan. The amount of loan is determined by the Office of Student Financial Aid and Scholarships based on the needs and resources of the student and available funds. Annual loan limits are $5,500 for each year of undergraduate study and $8,000 for each year of graduate or professional study. The aggregate loan limits are as follows: $11,000 for undergraduate students who have not completed 2 years; $27,500 for all other undergraduate students; $60,000 for graduate students (includes loans borrowed at the undergraduate level). The amount awarded depends on the date of application, financial need, and the funding level at UK.

Payment is not required while the borrower is enrolled as a half-time student. Interest begins to accrue at a rate of 5 percent per year at the beginning of the ninth month after the borrower ceases to be a half-time student. In this context, "half-time" is defined as half a normal load or a minimum of six hours for undergraduate students or five hours for graduate students.

Health Professions Student Loans (HPSL)

Students in the Colleges of Dentistry and Pharmacy are eligible for Federal Health Professions Student Loans. Funds for the HPSL program are cooperative loan funds made available on the same basis as the Federal Perkins Loan Program described above.

The law requires that borrowers be enrolled as full-time students in good standing in the Colleges of Dentistry or Pharmacy and be in need of a loan to continue their professional education. **Parental information must be reported on the FAFSA** even if the student is considered independent. If required, the student must be registered with the Selective Service Administration.

The amount a student may borrow annually may not exceed the student's cost of attendance. Repayment of principal and interest begins one year after the student ceases full-time study, and must be completed within ten years. HPSL Loans carry a fixed interest rate of 5 percent.

Primary Care Loan (PCL) Program

The Primary Care Loan Program (PCL) assists students in the College of Medicine who intend to engage in primary care residency and/or practice upon graduation. *Primary health care* is defined as family medicine, general internal medicine, general pediatrics, preventive medicine, or osteopathic general practice.

Eligibility requirements for PCL are the same as those for HPSL, except recipients must agree to enter and complete a residency program in Primary Care within 4 years following completion of residency training; and practice in primary care until the loan is repaid in full (10 years with extension at the discretion of the school). Based on compliance, the interest rate is 5 percent (paid by the federal government) during in-school and approved deferment periods. When a borrower fails to comply with the service obligation, the balance due on the loan involved will be immediately recomputed from the date of issuance (using the original principal) at an interest rate of 12 percent per year, compounded annually **for loans made prior to November 13, 1998**. For loans made on or after November 13, 1998, when a PCL borrower fails to comply with the primary care service requirement, the PCL will begin to accrue interest at a rate of 18 percent per year beginning **on the date of noncompliance**. The penalty is calculated on the outstanding balance of the PCL on the date of noncompliance. For loans made on or after March 23, 2010, PCL borrowers who fail to comply with the service requirements of the program will have their loans begin to accrue interest at an **annual rate** of 2 percent greater than the rate the student would pay if compliant.

The amount a student may borrow may not exceed the student's cost of attendance. Interest and repayment provision are identical to those in the HPSL Program. To apply for the PCL, contact the financial aid office in the UK College of Education.

Federal Direct PLUS Loans and Graduate/Professional Federal Direct PLUS Loans

Parents can borrow a Federal Direct PLUS Loan to help pay their child's educational expenses if the student is a dependent undergraduate student enrolled at least half-time in an eligible program. The student for whom the parent is borrowing the PLUS Loan must complete the *Free Application for Federal Student Aid (FAFSA)* and the University of Kentucky financial aid office must have determined the student's maximum eligibility for Direct Subsidized and Unsubsidized Stafford Loans. The parent borrower must also have an acceptable credit history. Both the student and the parents must also meet other general eligibility requirements for federal student financial aid. The yearly limit for a PLUS Loan is equal to the student's cost of attendance minus any other financial aid received.

Graduate/Professional students enrolled at least half-time in an eligible program can borrow a Federal Direct Grad PLUS Loan to help meet their educational expenses. The yearly limit for a Grad PLUS Loan is equal to the student's cost of attendance minus any other financial aid received.

To apply for a Federal Direct PLUS Loan or a Grad PLUS Loan go to **www.studentloans.gov**. The interest rate for PLUS and Grad PLUS Loans is 7.21 percent. Interest is charged on a PLUS/Grad PLUS Loan from the date of the first disbursement until the loan is paid in full. A 4.292 percent origination fee is charged on all PLUS/Grad PLUS Loans.

Subsidized Federal Direct Stafford Loans

The University of Kentucky participates in the Federal Direct Stafford Loan Program through an agreement with the U.S. Department of Education. The University receives loan funds directly from the Department of Education and disburses them to eligible students. Undergraduate students with a freshman classification may borrow up to $3,500 per academic year. Students with a sophomore classification may borrow up to $4,500 per academic year. Students with a junior, senior, or fifth-year classification may borrow up to $5,500 per academic year. The amount of the loan may not exceed the cost of attendance or the cost of attendance less other aid received minus the expected family contribution, whichever is less. Beginning July 1, 2012 graduate students are no longer eligible for **subsidized** Federal Direct Stafford Loans but can still borrow an **unsubsidized** Federal Direct Stafford Loan. (Refer to the section on Unsubsidized Federal Stafford Loans below.)

The interest rate for undergraduate **subsidized** Federal Direct Stafford Loans is fixed at 4.66 percent for loans first disbursed on or after July 1, 2014. Rates will be set each year. Borrowers pay an origination fee of 1.073 percent. The fee is withheld from the loan when the funds are disbursed.

Interest will not be charged while the student is enrolled in school at least half-time, during a grace period, or during authorized periods of deferment. Interest will begin to accrue when the student enters repayment. Repayment begins six months after the borrower leaves school.

Students must complete a *Free Application for Federal Student Aid (FAFSA)* to apply for a Subsidized Federal Direct Stafford Loan.

Apply early. Allow a minimum of 4 to 6 weeks for the loan to be processed.

Unsubsidized Federal Direct Stafford Loans

The Unsubsidized Federal Direct Stafford Loan program is open to undergraduate and graduate students who may not qualify for subsidized Federal Direct Stafford Loans or to undergraduate students who may qualify for only partial subsidized Federal Direct Stafford Loans. Undergraduate borrowers may receive both subsidized and unsubsidized Federal Direct Stafford Loans totaling up to the applicable Stafford limit, if they do not qualify for the full amount permitted under the subsidized Federal Direct Stafford Loan Program. For undergraduate students, this includes eligibility to borrow up to an additional $2,000 in unsubsidized Federal Direct Loan funds. Independent undergraduate

students, dependent undergraduate students whose parents cannot borrow a PLUS Loan, and graduate students have increased loan eligibility.

Unsubsidized Federal Direct Stafford Loans have the same terms and conditions as Subsidized Federal Direct Stafford Loans. Effective for loans first disbursed on or after July 1, 2014, the interest rate is 3.8 percent for undergraduate and 6.21 percent for graduate student borrowers. Rates are set each year. The borrower is responsible for interest that accrues while the borrower is in school. Borrowers pay an origination fee of 1.073 percent. The fee is withheld from the loan when the funds are disbursed.

Short-term Loans

Students are eligible to receive short-term, interest-free loans for a documented emergency. A $1 service fee is charged for each loan.

Up to four **working** days are required to process a short-term loan application. Short-term loans are not available during the first three weeks of a semester or immediately preceding the close of a semester. Only students who have paid their tuition and are in good financial standing with the University are eligible. Contact the Office of Student Financial Aid and Scholarships for more information.

THE FEDERAL WORK-STUDY (FWS) PROGRAM

The Federal Work-Study Program (FWS) provides jobs for financially needy students. Work-study assistance is usually combined with other kinds of financial aid, and preference is given to students with the greatest financial need. Students should indicate their interest in the FWS Program on the FAFSA.

A student must demonstrate financial need to be eligible and must be enrolled at least half-time during the academic year. Students who are not enrolled for the summer sessions may be eligible to work full-time during the summer. Students who work full-time in the summer are obligated to save from their earnings for their fall semester expenses. Summer work-study applications are available in the Office of Student Financial Aid and Scholarships after March 1.

Students are limited in how much they can earn on the FWS Program. Students are not permitted to earn more than the amount specified on their *Notice of Award*. Pay rates range from $7.25 to $10.85 per hour, based on factors such as campus, year in school, and job duties and responsibilities. Although referred to as a *work-study* job, students are **NOT** paid to study and must be engaged in work activities during all hours for which they receive an hourly wage.

SCHOLARSHIPS

Scholarship programs based primarily on **financial need** are administered by the Office of Student Financial Aid and Scholarships. Students with substantial financial need should read the preceding information and contact the Office of Student Financial Aid and Scholarships.

Scholarship programs based primarily on **academic merit** are administered through the Office of Academic Scholarships, including academic and competitive awards for first-time incoming freshmen, current UK students, and transfer students.

For academic scholarship consideration, first-time incoming freshmen must be admitted to UK and have qualifying test score and GPA on file with the Office of Undergraduate Admission by **December 1**. For more information and to view scholarships offered, please visit our website:
www.uky.edu/financialaid/scholarships

The University of Kentucky also provides a competitive scholarship program for higher valued scholarships, for first-time incoming freshmen. The awards include the Otis A. Singletary Scholarship, Presidential Scholarship, and Commonwealth Scholarship. To apply, students must complete the competitive academic scholarship section of the undergraduate admission application by **December 1**. Students must be admitted to UK and have qualifying test score and GPA on file with the Office of Undergraduate Admission by the **December 1** deadline. Early application is strongly encouraged.

The Office of Academic Scholarships also offers special first-time incoming freshmen academic scholarships to National Merit/Achievement/Hispanic Scholar Finalists, Kentucky Governor's Scholars, and Governor's School for the Arts Alumni. For more information, please visit our website or see our contact information below.

Currently enrolled UK students, not already receiving a four-year academic scholarship, who have demonstrated high academic achievement, may apply for an Academic Excellence Scholarship. Applications are available during the spring semester and awards are made for the upcoming school year. Students must be full-time and achieve a minimum 3.50 cumulative GPA to apply. Awards are competitive and the deadline to apply is **April 15**.

Transfer students currently enrolled full-time at an accredited institution who will be transferring to the UK main campus for the fall semester may be considered for academic scholarships. To be eligible, applicants must have completed a minimum of 24 semester hours and be enrolled full-time at an accredited institution for the spring semester. Students must be admitted to UK and have a final spring transcript on file with the Office of Undergraduate Admission by **June 1**. For more information and to view scholarships offered, please visit our website: **www.uky.edu/financialaid/scholarships**

Many academic departments and colleges have funds of their own that are granted to deserving students. For more information, check with the individual college or department of interest.

Office of Academic Scholarships
University of Kentucky
128E Funkhouser Building
Lexington, KY 40506-0054
(859) 257-4198
email: academicscholar@lsv.uky.edu
www.uky.edu/financialaid/scholarships

William C. Parker Scholarship Program

The University of Kentucky has a mission and commitment to aggressively recruit and retain students from all segments of society, including African American, American Indian, Asian or Pacific Islander, Hispanic, and Alaskan Native students. Factors which are considered in the holistic evaluation of William C. Parker scholarship applications include test scores, grades, an essay, leadership experience, extracurricular activities, awards and recognition, community service and contribution to diversity.

The William C. Parker Scholarship Program is available for incoming freshmen, transfer, and continuing students. Students may receive only one award through the William C. Parker Scholarship Program.

For more information concerning the William C. Parker Scholarship Program, contact:

Asia Payne
Director
William C. Parker Scholarship Program
128 Funkhouser Building
Lexington, KY 40506-0054
(859) 323-6334

LEGACY TUITION PROGRAM

The University of Kentucky offers partial tuition awards to eligible non-resident undergraduate children of UK graduates. An eligible student is defined as a child whose mother, father, or step-parent has earned a bachelor, graduate, doctorate, or professional degree from the University of Kentucky, whose parent or step-parent is a member of the UK Alumni Association, and who would normally be subject to non-resident tuition rates. New first-time freshmen will be eligible for the Legacy Tuition Program for a total of eight semesters. Transfer students are eligible through the equivalent of their eighth semester of undergraduate study. Semesters of prior college enrollment at other institutions are considered

in the total eight semesters. Automatic renewal each semester is contingent upon the student's full-time enrollment on the UK main campus while maintaining a good academic standing and the qualifying parent's active membership in the UK Alumni Association. Eligibility for continued enrollment in the program will be verified each semester. Students are required to complete the Legacy Tuition Program application in order to receive the benefits.

Students who participate in cooperative education programs or who participate in Study Abroad programs should contact the Office of Academic Scholarships for information regarding eligibility during these semesters. Student athletes should contact the Athletics Office to ensure compliance with NCAA regulations.

Application Deadlines

Fall - March 1
Spring - December 1

For more information, contact:

Office of Academic Scholarships
128E Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054
(859) 257-1535
email: academicscholar@lsv.uky.edu
www.uky.edu/financialaid/scholarships

HUMAN RESOURCES STUDENT EMPLOYMENT

Human Resources Student Employment is a free referral service for UK students who are seeking part-time employment during the school year and part-time or full-time employment during academic breaks. Both on-campus and off-campus jobs in various fields with assorted required skills, pay rates, and flexible schedules are usually available.

To be considered for jobs available through HR Student Employment, UK students first complete an application through the Integrated Employment System (IES). Next, UK students can search the IES for available jobs and submit their application for specific jobs. After submitting an application, students who meet the minimum qualifications for specific jobs will receive an email with instructions to visit Scovell Hall for a screening interview and possible referral. Casual, walk-in interviews are conducted Monday through Friday between 12:30 P.M. and 4 P.M. or by appointment.

Students can access the Online Employment System and other information at the HR Student Employment website at: **www.uky.edu/HR/studentjobs/** Feel free to call us at (859) 257-8894.

SPECIAL AWARDS

The Herman L. Donovan Fellowship for Older Adults

The Donovan Fellowship, named in honor of the late Herman L. Donovan, University President from 1941-1956, is open to persons who are 65 years of age or older who live in Kentucky. Tuition is waived for Donovan Fellows. Students may work toward an undergraduate or graduate degree, audit classes for the joy of learning, or take individual courses for credit. The program is available at the Lexington campus. Fellows are responsible for books, supplies, parking and applicable taxes. Due to space limitations, classes rarely are available for instruction in music and voice. All state-supported institutions of higher learning in Kentucky offer tuition-free classes for persons 65 years of age or older.

For more information, contact Sharye Davis at (859) 257-2657; or email: **Sharye.Davis@uky.edu**.

Osher Lifelong Learning Institute (OLLI) at UK, Lexington and Morehead

Members of the OLLI at UK participate in intellectual, social, and cultural programs which characterize the university setting. Educational and enrichment courses and events are offered for adults 50 years of age and older at each of our locations in Lexington and Morehead. Courses are held in community locations and are offered in a variety of formats including: weekly courses, one day intensives, lecture series and special interest groups. Courses are taught in the following topic areas: history and government, culture and travel, languages, literature and writing, health and wellness, science and environment, and the visual and performing arts. The annual membership fee is $25; course fees vary.

For more information, contact the OLLI at UK at (859) 257-2656; toll free at (866) 602-5862; or email: **Teresa.Hager@uky.edu**.

OLLI at UK
Ligon House
658 South Limestone
Lexington, KY 40506-0442
(859) 257-2656
www.uky.edu/OLLI

Oswald Research and Creativity Program

The Oswald Research and Creativity Program began in 1964 with the express purpose of encouraging research and creative activities by undergraduate students at UK. The objectives of the program are: (1) to stimulate creative work by undergraduate students, and (2) to recognize individuals who demonstrate outstanding achievement. This recognition emphasizes the importance the University places upon academic excellence.

The program has categories in Biological Sciences, Design (including but not limited to, architecture, landscape architecture, and interior design), Fine Arts, Humanities/Creative, Humanities/Critical Research, Physical and Engineering Sciences, and Social Sciences. In the science categories and the Humanities/Critical Research category, students generally submit research papers done for class or as an independent research project. For the Humanities/Creative category, students submit short stories, original plays, or poetry. The Fine Arts category is appropriate for musical compositions, paintings, sculpture, videos/films, or photographic essays. Up to 21 works of art, creative compositions, and serious research papers are recognized by the program each year. This competition is unique to the University and provides an excellent opportunity for undergraduates to test their skills and to see their academic work in a serious, professional light.

Awards are given in each category: $350 for first, $200 for second place, and an Honorable Mention certificate. The Associate Provost for Undergraduate Education presents the awards and a certificate to each winner at a luncheon held each December. Any undergraduate (full- or part-time, enrolled for either semester in the current academic year) who does not already have a baccalaureate degree is eligible to enter.

For information, contact the Office of Undergraduate Research, 211 Funkhouser Building, (859) 257-0049; **www.uky.edu/UGResearch**.

Undergraduate Summer Research and Creativity Fellowships

One of the strengths of research institutions like the University of Kentucky is the opportunity they provide for undergraduates to be involved in research and creative projects. Engagement in educational activities outside the classroom is a key element in the learning process. Faculty members in many fields welcome the opportunity to share their expertise and assist students with research projects. Each year, the Office of Undergraduate Research supports numerous independent research and creativity projects. Awardees receive up to $2,000 to support these activities during the summer months. Awards are given out at the end of the spring semester. Undergraduate students in all academic areas are eligible to compete for these fellowships.

For information and applications, contact the Office of Undergraduate Research, 211 Funkhouser Building, (859) 257-0049; or visit us at: **www.uky.edu/UGResearch**

Other Awards Programs

Many academic departments at UK give special awards and prizes to students each year. Generally, special awards are cash prizes and are given on the basis of academic achievement or outstanding scholarship.

VETERANS BENEFITS

Benefits for Veterans and Eligible Dependents

Federal and state benefit programs for veterans and eligible dependents are coordinated through Veteran Services, located in 10 Funkhouser Building.

Veterans or eligible dependents (widow, wife of totally and permanently disabled veteran, child of deceased or totally and permanently disabled veteran) should report to the Veteran Services office during priority registration or on the Advising Conference date and pick up information about enrolling for benefits.

Students who have already applied for federal or state benefit programs should bring certificates showing entitlement or eligibility.

Students who depend on these benefits to meet their living expenses should bring enough money to cover expenses for at least eight weeks while the first benefit check is processed.

For further information on V.A. educational benefit programs, contact the St. Louis VA Regional Office, P.O. Box 66830, St. Louis, MO 63166-6830, (888) 442-4551.

Children of Kentucky War Veterans Tuition Waiver Program

Under the provisions of KRS 164.505, 164.507, and 164.515 certain children and spouses of Kentucky war veterans are eligible for assistance from the Commonwealth of Kentucky. All persons eligible under this program must meet admissions requirements and submit all necessary documents establishing eligibility under the program to the Student Records Office, 10 Funkhouser Building.

Generally, children of Kentuckians who were killed in military action or who were permanently and totally disabled in wartime military services are eligible to have their tuition waived. This waiver does not cover special fees or additional fees that are charged for certain courses.

For additional information on the provisions of KRS 164.505, 164.507, and 164.515, contact the Kentucky Department of Veterans Affairs, Room 123, 545 S. Third St., Louisville, KY 40202, (800) 572-6245.

ROTC FINANCIAL ASSISTANCE

Air Force ROTC Scholarships

The types of financial assistance available through Air Force ROTC are briefly described below. For further details on eligibility and requirements, contact the Department of Aerospace Studies, 203 Barker Hall, University of Kentucky, Lexington, KY, 40506-0028, (859) 257-7115; or visit **www.uky.edu/AS/Aerospace** for more information. Additional information is also listed in this Bulletin under Aerospace Studies.

High School Scholarship Program (HSSP). Scholarships are available to those qualified and selected students who enroll in the Air Force ROTC program. These scholarships cover tuition and laboratory fees, provide an allowance for books, and provide a graduated nontaxable subsistence allowance ranging from $300 to $500 per month. Qualified high school students can apply for four-year Air Force ROTC scholarships. Applicants for four-year scholarships are evaluated on the basis of the following criteria: a composite score on the ACT, or a composite score on the SAT; the applicant's high school academic record; class ranking; extracurricular and athletic activities; personal interview; and ability to qualify on an Air Force medical examination.

High school students who meet the basic eligibility requirements for a four-year scholarship must submit an application by December 1 of the year prior to enrollment in the program (usually the senior year in high school). All selections for four-year scholarships are made at Air Force ROTC headquarters. Students meet regularly scheduled boards from September to February. High school students should apply online at: **www.afrotc.com**. For additional information, contact the Air Force ROTC detachment, 203 Barker Hall, University of Kentucky, Lexington, KY 40506-0028, or by phone at (859) 257-7115.

In College Scholarship Program (ICSP). Scholarships are awarded to students enrolled as cadets in the Air Force ROTC program on a competitive basis. Depending on the particular scholarship program, selection may be made on campus by the Air Force ROTC detachment commander or at Air Force ROTC headquarters. Scholarships may be awarded for up to three and a half years of study. Students interested in these scholarships should call (859) 257-7115 for the latest information.

Furthermore, the **HQ AFROTC ICSP** is an in college scholarship program available to students pursuing a degree in a critical areas needed by the Air Force. These scholarships can be up to three and a half years. These scholarships are awarded on a competitive basis for those who qualify. ICSP scholarships have historically been awarded to cadets pursuing academic majors in electrical and computer engineering, nursing, and certain foreign language studies. Selections for these particular in college scholarship program are made at Air Force ROTC headquarters. Critical areas are updated every year and are subject to change without notice. For current information, call (859) 257-7115.

Information is current as of January 2015 and is subject to change.

Army ROTC Scholarships

Two-year, three-year and four-year scholarships are available through the Army Reserve Officers' Training Corps program. These scholarships pay tuition, required university fees, $1,200 per year for textbook costs, and up to $500 per month tax-free subsistence allowance while school is in session. Scholarship recipients will be commissioned as officers at the rank of Second Lieutenant in the United States Army upon graduation. Scholarship recipients will typically incur a four-year active duty or eight-year Army Reserve/National Guard service commitment. Two- to three-year Guaranteed Reserve Forces Duty Scholarships are also available.

Length of scholarship, application deadline, and where to apply:

1. Scholarship applications are accepted year-round. The address to request or submit an application is: Professor of Military Science, ATTN: Admissions Officer, U.S. Army ROTC, 101 Barker Hall, University of Kentucky, Lexington, KY 40506-0028; or call (859) 257-6865.

2. Four-year scholarships: Application deadline is January 1 of a student's high school senior year. High school juniors and seniors are eligible to apply. To receive an application, contact: United States Army Cadet Command, ATTN: Army ROTC Scholarship, Fort Knox, KY 40121; or call 1 (800) USA-ROTC; or apply online at: **www.goarmy.com/rotc**. All applicants are evaluated by a board that considers the following criteria: ACT/SAT scores, high school academic record, extracurricular and/or athletic activities, and personal interview.

Advance Course (last two academic years of baccalaureate degree)

All contracted cadets (committed by signing an Army ROTC contract) receive a subsistence allowance of up to $500 per month while school is in session, whether or not they are scholarship recipients. Active duty commitments range from a 90-day Officer Basic Course for Reserve (Army National Guard or U.S. Army Reserve) officers to four years for active duty officers.

To be eligible for the Advance Course, students must have completed the first two academic years of the ROTC program (Basic Course) or other training (Basic Training/AIT, JROTC experience, Leadership Training Course).

Basic Course (first two academic years of the four-year ROTC program)

All students are eligible and welcome to participate in military science 100- and 200-level classes **without obligation**. The Basic Course focuses on an introduction to leadership, tasks common to all soldiers, and adventure training.

Cadet Initial Entry Training and Cadet Leaders Course

These camps are held during the summer lasting four weeks and each pays the student approximately $900.

Cadet Initial Entry Training Course is held at Fort Knox, Kentucky, and is attended by students who wish to participate in the Advanced Course. Completion of training qualifies students to enter the Advanced Course and compete for a two or two and a half year scholarships.

Cadet Leaders Course is held at Fort Knox, Kentucky, and is a requirement of the Advanced Course for commissioning. Normally, students attend this Camp between the junior and senior years.

Simultaneous Membership Program

This program is open to students in the Advanced Course. It enables them to remain a member of, or join a local Army National Guard unit or U.S. Army Reserve unit as officer trainees while attending college. Pay through either of these units is based on that of a Sergeant. See the admissions officer or call your local National Guard/Army Reserve recruiter for details. Simultaneous Membership Program students receive tuition assistance, Montgomery GI Bill, Kicker, plus over $1,200 per month while serving in the Army Reserves.

Living Accommodations

APPLYING FOR HOUSING

It is recommended that students apply to UK Housing as soon as they are accepted to UK. It is important to note that applying for admission to the University and applying for housing and the Living Learning Program (LLP) are **separate processes**. Acceptance to the University does not guarantee acceptance to housing or the LLP.

On-campus housing will be provided for those who meet all University of Kentucky and UK Housing qualifications and deadlines. Students can be disappointed when they do not obtain a University housing assignment due to late submission of the housing application.

Questions regarding the housing application should be directed to the Undergraduate Housing Assignments Office, which processes housing applications, assigns students to resident hall rooms and the Living Learning Program, and notifies students of assignments (see Contact Information at the end of this section).

LIVING ON CAMPUS

The University of Kentucky has 8 traditional and 15 premium residence halls designed in several different room types, including four-person suites, 2-bedroom suites, and 4-bedroom suites. The residence halls on campus house over 6,600 undergraduate students.

The residential setting at UK is intended to contribute to a student's education by providing a living/learning environment. There are several living learning communities within undergraduate housing. For more information about each living-learning community, visit the Living Learning Program website at: **www.uky.edu/housing/**

UK's residence halls are the foundation upon which a solid college experience is built. Many current students believe that living in a residence hall is the best way to make friends, meet new people, and become involved in campus life. Studies on UK's campus indicate that students who live on campus, particularly those in living-learning communities, tend to have higher grade-point averages than students living off campus.

UK's residence halls are staffed with professionally trained personnel, including full-time resident directors, hall directors, and resident advisors who live on each floor. The hall director and resident advisors assist in creating a safe, inclusive environment, helping students in their academic efforts, planning social and educational programs, and developing hall governments. Residents are encouraged to participate both within the hall and in the campus community.

All on-campus undergraduate residents are represented by the Resident Student Association, a group whose goal is to improve residence hall life by planning and directing social, educational and recreational programs, and by providing a unified voice for residents. The Resident Student Association is a member of the National Association of College and University Residence Halls (NACURAH, INC.), enabling interested residents to attend regional and national leadership conferences.

Room Assignments

Room assignments are determined by the date the completed housing application and housing contract are submitted to the Undergraduate Housing Assignments Office. Living Learning Program participants are assigned to the residence hall(s) that houses their program.

If housing demand exceeds capacity, students may be placed on standby for housing until a permanent room assignment can be made. Each year, a number of housing recipients do not come to school, or come but do not stay, creating vacancies.

Roommates

Students may request roommates of the same gender on the housing application. Two students who wish to share a room must indicate each other as the preferred roommate and request the same room types and area of campus. Living Learning Program participants will be expected to room with another student in the same living-learning community.

RESIDENCE HALLS

UK's residence halls have many attractive features. Housing rates include utilities, cable television, computer network connection and furniture. All residence halls are staffed by hall directors and resident advisors. Each front desk has a staff member monitoring the lobby area 24/7. Security cameras are placed in many areas of the halls. Residence halls provide convenient access to laundry facilities, game and television rooms, vending machines, lounges, and study rooms. Dining facilities are close to all areas of campus. **Smoking and other tobacco products are not allowed on UK's campus.** UK Housing policies and procedures apply to all residents who sign a contract and live in one of the residence halls or Greek facilities managed by the University.

UK's campus covers many acres. Students and faculty refer to the three major areas of campus as north campus, central campus, and south campus. UK's residence halls are located in all three areas.

Students should read about each hall and learn about the facilities and the various living-learning communities available.

North Campus

The north campus consists of four residence halls: Roselle Hall, Champions Court I, Champions Court II, and Wildcat Coal Lodge. North campus halls are close to Blazer Cafe, the UK Bookstore, many classrooms, Memorial Coliseum, Rupp Arena, downtown and many eclectic shops and restaurants.

Central Campus

Central I, Central II, Haggin, Woodland Glen I, Woodland Glen II, Woodland Glen III, Woodland Glen IV, and Woodland Glen V make up the central campus. These halls are considered centrally located because they are close to the Fresh Food Company at The 90, many classroom buildings, as well as the William T. Young Library and UK Hospital.

South Campus

The south campus is comprised of the Kirwan-Blanding Complex, plus three premium residence halls – Baldwin, Smith, and Ingels. These communities are located near the Fresh Food Company at The 90, William T. Young Library, the E.J. Nutter Field House and Training Facility, the Hilary J. Boone Tennis Center, Lancaster Aquatic Center, Cliff Hagan Stadium, Bernard Johnson Student Recreation Center, and Commonwealth Stadium.

Office of Residence Life

The mission of the Office of Residence Life is to create inclusive residential communities that promote student learning and personal growth. In order to promote student learning and personal growth, the Office of Residence Life has identified five core values which must be incorporated into all residential communities. These are:

- Safety
- Inclusion
- Service
- Civility
- Academic Achievement

The Office of Residence Life hires and supervises the staff that live and work in the facilities, including Hall Directors, House Directors, Resident Advisors, Office Assistants and Desk Clerks. Each of these staff members receives extensive training in the management of undergraduate housing facilities and can be a valuable resource in meeting any need that a student might have.

The Office of Residence Life also coordinates all the Living-Learning Communities and Residential Colleges on campus. These communities offer students the opportunity to interact more with faculty and access resources related to their academic or other interests.

For general questions about the Living-Learning Program or the Office of Residence Life, please contact:

Office of Residence Life
537 Patterson Office Tower
University of Kentucky
Lexington, KY 40506-0027
(859) 257-4784
email: residencelife@uky.edu
www.uky.edu/housing/

RATES

The cost for living in UK Housing is listed in the *Fees* section of this Bulletin.

Rate Changes

Rates are subject to change at any time before the beginning of the academic year, upon action by the Board of Trustees. Rates are normally established in May for the succeeding academic year.

Apply Online

Apply by logging into myUK using your Link Blue credentials. Select "Undergraduate Housing" on the "Student Services > myinfo" tab.

Cancellations

Applicants must cancel the housing application in person, by fax, by letter, or by email to the Undergraduate Housing Assignments Office at: **ukhousing@email.uky.edu**

New students who choose to cancel their Housing and Dining application will be charged according to the following schedule:

- $0 for cancelling prior to June 15
- 20 percent of the traditional hall rate for the fall semester for cancelling from June 16 - July 1
- 25 percent of the traditional hall rate for the fall semester for cancelling by July 2 - August 1
- 50 percent of the assigned housing rate for the fall semester plus the prorated charge for each day from the fall move in date to the date on which the student has provided written cancellation notification for cancelling by September 1. This rate also applies to students who apply for on-campus housing and then never move in to the housing facilities – no shows
- Full housing and dining charges (at assigned hall and plan rates) for cancelling after September 1

After the Semester Begins

If a student withdraws from the University during the semester, the student is charged the daily rate for the time which they were in the residence hall. Students are also charged the weekly rate for the dining plan which they are on or actual usage of that plan, whichever is greater.

Between Semesters

There is no penalty for withdrawing from the University between terms. The student is released from their Housing Contract because they are no longer eligible to live in Undergraduate Housing. Students are charged the daily rate for the room assignment and dining plan which they are in until they have withdrawn from all classes and properly checked out of UK Housing.

Liquidating (offered for Spring Semester ONLY)

The Housing Contract is for the entire academic year, fall and spring semesters. Students who remain enrolled and wish to leave UK Housing between semesters may choose to cancel their Contract for a significant financial penalty. Details of the cancellation policy are available online at: **www.uky.edu/housing/**.

For more information about UK Housing, contact:

Undergraduate Housing Assignments Office
125 Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054
(859) 257-1866
email: ukhousing@email.uky.edu
www.uky.edu/housing/

GRADUATE AND FAMILY HOUSING

The University provides living options for full-time graduate students, professional students, undergraduate students (traditional and non-traditional), and a limited number of options for staff and faculty. Student families can apply for two-bedroom apartments in Shawneetown or Greg Page. One-bedroom and efficiency apartments are available in Shawneetown for student families or single students. Commonwealth Village one-bedroom and efficiency apartments are available to single students.

Efficiency, one-bedroom and two-bedroom units apartments are available at 625 S. Limestone. A limited number of two-bedroom townhomes are available at 633 Maxwelton Court. These options are primarily reserved for single students. Campus-adjacent housing is available for undergraduate, graduate, and professional students, as well as staff and faculty.

Furniture is provided in Commonwealth Village, Greg Page, and Shawneetown **only**. (Furnishings do not include microwaves, linens, or household essentials.) The rent rate in these units includes the cost of utilities, basic cable television service, and Internet connectivity. Laundry facilities are available in all these communities. Furniture is **not** provided in the properties located at 625 S. Limestone, 633 Maxwelton Court or the campus-adjacent options. Basic utilities are provided at 625 S. Limestone and 633 Maxwelton Court. Internet and cable television are not provided. Please visit our Web site to learn more about the amenities provided for each option, including the campus adjacent properties. Rental rates and other important information are available on the Web site. A permit must be purchased through Parking and Transportation for most properties.

For more information and to access our application, please visit us at: **www.uky.edu/Housing/Graduate** or contact our office at:

Graduate and Family Housing
300 Alumni Drive
Apartment 156
Lexington, KY 40503
(859) 257-3721
fax: (859) 323-1900
email: ukapthousing@uky.edu

UK DINING

Sit Down & Eat with Friends. Campus Is a Community.

Like sitting around the dining room table at home, on campus people gather where there's food. It's human nature. So it's no surprise that our residential all-you-care-to-eat restaurants, Blazer Café and the Fresh Food Company, are often the center of campus activities. It's where friends meet, and it's the place to make new friends. Don't miss out on one of the best social hubs on campus. The table – and friends – are waiting!

Eat Better. Do Better When You Eat on Campus.

Besides all the social advantages to a meal plan, it saves precious time and is way less stressful. You will have more energy and be better nourished. And when you're well-fed, you're ready for anything. Eating on campus means you don't have to hassle with shopping, cooking, and cleaning after every meal. With a meal plan you have value, variety, and convenience. It's flexible and works with your schedule.

Variety and Convenience

The **Fresh Food Company** is the new residential all-you-care-to-eat-restaurant located in The 90 on south campus. The Fresh Food Company provides a dynamic menu filled with innovative recipes prepared in plain view. This is where many students will eat the majority of their meals. The ever-changing culinary cravings of today's students are met with a creative kitchen design that encourages daily menu flexibility.

Blazer Café is a residential all-you-care-to-eat restaurant on north campus. Blazer Café features several interactive and dynamic stations. Each station has its own theme and offers a mix of traditional and leading-edge selections, all with a twist. Both Blazer Café and the Fresh Food Company offer a variety of food with an emphasis on healthy, local (Kentucky Proud), and made-from-scratch items. The Unlimited meal plan gives you VIP access to both Blazer Café and the Fresh Food Company, with only a 30 minute buffer between visits.

North Campus dining locations include Blazer Café, Chick-fil-A® Express, Panda Express®, Subway®, Greens to Go, and Starbucks® in Bowman's Den. Common Grounds, a local coffee shop, and ED-UK-ATE Café are also on the north campus.

Central Campus is home to K-Lair, Einstein Bros. Bagels®, Subway® Café, Intermezzo, Rising Roll®, Fusion, Apothecary Café, two Starbucks® locations, and a Wildcat Pantry convenience store.

South Campus restaurants include Taco Bell® Express, La Madeline®, Aqua Sushi®, Ovid's, and Fresh Food Company, Wildcat Pantry, all located in The 90. Ag Deli and Bluegrass Café are also located on south campus.

Commitment to Nutrition

We're committed to providing you a broad selection of great tasting, healthy food and beverages. Our menus are created by experienced chefs who have a passion for food, and our recipes feature fresh fruits, vegetables, whole grains, lean proteins, and low or non-fat dairy options. We provide a vegetarian friendly environment, with a both vegetarian or vegan choices. We also recognize and accommodate special dietary needs in a personalized, sensitive manner.

Meal Plans

Every student has the opportunity to purchase a meal plan. All students living in a residence hall must choose a meal plan as part of the fall 2015 housing contract (Basic 7 Plan or higher). Students may upgrade to another plan by visiting the UK Dining Center or selecting a new plan on the dining Web site. Students living off campus may purchase a meal plan by visiting the UK Dining Center or adding a plan on the dining Web site.

Meal plans include both "meals" and "Flex Dollars".

Meals: With a meal plan you receive credit for all-you-care-to-eat meals at Blazer Café and Fresh Food Company. To use a meal at one of these locations, simply present your WildCard ID card to the cashier upon entering the restaurant. Meals are reserved for the account holder.

Wildcat Deals: When a meal is used at a location other than Blazer Café or Fresh Food Company it is referred to as a Wildcat Deal. Wildcat Deals are offered as a convenience and allow you to exchange a "meal" for a designated combo meal at participating retail venues though they are not meant to fully replace meals in residential dining. Wildcat Deals are only available to meal plan members. Check the dining Web site for a list of Wildcat Deal venues.

Flex Dollars: Flex Dollars supplement your meals and are included with each meal plan. Flex Dollars work just like a debit card and may be used at all UK Dining locations. Unused Flex Dollars will carry forward from fall to spring for students enrolled for the spring semester. There is no fee for adding Flex Dollars. Flex Dollars can be used to treat a friend to food on campus.

Meal plans are for the academic year. You will automatically be billed each semester. You will begin the spring semester on the same meal plan that you have at the end of the fall semester. Unused Weekly Meals (Basic 7, White 10, and Blue 14 Plans) cannot be refunded, accumulated, or carried over to the next week. Unused Block Meals (Champion 85 Plan) cannot be refunded or carried over to the next semester. Unused Flex Dollars will carry forward from fall to spring for students enrolled for the spring semester. All Flex Dollars are non-refundable, non-transferable and expire at the end of the spring semester.

For more information about UK Dining, please contact:

UK Dining Center
Bowman's Den
Phone: (859) 257-2220
email: contactukdining@lsv.uky.edu
www.uky.edu/ukdining

STUDENT PARKING AND TRANSPORTATION OPTIONS

When parking on campus, students must purchase and properly display a University of Kentucky parking permit. The temporary convenience of illegal parking is rarely worth the hassle and expense of paying fines and/or vehicle impoundment fees. All residential (**R**) and commuter (**C**) student lots require a valid permit by the Monday before classes begin and all Stadium (**K**) areas require a valid permit on the first day of classes. Bus service is provided from the stadium (**K**) lots to central campus. Permit control signs at the entrance to each parking lot display the hours when the lot is controlled for permits.

The University of Kentucky has a robust and growing alternative transportation network that all students are encouraged to use, regardless of whether they choose to bring a personal vehicle to campus. In fact, less than half of students bring a vehicle to campus, a decision from which everyone benefits – our campus, our community and our environment. With a variety of car-free options readily available, it is easy to access campus and explore Lexington without a personal vehicle.

Parents and students can access information on topics related to parking, permit application, motorist assistance, bicycle parking, bus routes and schedules, and FAQ's online at **www.uky.edu/pts**. Additionally, students can conveniently register for and renew permits, check their license plate number for unpaid citations, and pay and appeal citations online. Check online for hours of operation and for information on satellite locations.

Periodically, Parking and Transportation Services sends vital information on campus parking and transportation to parents and students who subscribe to *Parking e-News* and *Bicycle e-News*, the department's email newsletters. Stay informed by signing up for *Parking e-News* and *Bicycle e-News* at **www.uky.edu/pts**. UK Parking and Transportation Services is also on Twitter. To follow news on parking and transportation issues on campus, go to: **http://twitter.com/UKParking**

Parking for Students with Disabilities

Parking privileges will be granted to qualified students upon completion, acceptance, and approval of an application. The Disability Resource Center, Room 2, Alumni Gym, (859) 257-2754, will assist students with disabilities with the application process. Office hours are 8:00 A.M. to 5:00 P.M., Monday through Friday.

Home Football Game Day Parking

Vehicles parked at Commonwealth Stadium, in the Sports Center Garage (PS #7) or in the Sports Center Lots must be removed from any stadium parking lot before 7 A.M. on the day of a home football game. One exception to this – new for 2015-2016 – is that vehicles must be relocated from the Stadium Green Lot by 10 P.M. the night before a home football game. Failure to move any vehicle from the stadium parking lots could result in a citation and impoundment at the owner's expense.

All vehicles may be moved to most **E** lots after 3:30 P.M. on Friday and should be returned to Commonwealth Stadium by 5 A.M. on Monday. Vehicles may not be moved to **R** lots on football game weekends. Please refer to the Football Game Day Parking map located at **www.uky.edu/pts** for specific lot relocation information.

No parking is permitted on University Drive after 7 A.M. on days of home football games.

The above information only applies to Saturday home games. Details of parking relocation for the October 15 Thursday night home football game will be announced via a campus-wide email as the date approaches.

Guest Parking

Family and friends visiting campus during the week may pay to park in the Sports Center Garage (PS #7, near Kirwan-Blanding), in the South Limestone Garage (PS #5, next to Kennedy's Wildcat Den), or at parking meters. Guests or the students they are visiting may also stop by Parking and Transportation Services, located in the Press Avenue Garage (PS #6), at the corner of Press and Virginia Avenues, to obtain a temporary parking pass. After hours and on weekends, visitors can also park in lots not controlled for permits. A permit control sign at the entrance to each parking lot displays the hours when the lot is being controlled for permits.

Short-Term Parking

Parking meters are available to allow temporary parking for visitors, employees, and students. Parking meters are located near the UK Bookstore, Funkhouser Building, Seaton Center, and behind Memorial Coliseum. UK parking meters have time limits of either 45 minutes or three hours displayed on the meter post and on the tag inside the meter. The intent of 45 minute meters is to provide short-term parking; they are not intended for students attending class. In addition, certain meters are reserved for specific uses. These meters are identified by signs attached to the meter posts or posted at the entrance to the parking lot.

Avoiding Parking Citations

- Do not park in fire lanes (red curbs), service areas (yellow and white stripes), loading zones (black and yellow stripes), or otherwise restricted spaces.
- Do not assume that because other cars are parked illegally you may do so.
- Observe and obey all parking control signs.

Campus Bus Service

Students do not pay a fare when riding the Lextran campus buses and the Campus Area Transit System (CATS) shuttle buses; support for these bus services comes from parking permit fees. All Lextran and CATS buses are equipped with wheelchair lifts, and most have bicycle racks. With the exception of the Summer/Break Route, all Lextran and campus routes operate during the fall and spring semesters when UK is in official session.

All students and their guests may ride the Lextran campus buses between central campus, residence halls, and Commonwealth Stadium between 7 A.M. and 6:15 P.M., Monday through Friday. Lextran bus service begins on the first day of classes in August and January, and operates on weekdays. The Lextran campus buses run approximately five minutes apart during peak hours and approximately ten minutes apart during off-peak hours.

When the University is open but classes are not in session, the Summer/Break route serves campus Monday through Friday, during daytime hours.

Buses traverse campus throughout the day, but as night approaches, UK's bus service becomes increasingly important from a safety perspective. The night service operates on a fixed route Monday through Friday between 6 P.M. and midnight during fall and spring semesters. After midnight and on Sunday evenings, the night service operates on demand for students who need transportation around campus, such as between Commonwealth Stadium and the residence halls. Students may telephone the driver directly at (859) 221-RIDE (7433) to make pick-up requests. The bus driver will make every effort to accommodate reasonable requests. Calls must be received at least 30 minutes prior to the end of on-demand service.

The schedule for on-demand service is as follows:

Monday - Friday – midnight to 5 A.M.
Sunday – 7 P.M. to midnight

Route and schedule information is available at the major bus stops, in South Limestone Garage (PS #5, next to Kennedy's Wildcat Den), and in the Parking and Transportation Services main offices, located in the Press Avenue Garage (at the corner of Press and Virginia Avenues). You can also find bus information online at **www.uky.edu/pts**.

Cat Tracker

PTS offers the Cat Tracker, a GPS-based bus locating system. Visit **http://uky.transloc.com** to see when the next CATS bus is coming to your stop. You can also track the buses via the Transloc iPhone and Android apps, by using your smart phone to scan the QR codes found on each bus stop sign or by using the SMS codes found at each bus stop.

Lexington Bus Service

Students who live off campus may find riding a Lextran city bus to and from campus is more convenient and less expensive than parking on campus. Lextran offers the Class Pass, a student pass providing unlimited Lextran rides throughout the city. Class Passes are $75 for the school year or $50 per semester (prices subject to change). For the convenience of students, Class Passes are available for sale at each of the Parking and Transportation Services offices. For more information on the Class Pass and Lextran routes and schedules, visit Lextran's website at **www.lextran.com** or call (859) 255-7756.

Bicycle Parking and Registration

The University of Kentucky recognizes bicycles as vehicles and encourages bicycling as a mode of transportation. In an effort to provide the campus community with a safe, secure, and efficient cycling environment, the University requires bicyclists to observe established regulations for operating and parking bicycles and campus and strongly encourages cyclists to obtain and display a bicycle permit, available at no charge. Visit **www.uky.edu/pts** for more information.

Bicycles are required to only park at bike racks. Racks are located in front of most residence halls and classroom buildings, totaling nearly 3,500 bicycle spaces. Do not chain bikes to benches, trees, handrails, signs, or light poles. As with cars, bikes can be impounded if they are parked in violation.

All Lextran and some CATS buses are equipped with bicycle racks for your convenience.

Bicycling on Campus and Beyond

Biking as a mode of transportation has a number of advantages: it's good for you and the environment, saves you money and is often faster than other ways of getting around.

The University of Kentucky is committed to educating its community about safe bicycling practices and improving bicycle facilities on campus through the Bicycle Advisory Committee. To learn more about these efforts and about upcoming BAC events, visit **www.uky.edu/pts/BAC**.

Here is a list of campus and community bike resources to help you get started on two wheels:

- Parking and Transportation Services' Bike Info: **www.uky.edu/pts/alternative-transportation_bicycle-information**
- Wildcat Wheels Bike Library: **www.wildcatwheels.org**
- Campus Bicycle Route Map: **http://maps.uky.edu/printablemaps/BicycleMap_11x17.pdf**
- Lexington Bicycle Route Map: **www.sustainability.uky.edu/transportationresources**
- Lexington Bicycle-Friendly Streets Map: **www.lexingtonky.gov/Modules/ShowDocument.aspx?documentid=18236**
- Local Bike-Related Traffic Laws: **www.lexingtonky.gov/modules/ShowDocument.aspx?documentid=12083**
- State Bike-Related Traffic Laws: **www.lrc.state.ky.us/kar/601/014/020.htm**

Big Blue Cycles

Residential students who sign a car-free commitment are eligible for a free bicycle for a year through the Big Blue Cycles program, which operates as part of UK's Wildcat Wheels Bicycle Library. The 150 bicycles in this program are 8-speed commuter bicycles equipped with fenders, a rear rack, and a bell. The bicycles were made possible by a funding partnership between the Executive Vice President for Finance and Administration, the Student Sustainability Council and Parking and Transportation Services. All participants will also receive a bicycle helmet, thanks to the UK HealthCare Level I Trauma Program and a lock, courtesy of UK Student Government. To register or get more information, visit **www.sustainability.uky.edu/BigBlueCycles**

PTS Car Sharing

Students who don't have a car can use ours. The PTS car sharing program offers short-term, low-cost car rental to anyone age 18 and older. For just $8-$10 per hour, members of the campus community can choose from a wide variety of Smartway-certified green vehicles with GPS navigation. The cost includes fuel, insurance, and maintenance. Cars are located around campus in high-traffic areas; car sharing spaces are reserved 24 hours a day. Car sharing is a great option for those who don't have cars on campus, those who regularly use alternative transportation, and those who want to avoid wear and tear on their vehicle.

Visit **www.uky.edu/pts/alternative-transportation_car-sharing-information** for more details and to sign up today.

PTS Ride Home Express

PTS offers an alternative travel option for students and employees in visiting a variety of destinations during academic breaks. The PTS Ride Home Express operates at the start and end of Thanksgiving, Winter, and Spring Breaks. The PTS Ride Home Express will provide reliable, comfortable, and affordable transportation to and from hometowns or break destinations during the three major academic breaks. The program offers significantly cheaper fares than airlines and faster travel times than other major bus companies. Round-trip fares for the PTS Ride Home Express begin at just $55, with prices varying based on the final destination. For more information, visit **www.uky.edu/pts/buses-and-shuttles_ride-home-express**

Campus Shuttle to Blue Grass Airport

Parking & Transportation offers free shuttles to Blue Grass Airport at the start of Thanksgiving, Winter, and Spring Breaks with daily pick-up times of 6 A.M., 8 A.M., 10 A.M., noon, 2 P.M., and 4 P.M. Students should plan to leave campus at least two hours prior to take-off. Students must make their own arrangements back to campus at the conclusion of the break. For more information, visit **www.uky.edu/pts**.

Cultural Opportunities

Otis A. Singletary Center for the Arts

Located on the corner of Rose Street and Euclid Avenue, the Singletary Center for the Arts serves as the primary performance facility for the University, as well as for many community and regional events. The Center includes a 1500-seat Concert Hall and a 400-seat Recital Hall, both designed for acoustical excellence.

The Singletary Center opened in the fall of 1979 and has hosted an average of 400 events annually, with 123,000 patrons attending each year. In addition to presenting almost 175 annual performances by the School of Music faculty and students.

The Singletary Center is also the primary performance venue of the community arts organizations, such as the Lexington Philharmonic Orchestra, the Central Kentucky Youth Orchestra, and the Chamber Music Society of Central Kentucky. In addition, the Center houses the Gallery at the President's Room, which showcases regional, local, and student art exhibits. Admission to the Gallery is free.

The Center offers discounts and/or free admission to numerous programs for students, faculty and staff with a valid UK ID. For more information, visit online at: **www.singletarycenter.com**. For ticket information, call the Singletary Center Ticket Office at (859) 257-4929. The ticket office is open 10 A.M. to 5 p.m. Monday through Friday, and 12 p.m. to 5 p.m. on Saturday if there is a ticketed performance.

Singletary Signature Series

The Singletary Center for the Arts at the College of Fine Arts presents and hosts artistic, cultural and educational events for the University community, Lexington community and the Commonwealth of Kentucky. The Singletary Signature Series offers audiences the highest standards of artistic excellence usually found in major metropolitan art centers. Each year, the series features international and national acts ranging from jazz to rock, dance to opera, and classical to modern. Past performers include Trombone Shorty, Denyce Graves, Savion Glover, Mark O'Connor, the B-52s, Chris Isaak, Itzhak Perlman, Boyz II Men, Wynton Marsalis and Emmlyou Harris.

Don't miss the opportunity to see some of the world's best performers right here on UK's campus. Ticket prices are based on seating location.

For more information about the Singletary Signature Series and other concerts at the Singletary Center, call (859) 257-4929; or check out the web site at: **www.singletarycenter.com**

Theatre and Dance

The UK Department of Theatre and Dance at the College of Fine Arts produces a dynamic variety of performances each season, inspired by its dedication to artistic excellence and professionalism. Housed in the historic Guignol Theatre on Rose Street, season repertoire features innovative reinvention of classics, original work developed by students and faculty, and new plays by emerging voices in the American Theatre. Additionally, the department presents an annual dance concert featuring dance minors and a musical theatre production featuring exceptional students in the Musical Theatre Certificate. All performances are open to the Lexington as well as the UK campus community. For more information on auditions and other theatre activities, visit: **finearts.uky.edu/theatre**

UK School of Music Concerts

The School of Music at the College of Fine Arts presents a variety of recitals and concerts throughout the year by faculty and students. Student organizations include the Symphony Orchestra, the Wind Symphony, the Concert Band, the Choristers and Chorale, the UK Jazz Ensemble, the Percussion Ensemble, the Trombone Choir, Men's Chorus, Women's Choir, Opera Theatre, and acoustic vocal groups Paws and Listen and the AcoUstiKats.

Faculty recitals, faculty ensemble concerts, and concerts by student organizations are usually free to students, faculty, staff, and to the community. For a complete listing, visit: **finearts.uky.edu/music**

Chamber Music Society of Central Kentucky

The Chamber Music Society of Central Kentucky offers a series of concerts featuring outstanding chamber music ensembles of national and international reputation. Most performances are held on campus at the Singletary Center for the Arts. Tickets are available individually or by subscription. For ticket information, call (859) 257-4929.

Lexington Philharmonic Orchestra

The Lexington Philharmonic Orchestra is conducted by Scott Terrell and performs regularly in the Concert Hall of the Singletary Center for the Arts. The orchestra plays a varied repertoire and features outstanding guest soloists at each concert. Tickets are available individually or by subscription. For ticket information, call (859) 233-4226.

Martin Luther King Jr. Cultural Center

Established on the University of Kentucky campus in 1987 as the Martin Luther King Jr. Cultural Center, this much-visited campus venue has been a vital resource, providing year-round programs and activities that have focused on the importance of cultural awareness and cross-cultural understanding. The center offers a relaxed and affirming atmosphere that enhances the recruitment and retention of students from diverse backgrounds. Now in its third decade of operation, the center has evolved into an education resource facility where all students, as well as faculty and staff of the university can engage each other through cross-cultural exploration and intellectual exchange.

Increasingly, research has shown a vitally positive link between intercultural engagement and student success. As a result, the King Center has sharpened its focus on diversity education and increased its support of the academic enterprise. In addition to cultural/educational programs consisting of lectures, concerts, artistic performances, film/video screenings and workshops, faculty involvement in the center has increased through the establishment of the Scholar-in-Residence (SiR). During his/her two-year assignment, the faculty SiR helps to situate many center programs and activities within the academic/intellectual realm, and engages students, faculty and staff in meaningful exploration and intellectual discourse. Check the King Center website for programs and scheduling details at: **www.uky.edu/mlkc**

Mission

The mission of the King Center is threefold: (1) to advance the university's strategic goal of achieving a more diverse and inclusive campus environment, (2) to support increased retention of undergraduate students who are generally underrepresented in the student body, and (3) to enhance student achievement by helping students to have a more engaged, productive and fulfilling undergraduate experience. To these ends, our goals are to foster intercultural competence, promote respect and passion for the pursuit of quality education, and to help prepare students for productive and responsible engagement in a global society.

Values

It is a truism that education transcends the traditional classroom setting and takes place whenever and wherever individuals engage each other sincerely and open-mindedly in earnest pursuit of knowledge and deeper understanding. King Center programs and activities support this educational process through embrace of certain values, which include the following.

- **Truth and Integrity**: We seek truth and promote honesty and integrity in every manner of engagement, in information we disseminate, and in daily interactions.
- **Creativity and Resourcefulness**: We search continually for fresh ideas and innovative ways of designing and implementing programs, and in making full and productive use of valuable resources.
- **Respect and Acceptance**: People of different perspectives, experiences, and world outlook enrich the UK campus and the living/learning experience. King Center programs and activities embrace these differences with respect as we celebrate the enormous diversity of the human experience.

University Art Galleries

The gallery in the Bolivar Art Center, the home of the School of Art and Visual Studies, houses B.A. and B.F.A. senior exhibitions as well as juried shows. The **Barnhart Gallery** is home to the School's annual Open Studio. **The Rasdall Gallery** in the Student Center is run by a student board and features work by local, regional, and national artists in a variety of media. **The Pence Hall Gallery**, under the direction of the College of Design, combines exhibits of architectural interest featuring painting, drawing and sculpture. For more information, visit the School of Art and Visual Studies site at the College of Fine Arts at: **finearts.uky.edu/art**

The Art Museum at the University of Kentucky

The Art Museum at the University of Kentucky is an encyclopedic museum that promotes the understanding and appreciation of visual art from a range of cultures and historical periods. We present significant temporary exhibitions, lectures, and educational programs throughout the year, and selections from our permanent collection of more than 4,800 works are always on view. This includes paintings, sculptures, drawings, photographs, and functional objects by some of the world's most renowned artists, including Ansel Adams, Milton Avery, Romare Bearden, Alexander Calder, Albrecht Dürer, Louise Nevelson, Pablo Picasso, Robert Rauschenberg, Louis Comfort Tiffany, and Andy Warhol.

The Art Museum at the University of Kentucky is accredited by the American Alliance of Museums.

Prearranged group and class tours led by Museum volunteers or staff are encouraged. The Museum offers students training opportunities for work-study and internships as well as a Museum Studies course in partnership with the College of Fine Arts. For more information, visit our Web site at: **finearts.uky.edu/Art-Museum**

The Art Museum, located in the Singletary Center for the Arts at the corner of Rose Street and Euclid Avenue, is open noon to 5 p.m. Tuesday through Sunday, and noon to 8 p.m. on Friday. The Museum is closed on Mondays and University holidays. Admission is free.

William S. Webb Museum of Anthropology

The William S. Webb Museum of Anthropology is the major curation facility for archaeological collections in the state. The Museum was founded in 1931 by William S. Webb, and houses many unique collections recovered from archaeological excavations all across the Commonwealth. Every year we welcome researchers from all parts of the world who come to study, photograph and interpret the material remains representing 12,000 years of Native American life in Kentucky, and the last 200 years or so of the Commonwealth. The museum library contains approximately 9,000 volumes on Kentucky prehistorical and historical archaeology. Researchers are welcome to apply to the Museum for collections access.

Student Services and Activities

DEAN OF STUDENTS OFFICE

The University of Kentucky Dean of Students Office provides both administrative and educational services that support the personal and academic success of students. The office provides extracurricular, non-academic educational programs and also collaborates with academic units to provide support for students in reaching their educational goals.

Office of Student Conduct

The Office of Student Conduct is committed to promoting a safe, healthy, student-centered, and inclusive community where students can learn, grow, and develop. The goals of the student conduct system are to:

- Promote personal responsibility and peer accountability.
- Encourage students to consider the impact of their actions on themselves, their peers, and the greater community.
- Empower students to address any conflict that may arise in a safe, respectful, and socially conscious manner.
- Collaborate with faculty, staff, students, and the campus community with regard to student conduct matters.
- Educate the campus community about student rights and responsibilities related to the University Code of Student Conduct.

The Code of Student Conduct ("the Code") at the University of Kentucky is established to promote and protect the core mission and values of the University. By maintaining the Code, the University affirms the rights, protections, and expectations of students regarding their behavior as members of the University community. Students enrolled at the University of Kentucky are expected to conduct themselves according to federal, state, and local laws, and promote an educational environment that supports the University's mission and values. When incidents of potential misconduct occur, students are afforded a fair, educational, and consistent student conduct process. The student conduct process is designed to be a learning experience that facilitates responsible conduct and positive citizenship among the University and greater community. For further information about the student conduct process, visit: **www.uky.edu/studentconduct**

Community of Concern

The Community of Concern Team is a part of the University's commitment to proactively address issues of concern involving our students and/or employees. Our paramount concern is maintaining the safety of all members of the University community. The Community of Concern team seeks to enhance the well-being and safety of the University's students and employees by:

- providing a centralized point of contact for persons who develop a concern about the welfare of an individual;
- taking appropriate action by referring individuals to the resources that can provide the support/assistance needed to safely maintain successful relationship to the University; and
- providing training and education to the University community.

More information is available on the COC Web site at: **www.uky.edu/coc/**

Fraternities and Sororities

The University of Kentucky hosts 24 national fraternities and 20 national sororities. The undergraduate members are primarily responsible for operating these groups, with the assistance of a house director, local alumni and University advisors. The advisors are concerned with all areas of fraternity and sorority operations – recruitment, pledging, scholarships, housing, finance, leadership, personal growth and University involvement.

Sororities affiliated with the National Panhellenic Council hold a formal recruitment period the week prior to school opening in the fall. This is followed by open membership selection throughout the year for candidates to fill available vacancies.

Fraternities affiliated with the North American Interfraternity Conference host a recruitment week at the beginning of both the fall and spring semesters. Open recruitment takes place throughout the remainder of the school year.

Sororities and fraternities affiliated with the National Pan-Hellenic Council will announce individually their membership intake process during the semester. Pledging is not a prerequisite for membership.

Sororities and fraternities at the University of Kentucky follow the dictates of *The Code of Student Conduct* which prohibits student organizations from discriminating against any person due to race, color, or religious affirmation or belief.

The governing bodies for Greek life are the Interfraternity Council, the Panhellenic Council and National Pan-Hellenic Council comprised of representatives from each group on campus.

The Office of Fraternity and Sorority Affairs, the Interfraternity Council, the Panhellenic Council and the National Pan-Hellenic Council are located in 575 Patterson Office Tower. For more information, call (859) 257-3151; or, access the fraternity and sorority website at: **www.uky.edu/StudentAffairs/Greek**

UK Parent and Family Association

The UK Parent and Family Association (UKPFA) believes that student success is enhanced by well-informed parents and families. The UKPFA invites all parents and families of UK undergraduate students to join its membership. Membership benefits include receiving publications such as the *Insider's Guide* handbook for families of new UK students and the *Cat Chat* email newsletter. The UKPFA coordinates events for students and families during K Week and Family Weekend. The Parent and Family Association is coordinated through the Office of New Student and Family Programs. The staff members are happy to assist parents and family members with questions and concerns related to their students and UK. For more information on the Parent and Family Association, including how to join and more detailed membership benefits, visit: **www.uky.edu/parents**

K Book

The K Book new student handbook eases the transition of new students to the University of Kentucky by addressing topics related to institutional history and traditions, student life, academic life, athletics, campus resources, and life in Lexington. The K Book is distributed to most new students during "see blue." U Orientation; new students participating in Merit Weekend or starting during either summer term receive theirs by mail. The K Book is written every year by a group of current students, providing a peer perspective on life as a UK student. The K Book is coordinated through the Office of New Student and Family Programs and UK Public Relations and Marketing. For more information on the K Book, visit: **www.uky.edu/KBook**

Office of Wellness Initiatives for Student Empowerment

The mission of the Office of Wellness Initiatives for Student Empowerment (WISE) is to provide knowledge and information that empower University of Kentucky students and community youth to make safer and healthier lifestyle choices for holistic wellness. Subjects covered include alcohol and drug abuse prevention, financial wellness, hazing prevention, and general wellness. Grounded in the *Social-Ecological Model of Prevention* and the *9 Dimensions of Wellness,* the unit offers a variety of resources and programs that empower students to make responsible decisions and healthy behaviors.

Two of the office's most recognized programs are AlcoholEdu and the Student Wellness Ambassadors. AlcoholEdu is an online alcohol education program that is mandatory for all transfer and first-year students who are under 21 years of age and U.S. citizens or residents. Students must complete Part One of this program before arriving to campus.

The Student Wellness Ambassadors (SWA) are peer educators who represent our office's mission by providing UK students and community youth with various workshops, educational programs, and campus-wide events. Students involved in the SWA also serve as role models of inside- and outside-the-classroom success for aspiring college students. For more information, call (859) 257-9687; or visit: **www.uky.edu/Substance**

University Health Service

University Health Service (UHS) offers confidential, affordable and accessible health care for students. UHS has physicians who are board certified in family practice, internal medicine, emergency medicine, psychiatry, med-peds occupational, and sports medicine. Additionally, our nurse practitioners have certification in family medicine, women's health, and psychiatry.

Eligibility

The health fee is your ticket to access UK's University Health Service. The health fee is one of the mandatory fees assessed to full-time students. Part-time and BCTC students may opt into the health fee or be seen on a fee-for-service basis. For details and deadlines, visit: **http://ukhealthcare.uky.edu/uhs/**

Health Fee vs. Insurance

The health fee is not intended to replace health insurance. Students should have health insurance coverage for issues beyond the health fee such as diagnostic testing (X-rays, most laboratory tests), hospitalization, surgical procedures, specialist referrals, and prescriptions.

Student Health Insurance

UK offers a school-sponsored student health insurance plan which is customized to work with the care provided by UHS/UK HealthCare and cover the additional items mentioned above.

UK has on-campus insurance coordinators to educate students about the plan and to help students become effective consumers of insurance and health care. For more information, email: **StudentInsurance@email.uky.edu**; or call our insurance coordinator at (859) 218-3208.

Services Covered by the Health Fee

- Unlimited office visits for:
  - Injury or illness
  - Allergy injections
- Well-patient physical exams
- Women's care (gynecology)
- Observation room care
- Phone information nurse
- On-call physician for emergency after hours
- Limited medications
- Behavioral Health office visits
- Health education and wellness services:
  - Nutrition Counseling
  - Tobacco Treatment Counseling
  - Sexual Health Education Session
  - Access to health education resources in the PAWS Center

Student Health Advisory Council

Are you interested in making recommendations to UHS about the student health fee, insurance, policies, services and health education programs? SHAC may be for you. SHAC is a student organization that works to improve and promote the quality and delivery of health care for all UK students. For more information, email: **SHACatUK@gmail.com**

Location and Hours of Operation

Student Health is conveniently located in the University Health Service Building between Kentucky Clinic and the Charles T. Wethington Building at 830 South Limestone.

Clinic hours when classes are in session: Monday through Friday, 8 A.M. to 6 P.M.; Saturday, 9 A.M. to 11 A.M. During the summer and on the day prior to and when classes are not in session: Monday through Friday, 8 A.M. to 4:30 P.M.

An appointment is required and can be made online via Link Blue/myUK or by calling the Appointment Line: (859) 323-APPT (2778) or Behavioral Health Clinic (859) 323-5511.

Other Helpful Info

Phone Information Nurse (PIN) – (859) 323-INFO (4636)

General Information – (859) 323-5823

On Call (for emergencies) – (859) 323-5321

www.ukhealthcare.edu/uhs

Religious Affairs

While the University does not directly sponsor religious activities, it both welcomes and supports the diverse religious traditions and organizations on campus. A member of the Dean of Students staff assists religious groups through the Religious Advisors Staff, an organization of campus ministers and religion-based student organizations. Information about the different Religious Advisors Staff groups is available at: **www.ukfaith.org**. A list of student religious organizations is available at: **http://getinvolved.uky.edu/so/findorg**

For additional information, to contact the University Liaison, Office of Student Involvement, Blazer Hall, (859) 257-3110.

Disability Resource Center

The mission of the Disability Resource Center is to provide and coordinate services that will allow students with disabilities equal access to the University's educational, social, and cultural opportunities. Services are tailored to meet the needs of individual students based on their specific disabilities and are designed to assist students in developing the skills necessary to advocate for their individual learning and living needs. The services provided through the Disability Resource Center include, but are not limited to, determining needed accommodations, consulting about strategies, coordinating student services, assisting with campus and housing accommodation arrangements, and providing information about other available campus resources that may be of benefit to the student with a disability. The office registers all on campus emotional and service animals, as well as service animals in training. The Disability Resource Center also works with academic departments to provide accommodated testing on an as needed basis.

Students with permanent disabilities include individuals with physical conditions, medical and chronic health disorders, learning disabilities, attention deficit/hyperactivity disorder (ADHD), communication disorders, and other neurological or psychological disorders (i.e., seizure disorders, migraines, depression or anxiety disorders, brain injuries, etc.). Students with temporary disabilities include those who are recovering from surgery or who are being treated for temporary medical conditions (sprained ankle, broken leg, etc.). All students must provide current documentation of their disability and the need for accommodations before services can be provided.

In order to receive accommodations, students with disabilities are required to self-identify by registering with the Disability Resource Center. Eligibility for accommodations is based on proof of the disability and the need for accommodations. This will usually be in the form of a medical statement or report, or a psychological evaluation, or other related assessment from a qualified professional in the relevant field (such as a medical doctor, psychologist, psychiatrist, etc.). For further information about documentation guidelines, please check our Web site at: **www.uky.edu/StudentAffairs/DisabilityResourceCenter/**

Students are encouraged to contact the Disability Resource Center to set up an appointment or obtain further information. For additional information, visit online at: **www.uky.edu/StudentAffairs/DisabilityResourceCenter/**

CAMPUS RECREATION

The Department of Campus Recreation offers wholesome physical activities and sports programs for students, faculty and staff. Activities include intramural sports, club sports, outdoor pursuits and adventure trips, leisure recreation, and fitness programs.

Bernard Johnson Student Recreation Center

The Bernard Johnson Student Recreation Center is an 87,000 square-foot state-of-the-art facility. The Center has the latest in equipment and amenities. Major spaces include basketball courts, racquetball courts, a fitness center, aerobics studios, a climbing wall and more. All students are encouraged to visit the Center and make positive, healthy use of leisure time.

Lancaster Aquatic Center

Lancaster Aquatic Center is available for recreational swimming during open hours. For information, call (859) 257-7946.

Intramural Sports

The Intramural Sports program provides competition between students at UK. Individual, dual, and team sports events are available. Teams are organized into the following divisions: residence halls, fraternities, sororities, independents, and faculty and staff.

Club Sports

The Club Sports program provides opportunities for UK students, faculty, and staff who desire a more in-depth sports experience than is provided in the Intramural and/or open recreation program. For a list of current club sports, contact the Department of Campus Recreation at (859) 257-3928.

Adventure Trips

The Outdoor Pursuits program offers a variety of adventure trips for UK students, faculty, and staff. The trips vary from day hiking in the beautiful wild regions of Kentucky, to a weekend of whitewater rafting in West Virginia, to snow skiing at one of the regional spots close to Lexington.

For More Information

For more information about recreational programs or facilities, contact the Department of Campus Recreation, 177 Johnson Center, (859) 257-3928. Visit us on the Web at: **www.uky.edu/campusrec/**

STUDENT CENTER

Having finished the 75th anniversary celebrations in 2014, the Student Center is poised for a bright future! Services provided in the Student Center have been conveniently relocated during the expansion and renovation of the new, highly anticipated, state of the art Student Center, which will become the benchmark worldwide.

For activities, programming and other services, the Cats Den Underground is a premier recreational space located in the lower level of Blazer Hall where students can enjoy video games, TV, wireless laptops and nightly entertainment such as the Comedy Caravan, concerts, trivia nights and recreational tournaments. The Cats Den Underground is equipped with table tennis, billiards, video game stations and a snack bar with free popcorn.

The Late Night Film Series, a student-run cinema, will be showing the latest Hollywood blockbusters every Thursday and student favorites every Friday at 10 P.M. in Memorial Hall free of charge for students, staff, faculty and their guests. The film series also runs specialty movies such as foreign films, documentaries, cult classics and more on select days during the week.

Those interested in being active on campus can visit the Martin Luther King Jr. Center, Center for Student Involvement or Student Government Association offices located on the third floor of Blazer Hall.

Bowman's Den, located next to the Singletary Center, is your location to purchase a ticket to an upcoming UK event at the Ticket Center, which has full Ticketmaster services. Bowman's Den also houses the WildCard ID Office, a University of Kentucky Federal Credit Union branch, Plus Account and UK Dining (all retail offerings including Starbucks, Panda Express, Greens to Go, Chick-fil-A, Subway, etc.).

The official UK Bookstore is now conveniently located near Champions Court I & II residence halls on Lexington Ave, behind the Craft Center /Memorial Coliseum. It's never been easier to order books or grab the latest UK apparel to support the Cats in Memorial Coliseum and campus wide.

The Student Center's professional and student staff aims to provide an atmosphere of social and intellectual interaction in an informal setting. There are many opportunities for students to gain experience in management, marketing, customer service, events and public relations through employment with the Student Center.

For more information or to reserve a room, call the Director's Office at (859) 257-5781 or visit the Student Center Web site at: **www.uky.edu/studentcenter**

Be sure to stay updated with the Student Center Renovation Project by visiting: **www.uky.edu/studentcenter/renovation**

STUDENT ORGANIZATIONS

Student organizations are created as a result of student interest and serve the needs of a variety of students. Many provide programs that supplement the classroom experience and extend into areas of community service. All provide learning opportunities and leadership training for participating students and help to create lasting friendships for those involved.

There are over 500 registered student organizations on the UK campus. These include multicultural, governmental, political, honors and leadership organizations, recognition societies, social fraternities and sororities, club sports, departmental/professional organizations and special interest groups like the Black Student Union, Student Veterans Association, and the OUTsource. There are also numerous student organizations that focus on the religious, recreational, community service, media and international needs of students.

For more information about student organizations and campus activities, contact the Center for Student Involvement, third floor of Blazer Hall, (859) 257-1109 or visit: **getinvolved.uky.edu**

Leadership Development

The Office of Student Involvement sponsors a variety of leadership programs to complement the academic experience. The Leadership Exchange has been established to support, develop and enhance student leadership at the University of Kentucky. Whether you utilize our online resources or participate in the programs below, the Leadership Exchange strives to provide a leadership foundation for every Wildcat.

The **Emerging Leader Institute** provides first- and second-year students the opportunity to develop leadership skills and expand their understanding of the principles of leadership. Course components include structured experiences in current theories of leadership, effective communication, ethical decision making, empowering others, visioning and project planning, and developing meaningful relationships with peers, mentors and instructors. The Institute is offered each semester, selective in admission and awards academic credit to participating students. For applications and for course information, visit: **getinvolved.uky.edu** or **@uklead**.

The **Lead UK Conference** is open to all students and beneficial for a leader on any level. The conference takes place every year. Lead UK offers a variety of interactive workshops facilitated by UK staff and students, as well as a keynote address from a national leadership educator. Participants build knowledge and skills through basic leadership training and make connections with faculty, staff and other student leaders.

Explore Workshops are offered every other week during both fall and spring semesters to provide students with tangible skills on how to lead most effectively at UK, in the Lexington community and around the globe. These interactive workshops consist of leadership topics focused on personal development and individual leadership training. For a current schedule, visit: **getinvolved.uky.edu** or follow us on Twitter at: **@uklead**

The **EMPOWER Women's Leadership Retreat** takes place every fall semester as a partnership with the Violence Intervention and Prevention (VIP) Center. This retreat gives students the opportunity to discover their values and strengths, refine leadership skills, network with other leaders, and be empowered as a woman. The retreat is open to any UK student that identifies as female. To apply, visit: **getinvolved.uky.edu** or on Twitter at: **@uklead**

Alongside the Leadership Exchange, freshmen at UK can also apply for the **Leadership Development Program (LDP)** facilitated by Student Government. LDP attempts to build future leaders for the University as it helps participants get involved from the moment they set foot on campus. The program selects 40 students to participate and meet bi-weekly throughout the year. Each meeting focuses on a different leadership development topic, including networking, communication, ethics, diversity, just to name a few. Each semester, students also collaborate to complete a community leadership project. For more information on LDP, visit: **uksga.org**

We believe leadership is an essential skill for everyone. As leadership development at UK continues to grow, we encourage all students to join in. For more information about leadership opportunities, visit: **getinvolved.uky.edu**, call the Office of Student Involvement at (859) 257-1109; or follow us on Twitter at: **@uklead**

Center for Community Outreach

The UK Center for Community Outreach (CCO) is a student-run program that encourages students to "Do Good. Start Here." by focusing on volunteer opportunities, and education around social issues. Opportunities for community engagement hosted by the CCO include individual and group projects in the areas of health and wellness, elderly companionship, hunger and homelessness, animal welfare, global issues and youth activities. In addition, the CCO offers large-scale service projects, Alternative Break trips, and educational programming. UK FUSION is a one-day service project that includes over 1,000 students and staff members volunteering at over 100 community agencies in the Lexington area. Alternative Breaks send students on domestic and international trips during spring break, and on weekends to volunteer in other communities. UK DanceBlue is a 24-hour dance marathon hosted by the CCO to benefit the DanceBlue KCH Pediatric Oncology/Hematology Clinic at University Hospital. Students who are interested in volunteering on an individual basis can attend the Center for Community Outreach's Volunteer Fair, which occurs on the Wednesday after Labor Day; or log on to: **uky.volunteermatch.org** to access volunteer opportunities posted by local organizations and track their service hours.

For more information, stop by our office on the third floor of Blazer Hall, call the CCO at (859) 257-9385, or visit: **www.ukcco.org** and **uky.volunteermatch.org**

ACADEMIC OMBUD SERVICES

The Academic Ombud helps resolve academic disputes between students and faculty or administration. When students are unable to resolve grievances or complaints through usual means, the ombud may be able to expedite the process or advise the student about the proper procedures to follow. Problems include, but are not limited to, admission/registration problems, violation of students' academic rights, unfair teaching and grading practices, and cheating and plagiarism. All cases are held in strict confidence.

The Office of Academic Ombud Services is open from 8 A.M. to 4:30 P.M. and is located in 109 Bradley Hall. For information, questions, or appointments, call (859) 257-3737.

FINANCIAL OMBUD SERVICES

The Financial Ombud provides a neutral and confidential setting for current and prospective students and their parents to discuss difficult or unusual financial problems affecting tuition and fee payment. The Financial Ombud resolves problems, counsels, and makes recommendations and referrals as needed.

The Office of the Financial Ombud Services is open from 8 A.M. to 4:30 P.M. and is located in 18 Funkhouser Building. For information, questions, or appointments, call (859) 218-1360.

ATHLETICS

The University of Kentucky sponsors 22 athletic teams in both men's and women's sports and is a member of the National Collegiate Athletic Association and the Southeastern Conference. The University fields representative teams in a variety of varsity sports: basketball, football, baseball, tennis, golf, track, cross-country, soccer, swimming, and rifle for men; and basketball, golf, gymnastics, rifle, soccer, swimming, tennis, track, cross-country, softball, and volleyball for women. These various teams provide wholesome entertainment for the student body, faculty, staff, alumni, and general public. Students interested in joining a team should contact the head coach's office in the sport of interest.

The Athletics Department helps support the band and cheerleaders; aids the Kentucky High School Athletic Association by supplying facilities for district, regional and state tournaments; provides athletic scholarships for approximately 400 student athletes; and provides grants to the University of Kentucky for academic scholarships, and the new Academic Science Building.

For information about tickets to athletic events, visit: **www.ukathletics.com**

UK INTERNATIONAL CENTER

The University of Kentucky International Center (UKIC) leads internationalization efforts at the University of Kentucky. Associate Provost for Internationalization, Dr. Susan Carvalho, leads UKIC with the support of the International Advisory Council, a group of faculty and administrators representing each of the University's 16 colleges plus other key academic units. Visit UKIC's website for more information: **www.uky.edu/international**

Located in Bradley Hall in the center of UK's campus, UKIC comprises the following units:

International Partnerships & Research

UKIC serves as a resource center for the University's vital international linkages by supporting the development of agreements and partnerships with universities, foreign governments, NGOs, and U.S. government agencies abroad; promoting the involvement of UK faculty members, staff, and students in international research, development projects, and related activities; and facilitating access to international funding opportunities. UK's strongest areas of strategic focus and investment are led by UKIC's international centers and institutes: the UK Confucius Institute, Global Health Initiative, and Shoulder to Shoulder Global. In addition, UKIC brings UK's international resources to local communities through Chinese language and culture courses, the International Hospitality program, the Japanese Saturday School, and programming that enriches Kentucky's engagement with world culture. To learn more, visit: **www.uky.edu/international/research**

UK Education Abroad (EA)

Education Abroad is the University's comprehensive resource for study abroad, research abroad, intern abroad, teach abroad, service-learning abroad and other educational experiences worldwide. Education Abroad provides academically sound international experiences for all students that promote intercultural competence, disciplinary scholarship, and language acquisition. EA also oversees student exchange programs with partner institutions, facilitates faculty-directed programs and partners with affiliate providers to offer a diverse portfolio of education abroad programs. For more information, call (859) 257-4067; or visit: **www.uky.edu/educationabroad/**

International Student and Scholars Services (ISSS)

ISSS provides leadership and expertise in the advising and immigration needs of more than 2000 international students and 500 international faculty, staff and exchange visitors. ISSS also administers university compliance with evolving federal regulations, supports the university and its medical center by managing global student and scholar interactions, and facilitates the well-being of all international students, faculty, staff, and scholars. For additional information, call (859) 323-2121; or visit: **www.uky.edu/international/ISSS**

International Student Recruitment

In close partnership with Undergraduate Enrollment Management, the Center for English as a Second Language, and the Graduate School, UKIC recruits a growing number of international students to UK each year. UKIC's International Enrollment Manager, Audra Cryder, attends education fairs around the globe, develops online marketing strategies, works with government sponsored programs, and personally meets with potential students and their families in countries such as India, China, and Oman.

Confucius Institute

Established in 2010, the Confucius Institute at the University of Kentucky is a center for Chinese language, culture, art and business. A gateway to China for the university and the Commonwealth, the Confucius Institute serves as the conduit for UK's China initiatives, facilitating a range of China exchange programs across the campus and beyond. In addition, the Institute works to strengthen China Studies within the university, while at the same time providing leadership and support for Chinese language programs in Kentucky's K-12 classrooms, and forging important community relationships through Chinese cultural outreach to people in the Commonwealth. The Institute was awarded the 2012 and 2014 Confucius Institute of the Year. To learn more, call (859) 257-4523; or visit: **www.uky.edu/international/confucius_institute**

OFFICE FOR INSTITUTIONAL DIVERSITY

The University of Kentucky prepares students for meaningful and responsible engagement within and across diverse communities. Through its own example and engagement, the University strives to improve the climate for diversity throughout Kentucky, a commitment given special importance and emphasis by shared history. The composite effect of work with students in classrooms, residence halls, offices, laboratories, clinics, libraries, and public places should be to enable them to develop a more enlightened worldview; attain a deeper understanding of and commitment to authentic democratic values and social justice; embrace a greater commitment to service and leadership for the common good; exhibit greater cultural knowledge and competence; and facilitate Kentucky's success in the global economy.

The Office for Institutional Diversity has a primary responsibility to advance the University's commitment to embracing difference and promoting increased knowledge of diversity and its significance as a fundamental value of the campus community. Of equal importance is its mission to enhance academic support services to help ensure the academic success and personal development of all students, but especially those students from backgrounds that have been historically underrepresented on the University campus.

Martin Luther King Jr. Cultural Center

Established on the University of Kentucky campus in 1987 as the Martin Luther King Jr. Cultural Center, this much-visited campus venue has been a vital resource, providing year-round programs and activities that have focused on the importance of cultural awareness and cross-cultural understanding. The center offers a relaxed and affirming atmosphere that enhances the recruitment and retention of students from diverse backgrounds. Now in its third decade of operation, the center has evolved into an education resource facility where all students, as well as faculty and staff of the university can engage each other through cross-cultural exploration and intellectual exchange.

Increasingly, research has shown a vitally positive link between intercultural engagement and student success. As a result, the King Center has sharpened its focus on diversity education and increased its support of the academic enterprise. In addition to cultural/educational programs consisting of lectures, concerts, artistic performances, film/video screenings and workshops, faculty involvement in the center has increased through the establishment of the Scholar-in-Residence (SiR). During his/her two-year assignment, the faculty SiR helps to situate many center programs and activities within the academic/intellectual realm, and engages students, faculty and staff in meaningful exploration and intellectual discourse. Check the King Center website for programs and scheduling details at: **www.uky.edu/mlkc**

Mission

The mission of the King Center is threefold: (1) to advance the university's strategic goal of achieving a more diverse and inclusive campus environment, (2) to support increased retention of undergraduate students who are generally underrepresented in the student body, and (3) to enhance student achievement by helping students to have a more engaged, productive and fulfilling undergraduate experience. To these ends, our goals are to foster intercultural competence, promote respect and passion for the pursuit of quality education, and to help prepare students for productive and responsible engagement in a global society.

Values

It is a truism that education transcends the traditional classroom setting and takes place whenever and wherever individuals engage each other sincerely and open-mindedly in earnest pursuit of knowledge and deeper understanding. MLK Center programs and activities support this educational process through embrace of certain values, which include the following.

- **Truth and Integrity**: We seek truth and promote honesty and integrity in every manner of engagement, in information we disseminate, and in daily interactions.
- **Creativity and Resourcefulness**: We search continually for fresh ideas and innovative ways of designing and implementing programs, and in making full and productive use of valuable resources.
- **Respect and Acceptance**: People of different perspectives, experiences, and world outlook enrich the UK campus and the living/learning experience. King Center programs and activities embrace these differences with respect as we celebrate the enormous diversity of the human experience.

Center for Academic Resources and Enrichment Services (CARES)

CARES offers academic support services and enrichment opportunities that enhance the student's undergraduate experience. The overall program goals are to increase the retention and graduation rates of students traditionally underrepresented in post-secondary education, including African American, Latino, and Native American students and students receiving the William C. Parker Scholarship.

The Center's services and programs include tutoring, study groups, academic planning and monitoring, career exploration and networking opportunities, personal development workshops, graduate school information and preparation, and the Freshman Summer Program (FSP), a six-week academic enrichment program.

For additional information, call (859) 323-6347 or stop by CARES at 104 McVey Hall. Visit us online at: **www.uky.edu/diversity/cares**, follow us on Twitter **@UK_CARES**, or Like Us on Facebook.

Student Support Services

Student Support Services (SSS) is a federally-funded TRIO program designed to provide comprehensive academic support to improve academic performance and increase retention and graduation rates. Participation in SSS requires that a student be a U.S. citizen and at least one of the following: (1) first-generation college – neither parent has a baccalaureate degree; (2) low income – according to federal guidelines; and (3) have a documented disability. When a student has been accepted into the program, all program services are free. Services offered include: individual and group tutoring (in any subject), academic planning,

personal counseling, peer mentoring, career counseling, financial aid information, study skills instruction, writing assistance, graduate school preparation, technology assistance, cultural/social activities, and limited computers, calculators, and a small resource library for check-out and on-site use.

Students interested in becoming a part of the SSS program should stop by the office at 6 Alumni Gym to pick up an application; call (859) 257-9797 to request an application be mailed to you, or for additional information; or visit our website at: **www.uky.edu/Diversity/SSS/**

Health Colleges Institutional Diversity

As part of the network of the Office of Institutional Diversity, this office works towards promoting collaboration among administration, faculty, staff and students in earnest pursuit of UK's diversity goals. The mission is to sustain and nurture a diverse, caring and inclusive environment for all students to achieve academic excellence. To help accomplish this vital goal, the Health Center Student Diversity Services office serves to facilitate the recruitment, retention and professional development of underrepresented students in the professional healthcare programs of Dentistry, Health Sciences, Medicine, Nursing, Pharmacy and Public Health. Throughout the year, programs, workshops and activities are planned to provide leadership on diversity issues, exposure to professional experiences and academic support to students seeking admission as well as to those already enrolled in a health professions degree. The overall goal is to help students to welcome different points of view and belief systems while examining and refining their own so that they become a more culturally competent healthcare provider.

PROFESSIONAL SERVICES

University of Kentucky Counseling Center: Consultation and Psychological Services

The UK Counseling Center: Consultation and Psychological Services (UKCC) has a staff of trained psychologists and counselors whose primary function is to help UK students with personal concerns, career decision-making, and support for academic success. Individual counseling is available to assist students with concerns such as adjustment to college life, relationship difficulties, career exploration/decision-making, feelings of depression or anxiety, low self-esteem, life transitions, alcohol/substance use, problems in the family, and/or long-standing behavioral patterns such as procrastination. In addition, counseling groups led by trained therapists are organized each semester and address personal growth issues, interpersonal skills, and a variety of other topics. All discussions are confidential. Individual assessment and inventories related to personality and career interests may be used to aid in self-understanding. Testing is available only upon referral by a Center staff clinician.

The Counseling Center maintains an active outreach program, offering workshops and lectures to students, faculty, staff and community audiences on a variety of college life and mental health topics. The professional staff is also available to faculty, staff and departments for consultations regarding students, personnel or programs. There is no charge for consultations or outreach presentations.

Counseling Center services are available free of charge to students paying for at least six credit hours at the University of Kentucky during the current semester. To be eligible for our services in the summer, you must meet two criteria: be enrolled at UK during the previous spring semester **and** preregistered for the upcoming fall semester. Additionally, students enrolled for either summer session will be eligible for Center services. Students enrolled in graduate and professional programs at the University of Kentucky are also eligible.

Limitations for Treatment

The Counseling Center offers an initial assessment to all students eligible for services. However, the Counseling Center does not have adequate resources to treat all types of psychological problems. Certain students will require more specialized or comprehensive treatment than we can offer. Those individuals will be referred to other treatment resources following an evaluation.

For information about making an appointment, call (859) 257-8701 between 8 A.M. and 4:30 P.M., Monday through Friday. Referral from another campus agency is not necessary. The Counseling Center is located in 201 Frazee Hall, next to the Student Center.

The James W. Stuckert Career Center

The Stuckert Career Center (SCC) is a comprehensive and centralized career center for undergraduate students enrolled at the University of Kentucky. The SCC's programs are designed to help students, faculty and employers integrate occupational and employment information into educational experiences, extracurricular activities and work. SCC staff members work with students from their first-year experience through degree completion and beyond, helping them define goals, explore career possibilities, and obtain employment related to their education and interests. The SCC collaborates with Undergraduate Studies and Advising Centers across campus to assist students who need to select or change their major as well as explore career options.

Through individual appointments and group workshops, students are assisted with self-assessment interests, life/work values, personality preference, skills and decision-making styles), career exploration, internships and shadowing experiences, résumé writing, interviewing preparation and practice, job search strategies, networking with potential employers, researching salary information, and preparing for a successful transition from campus to the community.

Students are encouraged to explore careers first-hand by participating in employer informational interviews and in shadowing/observational opportunities. These experiences provide ways that students can connect with career professionals to learn more about careers of interest and develop on-going contacts with professionals in their field of interest.

To participate in field-based experiential learning opportunities for relevant professional experience, students may apply for internships and gain academic credit, or may elect to participate in noncredit positions if employers are in compliance with US labor laws. While working with business organizations, non-profit agencies, or in other settings pertinent to a student's academic major and career goals, these experiences better prepare students to be more competitive as graduate/professional school applicants and job candidates upon graduation. Internship positions can be full-time or part-time, and are available in local, national and international settings.

The James W. Stuckert Career Center is also home to the Katherine Kemper Career Library, a 1,400 square-foot reference area which houses information in electronic and print formats and several computer stations to assist students in their career development and job searches. The SCC offers many career search and career assessment software programs: *Candid Careers*, *CareerShift*, *Vault*, *Sigi-3* and *Interview Stream*. All are available when students register for *Wildcat CareerLink*, the SCC's Web-based programs for students and alumni seeking 24/7 career services.

The Stuckert Career Center offers a variety of career fairs, employer information sessions and networking receptions throughout the year as students begin seeking full-time, career-related employment. Students registered with *Wildcat CareerLink*, have access to thousands of job/internship opportunities. Students may also apply for interviews with employers visiting campus to recruit UK graduates. For detailed information about all programs and services visit: **www.uky.edu/CareerCenter**

UK students may schedule an appointment by calling (859) 257-2746. Drop-in hours are available to discuss quick questions with career staff members.

The Office of Undergraduate Research

The Office of Undergraduate Research provides coordination, leadership and support for the many programs at the University of Kentucky designed to promote undergraduate research, scholarship, and creativity. The office is the starting point for **any** undergraduate student desiring to include mentored research in their undergraduate experience. Our website will familiarize mentors and students alike with the many and varied opportunities provided by the office, and by related programs and activities both on and off campus, focused on undergraduate research and undergraduate student excellence. A prominent

service orchestrated by the Office of Undergraduate Research is the pairing of faculty mentors with undergraduate protégés to create a formalized, meaningful research experience across disciplines. Others services and opportunities include:

- Pairing of undergraduate protégés with faculty mentors to create a formalized, meaningful scholarly or research experience
- Research travel funding for students accepted to present at national conferences/meetings
- Summer Research and Creativity Fellowships
- Publication opportunities for undergraduates *(Kaleidoscope)*
- SPUR, a student organization that promotes undergraduate research and related opportunities to fellow students
- Annual Showcase of Undergraduate Scholars
- Posters-at-the-Capitol (presentation opportunity to State Legislatures)
- Undergraduate Research Abroad Scholarship
- Oswald Research and Creativity Competition
- Buck 4 Brains Program

For more information, contact the Office of Undergraduate Research at (859) 257-0049; visit us at: **www.uky.edu/UGResearch**; or email us at: **ugresearch@uky.edu**.

Violence Intervention and Prevention (VIP) Center

The VIP Center provides students, staff, and faculty the tools, support, and opportunities to shape a violence-free campus through the design and delivery of innovative and inclusive programming and services. All students are encouraged to become certified active bystanders by participating in our nationally-recognized Green Dot Training and educational programs, which equip students with the knowledge and skills to create a safe and violence-free culture at UK. The Center also provides support, referrals, resources, and advocacy for victims of violence and their loved ones. Faculty, staff, and students are invited to contact the VIP Center for additional information or services.

The VIP Center is available Monday through Friday 8:30 A.M. to 5 P.M.

Violence Intervention and Prevention (VIP) Center
Frazee Hall, Lower Level
University of Kentucky
Lexington, KY 40506-0031
(859) 257-3189
www.uky.edu/studentaffairs/vipcenter
www.facebook.com/vipcenter
www.twitter.com/vipcenter
www.instagram.com/vipcenter

Adult Student Services – Undergraduate Admission

Adult Student Services assists individuals starting or returning to college after several years and current adult students enrolled at the University of Kentucky.

Our goal is to offer programs, scholarships, workshops, advocacy and support to adults. Students with questions can go to the Office of Undergraduate Admission, 100 Funkhouser, or contact the Office using the information below. All scholarship information is available in the Office of Academic Scholarships.

For more information or questions:

Adult Student Services – Undergraduate Admission
100 Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054
(859) 257-2000
Toll-Free: 1-866-900-4685
Fax: (859) 257-9594
www.uky.edu/AdultSS/

TRANSFER CENTER

The Transfer Center serves as a hub of information for the undergraduate transfer student population at UK. The Transfer Center staff collaborates with other on-campus units to provide the necessary resources for successful progress toward graduation. Our motto, "Start There, Finish Here" represents the University of Kentucky's commitment to helping each transfer student with their transition and goal of earning a UK degree.

Students can utilize the Transfer Center to:

- Discuss transfer course equivalencies prior to admission
- Resolve specific transfer related issues by connecting with a UK staff member
- Discuss transfer planning strategies prior to enrolling at UK

For more information, contact us at:

Transfer Center
11 Funkhouser Building
Lexington, KY 40506-0054
(859) 218-1724
email: UKTransfer@uky.edu
www.uky.edu/Transfer
Hours: Monday - Friday, 8 A.M. to 4:30 P.M.

TRANSCRIPT SERVICES

Before you order a transcript, please read the following:

Financial Holds

If you have a financial delinquency, the University will not process your transcript request until the delinquency has been cleared. If you have a hold, we will notify you and provide the contact information for you to clear the hold.

Ordering Transcripts

The University of Kentucky provides three options for ordering transcripts:

1. Online – By Credit Card

The University of Kentucky uses the National Student Clearinghouse to process online transcript requests. This service is available 24 hours a day, 7 days a week, allows you to track your order, and ensures the security of your information and payment. Please note: if you have attachments that need to be sent with your transcript, email **transcripts@uky.edu** for further instructions.

To order and pay online, go to **www.getmytranscript.com** and select "Order College Transcripts".

2. In Person

You may request transcripts at the Registrar's Office, 10 Funkhouser Building, Monday through Friday, 8 A.M. to 4:30 P.M. If you attended UK **prior to 1988**, these requests may take longer to process because your records are on microfilm. For all others, we can normally process your request immediately. Please bring the following with you:

- Picture ID
- $10.00 per transcript, payable by cash, check, money order or credit card
- **Please note:** the University is closed most holidays and during the break between Christmas and New Years. If you need to request a transcript when the University is closed, you may order online (see #1 above).

Pick Up by Person Other Than Student

The University will not release a transcript to another individual unless we receive a signed statement from the student providing the complete name of the individual who will pick up the transcript. This individual must also bring a picture ID when they come to pick up the transcript.

3. By Mail

To order by mail, go to: **www.uky.edu/registrar/sites/www.uky.edu.registrar/files/transcript14.pdf** and print the form. Complete the information, sign the request and mail to the address listed on the form. Do not fax the request. Submitting requests without adequate information will cause a delay in processing. Please be sure to include a check or money order made payable to the University of Kentucky for each transcript ordered. The cost is $10.00 per transcript. If you wish to pay by credit card, you may order online (see #1 above).

Special Mailing and Electronic Transcripts

For information and instructions on special mailing options, view the Transcript site at: **www.uky.edu/Registrar/Transcripts.htm**

We are not responsible for delays in delivery by the Post Office. Prices are subject to change by the USPS.

To Check the Status of a Transcript Request

If you ordered your transcript online, you may track your request online at **nslc.org** using the tracking number you received in your confirmation email.

To track a transcript ordered by mail, email: **transcripts@uky.edu**.

Other Transcripts

Transcripts from the Colleges of Medicine or Dentistry

Transcripts for professional programs in the Colleges of Medicine and Dentistry must be ordered directly from those colleges. For information, see:

College of Medicine:
www.mc.uky.edu/meded/student_affairs/Alumni.asp

College of Dentistry:
www.mc.uky.edu/dentistry/alumni/transreq.html

Community College or Fort Knox Records

Students who have attended any of the Kentucky community colleges (KCTCS) should contact the college they attended, even if the college was part of the University of Kentucky at the time they attended.

The University maintains the academic records for students who attended Northern Community College through 1972. Students who attended after 1972 should contact Northern Kentucky University for their records.

The University maintains the academic records for students who attended Fort Knox through 1988. Students who attended after that time should contact Elizabethtown Community and Technical College.

University of Kentucky Registrar
10 Funkhouser Building
Attention: Transcripts
Lexington, KY 40506-0054
(859) 257-1212

GUIDE TO UNIVERSITY OFFICES

WHAT	WHO TO SEE	WHERE	PHONE
Absences			
Reporting prior to	Instructor		
Reporting following	Instructor		
Due to illness	Instructor		
Emergency notification	Dean of Students Office	513 Patterson Office Tower	257-3754
Hospitalization	Instructor		
Accident			
Auto – on campus	University Police	305 Euclid Avenue	257-1616
Auto – off-campus	Metro Police		911
Injury	Student Health Services	830 South Limestone Street	323-5823
	University Medical Center	Emergency Room	323-5901
Emergency – on campus	University Police	305 Euclid Avenue	911
Emergency – off-campus	Metro Police	150 E. Main Street	911
Activities, Student			
Programming bodies	Student Activities Board	Blazer Hall, Third Floor	257-8867
	Student Government	Blazer Hall, Third Floor	257-3191
Activities available	Student Organizations Office	Blazer Hall, Third Floor	257-1099
Alcohol Information	Wellness Initiatives for Student Empowerment	567 Patterson Office Tower	257-9687
Athletics			
Intramural and Extramural	Director, Campus Recreation	177 Johnson Center	257-3928
Varsity – men	Director	Memorial Coliseum	257-1916
Varsity – women	Director	Memorial Coliseum	257-6046
Tickets			
Student	Athletic Student Services Office	34A Memorial Coliseum	257-9648
Other	Ticket Office	A-113 Joe Craft Center	257-1818
Attendance – see Absences			
Automobile – see Traffic			
Campus Recreation	Campus Recreation	177 Johnson Center	257-3928
Check Cashing			
Medical Center	Financial Services	H102 Hospital	323-5601
Code of Student Conduct	Office of Student Conduct	513 Patterson Office Tower	257-3755
Common Reading Experience	New Student and Family Programs	567 Patterson Office Tower	257-6597
Community of Concern	Community of Concern Team	524 Patterson Office Tower	257-5134
Counseling			
Academic	Academic Advisor		
	Counseling Center	301 Frazee Hall	257-8701
Activities	Student Activities Office	Blazer Hall, Third Floor	257-8867
Financial	Director of Financial Aid	128 Funkhouser Building	257-3172 ext. 242
Health	Student Health Services	830 South Limestone Street	323-5823
Personal	Counseling Center	301 Frazee Hall	257-8701
	Student Behavioral Health Services	830 South Limestone Street	323-5511
Vocational	Counseling Center	301 Frazee Hall	257-8701
	James W. Stuckert Career Center	Stuckert Building, 408 Rose Street	257-2746
Women	Undergraduate Studies	109 Miller Hall	257-3383
Disability Services	Disability Resource Center	407 Multidisciplinary Science Building	257-2754
Dormitories – see Housing			
Drug Information			
	Student Health Services	830 South Limestone Street	323-5823
	Counseling Center	301 Frazee Hall	257-8701
	Substance Education and Responsibility	567 Patterson Office Tower	257-9687
Emergency Treatment	University Medical Center	Emergency Room	323-5901
Employment			
Career Services	James W. Stuckert Career Center	Stuckert Building, 408 Rose Street	257-2746
Student (part-time)	Student Employment	103 Scovell Hall	257-8894
Teacher Placement	College of Education	104 Taylor Education Building	257-1857
Work-Study	Office of Student Financial Aid and Scholarships	128 Funkhouser Building	257-3172 ext. 247
Facilities (use and reservation)			

Academic space	Registrar's Office	12 Funkhouser Building	257-4903
Adena Park	Campus Recreation	177 Johnson Center	257-3928
Agriculture Science (Seay) Auditorium	Management Operations	N-3 Agricultural Science North Building	257-2983
Agriculture Science South Auditorium–B52	Registrar's Office	12 Funkhouser Building	257-4903
Alumni House	Alumni Association	King Alumni House (400 Rose Street)	257-8905
Alumni Gym	Campus Recreation	Campus Recreation	257-3928
Carnahan House (restricted)	Carnahan Conference Center	1701 Newtown Pike	254-1060
Haggin Field	Residence Life	537 Patterson Office Tower	257-4784
Medical Center Auditorium	Hospital Administration	N100 Medical Center	323-5211
Memorial Coliseum	Athletics Association	200 Memorial Coliseum	257-3838
Memorial Hall	Student Center–Director's Office	Blazer Hall, Third Floor	257-5781
Parking lots and structures	Parking Services	721 Press Avenue	257-5757
Patterson Office Tower (18th Floor - restricted)	Executive Vice President for Finance and Administration	107 Main Building	257-1841
Seaton Center	Campus Recreation	177 Johnson Center	257-3928
Singletary Center for the Arts	Coordinator	126 Center for the Arts	257-1706
Student Center	Student Center–Director's Office	Blazer Hall, Third Floor	257-5781
University grounds	Student Center–Director's Office	Blazer Hall, Third Floor	257-5781
Fee Payment	Student Account Services	18 Funkhouser Building	257-3406
Financial Aid	Office of Student Financial Aid and Scholarships	127 Funkhouser Building	257-3172 ext. 223
Fraternities	Fraternity Advisor	575 Patterson Office Tower	257-3151
Graduation Ceremonies	Human Resources	115 Scovell Hall	257-9519 ext. 176
Health Fee			
Payment	Student Account Services	18 Funkhouser Building	257-3406
Information	Student Health Services	830 South Limestone Street	323-5823
Housing			
Applications and assignments (undergraduates)	Housing Office	125 Funkhouser Building	257-1866
Graduate and Family	Auxiliary Services	Cooperstown C Building	257-3721
Greg Page Stadium View Apartments	Housing Office	125 Funkhouser Building	257-1866
Off-Campus	Off-Campus Student Services	513 Patterson Office Tower	257-3754
Payment of fees	Student Account Services	18 Funkhouser Building	257-3406
Residence Halls Programming	Residence Life	537 Patterson Office Tower	257-4783
Resident Advisors	Residence Life	537 Patterson Office Tower	257-4783
Identification Cards			
Photos	Student ID Office	Bowman's Den	257-1378
Lost	Student ID Office	Bowman's Den	257-1378
Insurance			
Student Health	Student Insurance Office	830 South Limestone Street	323-5823
Johnson Center	Campus Recreation	177 Johnson Center	257-3928
K Book	New Student and Family Programs	567 Patterson Office Tower	257-6597
K Week	New Student and Family Programs	567 Patterson Office Tower	257-6597
Loans	Office of Student Financial Aid and Scholarships	128 Funkhouser Building	257-3172 or 257-3173
Master Calendar			
Campus Events	Student Activities Office	Blazer Hall, Third Floor	257-8867
Academic	Registrar's Office	11 Funkhouser Building	257-7155
Meal Cards			
Contracts	Housing Office	125 Funkhouser Building	257-1866
Payment	Student Account Services	18 Funkhouser Building	257-3406
Medical Services			
General Information and main phone number	Student Health Services	830 South Limestone Street	323-5823
Illness or accident	Student Health Services	830 South Limestone Street	323-2778
Drug information	Student Health Services	830 South Limestone Street	323-5823 ext. 281
Contraception Services	Student Health Services	830 South Limestone Street	323-5823 ext. 280
Billing	Student Health Services	830 South Limestone Street	323-5823 ext. 233
Insurance	Student Health Services	830 South Limestone Street	323-5823 ext. 230
Administrator	Student Health Services	830 South Limestone Street	323-5823
Personal Counseling	Student Health Services	830 South Limestone Street	323-5511
Multicultural and Academic Affairs			
Associate Provost	Associate Provost for Multicultural/Academic Affairs	563 Patterson Office Tower	257-1991
African-American Student Affairs	African-American Student Affairs	557 Patterson Office Tower	257-5641
Scholarships	African-American Scholarships	563 Patterson Office Tower	257-1991
Learning Services	Center for Academic Resources and Enrichment Services	660 South Limestone Street	323-6347
Student Support Services	Student Support Services Office	103B Alumni Gym	257-9797

Off-Campus Students	Off-Campus Student Services	513 Patterson Office Tower	257-3754
Organizations and Clubs	Student Organizations	Blazer Hall, Third Floor	257-1099
Orientation			
Advising Conferences	Registrar's Office	100B Funkhouser Building	257-3256
K Week (Fall Welcome Week)	New Student and Family Programs	567 Patterson Office Tower	257-6597
K2 (Spring Welcome)	New Student and Family Programs	567 Patterson Office Tower	257-6597
Parent and Family Association	New Student and Family Programs	567 Patterson Office Tower	257-6597
Postal Service	University Post Office	Basement, Classroom Building	257-6358
Publications			
Kemel	Kemel Office	026 Grehan Journalism Building	257-2871
Kentuckian	Kentuckian Office	026 Grehan Journalism Building	257-9786
Student Code	Dean of Students Office	513 Patterson Office Tower	257-3754
Religion			
Student religious organizations	University Liaison	2 Alumni Gym	257-2754
Residence Halls – see Housing			
Scholarships			
Academic	Office of Academic Scholarships	100H Funkhouser Building	257-4198
Financial Aid	Office of Student Financial Aid and Scholarships	127 Funkhouser Building	257-3172
Minority	Multicultural and Academic Affairs	563 Patterson Office Tower	323-6334
Departmental	Dean of College		
Social Functions – see Activities			
Sororities	Sorority Advisor	575 Patterson Office Tower	257-3151
Student Government	Student Government Office	Blazer Hall, Third Floor	257-3191
Study Skills	Counseling Center	301 Frazee Hall	257-8701
	UK 101	567 Patterson Office Tower	257-6597
Learning Skills	Counseling Center	204 Frazee Hall	257-6959
Student Support Services	Student Support Services Office	103B Alumni Gym	257-9797
Testing			
Aptitude	Counseling Center	301 Frazee Hall	257-8701
Personality	Counseling Center	301 Frazee Hall	257-8701
	James W. Stuckert Career Center	Stuckert Building, 408 Rose Street	257-2746
Vocational	Counseling Center	301 Frazee Hall	257-8701
	James W. Stuckert Career Center	Stuckert Building, 408 Rose Street	257-2746
University Testing Program	Counseling Center	201 Frazee Hall	257-8703
Tickets			
Athletic - General	Ticket Office	A-113 Joe Craft Center	257-1818
Athletic - Student	Athletic Student Services Office	34A Memorial Coliseum	257-9648
Arts	Singletary Center for the Arts	126 Singletary Center	257-4929
Lexington Philharmonic	Ticket Office	Bowman's Den	257-8427
Student Center	Ticket Office	Bowman's Den	257-8427
Theatre	Guignol/Briggs/Workshop	106 Singletary Center	257-4929
Traffic			
On Campus			
Accidents	University Police	305 Euclid Avenue	257-1616
Regulations	University Police	305 Euclid Avenue	257-1616
Violations	Parking	721 Press Avenue	257-5757
Parking permits	Parking	721 Press Avenue	257-5757
Emergency	University Police	305 Euclid Avenue	911
Off Campus	Metro Police	150 East Main Street	911
Tutoring	Counseling Center	301 Frazee Hall	257-8701
	Student Government Association	Blazer Hall, Third Floor	257-3191
	Center for Academic Resources and Enrichment Services	660 South Limestone Street	257-6347
	Student Support Services	103B Alumni Gym	257-9797
Withdrawal			
University, courses	Registrar	10 Funkhouser Building	257-7157
	Dean of College		

Academic Advising

ACADEMIC ADVISING

Academic advising is an integral part of undergraduate education at the University of Kentucky. The goal of all academic advising is to assist students in taking responsibility for developing meaningful educational plans compatible with their potential and their career and life goals. Advising is more than the imparting of specialized information; it includes helping students formulate important questions about the nature and direction of their education and helping them find answers to those questions. Advisors will confer with students about course schedules and educational experiences, but students themselves are responsible for their academic program and for making progress toward an academic degree.

As students progress through their academic programs, their advising needs change. At the University of Kentucky, academic advisors help students meet these changing needs. Faculty advisors are key to understanding the nature of the academic program and how it can address student interests and goals. Professional advisors maintain up-to-date information on university requirements, academic policies, procedures, and deadlines; they also provide guidance for the exploratory student. Support offices such as the Counseling Center, Student Support Services, the Career Center, and the Office for Institutional Diversity can help students refine their academic interests and goals. Students should refer to specific college, school, and departmental advising materials for details on specific advising programs.

Academic Advising Mission Statement

The mission of academic advisors, both faculty and professional, is to:

- assist students in taking responsibility for developing meaningful education plans compatible with their potential and their career and life goals;
- help students formulate important questions about the nature and direction of their education and assist them in finding answers to those questions;
- assist students in acquiring accurate and timely information regarding academic policies, procedures, and requirements;
- facilitate the successful transition of prospective, continuing and nontraditional students to the academic and campus environment.

Undergraduate Studies

Undergraduate Studies, 109 Miller Hall, provides a home for students who are exploring majors at the University of Kentucky. The professional academic advisors in Undergraduate Studies also contribute to the university's recruitment efforts, assist students with their transition to the university and between colleges, and provide general academic advising to students from across campus. Undergraduate Studies houses the university's prelaw and premed advising, Academic Preparation Program advising, National Student Exchange, and transfer student services.

One-fourth to one-third of all freshmen and many transfer students enter the University of Kentucky as Undergraduate Studies students because there are many areas that interest them, they are considering a preprofessional field and have not selected an undergraduate major, or they wish to explore their options. Time as an Undergraduate Studies student provides an opportunity to investigate UK's majors while fulfilling the UK Core requirements. Students can remain in Undergraduate Studies until they have earned 60 credit hours.

Academic advisors in Undergraduate Studies work individually with their assigned students to help them clarify their academic and professional goals, realistically assess their capabilities and options, develop appropriate degree plans, connect with campus resources, and declare a major of interest. Advisors also make referrals to student support services on campus for career interest testing, personal counseling, tutoring, and assistance with study skills. Visit Undergraduate Studies online at **www.uky.edu/US** or call (859) 257-3383.

Students interested in transferring to the University of Kentucky can utilize the services of Undergraduate Studies, which serves as a focal point for information concerning programs, resources, and services available to aid the transfer student's entry and continued success at the University of Kentucky. Advisors are available to answer questions about the transfer process, discuss course equivalencies, and provide both preadmission and general academic advising. UK's transfer advisor is housed in Undergraduate Studies and divides her time between Miller Hall on UK's campus and Bluegrass Community and Technical College's Transfer Center on the Cooper Campus. Contact Sara Price at (859) 257-4428 at UK; (859) 246-6587 at BCTC; or email **TransferAdvising@uky.edu**.

Within the advising system at the University of Kentucky, both students and advisors have responsibilities.

Students are responsible for:

a. knowing the requirements of their particular academic program; selecting courses that meet those requirements in an appropriate time frame; and monitoring their progress toward graduation;

b. consulting with appropriate advisors designated to handle the kind of questions or concerns they have;

c. scheduling and keeping academic advising appointments in a timely manner throughout their academic career, so as to avoid seeking advising only during busy registration periods; and

d. being prepared for advising sessions.

Advisors are responsible for:

a. helping students clarify their options, goals and potential, and understand themselves better;

b. helping students understand the nature and purpose of a college education;

c. providing accurate information about educational options, requirements, policies and procedures; and

d. helping students plan educational programs and monitor and evaluate their educational progress.

Students attending the University of Kentucky can also attend one of over 200 colleges and universities in the United States and its territories while paying UK tuition and fees through the National Student Exchange (NSE). Students can visit for an academic year or a semester. Likewise, students attending other participating colleges and universities may visit UK. For more information about NSE, visit **www.uky.edu/US/nse.html** and contact Tourgeé D. Simpson, Jr., at (859) 257-3044 or **nse@uky.edu**.

Major Advising

Students who have declared a major are advised by either a faculty member or professional advisor in their college. These advisors, with their in-depth knowledge of a particular field, can provide guidance toward completing degree requirements as well as information regarding careers and long-term educational goals. It is important for students, as soon as they declare a major, to contact their college and request assignment to an advisor.

Preprofessional Advising

Prelaw and premed are not majors at the University of Kentucky, and preprofessional students may choose any undergraduate major based on their interests and strengths. Undergraduate Studies provides campus-wide advising for both prospective and current students considering professional programs in law, medicine, dentistry, podiatry, and optometry. Students are encouraged to contact Undergraduate Studies, 109 Miller Hall, at (859) 257-3383 to be assigned to a premed or prelaw advisor who will support them throughout their undergraduate career in selecting courses, connecting with curricular and co-curricular opportunities, and applying to professional schools. The College of Arts & Sciences, 202 Patterson Office Tower, (859) 257-8712, also offers preprofessional advising for its students.

Prelaw Study

While a broad, liberal arts education is generally considered to be an excellent preparation for law school, no fixed, comprehensive prelaw curriculum is prescribed by any American law school. In general, prelaw students should develop rigorous study habits; become skilled in clear and logical communication; and select courses that enhance critical reading, writing, and analytical skills.

Law schools do not require or expect a particular undergraduate degree program. Students are advised to consider majors aligned with their interests, strengths, and potential career choices.

Students also are encouraged to explore the websites of law schools in which they are interested and to familiarize themselves with admissions standards at those schools. Almost all law schools require students to take the Law School Admission Test (LSAT). Additional information is available from the Law School Admission Council, **www.lsac.org**. Another valuable resource is the current *ABA-LSAC Official Guide to ABA-Approved Law Schools*, published and prepared by the Law School Admission Council and the American Bar Association. This yearly publication and information on the law and lawyers, prelaw preparation, applying to law schools, the study of law, and most American law schools is available at: **www.lsac.org**.

Students interested in law school should meet with a prelaw advisor at least once a year while pursuing their undergraduate curriculum, attend prelaw information sessions, visit the prelaw website at **www.uky.edu/US/pre_law.html**, and subscribe to the prelaw listserv. For additional information, contact a prelaw advisor at **pre-law@uky.edu**.

Premedical Study

Students are free to choose any major while pursuing their undergraduate degree and fulfilling premedical requirements. When selecting a major, students should consider subjects they find interesting and challenging, and those in which they perform best. Medical schools do not require a specific major to enter the professional program, but they do have minimum entrance requirements. Most students accepted to medical school earn a bachelor's degree while satisfying premedical requirements.

Currently the minimum requirements for medical school are:

2 semesters of college English or intensive writing courses

2 semesters of biology with labs

2 semesters of general chemistry with labs

2 semesters of organic chemistry with labs

2 semesters of physics with labs

Some medical schools have additional requirements beyond the minimum. Check specific medical schools for admissions requirements.

In addition, students are encouraged to take course work in areas such as anatomy, biochemistry, cell biology, calculus, genetics, histology, immunology, microbiology, physiology, psychology, sociology, and statistics.

Students interested in medical school should meet with a premedical advisor at least once a year while pursuing their undergraduate curriculum, attend premedical information sessions, visit the premedical Web site at **www.uky.edu/US/pre_med.html**, and subscribe to the premed listserv. For additional information, contact a premed advisor at **pre-med@uky.edu**.

Predental Study

Students are free to choose any major while pursuing their undergraduate degree and fulfilling predental requirements. When selecting a major, students should consider subjects they find interesting and challenging, and those in which they perform best. Dental schools do not require a specific major to enter the professional program, but they do have minimum entrance requirements. Most students accepted to dental school earn a bachelor's degree while satisfying predental requirements.

Currently the minimum requirements for entering dental school in the state of Kentucky are:

2 semesters of college English or intensive writing courses

2 semesters of biology with labs*

2 semesters of general chemistry with labs

2 semesters of organic chemistry with labs

1 semester of physics with labs

1 semester of microbiology (required by the University of Kentucky College of Dentistry and recommended by the University of Louisville School of Dentistry)

1 semester of biochemistry (required by the University of Kentucky College of Dentistry and highly recommended by the University of Louisville School of Dentistry)

**The University of Louisville School of Dentistry has additional biology requirements.*

Other dental schools in the country may have different prerequisite courses. Check specific dental schools for admissions requirements.

In addition, students are encouraged to take course work in areas such as anatomy, biochemistry, cell biology, calculus, genetics, histology, immunology, physiology, psychology, and statistics.

Students interested in dental school should meet with a predental advisor at least once a year while pursuing their undergraduate curriculum, attend predental information sessions, visit the predental Web site at **www.uky.edu/US/pre_dent.html**, and subscribe to the premed listserv.

Preoptometry Study

Students are free to choose any major while pursuing their undergraduate degree and fulfilling preoptometry requirements. When selecting a major, students should consider subjects they find interesting and challenging, and those in which they perform best. Optometry schools do not require a specific major to enter the professional program, but they do have minimum entrance requirements. Most students accepted to optometry school earn a bachelor's degree while satisfying preoptometry requirements.

Although the Commonwealth of Kentucky does not have an optometry school, contract seats are available to legal Kentucky residents at the University of Alabama, Indiana University, and Southern College of Optometry through the Southern Regional Education Board (SREB). Students accepted for the SREB contract program are exempt from the out-of-state tuition. Students are competitively selected by the optometry school to receive a contract seat. Kentucky residency and acceptance into the Doctor of Optometry program does not guarantee a contract seat. Contract availability is subject to change as state legislatures annually review budget expenditures. For the number of contract seats available and more information, contact the specific optometry school.

Preoptometry requirements differ but generally include:

- 2 semesters of general chemistry with labs
- 2 semesters of English
- 1 or 2 semesters of mathematics
- 1 or 2 semesters of general biology or zoology with labs
- 1 semester of microbiology with lab
- 2 semesters of general physics with labs
- 1 or 2 semesters of organic chemistry
- 2 semesters of statistics
- 1 or 2 semesters of psychology

Some schools may also require biochemistry, anatomy, and physiology. Check individual optometry schools for specific course requirements.

Students interested in optometry school should meet with a preoptometry advisor at least once a year while pursuing their undergraduate curriculum, attend preoptometry information sessions, visit the preoptometry Web site at **www.uky.edu/US/pre_op.html**, and subscribe to the premed listserv.

Prepharmacy Study

In spring 2014 the UK College of Pharmacy revised its prerequisite courses for first-time freshmen entering college in fall 2014 or after. The equivalent of two years (70 semester credit hours) of college-level liberal arts and basic sciences is the minimum requirement for admission to the professional program. The minimum course requirements for admission to UK's College of Pharmacy are:

- 2 semesters of English*
- 1 semester of introductory biology (with laboratory) (BIO 148) and (BIO 155)
- 1 semester of microbiology (with laboratory) (BIO 208 or BIO 308) and (BIO 209)
- 1 semester of mathematics (Calculus I) **or** the combination of 1 semester of college algebra and 1 semester of elementary calculus (MA 113 or MA 137) or (MA 109 and MA 123)
- 1 semester of any of the following: principles of microeconomics, principles of macroeconomics, financial accounting, corporation finance (ECO 201, ECO 202, ACC 201, or FIN 300)
- 1 semester of human anatomy (ANA 209)
- 1 semester of elementary physiology (PGY 206)
- 2 semesters of general chemistry (with labs) (CHE 105, CHE 111, CHE 107, CHE 113)
- 2 semesters of organic chemistry (with labs) (CHE 230, CHE 231, CHE 232, CHE 233)
- 1 semester of statistics (STA 291 or STA 296)

Students must complete sufficient electives to raise the total hours, including prerequisites, to 70 or more semester hours.

*English requirement for students interested in pharmacy: University of Kentucky students must take courses which satisfy the Composition and Communications I & II requirements. Non-UK students: two semesters of English writing/composition **and** one semester of basic public speaking will suffice. For questions about this requirement, contact the Prepharmacy Advisor at **pharmacyinfo@lsv.uky.edu**.

Prepharmacy courses should be completed by the end of the spring semester prior to the desired fall enrollment, with at least one semester completed in a lecture and lab in organic chemistry, and either anatomy or microbiology by the end of the fall semester prior to the application deadline.

Students are encouraged to take elective courses that satisfy their major requirements. Highly recommended electives include biochemistry, genetics, and physics. Other electives to consider: courses required by major; UK Core courses; PharmD Dual Degree prerequisites (if needed); medical terminology; healthcare-related courses; undergraduate courses in Human Health Sciences (HHS), Public Health (CPH), Clinical Leadership and Management (CLM).

Admission to the college is competitive, based on a holistic review of the application, grade-point average, PCAT scores and interview.

For more information, contact the College of Pharmacy at:

University of Kentucky
College of Pharmacy
Academic and Student Affairs
114 BioPharm Complex
Lexington, KY 40536-0596
(859) 323-2755
http://pharmacy.mc.uky.edu
pharmacyinfo@lsv.uky.edu

Prepodiatry Study

Students are free to choose any major while pursuing their undergraduate degree and fulfilling prepodiatry requirements. When selecting a major, students should consider subjects they find interesting and challenging, and those in which they perform best. Podiatry schools do not require a specific major to enter the professional program, but they do have minimum entrance requirements. Most students accepted to podiatry school earn a bachelor's degree while satisfying prepodiatry requirements.

Currently the minimum requirements for podiatry school are:

- 2 semesters of college English or intensive writing courses
- 2 semesters of biology with labs
- 2 semesters of general chemistry with labs
- 2 semesters of organic chemistry with labs
- 2 semesters of physics with labs

In addition, students are encouraged to take course work in areas such as anatomy, biochemistry, cell biology, calculus, genetics, histology, immunology, microbiology, physiology, psychology, and statistics.

Students interested in podiatry school should meet with a prepodiatry advisor at least once a year while pursuing their undergraduate curriculum, attend prepodiatry information sessions, visit the prepodiatry Web site at **www.uky.edu/US/pre_podiatry.html**, and subscribe to the premed listserv.

Libraries

The University of Kentucky Libraries system offers students academic services across campus. Students may use any library branch location no matter what their college or major. Using their Wildcard student ID and LinkBlue account, students can check out books, access online databases, and do research in the library or anywhere their laptop computer may take them. Knowledgeable staff members are ready to help students find the information in person, or via email, chat, or phone. For more information, visit: **http://libraries.uky.edu/index.php**

The library employs several hundred students each year in a variety of different jobs. No experience is required for most positions, and schedules are flexible. For more information, visit the Student Employment site at: **www.uky.edu/HR/studentjobs/**

Here are a few services offered at William T. Young Library, as well as many of the branch libraries across campus:

- Late study hours (open overnight five days a week).
- Librarians and search tools to find information for papers and projects.
- Study rooms and group study areas.
- Videos to check out or watch in the library.
- Help from the Writing Center (basement of Young Library).
- Access newspapers and periodicals from across the state, nation, and world.
- Work on video and interactive projects in the Media Depot and computer labs including, Mac computers.
- Grab some coffee at Ovid's, or eat while you work in The Hub (Young Library).
- Check out a laptop for use in the library.



Special Academic Programs

THE ACADEMIC COMMON MARKET

The Academic Common Market allows non-resident students to pay in-state tuition rates while studying selected academic programs that are not available in their home states. The list of programs included in the Academic Common Market is revised periodically to reflect the changing needs and offerings of participating states. For more information, visit: **www.sreb.org**. The 16 states that participate in the Academic Common Market are Alabama, Arkansas, Delaware, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. For more information, contact the Academic Common Market Institutional Coordinator, 100 Funkhouser Building, University of Kentucky, Lexington, KY 40506-0054, (859) 257-3256.

ACCELERATED PROGRAMS

The University of Kentucky has a broad policy for accelerated programs. Among the opportunities available are special programs for high school students and a variety of credit-by-examination programs. Many students use these opportunities to earn degrees in less time. Others prefer to use the time gained to explore areas outside their majors or to do more work in their major fields.

Accelerated Programs for High School Students

High school students interested in earning college credit while still in high school should inquire about admission before graduating from high school. The High School Exceptional Ability program is described in greater detail in the *Undergraduate Admission* section of this Bulletin.

Credit-by-Examination Programs

UK students may earn degree credit by successfully completing examinations described below.

Advanced Placement Program (AP)

The University of Kentucky recognizes examinations of the College Board Advanced Placement Program offered by high schools throughout the nation. Currently, UK ranks among the top 100 schools in the U.S. for receipt of AP test score results. A high school senior who wishes to have AP scores evaluated for academic credit or placement should have the results sent to the Office of Undergraduate Admission and University Registrar. UK's code is **1837**.

Students who receive Advanced Placement credit for a course may apply this credit the same way credit earned by passing a course is applied. UK does not recognize College Board SAT II Subject Tests for placement or credit purposes.

Academic departments have designated the current policy (see chart on pages 69-71) for students who score 3 or higher on the Advanced Placement examinations.

Please note that the University of Kentucky awards Advanced Placement credit based on the score of the exam that is in effect during the academic year that the student enrolls in UK. Students should refer to the AP chart in the *Bulletin* they received when they were admitted for the appropriate score.

UK does not award duplicate credit in the event that a student repeats an exam or if the credit award is the same for two or more exams. In the event a student takes the same exam more than once, credit is awarded for the best score only.

For more information on UK's Advanced Placement policy, contact:

Office of Undergraduate Admission and University Registrar
10 W. D. Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054
(859) 257-2000

College Level Examination Program (CLEP)

UK participates in the national testing program of The College Board. CLEP Examinations cover specific material common to courses at many universities.

Credit for University courses is awarded to students who obtain the listed scores on the appropriate Examinations, as listed in the "Policy Guide for CLEP Examinations" on pages 72-73.

The Registrar's Office is responsible for all official posting of credit to a student's record. For information regarding the CLEP program and posting of credit, contact the Registrar's Office at (859) 257-7157. For information on CLEP exams in general, visit the College Board website at: **www.collegeboard.com/clep/**

International Baccalaureate Program (IB)

The University of Kentucky recognizes course credit earned through the International Baccalaureate (IB) Program offered by high schools throughout the world.

Generally, course credit is awarded for scores of 5, 6, or 7 on either the Standard Level exam or the Higher Level exam. Please refer to the chart on pages 74-75 for the actual course credit policy in each subject.

Any student desiring credit must request an IB transcript to be sent to the University. Course credit awarded through the IB program will apply toward degree requirements just as if the course had been taken on campus, except that there will not be a specific letter grade associated with the course. Instead, a designation of CR – credit – will be awarded and the grade-point average will not be affected.

In some cases, as noted on the chart on pages 74-75, additional curriculum information must be supplied by the student's high school before credit will be awarded.

For more information, contact the Registrar's Office at (859) 257-7157. For information on the IB Program in general, visit the IB website at: **www.ibo.org**

Special Departmental Examinations

Undergraduate students requesting a special examination must apply in writing to the chairperson of the department that offers the course. Graduate students should apply to the director of graduate studies in the department offering the course. Applicants should include evidence that they are reasonably prepared for the examination.

These examinations are prepared and administered by the offering department, and are usually equivalent to a final examination. Students must be enrolled in good standing at UK. The examinations are offered without charge.

Almost any course offered at the University is available for credit by special examination, regardless of whether a student has audited the course, is currently enrolled in it, or has studied it independently. Please note, most elementary and intermediate foreign language courses are not available on the basis of a special examination.

More information about special examination credit appears in the *Academic Requirements* section of this Bulletin.

EGR 199: Project Lead The Way. Credit: 1.0-6.0 (variable)

This course will be graded on a Pass/Fail basis.

This course grants college credit to Project Lead the Way Pathway to Engineering graduates from PLTW Certified high schools. University of Kentucky Engineering students may earn one college credit for each of the PLTW Pathway to Engineering courses [IED, POE, DE, CIM, CSE, CEA, BE, AE] completed while enrolled in secondary school(s), up to a maximum of six UK College of Engineering credits. Three of these credits maybe used in approved engineering majors as support electives. Additional credits past three can be used for fulfill free electives in approved engineering majors.

Criteria to obtain the credit include:

- Graduation from a PLTW Certified secondary school
- Completing each PLTW course with an average of **B**
- Scoring in the 6th Stanine or above on the End-of-Course (EOC) PLTW exam
- Enrolling in the UK College of Engineering
- Paying any designated University of Kentucky tuition and fees

Process to obtain the credit:

- PLTW Affiliate Director receives documentation for request for credit from engineering student
- PLTW Teacher, Administrator, or Counselor submits required data to the PLTW Affiliate Director
- On approval Affiliate Director sends information to student on number of credits received
- Engineering student enrolls in appropriate EGR 199 course to receive credit during the semester

Prereq: Enrollment in the College of Engineering.

National College Credit Recommendation Service (National CCRS)

Students may be eligible to receive credit for extra-institutional learning. The American Council on Education through its National College Credit Recommendation Service (National CCRS) has evaluated over 2,000 courses sponsored by over 140 corporations, organizations, and agencies drawn from business, industry, and government. On the basis of the National CCRS evaluations, the University has established guidelines for awarding credit for college-level courses. The University recognizes these recommendations as appropriate credit for meeting degree requirements.

The University's colleges and departments determine the amount of credit that will apply to a student's curriculum.

Information on the National CCRS appears in *The National Guide to Educational Credit for Training Programs*. For more information, contact the Office of Undergraduate Admission.

Evaluation of Military Credit

Military Credit is awarded following the procedures below:

I. Procedures

A. The student must submit a letter requesting evaluation, along with the necessary supportive documentation, to the Office of Admission.

B. The letter should specify the types of educational experiences the student wishes to have evaluated.

1. Military Schools should be listed by:
   - Name of school
   - Location
   - Name of course
   - Length of course in weeks
   - Date course began
   - Date course completed
   - Final mark and/or standing in class
2. Military Occupational Specialties (MOS) should be listed by:
   - Complete MOS designation
   - MOS Title
   - Period of time MOS was held as a primary duty assignment
   - How MOS was awarded (School Attendance, OJT, etc.)
   - MOS evaluation score and date of evaluation

II. Documentation

A. Official documentation is necessary to support the awarding of any credit based on military service. The supportive documentation required is as follows:

1. Computerized transcript from the Army/American Council on Education Registry (request forms are available in the Office of Undergraduate Admission)
2. Copies of Course Completion Certificates
3. Enlisted Evaluation Data Report reflecting competency in any MOS submitted for evaluation
4. DD Form 214 (Report of Transfer or Discharge) if no longer on Active Duty

B. Required documentation may be obtained as follows:

1. Active Duty Personnel: Custodian of individual's personnel records, Military installation to which assigned
2. Retired Army Personnel or Reserve Personnel:
   US Army Reserve Component & Administration Center (TAGO)
   9700 Page Boulevard
   St. Louis, Missouri 63132
3. Discharged Personnel (Veterans):
   General Services Administration
   National Personnel Records Center (Military Personnel Records)
   9700 Page Boulevard
   St. Louis, Missouri 63132
4. Discharged Personnel Now Members of Army National Guard:
   National Guard unit to which assigned

III. Awarding of Credit

Credit is evaluated using the ACE Guide for evaluation of military credit (Army, Navy, Air Force, Coast Guard). ACE guide recommends hours to be awarded based on the length and content of each course. Evaluations are typed on appropriate form.

A. Credit will be awarded on the student's official academic transcript.

B. No credit will be awarded based on a Military Occupational Specialty (MOS) which has not been held as a primary duty assignment for a minimum duration of one (1) year or more.

C. Copies of the Evaluation are forwarded to the college dean's office and to Student Records Office.

D. One copy of the evaluation is maintained in the Office of Undergraduate Admission and University Registrar.

E. Each college determines how awarded hours may be used in the degree program.

THE CHELLGREN STUDENT FELLOWS PROGRAM AND THE GAINES FELLOWSHIP PROGRAM

The Chellgren Student Fellows Program is designed to provide experiences for outstanding sophomores at UK. The program offers students opportunities to go beyond classroom instruction in order to help them cultivate extraordinary academic achievement. These programs are explicitly intended to help high-achieving undergraduates attain levels of accomplishment that will enable them to compete successfully for prestigious awards – such as the Rhodes, Marshall, and Truman Scholarships – and gain admittance into the very best graduate and professional programs.

The John R. and Joan B. Gaines Fellowship in the Humanities is awarded to a select number of upper-level students. Gaines Fellows are mentored by UK faculty in a jury project (junior year), then a thesis project (senior year).

THE HONORS PROGRAM

The Honors Program at the University of Kentucky offers specialized, interdisciplinary, seminar style classes consisting of 15-20 students, as well as departmental Honors section classes, which accelerate common undergraduate education course offerings such as biology, chemistry, and calculus. The flexibility of the required curriculum in order to earn the Honors Program graduation designation allows students to select classes from a variety of course offerings that best suit his or her individual interests and needs. Honors Program students satisfy six credit hours of required Honors Program experiences through opportunities like service learning, education abroad, and/or internship programs. Students complete their Honors Program curriculum through engagement in a capstone project, the guidelines for which are inclusive of most major course work, but require preapproval by the program.

Honors Program participation at the University of Kentucky allows students priority registration, dedicated advising, and access to the Honors Program Living Learning Community. The class discussions demand active participation and involvement, and are led by full-time faculty members. The Honors Program encourages students' interest in other divisions of excellence such as the Chellgren Center for Undergraduate Excellence and the Gaines Center for the Humanities, among others. The Honors Program typically looks for a 28 ACT (1270 SAT) and at least a 3.5 GPA from applicants; however, it primarily identifies self-motivated, eager students through the essay question responses, class rigor, and extracurricular participation.

THE UNIVERSITY SCHOLARS PROGRAM

The University Scholars program offers students the opportunity and challenge of integrating their undergraduate and graduate or professional courses of study into a single, continuous program leading to both a baccalaureate and master's degree. The student's particular requirements will determine the amount of time needed to complete the program; however, the program can normally be completed in less time than that required in a conventional program.

Admission to the Program

Applicants for the University Scholars program must meet the following admissions requirements:

1. The applicant must have senior standing (completed at least 90 hours of course work) and have completed all UK Core requirements.
2. Students should apply at the end of their junior year.
3. The master's program should be in the field of the undergraduate major.
4. Applicants must have an undergraduate grade-point average of 3.5 or above in their major field and 3.2 or above overall.
5. Follow the current application procedures for the Graduate School, subject to the above conditions. Admission decisions will be made by the Graduate Dean or his/her appointee.

Degree Requirements and Curriculum

Students in the University Scholars program must meet these requirements:

1. The total number of credit hours completed for the combined program may be twelve (12) fewer than the total required for both the bachelor's and master's, or bachelor's and graduate doctoral degrees. (**The requirements for the bachelor's degree are unchanged**.)
2. Students should take no more than 16 credit hours per semester, unless they have express permission from the appropriate director of graduate studies and the Dean of The Graduate School.
3. Students must complete at least 36 hours of graduate level courses in the combined program, 15 credit hours of which must be in the 600 level or above for a Plan B master's degree. Students pursuing Plan A must complete at least 30 hours of graduate level courses in the combined program of which 12 credit hours must be at the 600 level or above. (Consult *The Graduate School Bulletin* for detailed information concerning Plan A and Plan B for master's degrees.)
4. Students must have an undergraduate and a graduate advisor. A jointly planned program must be prepared for each student.
5. In order to participate in the University Scholars program, a department must submit to The Graduate School a plan and illustrative examples of typical programs.

DONOVAN SCHOLARS PROGRAM AND OSHER LIFELONG LEARNING INSTITUTE AT UK

The University of Kentucky has a long-standing interest in individuals of or nearing retirement age. In 1962, the Board of Trustees established the Council on Aging to serve as the focal point for programs for older persons. The Council is an integral part of the College of Public Health.

The Herman L. Donovan Fellowship for Older Adults

The Donovan Fellowship, named in honor of the late Herman L. Donovan, University President from 1941-1956, is open to persons who are 65 years of age or older who live in Kentucky. Tuition is waived for Donovan Fellows. Students may work toward an undergraduate or graduate degree, audit classes for the joy of learning, or take individual courses for credit. The program is available at the Lexington campus. Fellows are responsible for books, supplies, parking and applicable taxes. Due to space limitations, classes rarely are available for instruction in music and voice. All state-supported institutions of higher learning in Kentucky offer tuition-free classes for persons 65 years of age or older.

For more information, contact Sharye Davis at (859) 257-2657; or email: **Sharye.Davis@uky.edu**.

Osher Lifelong Learning Institute (OLLI) at UK, Lexington and Morehead

Members of the OLLI at UK participate in intellectual, social, and cultural programs which characterize the university setting. Educational and enrichment courses and events are offered for adults 50 years of age and older at each of our locations in Lexington and Morehead. Learning opportunities are held in community locations and are offered in a variety of formats including: weekly courses, one day intensives, lecture series, day trips and shared interest groups. Courses are taught in the following topic areas: history and government, culture and travel, languages, literature and writing, health and wellness, science and environment, and the visual and performing arts. The annual membership fee is $25; course fees vary.

For more information, contact the OLLI at UK at (859) 257-2656; toll free at (866) 602-5862; or email: **Teresa.Hager@uky.edu**

OLLI at UK
Ligon House
658 South Limestone
Lexington, KY 40506-0442
(859) 257-2656
www.uky.edu/OLLI

ACADEMIC PREP PROGRAM (APP)

The UK Academic Prep Program (APP) is designed to enhance students' academic experiences at UK and provide resources tailored to support individual students' academic success. The UK APP for student success provides a comprehensive continuum of support once students begin their UK academic career. Upon becoming participants in the APP, students will have access to the APP workshops in support of academic success throughout their studies at UK.

As participants in the UK APP for student success:

- First-year students should be registered into UK 101 during their first semester.
- Based on placement testing scores, students will be registered in the APP for reading, writing, and/or math workshop(s) as appropriate to supplement their regular academic course work.
- Students will be encouraged to participate in Academic Enhancement's Peer Tutoring Program and Individual Academic Consultations, and referred to a range of resources that support student success.

Placement Testing

Placement testing will be used to help demonstrate students' academic preparation in one or more subject areas in which they do not currently meet the minimum requirement. Placement testing is offered free of charge by UK Academic Enhancement. Students may learn more and register for a testing session by visiting **www.uky.edu/AE/** and clicking on **Placement Testing**. In order to register for testing, students will need their official UK ID number. Results from placement tests are used by University of Kentucky academic advisors to ensure students' proper course enrollment. Scores will also determine the resources and individualized supplemental instruction designed for students to enhance their academic success at UK.

UK Has an APP for Reading

Students who have an **ACT reading subscore below 20** (SAT critical reading below 470) will be automatically registered in the APP for Reading. This proactive supplemental workshop is designed to enhance students' mastery of critical college reading concepts and strategies while including multiple points of intervention and access to resources in support of students' regular course work. Workshops are held twice a week and earn one hour of academic credit. Trained learning specialists in The Study guide the workshops in support of academic success. Students may opt to participate in the APP for Reading workshops for as long as they choose during their undergraduate career.

UK Has an APP for Writing

Students who have an **ACT English subscore below 18** (SAT writing below 430) will be automatically registered in the APP for Writing. This supplemental writing workshop is designed to coach students to master critical college analytical writing concepts while including multiple points of intervention and access to resources in support of students' regular course work. Workshops are held twice a week and earn one hour of academic credit. Trained learning specialists in The Study guide the workshops in support of academic success. Students are encouraged to take advantage of this free resource for as long and often as they choose.

UK Has an APP for Math

Students who have an **ACT math subscore below 19** (SAT math below 460) will be automatically registered in the APP for Math. This workshop is designed as an individualized, self-paced supplemental instruction for students to master math concepts while including multiple points of intervention and access to resources in support of students' regular course work. Workshops are held twice a week with an additional open drop-in lab. Trained learning specialists and math educators in The Study guide the workshops in support of academic success for as long as needed until students place into credit bearing college math courses.

UK Has an APP for English Language for International Students

International students who have an **ACT reading subscore below 20** (SAT critical reading below 470), or an **ACT English subscore below 18** (SAT writing below 430), a **TOEFL score below 100**, or any **TOEFL subscore below 20**, will be automatically registered for English Language Testing upon arrival. Based on the results of those tests, students may be required to enroll in supplemental courses in English, for academic credit, to be taken during their first year as fully enrolled students. Completion of this "ESL APP coursework" may be required before admission to particular academic colleges and/or majors, and additional college-specific or major-specific requirements may apply.

Placement Information for CHE 105

Proficiency in chemistry and biology are options in the Natural, Physical and Mathematical Sciences requirement of the UK Core. If you plan to major in science, nursing, engineering, or a health profession, chemistry and biology may be important parts of your first year at UK. A strong math background is essential for success in chemistry, and a strong chemistry background is essential for success in biology. The chart below can help you determine what level of science you're eligible to take.

CHEMISTRY 105

***If your ACT Math Score is:**			
Less than or equal to 22 (Math SAT: **less than or equal to 520**)	**and**	Appropriate score on math placement test not achieved and **MA 109** or **MA 110** not completed	Enrollment in **CHE 105** barred
	or	Appropriate score on math placement test achieved and enrollment permitted in **MA 123**	Enrollment permitted in **CHE 105**
	or	**MA 109** or **MA 110** completed with passing grade	Enrollment permitted in **CHE 105**
23 or greater (Math SAT: **540 or greater**)			Enrollment permitted in **CHE 105**

Placement Information for Composition and Communication Courses

Students entering UK must meet basic skills in the UK Core. The placement information outlined below plays an important role in determining specific options for meeting these requirements. Please carefully read the placement information below to determine which placement exam(s) or other exam(s) you may benefit from taking.

UNIVERSITY COMPOSITION AND COMMUNICATION REQUIREMENT

All students must fulfill the University Composition and Communication Requirement. See "Composition and Communication Requirements" in the *Graduation Requirements* section of this Bulletin for more information.

You have scored **32 or above** on ACT English *or* **720 or above** on SAT Writing Score *or* earned a score of **6** or **7** on the Higher Level IB English (Language A: Literature) course • *No course credit awarded*	—	Enrollment permitted in **CIS/WRD 112** or **CIS/WRD 110** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have scored **3** on AP English Language/ Composition Exam • *3 credits awarded for Departmental Elective Credit (**WRD 1**--) at the 100 level*	—	Enrollment permitted in **CIS/WRD 110** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have scored **4-5** on AP English Language/ Composition Exam • *3 credits awarded for Departmental Elective Credit (**WRD 1**--) at the 100 level*	—	Enrollment permitted in **CIS/WRD 112** or **CIS/WRD 110** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have scored **3-4** on the AP English Literature/ Composition Exam • *3 credits awarded for Departmental Elective Credit (**ENG 1**--) at the 100 level*	—	Must enroll in **CIS/WRD 110** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have scored **5** on the AP English Literature/ Composition Exam • *3 credits awarded for **ENG 230***	—	Must enroll in **CIS/WRD 110** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have scored **5** on the IB HL English Exam • *3 credits awarded f or Departmental Elective Credit (**ENG 1**--) at the 100 level*	—	Must enroll in **CIS/WRD 110** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have scored **6** on the IB HL English Exam • *3 credits awarded f or Departmental Elective Credit (**ENG 1**--) at the 100 level*	—	Enrollment permitted in **CIS/WRD 112** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have scored **7** on the IB HL English Exam • *3 credits awarded for **ENG 230***	—	Enrollment permitted in **CIS/WRD 112** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status

Placement Information for Composition and Communication Courses

UNIVERSITY COMPOSITION AND COMMUNICATION REQUIREMENT

You have scored **50-74** on American Literature or English Literature or Analyzing & Interpreting Literature CLEP Exam • *3 credits awarded for Departmental Elective Credit (**ENG 1**--) at the 100 level*	—	Must enroll in **CIS/WRD 110** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have scored **75-80** on American Literature or English Literature or Analyzing & Interpreting Literature CLEP Exam • *3 credits awarded for **ENG 230***	—	Must enroll in **CIS/WRD 110**. Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have completed **ENG 101** and **102** (or equivalent)	—	Must enroll in **COM 252, COM 281, or COM 287** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status
You have completed **ENG 101**	—	Must enroll in **CIS/WRD 110** Does not satisfy any portion of the Composition and Communication requirement. Must complete Graduation Composition and Communication Requirement course(s) in major after achieving sophomore status

For More Information

First-Year Requirement Questions: (859) 257-7002.

Graduation Composition and Communication Requirement Questions: Office of Undergraduate Education, (859) 257-3027.

Placement Information for Mathematics and Biology Courses

These prerequisites are in effect and will be applied to all students. Students should see their advisor before enrolling in any courses. **A math placement test is required for all students with a Math ACT score of 26 or below or a Math SAT of 610 or below.**

MATHEMATICS

The chart below will help determine the math course for which you are eligible.

If your ACT Math Score is:

Less than or equal to 18 (Math SAT: **less than or equal to 450**)		COMPASS math placement test required	Enrollment permitted in **MA 108R, UK 090** (enrollment in **MA 109, MA 111, MA 112** barred)
	and	Appropriate score achieved on COMPASS math placement test	Enrollment permitted in **MA 111**
19-20 (Math SAT: **460-500**)		Math placement test required	Enrollment permitted in **MA 108R, MA 111** (enrollment in **MA 109, MA 112** barred)
	and	Appropriate score achieved on math placement test	Enrollment permitted in **MA 109, MA 110, MA 112**
21-22 (Math SAT: **510-530**)		Math placement test required	Enrollment permitted in **MA 109, MA 111, MA 112** (enrollment in **MA 110** barred)
	and	Appropriate score achieved on math placement test	Enrollment permitted in **MA 110**
23-25 (Math SAT: **540-590**)		Math placement test required	Enrollment permitted in **MA 109, MA 110, MA 111, MA 112** (enrollment in **MA 113, MA 123** barred)
	and	Appropriate score achieved on math placement test	Enrollment permitted in **MA 113, MA 123**
26 (Math SAT: **600-610**)		Math placement test required	Enrollment permitted in **MA 109, MA 110, MA 111, MA 112, MA 123** (enrollment in **MA 113** barred)
	and	Appropriate score achieved on math placement test	Enrollment permitted in **MA 113**
27 or greater (Math SAT: **620 or greater**)		Math placement not required	Enrollment permitted in **MA 113, MA 123**

BIOLOGY 148

If your ACT Math Score is:

Less than 24 (Math SAT: **less than 560**)	**and**	**MA 109** not completed	Enrollment in **BIO 148** barred
	or	**MA 109** completed **AND** **CHE 105** completed or concurrent enrollment	Enrollment permitted in **BIO 148**
24 or greater (Math SAT: **560 or greater**)	**and**	**CHE 105** completed or concurrent enrollment	Enrollment permitted in **BIO 148**

BIOLOGY 152

Earned a **C** or better in BIO 148 *Students must complete BIO 148 prior to enrolling in BIO 152*	Enrollment permitted in **BIO 152**

University of Kentucky Policy Guide for Advanced Placement

AP Test	Score	Credit Awarded	Credit Statement	UK Core Area
Art History	3 - 5	**A-H 106**	3 credit hours for A-H 106 with a grade of CR.	Humanities
Art Studio (Drawing)	3 - 5	A-S 1--	3 credit hours for 100-level art studio credit (see note below) with a grade of CR.	
Credit will be replaced with 3 credit hours in the appropriate media course upon successful completion of a portfolio review. Please contact the Director of Undergraduate Studies for the School of Art and Visual Studies to schedule your review.				
Art Studio (2-D Design)	3 - 5	A-S 1--	3 credit hours for 100-level art studio credit (see note below) with a grade of CR.	
Credit will be replaced with 3 credit hours in the appropriate media course upon successful completion of a portfolio review. Please contact the Director of Undergraduate Studies for the School of Art and Visual Studies to schedule your review.				
Art Studio (3-D Design)	3 - 5	A-S 1--	3 credit hours for 100-level art studio credit (see note below) with a grade of CR.	
Credit will be replaced with 3 credit hours in the appropriate media course upon successful completion of a portfolio review. Please contact the Director of Undergraduate Studies for the School of Art and Visual Studies to schedule your review.				
Biology	3	**BIO 102, 103**	3 credit hours each for BIO 102, 103 with a grade of CR.	Natural/Physical/ Mathematical Sciences
	4 or 5	**BIO 103**, 148, 152	3 credit hours each for BIO 103, 148, 152 with a grade of CR.	
Calculus AB	3 - 5	**MA 113**	4 credit hours for MA 113 with a grade of CR.	Quantitative Foundations
Calculus BC	3 - 5	**MA 113**, 114	4 credit hours each for MA 113, 114 with a grade of CR.	Quantitative Foundations
	3 - 5 subscore on AB subsection	**MA 113**	4 credit hours for MA 113 with a grade of CR.	Quantitative Foundations
Chemistry	3 - 4	**CHE 105, 111**	4 credit hours for CHE 105 and 1 credit hour for CHE 111 with a grade of CR.	Natural/Physical/ Mathematical Sciences
	5	**CHE 105**, 107, **111**	4 credit hours for CHE 105, 3 credit hours for CHE 107, and 1 credit hour for CHE 111 with a grade of CR.	Natural/Physical/ Mathematical Sciences
Chinese Language and Culture	3	CHI 102	4 credit hours for CHI 102 with a grade of CR.	
	4	CHI 102, 201	4 credit hours each for CHI 102, 201 with a grade of CR.	
	5	CHI 102, 201, 202	4 credit hours each for CHI 102, 201, 202 with a grade of CR.	
Computer Science A	3 - 5	CS 115	3 credit hours for CS 115 with a grade of CR.	
Economics (micro)	3 - 5	ECO 201	3 credit hours for ECO 201 with a grade of CR.	
Economics (macro)	3 - 5	ECO 202	3 credit hours for ECO 202 with a grade of CR.	
English Language and Composition	3	WRD 1--	3 credit hours for WRD 1-- with a grade of CR.	Does not satisfy any portion of the Composition and Communication requirement.
	4-5	WRD 1--	3 credit hours for WRD 1-- with a grade of CR. **Enrollment permitted in CIS/WRD 112.**	Does not satisfy any portion of the Composition and Communication requirement.

NOTE: Courses in **bold** are approved for the UK Core curriculum effective fall 2015.

University of Kentucky Policy Guide for Advanced Placement

AP Test	Score	Credit Awarded	Credit Statement	UK Core Area
English Literature and Composition	3 or 4	ENG 1--	3 credit hours for Departmental Elective Credit at the 100 level with a grade of CR.	Does not satisfy any portion of the Composition and Communication requirement.
	5	**ENG 230**	3 credit hours for ENG 230 with a grade of CR.	Humanities
Environmental Science	3 - 5	**EES 110**	3 credit hours for EES 110 with a grade of CR.	Natural/Physical/ Mathematical Sciences
European History	3 - 5	**HIS 104, 105**	3 credit hours each for HIS 104, 105 with a grade of CR.	Humanities; Global Dynamics
French Language and Culture	3 - 4	FR 202, 214	3 credit hours each for FR 202, 214 with a grade of CR.	
	5	FR 311, 350	3 credit hours each for FR 311, 350 with a grade of CR.	
German Language and Culture	3	GER 201	3 credit hours for GER 201 with a grade of CR.	
	4	GER 201, 202	3 credit hours each for GER 201, 202 with a grade of CR.	
	5	GER 201, 202, 307	3 credit hours each for GER 201, 202, 307 with a grade of CR.	
Government and Politics, Comparative	3 - 5	**PS 210**	3 credit hours for PS 210 with a grade of CR.	Global Dynamics
Government and Politics, U.S.	3 - 5	**PS 101**	3 credit hours for PS 101 with a grade of CR.	Citizenship – USA
Human Geography	3 - 5	**GEO 172**	3 credit hours for GEO 172 with a grade of CR.	Social Sciences
Italian Language and Culture	3	ITA 201	3 credit hours for ITA 201 with a grade of CR.	
	4 - 5	ITA 201, 202	3 credit hours each for ITA 201, 202 with a grade of CR.	
Japanese Language and Culture	3	JPN 201	4 credit hours for JPN 201 with a grade of CR.	
	4	JPN 201, 202	4 credit hours each for JPN 201, 202 with a grade of CR.	
	5	JPN 201, 202, 301	4 credit hours each for JPN 201, 202 and 3 credit hours for JPN 301 with a grade of CR.	
Latin – Vergil	3	CLA 101, 102	4 credit hours each for CLA 101, 102 with a grade of CR.	
	4	CLA 201, 202	3 credit hours each for CLA 201, 202 with a grade of CR.	
	5	CLA 201, 202, 302	3 credit hours each for CLA 201, 202, 302 with a grade of CR.	

NOTE: Courses in **bold** are approved for the UK Core curriculum effective fall 2015.

University of Kentucky Policy Guide for Advanced Placement

AP Test	Score	Credit Awarded	Credit Statement	UK Core Area
Music Theory*	3	MUS 174	3 credit hours for MUS 174 (elective only) with a grade of CR.	
	4	MUS 171	2 credit hours for MUS 171 with a grade of CR.	
	5	MUS 171, 173	2 credit hours each for MUS 171, 173 with a grade of CR.	
Music Theory* (with aural subscore)	3	MUS 174	3 credit hours for MUS 174 (elective only) with a grade of CR.	
	4	MUS 170	2 credit hours for MUS 170 with a grade of CR.	
	5	MUS 170, 172	2 credit hours each for MUS 170, 172 with a grade of CR.	
Physics 1: Algebra-based**	3 - 5	PHY 151	3 credit hours for PHY 151 with a grade of CR.	
Physics 2: Algebra-based†	3 - 5	PHY 152	3 credit hours for PHY 152 with a grade of CR.	
Physics C†† (mechanics)	3 - 5	**PHY 231**	4 credit hours for PHY 231 with a grade of CR.	Natural/Physical/ Mathematical Sciences
Physics C†† (electricity and magnetism)	3 - 5	PHY 232	4 credit hours for PHY 232 with a grade of CR.	
Psychology	3 - 5	**PSY 100**	4 credit hours for PSY 100 with a grade of CR.	Social Sciences
Spanish Language	3	SPA 202	3 credit hours for SPA 202 with a grade of CR.	
	4	SPA 210	3 credit hours for SPA 210 with a grade of CR.	
	5	SPA 210, 211	3 credit hours each for SPA 210, 211 with a grade of CR.	
Spanish Literature	3	SPA 202	3 credit hours for SPA 202 with a grade of CR.	
	4	SPA 320	3 credit hours for SPA 320 with a grade of CR.	
	5	SPA 320, 322	3 credit hours each for SPA 320, 322 with a grade of CR.	
Statistics	3	GEED 2--	3 credit hours for General Elective Credit at the 200 level with a grade of CR.	
	4 or 5	**STA 210, 296**	3 credit hours each for STA 210, 296 with a grade of CR.	Inference/ Statistical Reasoning
U.S. History	3 - 5	**HIS 108, 109**	3 credit hours each for HIS 108, 109 with a grade of CR.	Citizenship – USA
World History	3 - 5	**HIS 104, 105**	3 credit hours each for HIS 104, 105 with a grade of CR.	Humanities; Global Dynamics

*Any subscore of 4 or 5 will earn credit towards music theory requirements for a major or minor in music as follows:

- A score of 4 on the written subscore (no aural stimulus) will earn 2 hours credit, equivalent to MUS 171, plus placement into MUS 173.
- A score of 5 on the written subscore will earn 4 hours credit, equivalent to MUS 171 and MUS 173, plus placement into MUS 271.
- A score of 4 on the aural subscore (with aural stimulus) will earn 2 hours credit, equivalent to MUS 170, plus placement into MUS 172.
- A score of 5 on the aural subscore (with aural stimulus) will earn 4 hours credit, equivalent to MUS 170 and MUS 172, plus placement into MUS 270.

**Credit will be replaced with 5 credit hours for PHY 211 with a grade of CR upon presentation of documentation of appropriate laboratory experience to the Instructional Labratory Specialist in the Department of Physics and Astronomy.

†Credit will be replaced with 5 credit hours for PHY 213 with a grade of CR upon presentation of documentation of appropriate laboratory experience to the Instructional Laboratory Specialist in the Department of Physics and Astronomy.

††Upon presentation of documentation of appropriate laboratory experience, credit will also be given for the laboratories associated with these courses, PHY 241, 242 respectively.

NOTE: Courses in **bold** are approved for the UK Core curriculum effective fall 2015.

University of Kentucky Policy Guide for CLEP Examinations

CLEP EXAMINATION	Scaled Score to Earn Credit	Equivalent UK Course	Credit Hours	Grade	UK Core Area
COMPOSITION AND LITERATURE					
American Literature*	50-74	ENG 1--	3	credit only	
	75-80	**ENG 230**	3	credit only	Humanities
Analyzing and Interpreting Literature*	50-74	ENG 1--	3	credit only	
	75-80	**ENG 230**	3	credit only	Humanities
College Composition Modular	50 or above	WRD 1--	3	credit only	
English Literature*	50-74	ENG 1--	3	credit only	
	75-80	**ENG 230**	3	credit only	Humanities
**Students may earn credit (3 hours) for only one of the exams listed above.*					
FOREIGN LANGUAGES					
College Level French Language	50-65	FR 201	3	credit only	
	66 or above	FR 201, 202	6	credit only	
College Level German Language	50-65	GER 201	3	credit only	
	66 or above	GER 201, 202	6	credit only	
College Level Spanish Language	50-65	SPA 201	3	credit only	
	66 or above	SPA 201, 202	6	credit only	
HISTORY AND SOCIAL SCIENCES					
American Government	50 or above	**PS 101**	3	credit only	Citizenship – USA
History of the United States I	50 or above	**HIS 108**	3	credit only	Citizenship – USA
History of the United States II	50 or above	**HIS 109**	3	credit only	Citizenship – USA
Human Growth and Development	50 or above	PSY 223	3	credit only	
Humanities	50 or above	GEED 1--	3	credit only	
Introductory Psychology	50 or above	**PSY 100**	4	credit only	Social Sciences
Introductory Sociology	50 or above	**SOC 101**	3	credit only	Social Sciences
Principles of Macroeconomics	50 or above	ECO 202	3	credit only	
Principles of Microeconomics	50 or above	ECO 201	3	credit only	
Social Sciences and History	50 or above	GEED 1--	3	credit only	
Western Civilization I: Ancient Near East to 1648	50 or above	**HIS 104**	3	credit only	Humanities
Western Civilization II: 1648 to the Present	50 or above	**HIS 105**	3	credit only	Humanities

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University of Kentucky Policy Guide for CLEP Examinations

CLEP EXAMINATION	Scaled Score to Earn Credit	Equivalent UK Course	Credit Hours	Grade	UK Core Area
SCIENCE AND MATHEMATICS					
Calculus with Elementary Functions	50 or above	**MA 113**	4	credit only	Quantitative Foundations
College Algebra	50 or above	MA 108R	3	credit only	
College Mathematics	50 or above	MA 1--	3	credit only	
General Biology	50-54	BIO 1--	3	credit only	
	55-59	**BIO 103**	3	credit only	Natural/Physical/ Mathematical Sciences
	60 or above	**BIO 102, 103**	6	credit only	Natural/Physical/ Mathematical Sciences
General Chemistry	50 or above	**CHE 105**, 107	7	credit only	Natural/Physical/ Mathematical Sciences
Natural Sciences	50 or above	GEED 1--	3	credit only	
Precalculus	50 or above	MA 109	3	credit only	
BUSINESS					
Financial Accounting	50	ACC 201	3	credit only	
Information Systems and Computer Applications	50	GEED 1--	3	credit only	
Introductory Business Law	50	MGT 341	3	credit only	
Principles of Management	50	MGT 301	3	credit only	
Principles of Marketing	50	MKT 300	3	credit only	

For additional information on credits awarded for CLEP examinations, contact the Registrar's Office, 10 Funkhouser Building, (859) 257-7157. For information on CLEP exams in general, visit the College Board website at: **www.collegeboard.com/clep/**.

NOTE: Courses in **bold** are approved for the UK Core curriculum effective fall 2015.

University of Kentucky International Baccalaureate Program

Credit Awarded Based on Standard Level (SL) or Higher Level (HL) Exam Scores of 5, 6, and 7

Subject	Level	Credit Awarded	UK Core Area
Anthropology	SL	**ANT 160**, ANT 220	Global Dynamics
	HL	ANT 220, ANT 301	
Arabic	SL	AIS 201, AIS 202	
	HL	AIS 201, AIS 202, AIS 442, AIS 443	
Biology	SL	**BIO 102**, **BIO 103**	Natural/Physical/Mathematical Sciences
	HL	**BIO 103**, BIO 152	Natural/Physical/Mathematical Sciences
Chemistry	SL	CHE 104 *Credit will also be awarded for CHE 108 if curriculum options* A, C or H *are completed; documentation from school is required*	
	HL	**CHE 105**, CHE 107 *Students qualify to take CHE 111/113 laboratory bypass examination*	Natural/Physical/Mathematical Sciences
Chinese	SL	CHI 201 *(Score of 5)*	
	SL	CHI 202 *(Scores of 6 or 7)*	
	HL	CHI 202 *(Score of 5)*	
	HL	CHI 301 *(Scores of 6 or 7)*	
English	SL	No credit awarded	
	HL	ENG 1-- *(Scores of 5)*	
	HL	ENG 1-- *plus* placement into **WRD/CIS 112** *(Score of 6)*	
	HL	**ENG 230** *plus* placement into **WRD/CIS 112** *(Score of 7)*	Humanities
French	SL	FR 204, FR 214 *(Scores of 5 or 6)*	
	SL	FR 305, FR 324 *(Score of 7)*	
	HL	FR 305, FR 324	
Geography	SL	**GEO 172** *(Score of 5)*	Social Sciences
	SL	**GEO 172**, GEO 1-- *(Scores of 6 or 7)*	Social Sciences
	HL	**GEO 172**, GEO 1--	Social Sciences
German	SL	GER 201, GER 202	
	HL	GER 205, GER 206, GER 307, GER 308	
History	SL	**HIS 108**, **HIS 109**	Citizenship – USA
	HL	**HIS 104**, **HIS 105**, **HIS 108**, **HIS 109**	Humanities; Citizenship – USA; Global Dynamics

NOTE: Courses in **bold** are approved for the UK Core curriculum effective fall 2015.

University of Kentucky International Baccalaureate Program

Credit Awarded Based on Standard Level (SL) or Higher Level (HL) Exam Scores of 5, 6, and 7

Subject	Level	Credit Awarded	UK Core Area
		Note: *For history majors, the premajor requirement is met with either SL or HL*	
Information Communication Technology in a Global Society			
	SL	ICT 1-- *3 credit hours with a grade of CR*	
	HL	ICT 1-- and ICT 2-- *3 credit hours each with a grade of CR*	
Latin	SL	CLA 101, CLA 102 *(Score of 5)*	
	SL	CLA 201, CLA 202 *(Scores of 6 or 7)*	
	HL (Option A or B)	CLA 101, CLA 102 *(Score of 5)*	
	HL (Option A or B)	CLA 201, CLA 202 *(Scores of 6 or 7)*	
	HL (Option C)	CLA 201, CLA 202 *(Score of 5)*	
	HL (Option C)	CLA 301 *(Scores of 6 or 7)*	
Management	SL/HL	GEED 1-- *3 credit hours of General Elective Credit at the 100 level*	
Mathematics			
	SL Math Studies	No credit awarded	
	SL Mathematics	**MA 123**	Quantitative Foundations
	HL Mathematics	**MA 113**	Quantitative Foundations
	SL Further Mathematics	MA 114	
Music	SL	**MUS 100**	Humanities
Physics	SL/HL	**PHY 211**, PHY 213	Natural/Physical/Mathematical Sciences
Psychology	SL/HL	**PSY 100**	Social Sciences
Spanish	SL (AB initio or Spanish AB)	SPA 101, SPA 102	
	SL Spanish B	SPA 210, SPA 211	
	HL	SPA 312, SPA 314	
Theatre	SL	TA 126, **TA 150**	Arts & Creativity
***Visual Arts**	SL/HL	A-S 1--	

**Credit will be replaced with 3 credit hours in the appropriate media course upon successful completion of a portfolio review. Please contact the Director of Undergraduate Studies for the School of Art and Visual Studies to schedule your review.*

NOTE: Courses in **bold** are approved for the UK Core curriculum effective fall 2015.

Academic Requirements

Certain conditions concerning the number and level of courses required, the patterns they must follow, the amount of time to be spent as a full-time student, grades and conduct have been established by the University Senate for all University of Kentucky students who are pursuing a degree. Those which relate to academic requirements are listed below. Others will be found in the University Senate Rules, pertinent portions of which are printed in the booklet *Student Rights and Responsibilities*, which is available to all students through the Dean of Students Office.

STUDENT LOAD

With the exceptions noted below, the maximum load to be carried during any semester by an undergraduate student (including courses taken on an audit basis) shall be 19 credit hours.

The maximum allowable load to be carried during any summer term/session for undergraduate students (including residence or audit courses) shall be 9 credit hours in the eight-week summer session and 4 credits in the four-week term, but under no circumstances no more than 13 credits during the summer term and summer session.

Students may be enrolled in a maximum of nine credit hours of classes meeting concurrently during an eight week session. For this purpose, a course meeting for a four-week period during the eight-week session must be counted double. Thus a student may enroll in two consecutive four-week (three credit hours) classes plus one eight week class, or as many as three eight week (three credit hour) classes. A student would not, however, be able to enroll in two four-week (three credit hour) classes meeting concurrently.

A student may be permitted by the dean of his or her college to carry such extra credit hours as in the dean's judgment, based upon the student's past performance, the student can complete successfully.

A student on academic probation shall take no more than fifteen (15) credit hours in a semester, three (3) credit hours in a four-week term, or seven (7) credit hours in a six- or eight-week session. This rule may be waived by written permission from the student's academic dean or the dean's designee. The waiver and the rationale for the waiver must be documented in the student's record maintained by the college.

Students in the combined Bachelor's/Master's or Bachelor's/Graduate Doctoral degree program (University Scholars Program) shall not take more than 16 credit hours per semester. Permission to exceed that number is subject to approval by the Director of Graduate Studies and the Dean of the Graduate School.

The professional colleges and the Graduate School may set lower maximum loads which are consistent with their degree requirements.

The maximum allowable load to be carried during any summer term for graduate students is 9 credit hours in the eight-week summer session and 4 credit hours in the four-week term. The maximum load for graduate students in any combination of the four- and eight-week sessions/terms is 12 credit hours.

A student may be registered simultaneously at the University of Kentucky and at another institution only with the approval of the dean of the college in which the student is registered at the University of Kentucky, the credit hours obtained at the other institution being considered a part of the student's maximum load. If the simultaneous registration has not been authorized, the transfer of credit from the other institution may be denied.

CLASSIFICATION

Any undergraduate student shall be classified by the Registrar as a freshman if fewer than 30 hours have been completed; as a sophomore upon completion of 30 credit hours; as a junior upon completion of 60 credit hours; and as a senior upon completion of 90 credit hours.

A Law student shall be classified as a second-year student upon completion of 24 credit hours and as a third-year student upon completion of 53 credit hours. However, a Law student is not classified as a second-year student until that student has been in residence at least two semesters, nor as a third-year student until that student has been in residence at least three semesters.

A Pharmacy student shall be classified as a second-year student upon completion of 28 credit hours and as a third-year student upon completion of 56 credit hours.

Credit granted by examination is included in determining a student's classification.



GENERAL GRADING SYSTEM

The general grading system uses a series of letters, to which are assigned grade-point values. The system is based neither on an absolute numerical system nor on a distribution curve, but on the following descriptions:

Grade A represents exceptionally high achievement as a result of aptitude, effort, and intellectual initiative. It is valued at four (4) quality points for each credit hour.

Grade B represents a high achievement as a result of ability and effort. It is valued at three (3) quality points for each credit hour.

Grade C represents satisfactory achievement for undergraduates; represents unsatisfactory achievement for graduate students and is the minimum passing grade for which credit is conferred. It is valued at two (2) quality points for each credit hour.

Grade D represents unsatisfactory achievement for undergraduates and is the minimum grade for which credit is conferred; the grade is not to be used for graduate students. It is valued at one (1) quality point for each credit hour.

Grade E represents unsatisfactory performance and failure in the course. It is valued at zero (0) quality points and zero (0) credit hours. A student receiving this grade can obtain credit in the course only by repeating the entire work of the course in class, or by special examination in accordance with the procedures outlined under Special Examinations. In rare cases in which undue hardship is involved in repeating the work in class, the dean of the college in which the student is enrolled may approve repeating the work by correspondence.

Grade P represents a passing grade in a course taken on a Pass/Fail basis. It may also be assigned by the University Appeals Board in cases involving a violation of student academic rights. Credit hours successfully completed under this grade will count towards graduation but will not be used in calculating grade-point averages.

Grade F represents failure in a course taken on a Pass/Fail basis. It is valued at zero (0) quality points and zero (0) credit hours.

Grade AU represents a completion of a course attended on an audit basis. It is valued at zero (0) quality points and zero (0) credit hours.

Grade CR is a grade assigned to AP or CLEP scores indicating that credit has been assigned for a course. Credit hours will count towards graduation but will not be used in calculating grade-point averages.

Grade I—incomplete—means that part of the regularly assigned work of the course remains undone. It shall be conferred only when there is a reasonable possibility that the student can complete the work within the allowable period of time for removal of an **I** grade and that a passing grade will result from completion of the work. Except under exceptional circumstances, the student shall initiate the request for the **I** grade. An **I** grade shall not be conferred when the student's reason for incompleteness is unsatisfactory to the Instructor of Record.

A grade of **I** must be replaced by a regular final letter grade not later than 12 months from the end of the academic term in which the **I** grade was awarded or prior to the student's graduation, whichever occurs first. The Registrar's Office shall notify the Instructor of Record at least two months prior to expiration of the allowable period. The Instructor of Record can extend the allowable period for up to an additional 12 months by completing a grade assignment form. If the Instructor of Record is not available, the department chair or dean of the college in which the course is offered may complete a grade assignment form to extend the allowable period for up to 12 months. In the event the grade of **I** is not replaced by a regular final letter grade within the allowable period, the Registrar shall change the **I** grade to a grade of **E** on the student's permanent academic record and adjust the student's GPA accordingly. In the event that an **I** becomes an **E**, the Instructor of Record may submit a grade assignment form to replace the **E** within 12 months from the time the **E** was assigned. A graduate who had an **I** grade on his or her academic record at the time of graduation (and which grade was subsequently changed to an **E** by the Registrar) may be allowed a maximum of 12 months following the end of the semester, term or session in which the course was taken to satisfactorily complete the course and receive a grade change.

Each department is responsible for recording information for each incomplete, specifying:

1. the student name and student number;
2. the course and section number, hours of credit, semester, year, Instructor of Record;
3. the work to be completed and basis for grading;
4. the time frame for completing the incomplete (not exceeding 12 months); and
5. documentation that the student has been advised of the conditions for removing the incomplete.

This information shall be filed with the department chair or chair's designee. It is preferable that the information be signed and dated both by the student and the Instructor of Record. A standard form is available at the University Senate Web site, but each department is welcome to create its own form and scheme for recording this information.

The Instructor of Record shall provide a completed copy of this record to the student and the department chair at the time the **I** grade is reported. The term *student* in this context excludes only students in the Graduate School and the Colleges of Medicine and Dentistry.

Grade IP represents satisfactory work in progress in courses carrying no academic credit. It is valued at zero (0) quality points and zero (0) credit hours. The grade **IP** may be recorded for students in zero-credit courses of research, independent work, or seminar-type, if at the end of a semester the student, because of the nature or size of the project, has been unable to complete the course. The project must be substantially continuous in its progress. When the work is completed, a final grade will be substituted for the **IP**. This grade may not be conferred to a student who has done unsatisfactory work or to one who has failed to do a reasonable amount of work.

Grade N represents a temporary grade to be submitted for students who have been entered by the Registrar into official class rolls but have never attended class and who have not officially withdrawn. The Registrar shall remove their names from the official class roll and the student's enrollment in the class shall not be recorded in the student's official academic record. (As a temporary mark, **N** carries no credit hours or quality points).

Grade S represents a final grade in courses carrying no academic credit or in courses used for residency credit or dissertation/thesis credit. It is valued at zero (0) quality points.

Grade SI represents an interim grade in credit-bearing seminars, independent work courses, or research courses if these courses extend beyond the normal limits of a semester or summer term. This grade signifies that both the quality and quantity of the student's academic work were satisfactory during the applicable term. All **SI** grades must be replaced by a regular final letter grade prior to the Qualifying Examination or Final Examination for doctoral students or prior to graduation in all other cases As a temporary mark, **SI** carries no credit hours or quality points.

Grade UI represents an interim grade in credit-bearing seminars, independent work courses, or research courses if these courses extend beyond the normal limits of a semester or summer term. This grade signifies that the quality or the quantity of the student's academic work was unsatisfactory during the applicable term. All **UI** grades must be replaced by a regular final letter grade prior to the Qualifying Examination or Final Examination for doctoral students or prior to graduation in all other cases As a temporary mark, **UI** carries no credit hours or quality points.

Grade UN represents a final grade in courses carrying no academic credit, in graduate residence courses, or as an interim grade in specific types of courses for which a student has done unsatisfactory work or has failed to do a reasonable amount of work. It is valued at zero (0) quality points and zero (0) credit hours.

Grade XE represents failure in a course due to an academic offense. It is valued at zero (0) quality points and zero (0) credit hours. The repeat option may not be exercised for any course in which the grade of **XE** was received. A grade of **XE** normally may not be changed to a **W** by retroactive withdrawal, except upon appeal to the University Appeals Board as prescribed by University Senate Rules.

Grade XF represents failure in a course taken on a Pass/Fail basis due to an academic offense. It is valued at zero (0) quality points and zero (0) credit hours. The repeat option may not be exercised for any course in which the grade of **XF** was received. A grade of **XF** may not be changed to a **W** by retroactive withdrawal, except upon appeal to the University Appeals Board as prescribed by University Senate Rules.

Grade W denotes withdrawal from class. It may be assigned by the University Appeals Board in cases involving a violation of student academic rights. It is valued at zero (0) quality points and zero (0) credit hours.

Grade X. Reenrollment recommended (developmental courses only). It has no value in computing grade point average.

Grade Z. The grade **Z** means that the student has made significant progress but needs and deserves more time to achieve a passing level. The student should re-enroll in the course in order to continue advancement to a level of competence set for the course. Re-enroll grades may be assigned only for development courses numbered 000-099.

Official Withdrawal from a Course: Any student may withdraw from any class (except for those used to meet the Writing Requirement) during the withdrawal period which is defined as the period prior to and including the:

a. end of the eleventh week for fall or spring semester;

b. third day of the fifth week for eight-week summer session/term;

c. second day of the third week for four-week summer session/term.

Students who withdraw during the first three (3) weeks of the course in the fall or spring semester (or a proportionate amount of time in the summer term/session or other courses of less than a full semester's duration) shall be removed from the class roll, and no grade or record of enrollment shall appear on the student's transcript. Such withdrawal is also known as "dropping a course." Students who withdraw during the remaining portion of the withdrawal period will receive a grade of **W** which will appear on their transcripts.

A student may withdraw from a class or from the University after the withdrawal period but through the last day of the semester/session/term upon approval by the dean of the student's college of a petition certifying urgent nonacademic reasons including but not limited to:

a. illness or injury of the student;

b. serious personal or family problems;

c. serious financial difficulties; or

d. having excused absences in excess of one-fifth of the class contact hours in a course where attendance is required or is a criterion for a grade.

Before acting on such a petition, the dean will consult with the Instructor of Record of the class. The dean may not delegate the authority to approve or deny a petition to withdraw to the University Registrar or to any other agency external to his or her college. If such a petition is approved by the dean of the student's college, the dean shall inform in writing the Instructor of Record of the class of his/her action, and the student shall be assigned a grade of **W**.

Unilateral removal for failure to attend first two class periods. Students who miss the first two class periods of a course without notifying the department of their intention to attend may be reported by the department to the dean who shall remove the students from the class roll and notify the Registrar that the student has been removed from the class roll. The Registrar will inform such students that they have been removed. The students will have no record of the class appear on their transcripts.

Withdrawal to Enter Military Service: Students who withdraw (and within ten (10) days enter the Armed Services either mandatorily or voluntarily) after completing the twelfth week of the semester, the third week of the four week summer term, or the sixth week of the 8 week summer session, or later, shall be entitled to receive full credit and residence for the course. The grade report shall be that attained in the course up to the time of withdrawal. If, with the credit and residence time granted, the student has fulfilled all requirements for a degree, the student shall be recommended for that degree by the University Senate. If a comprehensive course examination is required for graduation, this requirement shall be waived.

Retroactive Withdrawal: Typically, a student may withdraw from a given semester only if the withdrawal is from all classes. A grade of **E, XE**, or **XF** assigned as a result of an academic offense may be changed to a **W** only by a petition to the University Appeals Board and only after a retroactive withdrawal for the semester in which the grade was assigned is granted. The student must demonstrate that the hardships enumerated in the request for the Retroactive Withdrawal also resulted in the academic offense in a manner that the student's culpability was severely diminished as a result.

Requests for retroactive withdrawals shall be made of the Dean of the college in which the student was enrolled at the time the classes were taken. The complete request shall be made before the student has graduated and not later than two calendar years from the last day of class for the semester for which the withdrawal is requested, unless the Senate Retroactive Withdrawal Appeals Committee votes to waive the two year limit. The fully complete request shall be submitted using the University Senate Retroactive Withdrawal Application that includes a form on which an instructor can offer feedback, along with the documentation required by the University Senate as described on that form. Retroactive withdrawals may be granted only when the student has demonstrated satisfactory evidence that the student has incurred:

a. a serious injury or illness;

b. serious personal or family problems;

c. serious financial difficulties; or

d. permanent disability verified by the Disability Resource Center and diagnosed after the semester for which the withdrawal is requested.

Audit. Students who register for an audit do so for reasons other than fulfilling explicit requirements. They must come to individual agreements with the instructor as to what responsibilities they will be expected to perform. Normally, students who audit would be expected to do the readings and attend class; they may be required to enter more fully into the class work. In any case, they will receive no credit hours or grades. Any change from audit to credit or credit to audit by a student regularly enrolled in a college must be accomplished within three (3) weeks from the beginning of classes in the fall or spring semester (or a proportionate amount of time in the summer term/session or other courses of less than a full semester's duration). No credit can be conferred for a class audited nor is a student permitted to take an examination for credit except for the special examinations described on page 78 under "Special Examinations". A student who initially enrolls in a class as an auditor must attend at least 80 percent of the classes in the course (excluding excused absences). If a student changes her or his enrollment from credit to audit, s/he must attend at least 80 percent of the remaining classes (excluding excused absences). If an auditor fails to attend the requisite number of classes, the Instructor of Record may request that the Dean of the instructor's college award a grade of **W** for that course and the Dean shall report the grade to the Registrar. No instructor is authorized to admit anyone as an auditor to any classes unless the auditor has registered as such.

Repeat Option

An undergraduate student has the option to repeat once as many as three different completed courses (including special exams as described on page 82) with only the grade, credit hours, and quality points for the second completion used in computing the student's academic standing and credit for graduation. The limit of three repeat options holds for a student's entire undergraduate career (including when academic bankruptcy is exercised as described on page 84), no matter how many degrees or programs are attempted. A student may

not use the repeat option when retaking a course on a Pass/Fail basis if the course was originally taken for a letter grade.

A student exercising the repeat option must consult the student's advisor and must notify the Office of the Registrar. A student may exercise the repeat option at any time prior to graduation and must be enrolled at UK.

If a student officially withdraws from the second attempt, then the grade, credit hours, and quality points for the first completion constitute the grade in that course for official purposes. Permission to attempt again the same course may only be granted by the Instructor of Record and the dean of the college in which the student is enrolled. (**Note:** The repeat option cannot be used to raise the student's standing for admission to the University of Kentucky Graduate School.)

The repeat option may be exercised only the second time a student takes a course for a letter grade, not a subsequent time (excluding audits).

The repeat option shall not be exercised for any course in which the grade of **XE** or **XF** was received.

Pass/Fail Option

Undergraduate students above the freshman level and not on academic probation may select a maximum of four (4) elective courses, with certain restrictions, to be taken on a Pass/Fail basis. Students in the Honors Program above the freshman level may, with advance written approval of the Director of the Honors Program, select additional elective courses to be taken on a Pass/Fail basis. Credit hours successfully completed under this option shall count toward graduation but shall not be used in calculating GPA.

Courses taken on a Pass/Fail basis (including transfer courses) shall be limited to those considered as elective in the student's program and such other courses or types of courses as might be specifically approved by the Senate Council for a college or department. Prerequisites for such courses may be waived with the consent of the Instructor of Record. Students are expected to participate fully in these courses and to take all examinations. Any student may change his or her grading option (Pass/Fail to letter grade or letter grade to Pass/Fail; credit to audit or audit to credit within three (3) weeks from the beginning of classes in the fall or spring semester (or a proportionate amount of time in the summer term/session or other courses of less than a full semester's duration). After such time, a student may not change his or her grading option without the express approval of the student's academic dean or the dean's designee. The waiver and the rationale for the waiver must be documented in the student's record in the college.

Courses offered only on a Pass/Fail basis shall not be included in the maximum number of elective courses which a student may take under these provisions.

The Instructor of Record shall not be notified by the Office of the University Registrar or by another office of the University of those students who are taking the course Pass/Fail. The Instructor of Record shall submit a regular letter grade to the Registrar's Office which will take the appropriate action to change the grade into Pass/Fail grading track for records. Neither a grade of **P** nor a grade of **F** shall be taken into consideration in calculating a student's GPA, except as described in Senate Rule 5.1.2.1.

Giving a **P/F** credit for AP tests and for CLEP tests does not mean that students may elect to take a required course for **P/F**. If the student elects to take the course he or she must get a letter grade to satisfy the UK Core requirements.

Temporary Notations

Course in Progress. Three dashes (---) appear in a grade report prepared during the term in which the student is enrolled in the course. It is to be replaced by a final grade. The Registrar shall notify all unit or program heads at the end of each semester regarding "Course in Progress" notations (---) in all courses offered by that unit or program. The unit or program head shall have six weeks from the date of notification by the Registrar to assign a grade in the course. If no change is made by the unit or program head, the "Course in Progress" notation (---) will be replaced with a "Missing Grade" notation (***).

Missing Grades. Three asterisks (***) appear in a grade report when no grade has been reported to the Registrar. The Registrar shall notify all unit or program heads at the end of each semester or term regarding all "Missing Grade" notations (***) in all courses offered by that unit or program. If a missing grade notation can be replaced with a grade, it should be done as promptly as possible.

Procedures for Changing Temporary Notations. The unit or program head will consult, if possible, with the Instructor of Record for the course when assigning a grade. The Registrar shall notify the student at the student's address of record of any assignment of a grade. Appeals shall be taken to the Academic Ombud.

Grade-Point Average (GPA)

GPA is the ratio of the number of quality points gained to the number of credit hours (whether earned or not) in courses for which the grades **A**, **B**, **C**, **D**, or **E** were conferred, excluding grades in developmental or remedial courses.

If a student repeats a course in which a grade of **B** or better has been received, any subsequent grades of **B** or better and credit hours earned for those courses (if any) shall be ignored in computing the student's grade-point average, unless the repeat option has been exercised according to Rule 5.3.1.1. A student does not repeat a course within the meaning of this rule if he or she only repeats the same course number where there are multiple topics, subtitles, independent study, or other courses allowed by the student's program using a common course number.

Credit hours are considered as earned only if a grade of **A**, **B**, **C**, **D**, **P**, or **S** was conferred.

EXCEPTIONS TO THE GRADING SYSTEM

Design and Landscape Architecture

Students enrolled in courses numbered 800 or higher in the College of Design or the Program in Landscape Architecture in the College of Agriculture, Food and Environment shall be conferred the following grades with the respective quality point value indicated:

A 4.0	**B+** 3.3	**C+** 2.3	**D+** 1.3	**E** 0
A- 3.7	**B** 3.0	**C** 2.0	**D** 1.0	
	B- 2.7	**C-** 1.7	**D-** 0.7	

The use of the plus-minus system does not change any college or university GPA requirement, nor the method by which GPAs are computed, nor the interpretations of other grades awarded, such as **F**, **I**, **P**, **W**, and **S**.

All students enrolled in courses using the plus/minus grading system will have the appropriate point value calculated into their GPA regardless of their college of origin.

For all studio work in the School of Architecture, the minimum passing grade from level to level in the studio sequence shall be a grade of **C**.

In the Program in Landscape Architecture, students must earn a **C** grade or better in major design studios in order to advance to the next level in the curriculum.

College of Dentistry

An **A**, **B+** or a **B** is within the expected range of performance. A **C** is a marginal level of performance. To remain in good academic standing and to graduate, a student must maintain a grade-point average (GPA) of 2.75 or more. Student performance will be reported to the University Registrar's Office as follows:

A represents exceptionally high level of performance; four (4) quality points are awarded to each credit hour.

B+ represents a high level of performance; three and one-half (3.5) quality points are awarded for each credit hour.

B represents the minimum expected level of performance; three (3) quality points are awarded for each credit hour.

C represents a marginal level of performance; two (2) quality points are awarded for each credit hour.

E represents an unacceptable level of performance; zero (0) quality points are awarded for each credit hour.

P represents a passing grade in courses taken on a Pass/Fail basis. It is not used in GPA calculations.

F represents an unacceptable level of performance in courses taught on a Pass/Fail basis. It is not used in GPA calculations.

I – incomplete – course objectives have not been completed during the allotted course time due to circumstances usually beyond the student's control. An **I** grade shall be conferred only when there is a reasonable possibility that a passing grade will result when work is completed. An **I** must be replaced by another grade within 12 months or before graduation, whichever occurs sooner. After this period, an **I** grade will automatically convert to an **E** or an **F** grade as appropriate.

W – withdrawn – this grade will be awarded to a student who withdraws from a course or from the college. It shall be awarded only after recommendation by the Academic Performance Committee and approval by the dean.

College of Law

The College of Law uses a special letter grading system in which the following grades are conferred with the respective quality point values indicated:

A+	4.3	**B+**	3.3	**C+**	2.3	**D+**	1.3	**E**	0
A	4.0	**B**	3.0	**C**	2.0	**D**	1.0		
A-	3.7	**B-**	2.7	**C-**	1.7	**D-**	0.7		

A student's academic grade record is expressed as a grade-point average computed by multiplying the semester hours of credit for each course by the quality point value of the grade received in the course. These products are added together, and the sum is divided by the total semester hours attempted. The grade-point average thus derived is the basis for each student's academic status as indicated in the published rules and policies of the College of Law Faculty.

Selected College of Law courses are graded on a Pass/Fail basis, and law students enrolled in courses enrolled in graduate school courses for which the College of Law grants credit toward graduation are treated by the College of Law as Pass/Fail courses. A failing grade (**F**) in any Pass/Fail course in the College of Law or any graduate school course in which a student in the College of Law enrolls for credit toward graduation from the College of Law will be taken into account at a quality point value of zero (0) in computing the student's grade-point average.

Pass/Fail Policy for College of Law

Students in the College of Law are bound by the following:

a. No more than 6 hours of graduate courses outside of the College of Law, graded on a Pass/Fail basis, shall be counted.

b. No more than 6 hours of courses in the College of Law that are offered only on a Pass/Fail basis shall be counted.

c. No more than 9 of the total number of Pass/Fail credit hours, whether earned for graduate school courses under (a) or for College of Law courses offered only on a Pass/Fail basis under (b), shall be counted.

d. No more than one graduate school course outside the College of Law, graded on a Pass/Fail basis, may be credited in any one semester.

Students in joint degree programs may only take up to six Pass/Fail course credit hours in the law school courses and may take no courses outside the College of Law for credit toward the J.D. other than pursuant to the applicable joint degree program.

College of Medicine

All professional program (MD degree) courses in the College of Medicine will determine a minimum level of competency. Courses taken for grade will reflect student performance with a numeric value of three significant digits between 0.700 and 1.00 (70.0%-100%) for those students achieving minimum competency. The course performance will be valued at the achieved numeric performance for each credit hour. Students failing to achieve minimum competency will receive one of the grades below. For courses taken on a Pass/Fail basis, the achievement of minimum competency will be the only determination.

Class rank will be determined by multiplying the numeric value assigned for each course by the total number of credit hours for that course and summing all courses taken for grade. Pass/Fail courses will not contribute to determination of class rank.

E represents failure to achieve minimum competency and unacceptable performance in a numerically graded or Pass/Fail course. It is valued at zero (0) quality points for each credit hour.

P represents achievement of minimum competency and a passing grade in a course taken on a Pass/Fail basis. It is not used in quality point calculations.

W denotes withdrawal from the college or from an elective course. **W** must be approved or recommended by the Student Progress and Promotion Committee. Withdrawal from a required course is not permitted, except when a student withdraws from the college. A student may withdraw from an elective and the **W** will remain on the record.

U represents unsatisfactory performance in a specific area of course requirements. It is conferred instead of an **E** grade when evidence exists that the student might earn a passing grade (0.700 or above) upon completion of make-up work. In the interim the **U** will be valued between 0.600 and 0.699 depending on student performance for each credit hour. The temporary grade must be replaced with a permanent grade before the student can be promoted to the next year of the curriculum. The quality point calculation will then utilize the numeric grade conferred after the make-up. Failure to satisfactorily make up the work will result in the assignment of an **E** grade as described above.

I represents incomplete work at the time grades are submitted for courses. It is conferred only when there is a reasonable possibility that a grade of **C** or better will be earned upon completion of the work. All **I** grades in required courses must be replaced by a passing grade before a student can be promoted to a subsequent year. If a student later withdraws from the College, an outstanding '**I**' grade can revert to a **W** grade at the discretion of the Student Progress and Promotion Committee.

College of Pharmacy – Experiential Course Work

Grades in all experiential course work in the professional curriculum (i.e., Introductory Pharmacy Practice Experiences, IPPE I and IPPE II; and Advanced Pharmacy Practice Experiences, APPE) are assigned on the following basis:

PH – Pass with Honors. Represents exceptionally high achievement in all course requirements as a result of aptitude, effort and intellectual initiative. Credit hours under this grade will count towards graduation, but will not be used in calculating grade-point averages.

P – Pass. Represents high achievement as a result of ability and effort and reflects student competence in all course requirements. Credit hours under this grade will count towards graduation, but will not be used in calculating grade-point averages.

F – Fail. Represents a marginal or unsatisfactory level of achievement in any of the course requirements. Credit hours under this grade will not count towards graduation but will be used in calculating grade-point averages.

OTHER REGULATIONS

Definition of a Major

A major is a primary area of study defined by a set of course and/or credit hour requirements within specified disciplines. Within degree programs, majors may be further defined by requirements in an area of emphasis (also known as an "option").

Undergraduate Major Requirements

Students at the University of Kentucky who have not chosen a major or been admitted to a selective admissions college and who have earned at least 45 credit hours should meet regularly with an advisor who will help the student to choose a major or seek admission to a selective admissions college. Students at the University of Kentucky who have not chosen a major or been admitted to a selective admissions college and who have earned at least 60 credit hours will not be permitted to register for classes, except registration will be permitted for the following students if they have earned no more than 75 credit hours:

1. Students lacking specific courses to gain admission to a college or to declare a particular major who have a written commitment from the college of their choice to accept them upon successful completion of specified courses;
2. Students who have been dropped from a college for academic reasons, or who have been readmitted or transferred to the University of Kentucky.

This rule may be waived by the dean of the college in which the student is currently enrolled or into which the student wishes to transfer or be readmitted.

Language Limitations for Foreign Students

Students whose native language is other than English and who have had formal instruction in schools of their own country shall not be permitted to take elementary, intermediate or conversation courses or examinations for credit in that language.

Late Registration

After the sixth day of classes for a 15-week semester term or a proportionate number of days for shorter terms as determined and published by the Registrar, no student may register for an organized class without written permission from the student's academic dean (or dean's designee) and the course instructor. The college in which the course is listed may require additional approval. The waiver and the rationale for the waiver must be documented in the student's record in the college.

The Registrar may set a later date for final registration in classes that do not start on the first day of a semester or a summer session, or for the registration of a group of students who were not present at the regular registration time.

Participation in Intercollegiate Athletics

The University accepts the eligibility rules for intercollegiate athletics as set up by the Southeastern Conference, National Collegiate Athletics Association, Region II, the Association of Intercollegiate Athletics for Women, and the Kentucky Women's Intercollegiate Conference.

Attendance and Completion of Assignments

For each course in which the student is enrolled, the student shall be expected to carry out all required work including laboratories and studios, and to take all examinations at the class period designated by the instructor.

Each instructor shall determine the policy regarding completion of assigned work, attendance in class, absences at announced or unannounced examinations, and excused absences in excess of one-fifth of class contact hours. This policy shall be presented in writing to each class at its first or second meeting. Students' failure to comply with the announced policy may result in appropriate reductions in grade as determined by the Instructor of Record.

Excused Absences

A student shall not be penalized for an excused absence. The following are defined as excused absences:

1. Significant illness of the student or serious illness of a member of the student's household (permanent or campus) or immediate family. The Instructor of Record shall have the right to request appropriate verification.
2. The death of a member of the student's household (permanent or campus) or immediate family. The Instructor of Record shall have the right to request appropriate verification. For the purpose of this rule, immediate family is defined as spouse or child or parent (guardian) or sibling (all of the previous include steps, halves and in-laws of the same relationship); and grandchild or grandparent.
3. Trips for members of student organizations sponsored by an educational unit, trips for University classes, and trips for participation in intercollegiate athletic events, including club sports registered with the university as well as varsity sports. When feasible, the student must notify the Instructor of Record **prior to** the occurrence of such absences, but in no case shall such notification occur more than one week after the absence. Instructors of Record may request formal notification from appropriate University personnel to document the student's participation in such trips.
4. Major Religious Holidays. Students are responsible for notifying the Instructor of Record **in writing** of anticipated absences due to their observance of such holidays no later than the last day for adding a class. For additional information on excused absences due to the observance of major religious holidays; visit:
   www.uky.edu/Ombud/ForStudents_ReligiousHolidays.php
5. Any other circumstance which the Instructor of Record finds reasonable cause for absence.

Students missing any graded work due to an excused absence bear the responsibility of informing the Instructor of Record about their excused absence within one week following the period of the excused absence (except where prior notification is required), and of making up the missed work. The Instructor of Record shall give the student an opportunity to make up the work and/or the exams missed due to an excused absence, and shall do so, if feasible, during the semester in which the absence occurred. The student shall be given the opportunity to make up exams missed due to an excused absence during the semester in which the absence occurred, if feasible. In those instances where the nature of the course is such that classroom participation by the student is essential for evaluation, the instructor shall, if feasible, give the student an opportunity to make up the work missed during the semester in which the absence occurred.

If attendance is required by the class policies elaborated in the syllabus or serves as a criterion for a grade in a course, and if a student has excused absences in excess of one-fifth of the class contact hours for that course, a student shall have the right to petition for a **W**, and the Instructor of Record may require the student to petition for a **W** or take an **I** in the course.

Dead Week

1. The last week of instruction of a regular semester is termed "Dead Week." This term also refers to the last three days of instruction of a summer session, a summer term and a winter intersession.
2. In cases of "Take Home" final examinations, students shall not be required to return the completed examination before the regularly scheduled examination period for that course.
3. No written examinations, including final examinations, may be scheduled during Dead Week.
4. No quizzes may be given during Dead Week.
5. No project/lab practicals/paper/presentation deadlines or oral/listening examinations may be scheduled to fall during Dead Week unless it was scheduled in the syllabus AND the course has no final examination (or assignment that acts as a final examination) scheduled during Finals

Week. A course with a lab component may schedule the lab practical of the course during Dead Week if the lab portion does not also require a Final Examination during Finals Week.

6. Make-up exams and quizzes are allowed during Dead Week; these are exempt from the restrictions stated in 3, 4, and 5 above.
7. Class participation and attendance grades are permitted during Dead Week.

Final Examinations

If a final examination is given, it is to be administered during the examination period as scheduled by the Registrar for the semesters of the regular school year. These examination periods utilize the last five days of each semester, and are preceded by a study day or weekend on which no classes or examinations for weekday classes are scheduled. Final examinations for weekend classes will be administered the weekend before this five day period and need not be preceded by a study day.

Final examinations, where appropriate, are administered during the last class day of the intersession and the summer session/term.

Final examinations may be given at times other than the regularly schedule times in the following instances:

Faculty: In the case of conflicts or undue hardship for an individual instructor, a final examination may be rescheduled at another time during the final examination period upon the recommendation of the chair of the department and with the concurrence of the dean of the college.

Students: Any student with more than two final examinations scheduled on any one date is entitled to have the examination for the class with the highest catalog number rescheduled at another time during the final examination period. In case this highest number is shared by more than one course, the one whose departmental prefix is first alphabetically will be rescheduled. The option to reschedule must be exercised in writing to the appropriate Instructor of Record or his/her designee two weeks prior to the last class meeting.

If a conflict is created by rescheduling of an examination, the student is entitled to take the rescheduled examination at another time during the final examination period. In the case of undue hardship for an individual student, a final examination may be rescheduled by the instructor.

Common Examinations

A student enrolled in a course where a common exam is scheduled may also enroll in a class scheduled in the time slot of the common exam.

If a student has a course scheduled at the same time as a common exam and the student has given written notice of the conflict to the instructor at least two weeks prior to the common exam, the student shall be entitled to an excused absence from the conflicting common examination.

Common Examinations Scheduled for the Same Time

Any student for whom two examinations have been scheduled for the same time shall be entitled to have the examination for the class with the highest catalog number rescheduled. In case both classes have the same number, the one whose departmental prefix is first alphabetically will be rescheduled. The option to reschedule must be exercised in writing to the appropriate instructor two weeks prior to the scheduled exam.

Special Examinations

Any full-time or part-time student enrolled in the University, and in good academic standing, has the right to request a special examination for credit in many courses offered (check with the offering department), regardless of whether the student has audited the course, is currently enrolled in it, or has studied for it independently. Please note, most elementary and intermediate foreign language courses are not available on the basis of a special examination.

Application for a special examination must be made in writing. (Students should obtain application forms in the Registrar's Office.) Undergraduates should address requests to the chair of the department in which the course is given, or to the office of the educational unit responsible; graduate students, to the Director of Graduate Studies in the department in which the course is given. Approval of requests from undergraduate students rests with the department chair; from graduate students, with the Dean of the Graduate School, acting upon recommendation of the Director of Graduate Studies.

The request for special examination may be denied by the department chair or the office of the educational unit responsible, or the Dean of the Graduate School acting upon recommendation of the Director of Graduate Studies, if it is decided that the student has not furnished evidence that he or she is reasonably prepared to take the examination, or that the course is of such a nature that credit by examination is inappropriate. (The fact that a student has failed the course within the last semester may be regarded as evidence that the student is unprepared to take a special examination.)

The examiner designated by the educational unit may schedule the examination at his or her convenience, but must offer it within a reasonable time after the student has submitted his or her request.

The examiner shall inform the Registrar of the student's grade in the course. A student currently enrolled in the class who successfully completes a special examination will be formally removed from the official roll by the Registrar, unless the student is dissatisfied with the results, in which case he or she may continue in the course and be graded in the usual manner. The examiner then may or may not include the results of the special examination in computing the final grade.

Credit earned by special examination may be counted as residence credit by the dean of the student's college. The limits on maximum loads are waived in cases where the excess is due to special examination credits.

The student, with the educational administrator's consent, may take the special examination on a Pass/Fail basis, including any course not otherwise available under the Pass/Fail option. Credit derived in this manner does not reduce the number of courses permitted under the Pass/Fail rules.

ACADEMIC REQUIREMENTS AND EXPECTATIONS

Grade Appeals

If a student believes that he or she has been graded unfairly on a particular paper, test, or other assignment, or if the student believes that his or her final course grade is unfair, the student is expected to share those concerns with the instructor of the course and/or the chair of the department where the course is taught. If the student's issues are not resolved in conversation with the instructor and department chair, the student may contact the Office of the Academic Ombud at (859) 257-3737 or **Ombud@uky.edu**. The Academic Ombud will discuss the matter with the student to assess the merit of the complaint. If the Academic Ombud agrees that the complaint has merit, the Ombud, with the student's permission, will contact the instructor and attempt to resolve or mediate the dispute.

If a student's grade dispute involves a **final grade** and the Ombud cannot resolve the issue informally, a student is entitled to have the University Appeals Board hear the complaint. That body is the only University entity that can modify a grade. If a student wishes to file an appeal with the University Appeals Board, the student will be asked by the Ombud to prepare a written appeal. The Ombud will also approach the instructor for his or her perspective. If the Ombud determines that the appeal has merit, the matter will be sent to the University Appeals Board for a hearing. If the Ombud determines that the case does not have merit, the student will be notified in writing and will then have 30 days to appeal to the University Appeals Board directly, requesting that a hearing be granted. **It is important to know that there is a 180 day statute of limitations for grade appeals**. The Academic Ombud is empowered to hear only those grievances directed to the Office of the Academic Ombud within 180 days subsequent to the conclusion of the academic term in which the problem occurred.

Course Syllabus

The course syllabus is the first indicator of an instructor's expectations. The syllabus contains a detailed description of both course content and assignments.

It functions as an academic "contract" between an instructor and the students in his or her class. It must be provided to students free of charge and distributed to student on the first or second meeting of the class. A course syllabus may be posted electronically, although it must be available online by the first class meeting of the semester and the syllabus must remain available electronically for the entire semester.

The syllabus must provide relevant details about regularly scheduled office hours during which students may seek consultation and advice. It must also provide information about all course-related policies, such as the instructor's policy on attendance or make-up exams.

Academic Integrity

Students are expected to pursue their studies with steadfast commitment to intellectual honesty and personal integrity. The University defines as an academic offense any act of plagiarism, cheating, or falsification or misuse of academic records.

Plagiarism. All academic work, written or otherwise, submitted by students to their instructors or other academic supervisors, is expected to be the result of their own thought, research, or self-expression. In cases where students feel unsure about a question of plagiarism involving their work, they are obliged to consult their instructors on the matter before submission.

Cheating. Cheating is defined by its general usage. It includes, but is not limited to, the wrongfully giving, taking, or presenting any information or material by a student with the intent of aiding himself/herself or another on any academic work which is considered in any way in the determination of the final grade.

Falsification or Misuse of Academic Records. Maintaining the integrity, accuracy, and appropriate privacy of student academic records is an essential administrative function of the University and a basic protection of all students. Accordingly, the actual or attempted falsification, theft, misrepresentation or other alteration or misuse of any official academic record of the University, specifically including knowingly having unauthorized access to such records or the unauthorized disclosure of information contained in such records, is a serious academic offense. As used in this context, "academic record" includes all paper and electronic versions of the partial or complete permanent academic record, all official and unofficial academic transcripts, application documents and admission credentials, and all academic record transaction documents.

All incidents of cheating and plagiarism are taken very seriously at the University of Kentucky, and there are specific policies and procedures in place to prosecute them. A student accused of an academic conduct offense may not withdraw from the class in which the academic conduct violation is alleged to have occurred.

If a student is formally accused of and found responsible for an academic offense, the individual will be informed in writing and given 10 days to appeal the ruling by contacting the Office of the Academic Ombud. Penalties for academic offenses range from a zero on the assignment (for a first offense) to suspension or expulsion. A record of an academic offense for which a student is found responsible will be filed in the University Registrar's Office, and in some cases may be recorded on the offending student's transcript. A student charged with an academic offense may contact the Office of the Academic Ombud for an explanation of the procedural steps in cases involving academic offenses, including the processes for appealing one's responsibility or the severity of the sanction being imposed.

Students shall have the right to attend classes, to pursue their academic programs, and to participate in University functions during the consideration of any appeal.

Academic Rights of Students

Students attending the University of Kentucky are afforded a set of academic rights. A summary of those academic rights is found below. The comprehensive source for the academic rights of students is found in the University Senate Rules (**click here** to go to Senate Rules). Any issue regarding an interpretation of those academic rights will be determined finally by the language in the Senate Rules, not this summary. A student who believes his or her academic rights have been violated should contact the Office of the Academic Ombud.

Students have the right to expect that:

- all instructors will provide students with a written class syllabus by the first or second class meeting outlining the nature of the course content, the activities to be evaluated, and the grading practice to be followed.
- all instructors will permit students to express **reasoned** contrary opinions in their classes without being penalized.
- all instructors will award grades based only upon fair and just evaluation measured by the standards outlined in the syllabus. Grades will never be based on "irrelevant considerations," such as sex, sexual orientation, race, ethnic origin, religion, age, etc.
- a student's academic records will be kept confidential and access will be authorized by University personnel for official use only.

A student who believes that his or her academic rights have been violated is encouraged to talk with the instructor or the chair of the department where the course is taught. The student may also contact the Office of the Academic Ombud for assistance in addressing those concerns.

Religious Observances

The University strives to create an environment where students of all different religious views are welcome. If a student needs to miss class in order to fulfill a bona fide religious observance or practice, he or she should inform the instructor, who will treat it as an excused absence. If the religious observance or practice makes it difficult or impossible for a student to take an exam or to complete a graded assignment by the scheduled due date, the student's instructor, if given sufficient notice, will give the student the opportunity to make up the work. Instructors will note in their syllabi how much notice they require from students who are requesting accommodations due to religious observances or practices.

Discrimination and Harassment

The University is committed to maintaining an environment free of prohibited discrimination, which includes sexual and other forms of harassment. Discrimination and harassment are prohibited between members of the University community and are not tolerated. The Office of Institutional Equity and Equal Opportunity is the University office charged with handling reports of discrimination and for developing procedures for the investigation and resolution of reports. A report of discrimination may also be initiated by contacting any dean, director, faculty member, department head, manager, supervisor, or other individual with administrative responsibility. Any such individual who receives a report of discrimination shall contact the Office of Institutional Equity and Equal Opportunity (859-257-8927) as soon as possible after receiving the report.

SCHOLASTIC PROBATION, ACADEMIC SUSPENSION AND REINSTATEMENT

General Regulations for Undergraduate Students

Academic Probation and Suspension

The academic probation and suspension standards that are used to determine a student's academic standing University-wide are based on grade-point average.

Individual colleges may establish policies regarding academic probation and suspension with regard to a student's academic standing within the college in addition to the University-wide policies prescribed in Senate Rule 5.3.1. If a college establishes such a policy, the policy must be approved by the University Senate and made available in writing to the students.

A student suspended from a college or program may transfer to another college or program which has a 2.0 grade-point average admission requirement for transfer students, even if the student has a GPA lower than 2.0, provided he or she is not subject to the provisions for suspension from the

University. However, the student must meet all other admission criteria established by the college or program. If the student would have been placed on academic probation by the college to which he or she is transferring had he or she been previously enrolled in that college, then the college may place the student on probation at the time of admission.

Academic Probation

Students are placed on probation if:

1. Their cumulative grade-point average (GPA) falls below 2.0. Students on probation for this reason who achieve a cumulative 2.0 GPA or higher shall be removed from probation.
2. They have two consecutive UK academic terms with term GPAs below 2.0 regardless of their cumulative GPA. Students who achieve a 2.0 or better in the next term and have a cumulative GPA of 2.0 or higher will be removed from probation.
3. If the student has completed all the academic and procedural requirements for the degree while still maintaining an overall GPA of 2.0 or higher (or the minimum GPA established by a specific college), the degree shall be awarded and the student placed in good standing.
4. The Summer Session and Summer Term are considered two separate academic terms and are subject to the same probation and suspension provisions as Spring and Fall.

Removal from Probation

Except as provided for by specific college probation policy, an undergraduate student may be removed from probation by the dean of the college when the student on scholastic probation has earned 90 semester hours (senior standing), and at the end of a semester or session has a cumulative grade-point standing of 2.0.

Academic Suspension

Students are suspended if:

1. They fail to earn a 2.0 term GPA for any term while on probation;
2. They have three consecutive UK terms in which their cumulative GPA remains below 2.0;

   or

3. Their GPA is below 0.6 after their first term, if the semester's GPA is based on at least 9 hours of grades, **A**, **B**, **C**, **D** or **E**.

Notwithstanding the provisions above, in the case of a student eligible for suspension, the dean of the student's college may continue a student on academic probation if the individual case so justifies with notification to the Director of Undergraduate Studies.

General Rules Pertaining to Students Under Academic Suspension

A student academically suspended from the University may not enroll in any courses offered by the University nor take any special examination for University credit.

A student academically suspended from the University a second time shall not be readmitted to the University except in unusual circumstances and then only upon recommendation of the dean of the college in which the student plans to enroll and approval of the University Senate Council.

Once reported to the Registrar, an academic suspension may be rescinded by the dean only in the event of an error in the determination of the student's eligibility for suspension, an official grade change that alters the student's suspension eligibility, or exceptional circumstances.

Reinstatement

After they have remained out of the University for at least a semester and a summer session (a semester for students academically suspended at the end of a summer session), students who have been academically suspended may only be reinstated by the dean of the college in which they plan to enroll when they present evidence that they are capable of performing at the level required to prevent being suspended a second time. After being reinstated, students must apply for readmission to the University.

General Rules for Reinstated Students

A student who has been academically suspended shall, upon reinstatement, be placed on scholastic probation and be subject to final academic suspension from the University if:

1. They acquire any additional deficit during any semester or session while on academic probation;
2. They have failed to meet the requirements for removal from academic probation by the end of the third semester following the reinstatement.

Once reinstated students have been removed from scholastic probation, they will be subject to the same conditions for subsequent academic suspension as students who have not previously been academically suspended.

Readmission After Two or More Years (Academic Bankruptcy)

Undergraduate students who have been readmitted through the usual channels after an interruption of two or more continuous years, and who have completed at least one semester or 12 hours with a GPA of 2.0 or better, beginning with the semester of readmission, may choose to have none of their previous University course work counted toward graduation and in the computation of their GPAs. Enrollment for a semester, when terminated by a withdrawal before completion of the semester (grades all **W**s), in the two years preceding readmission is not an interruption. Under this circumstance, a student **cannot** invoke the academic bankruptcy rule.

In addition, the dean of the student's college may permit such a readmitted student who has elected not to count past work to receive credit for selected courses without including those grades in the computation of the student's GPA (cumulate or otherwise).

Part-time as well as full-time students can take advantage of the academic bankruptcy rule. Students need not have been originally suspended from the University to qualify for this option.

In calculating the 2.0 GPA, a student must have taken all of the 12 hours necessary to apply for bankruptcy for a letter grade. Course numbers ending with a suffix of R, if taken for a letter grade, shall count toward the 12-hour minimum of eligibility for bankruptcy under this rule.

If a student has completed a degree and re-enrolls, he/she may not apply the academic bankruptcy rule to courses taken for the degree already completed.

The Academic Bankruptcy option may be used only once.

SPECIFIC PROBATION AND SUSPENSION POLICIES FOR INDIVIDUAL COLLEGES

College of Design

A student may be placed on probation in the College of Design or suspended from the College of Design, but not necessarily the University, according to the College of Design standards that follow.

A student enrolled in the College of Design who is placed on college probation may continue with studies in the college and university subject to general University regulations concerning academic standing. A student enrolled in the College of Design who is suspended from the college may not take classes offered in the College of Design until reinstated. A student who is suspended from the College of Design may take classes outside the college subject to general University regulations concerning academic standing.

A grade of **C** or higher is required to advance to the next level of studio in the College of Design. A grade below **C** in an architectural design studio is considered unacceptable for majors in the College of Design. A student who earns a grade below **C** in a design studio will be placed on College probation. This

probation will be removed when the student earns a grade of **C** or higher in the same studio.

A student will be suspended from the college for:

1. failing to earn a grade of **C** or higher in a particular architectural design studio for the second time or
2. failing to earn a grade of **C** or higher in a particular design studio in its first or second offering after the semester in which the student earned a grade below **C** in that studio, provided the student remains in the University, except that students are not required to enroll in summer sessions or
3. failing to earn a grade of **C** or higher in any design studio while the student is on University probation for two or more consecutive semesters.

Provision 3 does not apply to first year architectural design students.

College of Design rules on probation and suspension may be waived by the Dean of the College of Design under extraordinary circumstances, with notification to the Faculty.

A student who has been suspended from the College of Design may petition the Dean for reinstatement after a period of no less than 12 months.

College of Engineering

Probation and Academic Suspension

The following rules apply to the College of Engineering.

1. Any engineering student who has completed two or more semesters at UK and who fails to maintain a cumulative UK GPA of 2.0 or higher will be suspended from the College of Engineering and will not be readmitted until this GPA is 2.0 or higher.
2. Any student enrolled in the College of Engineering who earns a UK GPA of less than 2.0 in any semester will be placed on academic probation.
3. Any student on academic probation who fails to earn a 2.0 or higher semester GPA will be suspended from the College of Engineering and will not be readmitted until he or she has obtained a semester GPA of 2.0 or higher for one semester and the student's cumulative UK GPA is 2.0 or higher.
4. Students who are suspended twice from the College of Engineering will not be readmitted.

The Graduate School

When graduate students have completed 12 or more semester hours of graduate course work with an average of less than 3.0, they will be placed on academic probation. Students will have one semester to remove the scholastic probation by attaining a cumulative 3.0 average in graduate course work. If the probation is not removed, the student will be dismissed from The Graduate School.

A student who has been dismissed from The Graduate School for these reasons may reapply for admission to The Graduate School after two semesters or one semester and the eight-week summer term.

Exceptions to this policy can be made only by the Graduate Dean.

With the approval of the Graduate Dean, a student may repeat a graduate course and count only the second grade as part of the graduate grade-point average. This action will be initiated by petition of the Director of Graduate Studies and may be done only once in a particular degree program or in post-baccalaureate status.

College of Health Sciences

Undergraduate Program Probation

A College of Health Sciences (CHS) student is placed on **CHS probation** if the student earns a grade-point average (GPA) of less than 2.0 in any given term (semester), even if the student's cumulative UK GPA is 2.0 or higher. Students on **CHS probation** are required to meet with their academic advisor and develop a remediation plan.

There are two possible scenarios for the student placed under probation/ remediation:

Scenario 1: The student successfully completes the remediation plan, earning a semester GPA of 2.0 or higher **and** earns at least a grade of **C** (2.0) in each course required for the major (pre-requisite courses and major courses).

At this point, the student is **removed from CHS probation** and regains good standing status in the College.

Scenario 2: The student does not successfully complete the remediation plan and fails to meet any or all requirements for removal of probation.

Undergraduate Program Suspension

A CHS student may be suspended for any of the following reasons:

1. The student fails to successfully complete a probationary remediation plan.
2. The student earns a GPA of less than 2.0 in any given semester **and** has a cumulative UK GPA below 2.0, including the first semester at the University of Kentucky.
3. The student earns less than a 1.5 GPA in any semester.

In all cases, the suspended student will be required to select a new major outside of the CHS.

Note: If a student admitted to a selective admissions program fails to meet the programs academic standards, the programs policies for probation and suspension, if more stringent, supersede the College's Academic Probation and Suspension policy.

Removal from Suspension

A student suspended from the College of Health Sciences may petition for re-admittance only if he/she has obtained a cumulative GPA in accordance with the respective program's admission standards (see list below) and completed all pre-requisite courses and major courses with a **C** or better. Students who fail a major course and are placed on suspension must petition the program to repeat the major course while on suspension. Students have the opportunity to use the three repeat options that the University allows in order to facilitate the improved GPA required and individual course grades. In accordance with the University policy, courses may only be repeated one time. Any additional retakes will not count if the second attempt does not result in the **C** or better needed for a prerequisite or major course.

Program	GPA minimum
Clinical Leadership and Management	2.0
Communication Sciences and Disorders	3.0
Human Health Sciences	3.0
Medical Laboratory Sciences	2.5

It is important to note that our college has high admissions standards for each of our selective admissions programs. Thus, this is taken into consideration when making readmission decisions in the College of Health Sciences.

Student Affairs Academic Standing Sub-Committee

An Academic Standing Committee will be formed and comprised of a representative from each of the undergraduate programs, the Assistant Dean of Student Affairs, Academic Affairs Chairperson, and an academic advisor. The Assistant Dean of Student Affairs will serve as the chair of this committee. The Academic Standing Committee will meet regarding suspension and probationary status once a semester after final grades are posted. The committee will convene to hear appeals at least twice a year and more often as needed.

Appeals

Students who are placed on suspension may appeal their status to the College of Health Sciences Student Affairs Academic Standing Sub-Committee. The student must submit documentation regarding any circumstances that influ-

enced their academic performance for review by the committee. This includes, but is not limited to, a personal statement explaining their situation and how they plan to rectify this in the future. Students are welcome to submit letters of support from individuals who have knowledge about their situation and can provide insight into how the student is addressing the issue(s).

All appeals must be submitted electronically by January 10 or July 1 to the Office of Student Affairs. While students are in the appeals process, he/she may maintain their current major in the College of Health Sciences.

PROFESSIONAL COLLEGES

NOTE: All students in the professional colleges are subject to the rights, rules and regulations governing University of Kentucky students in all matters not specifically covered in the these rules.

College of Dentistry

The following academic disciplinary policies for students in the professional dental educational program are initiated upon unsatisfactory academic performance.

Academic Probation

Placement on Probation. A student will be placed on probation if he or she has:

a. a grade-point average (GPA) for the academic year less than 2.75;

b. received a failing grade (**E** or **F**); or,

c. failed any section of either Part 1 or Part 2 of the National Dental Board Examination.

Terms of Probation. The terms of probation will be established by the Academic Performance Committee (APC). The duration of probation will be at least one semester. Passing a course that has been failed is a condition of all probations. Additional terms of probation may be established by the APC. Students on probation may be ineligible for certain curricular or extracurricular college activities.

If a student has failed the National Dental Board Examination, taking the examination the next time it is offered and passing it shall be among the terms of probation. The terms shall also include required activities to help the student prepare to pass the examination.

Removal from Probation. A student will be removed from probation by the Academic Performance Committee when he or she has at least a cumulative 2.75 GPA, has at least a 2.75 GPA in the current academic year, has passed any failed course, and has satisfied the terms of probation in the judgment of the Academic Performance Committee.

Academic Suspension

Placement on Academic Suspension. The Academic Performance Committee (APC) shall recommend to the Dean that a student be suspended if two conditions exist. The first condition is that the student has:

a. received two or more failing (**E** or **F**) grades;

b. received a failing grade (**E** or **F**) while on probation;

c. failed to meet the terms of probation; **or**,

d. after the second year of the curriculum, achieved a cumulative GPA of less than 2.75.

The second condition is that, based on the available evidence, the APC has determined that the student is capable of completing the curriculum after receiving counseling and/or completing work outside the College. The committee's recommendation shall include a description of any circumstances the Dean should consider in reaching a decision. It shall also include suggestions on what the student needs to accomplish to be considered for reinstatement.

Second Failure of Any Section of Part 1 of the National Dental Board Examination. If a student fails the National Dental Board Examination a second time, the APC shall recommend to the Dean that the student be suspended. The APC recommendation will include a description of any circumstances the Dean should consider in reaching a decision. It shall also include suggestions on what the student needs to accomplish to be considered for reinstatement.

Review. A student subject to suspension may ask the Dean for a review. Review procedures shall be determined by the Dean.

Reinstatement Following Suspension. A suspended student may not be reinstated before one semester has passed from the date of suspension. When the student demonstrates that he or she can perform at the level required to graduate from the College, the Dean may reinstate him or her. A reinstated student will be placed on probation, subject to terms recommended by the APC and approved by the Dean.

A student who has been suspended because of a second failure of any section of Part 1 of the National Dental Board Examination shall not be readmitted unless she or he takes and passes the examination.

Dismissal

Placement in Dismissal Status. The APC shall recommend to the Dean that a student be dismissed if two conditions exist. The first condition is that the student:

a. received two or more failing (**E** or **F**) grades;

b. received a failing grade (**E** or **F**) while on probation;

c. failed to meet the terms of probation; **or**,

d. after the second year of the curriculum, achieved a cumulative GPA of less than 2.75.

The second condition is that, based on the available evidence, the APC has determined that the student is not academically capable of completing the curriculum or is otherwise unsuitable for dentistry for reasons that include, but are not limited to: unacceptable personal hygiene, the inability to establish rapport with patients, the inability to work effectively with other health care team members, undependability, or lack of integrity, initiative or interest. The APC recommendation shall include a description of any circumstances the Dean should consider in reaching a decision.

Previously Suspended Students. If a student is subject to suspension and has been previously suspended, the APC shall recommend that she or he be dismissed.

Review. A student subject to dismissal may ask the Dean for a review. Review procedures shall be determined by the Dean.

Reinstatement Following Dismissal. The dismissed student shall not be reinstated.

Promotion

Students will be promoted when they have successfully completed all courses in an academic year.

Methods and Procedures. Promotion of first, second or third year students:

a. All courses in an academic year must be completed with a grade of **C** or higher (or **P**, in the case of Pass/Fail courses) before promotion.

b. Promotion shall usually occur no later than 15 working days after the last day of scheduled classes in each academic year.

c. If a lack of resources or facilities at the University prevents a student from being able to complete a basic science course requirement prior to the beginning of the next academic year, permission may be granted by the APC, in consultation with the Instructor of Record, to complete an equivalent course either at the University or another accredited institution at a prescribed level of performance.

Graduation

A student shall be eligible for graduation when passing all courses and meeting all of these applicable requirements:

a. a student has at least a 2.75 cumulative GPA;

b. a student has passed Parts 1 and 2 of the National Dental Board Examination;

c. a student has taken and passed a clinical mock board examination;

d. advanced standing students must complete the curriculum within one year following the time period agreed to at admission;

e. all terms of probation have been satisfied; and,

f. all patient responsibilities and other obligations to the College of Dentistry or the University have been satisfied.

College of Law

1. All students in the College of Law must maintain a satisfactory cumulative GPA or be dropped from the college for poor scholarship. Any student who earns a GPA below 1.5 for his or her first semester of law study may be suspended by the Dean on recommendation of the Law Faculty Academic Status Committee for poor scholarship. Any student who fails to earn a 2.0 cumulative grade-point average at the end of the first two semesters will automatically be suspended for poor scholarship. In addition, any student whose cumulative GPA falls below a 2.0 at the end of any subsequent semester will also be suspended from the college.
2. Any student who earns a grade of **E** in a required course must reregister for the course and complete all its requirements thereof. When such a required course is retaken or when a student elects to repeat an elective course in which the student has earned a failing grade, both the initial and subsequent grade will be reflected on the student's record and counted in the computation of class standing, subject to readmission standards below.
3. Any student dropped for poor scholarship may petition the Law Faculty Academic Status Committee for readmission. A recommendation to the Dean for readmission is within the discretion of the Academic Status Committee; however, in most cases, the following policies will guide the Committee: a student suspended after the first semester will be required to petition the full Law Faculty for readmission; in the case of students suspended at the end of the second semester, a student with a cumulative GPA of 1.90 and above will normally be readmitted, a student with a cumulative GPA of 1.70 to 1.89 may be readmitted but will be carefully scrutinized, and a student with a cumulative GPA below 1.70 will normally not be readmitted; any student dropped at the end of the third semester or thereafter will be subject to case-by-case analysis.
4. Any student who is readmitted after being dropped at the end of the second semester and who fails to raise his or her cumulative GPA to 2.0 by the end of the third semester will be readmitted again at that time only if he or she has made material progress toward raising his or her cumulative GPA to 2.0. Material progress at a minimum shall mean obtaining a 2.0 GPA for the semester. Moreover, such a student must raise his or her cumulative GPA to 2.0 by the end of the fourth semester. In addition to the foregoing academic standards for readmission, the Academic Progress Committee may impose additional academic standards in individual cases, and in any case may impose other reasonable conditions of readmission including, but not limited to, limitation of outside work, specification of schedule of study (including specification of particular courses and limitation of hours), and the limitation of extracurricular activities. The Academic Progress Committee with the approval of the full Law Faculty may also require the repetition of courses either with or without substitution of the grades earned in the courses retaken. Failure to comply with the requirements and conditions of readmission will be suspended again from the College of Law, in which case he or she will not be readmitted without approval of the University Senate Council upon the recommendation of the Dean following action by the full Law Faculty. Any student aggrieved at any time by recommendation of the Academic Status Committee may petition the full Law Faculty for review.
5. A student who is required by the Academic Status Committee to repeat 14 or more hours of the freshman curriculum in his or her third and fourth semester will be considered as enrolled in his or her first and second semesters.
6. A student who has once been suspended for poor scholarship and who fails to have a 2.0 cumulative GPA at the end of the semester or summer session in which he or she completes the 90th hour of course work will not be allowed to graduate from the College of Law. Such student will not be allowed to enroll in additional hours of course work in an attempt to achieve a 2.0 cumulative GPA.

Withdrawal and Readmission

1. First-year students are expected to complete their first year of law study without interruption. If a student withdraws from the college and University during his or her first year of law study, readmission is not automatic. If a student withdraws during the first semester of law study, application for readmission will be referred to the Admissions Committee; if a first-year student withdraws during the second semester, application for readmission will be referred to the Academic Status Committee; provided that in either of the above withdrawal situations, the Dean's designee may grant a special leave of absence for the balance of the academic year for reasons relating to extended illness or equivalent distress.
2. After completion of all required first-year courses, a student who withdraws from the College of Law and the University is subject to the rules stated herein regarding readmission after a leave of absence and grades for students who withdraw. To officially withdraw from the College of Law, a student must obtain from Registrar's Office a withdrawal card; this card must be signed by the Dean of the College of Law or the Dean's designee. If a student plans to complete a semester, but not reenroll for the subsequent semester, he or she must give the Dean's designee written notice of such intention.
3. If a student withdraws from the college and University or does not continue enrollment **and** has complied with paragraph 2 of this rule, the student will routinely be readmitted to the college provided that the student is in good standing and the absence was not longer than two semesters plus one summer term. No student will be readmitted pursuant to this paragraph more than one time.
4. A student who intends to remain away from the college for more than 2 semesters plus one summer term must request permission for a Leave of Absence. These requests are not routinely granted and will be referred to the Academic Status Committee for recommendation to the Dean.
5. Readmission for students who are not entitled to readmission pursuant to paragraphs 1-4 of this rule is not automatic. Applications for such readmission will be referred to the Academic Status Committee for a recommendation to the Dean. The Academic Status Committee may consider all relevant facts and circumstances, including the length of time out of the college and reasons for the absence. The Academic Status Committee and Dean will normally not approve readmission for any student who has been away from the college for six regular semesters. Reasonable conditions, including the repetition of courses for no credit, may be imposed if readmission is approved.
6. A second-year student, a third-year student, or a first-year student with special permission of the Dean's designee may withdraw from any course or seminar within the first half of a semester or summer session. To withdraw from a course or seminar within the first half of a semester or summer session, the student must submit a completed course withdrawal card to the Dean's designee. A student may withdraw from

a course or seminar during the last half of a semester or summer session only on a petition certifying reasons relating to extended illness or equivalent distress. This petition must be approved by the instructor and the Dean's designate.

Limitation on Pass/fail Units Creditable for College of Law Students

1. No more than 6 hours of graduate courses outside of the College of Law, graded on a Pass/Fail basis, shall be counted.
2. No more than 6 hours of courses in the law school that are offered only on a Pass/Fail basis shall be counted.
3. No more than 9 of the total number of Pass/Fail credit hours, whether earned under 1. (above) or under 2. (above) shall be counted.
4. No more than one graduate course outside the College of Law, graded on a Pass/Fail basis, may be credited in any one semester.

Students in joint degree programs may only take up to six Pass/Fail course credit hours in the College of Law courses and may take no courses outside the College of Law for credit toward the J.D. other than pursuant to the applicable joint degree program.

College of Pharmacy

Academic Performance, Progress and Guidelines

The Academic Performance Committees (APC) are charged with monitoring students' progress through the curriculum. The Committees regularly review (during and at the end of each semester) the performance of each student based on course grades and on written comments on each student's performance, both of which are shared with the student and are part of the student record. The APC for students in a particular year will consist of the course directors and laboratory instructors for that academic year plus a standing core of faculty. The APC will recommend an action appropriate to the particular student standing and record, i.e., proceed to the next series of courses, promotion to the next year, graduation, probation, probation with remedial action, removal from probation, academic leave, suspension, dismissal, or other action. Recommendations for graduation are made through the dean for approval by the Faculty. All other recommendations are to the Dean. Students must be promoted to subsequent year standing by action of the APC. Promotion is not automatic, but must be earned based on appropriate performance and satisfactory completion of course work. The APC may also recommend other remedies including but not limited to adjustment of academic load, repetition of curriculum segments and participation in counseling sessions. Although the APC considers the overall record of the student in making decisions, the APC will rely heavily on the following:

All students must maintain a minimum Pharmacy GPA of 2.0 and earn a minimum grade of **C** in each course taken during the time they are students in the College of Pharmacy. This includes all course work, including PHR and non-PHR electives, which comprise the first through fourth professional years of the Pharmacy program.

Further:

1. Any student with a GPA less than 2.0 in a single semester or with a cumulative GPA less than 2.0 will be placed on probation or may be suspended from the College.
2. Students who fail to earn a minimum of **C** in any one course may be placed on probation. The APC will determine the level of remediation required.
3. Students who fail to earn a minimum grade of **C** in two courses will be placed on probation and remediation may be required. The APC will determine the level of remediation required.
4. Students who fail to earn a minimum of **C** in three or more courses will be suspended from the College of Pharmacy, regardless of GPA.
5. A failure in a Pass/Fail course will be considered a grade less the **C**.
6. Students who satisfactorily complete the remediation requirements for probation will be removed from probation.
7. Students who are on probation and fail to meet the requirements for remediation or fail to meet the requirements needed to remove them from probation.
8. Students eligible for probation on a second occasion may be suspended from the College.

Probation

Students who are on academic probation may not be allowed:

1. To serve as officers or committee members in any campus organization.
2. To participate in any University extracurricular activities or in the activities of any University organization if the participation involves the expenditures of any appreciable amount of time.
3. To be employed by the University.

Students on probation may have a restricted academic schedule as dictated by the APC. Students placed on probation must meet the requirements dictated by the APC before being removed from probation.

Suspension

Students suspended from the college may petition the APC for reconsideration of their case and for permission to re-take College of Pharmacy courses to correct their academic deficiencies. That permission may or may not be granted by the APC. If a student is allowed to re-take required College of Pharmacy courses, and the academic deficiencies have been satisfactorily addressed, these students may re-enter the College of Pharmacy but will do so on probation status. If the student is judged after 2 semesters to be performing satisfactorily by the APC while taking normal academic course loads, their probation status may be removed by the College Faculty.

Special Considerations

1. Because of the demands of the Doctor of Pharmacy curriculum upon acceptance to the program of study students are expected to devote their energies to the academic program. The college actively discourages employment while courses are in session and cannot take outside employment or activities into account when scheduling classes, examinations, reviews, field trips or individual course functions or special projects.
2. Due to curricular requirements course functions and/or examinations outside the normal Monday through Friday, 8 a.m. to 5 p.m. business hours time frame will occur.
3. Clinical responsibilities include evening and weekend work.
4. All College of Pharmacy students are subject to the rights, rules and regulations governing University students in all matters not specifically covered in College of Pharmacy documents.

All Undergraduate and Professional Colleges

Each student has access to rules that deal with scholastic probation, academic suspension, and reinstatement through the printed class schedule, this Bulletin, and *Student Rights and Responsibilities*.

Graduation Requirements

GRADUATION REQUIREMENTS

To be eligible for any degree, a student must have completed the requirements as approved by the University Senate, except that curriculum substitutions may be made by the college affected if not inconsistent with these rules. Curriculum requirements must include, in addition to specified credits, a specified grade-point average both overall and in the student's major which may in no case be less than 2.0. Every baccalaureate degree program must include five divisions or components: (1) UK Core, (2) premajor or preprofessional, (3) general college requirements (if any), (4) major or professional, and (5) free electives.

To be eligible for an undergraduate degree, a student must file an application with the dean of the college from which the undergraduate degree is to be awarded: by **November 30** for degrees to be awarded the following May, by **February 28** for degrees to be awarded the following August, and by **June 30** for degrees to be awarded the following December.

Composition and Communication Requirements

Students must complete the Composition and Communication I and the Composition and Communication II requirements:

Composition and Communication I

In this course, students are introduced to the process of writing, speaking, and visually representing their own ideas and the ideas of others; they also practice basic interpersonal communication skills and the ability to communicate with multiple audiences.

To fulfill the Composition and Communication I requirement, complete **one** of the following:

- CIS 110 Composition and Communication I
- WRD 110 Composition and Communication I
- CIS 112 Accelerated Composition and Communication II (CIS)
- WRD 112 Accelerated Composition and Communication II (WRD)

Composition and Communication II

In this course, students research public controversies and work in teams to analyze and argue for a solution to these controversies in oral, written, and visual/digital forms for multiple audiences.

To fulfill the Composition and Communication II requirement, complete **one** of the following:

- CIS 111 Composition and Communication II
- WRD 111 Composition and Communication II
- CIS 112 Accelerated Composition and Communication II (CIS)
- WRD 112 Accelerated Composition and Communication II (WRD)

Transfer Students

Transfer students may fulfill the Composition and Communication requirements by completing **one** of the following:

- Become Category Certified in the communications category under GETA (General Education Transfer Agreement) before transferring.
- Complete transfer courses equated to UK's ENG 101, ENG 102, and one of the following: COM 252, COM 281 or COM 287.
- Complete an A.A. or A.S. degree from an institution accredited by one of the six organizations recognized by the U.S. Department of Education and the Council for Higher Education Accreditation.

Graduation Composition and Communication Requirement

The Graduation Composition and Communication Requirement (GCCR) replaces the Graduation Writing Requirement (GWR). The GCCR is intended to vertically integrate learning outcome #2 of the UK Core (students will demonstrate competent written, oral, and visual communication skills both as producers and consumers of information) into upper-division majors across the university.

The GCCR is designed to extend and improve education in multimodal composition and communication. Improved vertical integration under the new GCCR will carry this emphasis on composition and communication from the lower level of the UK Core into the upper levels of individual majors and programs.

Beginning fall 2014, every incoming student completing a Bachelors program at UK will be required to fulfill the GCCR. Every undergraduate degree-granting program and major will be required to fulfill the stipulations of the GCCR by assuring a clear path to its completion for their majors.

To complete the **Graduation Composition and Communication Requirement**, students must:

- Complete the Composition I and Composition II Requirement;
- Attain sophomore status (30+ hours); and
- Complete an approved course or series of courses. Note that some of these courses may only be taken by students in the major; check with your advisor to verify.

GCCR Required Courses by Major

Accounting – CIS 300
Agricultural Biotechnology – ABT 201 + ABT 301
Agricultural Economics – AEC 306
Analytics – CIS 300
Animal Sciences – WRD 203 or WRD 204
Anthropology – ANT 582
Architecture – ARC 252 + ARC 314
Art Education – EPE 301
Art History and Visual Studies – A-H 555
Art Studio, B.A. – ART 301
Art Studio, B.F.A. – ART 301
Arts Administration – AAD 450
Biology – BIO 350 + BIO 425; or WRD 204
Biosystems Engineering – WRD 204
Career and Technical Education – AED/FCS 583
Chemical Engineering – WRD 204
Chemistry – CHE 372 + CHE 472
Chinese Language and Literature – MCL 495
Civil Engineering – WRD 204
Classics – MCL 495
Clinical Leadership and Management – CLM 595
Communication – COM 252 + COM 351; or COM 252 + COM 326
Communication Sciences and Disorders – CSD 402 + CSD 481 + CSD 591
Community and Leadership Development – CLD 305 + CLD 497
Computer Engineering – EE 490
Computer Science – CS 499

Dietetics – DHN 374
Early Elementary Education – EPE 301
Economics (Arts and Sciences) – ECO 499
Economics (Business and Economics) – CIS 300
Electrical Engineering – EE 490
English – ENG 330
Environmental and Sustainability Studies – ENS 400
Equine Science and Management – WRD 203 or WRD 204
Family Sciences – FAM 357 + FAM 360 + FAM 390
Finance – CIS 300
Food Science – WRD 203
Foreign Language and International Economics – MCL/SPA 300
Forestry – FOR 400 + FOR 480
French – MCL 495
Gender and Women's Studies – GWS 599
Geography – GEO 499
Geological Sciences – EES 235 + EES 461
German – MCL 495
Health Promotion – TBA
Health, Society, and Populations – HSP 499
History – HIS 499
Horticulture, Plant and Soil Sciences – PLS 490
Hospitality Management and Tourism – RTM 425
Human Health Sciences – HHS/CLM 350 + HHS 453
Human Nutrition – DHN 474 + DHN 475
Information Communication Technology – ICT 300
Integrated Strategic Communication – ISC 491 + ISC Portfolio
Interdisciplinary Early Childhood Education – EDS 530
Interior Design – ID 234
International Studies – INT 495
Japanese Language and Literature – MCL 495
Journalism – JOU 330 + JOU Portfolio
Kinesiology – KHP 300
Landscape Architecture – LA 222 + LA 223
Linguistics – LIN 222
Management – CIS 300
Marketing – CIS 300
Materials Engineering – MSE 407
Mathematical Economics – ECO 491G
Mathematics – MA 391
Mechanical Engineering – WRD 204
Media Arts and Studies – MAS 300 + JAT 399
Medical Laboratory Science – MLS 463 + MLS 470
Merchandising, Apparel and Textiles – RTM 425
Middle Level Education – EPE 301
Mining Engineering – MNG 371
Music – MUS 304 + MUS 305
Music Education – EPE 301
Music Performance – MUS 304 + MUS 305
Natural Resources and Environmental Science – NRE 395 or NRE 399
Nursing, Four-Year B.S.N. – NUR 200 + NUR 310 + NUR 314
Nursing, R.N. to B.S.N. – NUR 350 + NUR 886-002
Nursing, Second Degree B.S.N. – no GCCR requirement
Philosophy – PHI 350
Physics – PHY 435 (for B.A.) or PHY 535 (for B.S.)
Political Science – WRD 304
Psychology – **one** of the following: PSY 427, PSY 430, PSY 440, PSY 450, PSY 456, PSY 460, PSY 552
Public Health – CPH 470
Russian Studies – MCL 495
Secondary English Education – EPE 301
Secondary Social Studies Education – EPE 301
Secondary STEM Education – EPE 301
Social Work – SW 470
Sociology – SOC 302
Spanish – SPA 323
Special Education, Learning and Behavior Disorders – EDS 529
Special Education, Moderate and Severe Disabilities – EDS 530
Sustainable Agriculture – SAG 201
Theatre – TA 383
Topical Studies – Any approved A&S course or sequence of courses that satisfies the GCCR requirement for any A&S major: please consult with the Arts & Sciences Dean of Undergraduate Programs.
Writing, Rhetoric and Digital Studies – WRD 430

The Graduation Composition and Communication Requirement is overseen and assessed by the GCCR Advisory Committee. For questions regarding fulfillment of the Requirement, please consult the Director of Undergraduate Studies and/or Chair of the appropriate major or program. Also please consult the GCCR website at **www.uky.edu/UGE/Writing/** for information and contacts.

Change in Program Requirements

When requirements for an undergraduate degree program are changed after a student has enrolled in it, the student has the option of fulfilling either the old or the new requirements.

In fulfilling the old requirements, if a student finds that necessary courses have been eliminated or substantially revised, he or she may substitute other courses with the approval of the dean of the college. In this eventuality, however, the student shall not be forced to comply with the new requirements.

However, if a student interrupts work in the program or the University for more than two semesters, then the dean of the college shall determine which requirements the student shall fulfill.

If the curriculum revision is required by an external accreditation or certification body, and this body submits a written statement to the University that the accreditation of a program or certification of its graduates is in jeopardy unless students fulfill the new requirements, the option of fulfilling the old requirements shall not apply.

When The Graduate School or degree program requirements are changed after a student has begun a course of study, the student shall have the option of fulfilling either the old or new requirements.

If the student elects to fulfill the old requirements but finds that necessary resources (e.g., courses, instruction in particular skills) are no longer available, the student may make reasonable substitutes with the approval of The Graduate School Dean upon recommendation of the Director of Graduate Studies.

In the event that a student interrupts work on a graduate degree (i.e., is not enrolled) for one calendar year or more, The Graduate School Dean shall determine, upon recommendation of the Director of Graduate Studies, whether the old requirements or the new requirements shall apply. In the event a student has not completed the requirements for the graduate degree five years after the effective date of a change in degree requirements, the new requirements shall apply unless determined otherwise by The Graduate School Dean.

The colleges offering professional degrees (Law, Medicine, Dentistry, Pharmacy) reserve the right to change curriculum requirements provided the program change has gone through the University's approval process. Any such change in curriculum, however, shall not result in a longer tenure for students enrolled in the program who are making satisfactory academic progress.

Residence Requirements

Residence – a requirement for a degree which specifies the minimum period during which a student must be registered on the main campus – is intended to provide an adequate contact with the University and its faculty for each student who is awarded a degree.

For an undergraduate degree, (a) at least 25 percent of the credits presented for a degree; (b) not less than 30 credit hours; and (c) a minimum of 30 of the last 36 credits presented for the degree must be taken from the University.

Courses taken elsewhere with credit transfer to UK, courses taken through the UK International Center (except for courses taught by UK faculty), credits achieved by examination, credits earned via CLEP (the College Level Examination Program), and courses taken through the National Student Exchange do not count toward the 25 percent requirement.

Any request for waiver by veterans of any of the above requirements, or a request by other students for a waiver of requirement (b) or (c), must be presented for approval to the dean of the student's college. Students who wish to satisfy the above requirement with credit earned through such methods as independent study by correspondence, special examination, CLEP, and other methods which limit the opportunity for active exchange between students and instructors must have the prior approval of their department chair and college dean.

Courses taken through the UK International Center and through the National Exchange Student programs are considered as courses taken at UK for purposes of both the residence requirement and for graduates to be conferred commencement honors at the time of award of their degrees.

Credit by Correspondence and Examination

No more than 30 credit hours of the total required for an undergraduate degree may be gained by correspondence. No more than one-third of the requirements for a major may be gained by correspondence.

No credit will be conferred in The Graduate School or in the professional colleges for courses done by correspondence.

No more than half of the credit toward an undergraduate degree may be earned by any combination of CLEP Examinations, PEP Examinations, National College Credit Recommendation Service courses, Special Departmental Examinations, and Advanced Placement Examinations.

Application for Degrees

To be eligible for an undergraduate degree, a student must file an application to graduate with the dean of the college from which the undergraduate degree is to be awarded by November 30 for degrees to be awarded the following May; by February 28 for degrees to be awarded the following August; and by June 30 for degrees to be awarded the following December.

Commencement Honors

Students who attain a grade-point average of 3.8 or higher for at least three years (90 hours) of work at the University (excepting correspondence study) shall be graduated "Summa Cum Laude."

Students who attain a grade-point average of 3.6 or higher for at least three years (90 hours) of work at the University (excepting correspondence study) shall be graduated "Magna Cum Laude."

Students who attain a grade-point average of 3.4 or higher for at least three years (90 hours) of work at the University (excepting correspondence study) shall be graduated "Cum Laude."

Students with a minimum of two (60 hours) but less than three years (90 hours) of work at the University will receive the appropriate commencement honors if they attain a grade-point average of 0.2 greater than those specified for three years of residence work.

The bachelor's degree with honors in a student's major or a degree with honors from a professional college will be conferred upon a student whom the faculty of the student's department, or college, in the case of a professional college, and the dean of the student's college recommend receive the degree. A student may be required to complete work in addition to that required for the bachelor's or professional degree to receive a degree with honors.

The degree with honors from a professional college is based solely upon work done in the professional college.

All students in the Honors program of the University who do not have a grade-point standing of 3.5 or better but are in the top 10 percent of their college's class are eligible to graduate in the Honors program if they satisfy the other requirements and have approval of the Honors Program Director.

Work done in the Kentucky Community and Technical College System shall not be counted as work at the University of Kentucky in calculating the grade-point average for honors.

A Double Major

An undergraduate student earns a double major when he or she completes all university, college, and departmental requirements in one department—the Primary Major—and all departmental requirements in a second department—the Secondary Major. Students choose which major is their Primary Major. If there is a generic relationship, work in the Primary Major may be applicable to the Secondary Major. The student must indicate the double major to the Registrar and to the student records office in his or her college(s). The student must have an advisor in each major. The student who completes the requirements for a double major receives a degree from the college of his or her Primary Major and has the successful completion of the Secondary Major entered on his or her transcript. A Secondary Major may be completed after the degree for the Primary Major has been awarded. A double major does not result in an additional degree.

Concurrent enrollment for degree purposes in more than one graduate program is permitted only with the approval of the student's graduate advisor(s), Directors of Graduate Studies in the programs, and the Dean of The Graduate School.

Subsequent to the receipt of a doctoral degree, a student is not eligible to receive a master's degree based on the work which led to the doctorate.

Additional Bachelor's Degrees

A student is eligible to qualify for additional Bachelor's degrees in different majors. The student must complete all university, college, and departmental requirements for all degrees. Courses taken towards fulfilling one degree may also count towards fulfilling parallel requirements in another degree, but the student must complete at least 24 additional hours for each degree. The student may elect to receive the degrees simultaneously if college and departmental requirements can be met simultaneously.

A Second Master's Degree

A student may receive two master's degrees. However, simultaneous enrollment in two or more programs and the granting of two or more master's degrees at the same time is not permitted, unless approved by the student's advisors and the Directors of Graduate Studies in the programs.

The University Scholars Program

The University Scholars program enables gifted and highly motivated students to integrate their undergraduate and graduate or professional courses of study into a single, continuous program leading to both a baccalaureate and master's degree. The admissions requirements for the University Scholars program and the curricular requirements are outlined in the *Special Academic Programs* section of this Bulletin.

Academic Minors

Many departments have designed academic minors for the convenience of undergraduate students. A minor is a structured group of courses that leads to considerable knowledge and understanding of a subject, although with less depth than a major. Some employers consider minors desirable, and the corresponding major requirements at the University may stipulate a minor. Some students choose to complement their major program with a minor in a related field or even in an entirely different field of interest. The minors that are available are described with the departmental listings and major programs in this Bulletin. Students interested in pursuing an academic minor should contact their college dean's office and the department responsible for the minor program for guidance and advising. Please note that undergraduate students can only complete a minor *in addition* to and as *a complement* to a major. The University does not award stand-alone minors.

Interdisciplinary Programs

The College of Arts and Sciences offers students the opportunity to pursue studies in programs that are administered jointly by several departments within the College. Students may choose from several majors and/or minors or create a self-designed program that fulfills their individual educational requirements.

African American Studies

The African American Studies program seeks to promote the interest and knowledge of the African diaspora experience through quality teaching and research. Multidisciplinary in scope, African American Studies offers a selection of courses in English, history, geography, political science, sociology, philosophy, religion, and language. Courses affiliated with the Program are listed each fall and spring semester in the University *Schedule of Classes* under the AAS prefix.

African American Studies Minor

By completing 21 hours of course work students can earn a minor in African American Studies. This minor offers a cultural, historical, and literary base that can strengthen any major in the Humanities or the Social Sciences. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For further information, email **aaas@uky.edu**; 112 Breckinridge Hall 0056, (859) 257-2284.

https://aaas.as.uky.edu/

American Studies

American studies draws together diverse disciplines to examine the historical and contemporary forms and issues of our national life. The program in American Studies takes as its field of study any peoples, cultural expressions and social institutions, however or whenever identified as "American." Program curricula link faculty, courses, and students across a range of humanities, arts, and social science departments.

American Studies Minor

The minor centers on two interdisciplinary seminars on selected topics in American studies. Students electing the minor are also encouraged to take a range of elective courses to complement their major. The minor in American Studies prepares students for further graduate or professional training, or for work in education, government, or business. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For further information, contact: Director Pearl James, **avdool2@uky.edu**; 1227 Patterson Office Tower 0027, (859) 257-6978.

http://american-studies.as.uky.edu/

Appalachian Studies

The Appalachian Studies minor offers students with serious interests in Appalachian regional studies an opportunity to pursue a minor concentration to complement a major in one of the University's professional or liberal arts programs. This interdisciplinary program enables students to comprehend more fully the history, social structure, and culture of the region – its people, its problems, and its future. The Appalachian Studies Program Director serves as faculty advisor to undergraduate minors and as faculty sponsor of the Appalachian Student Council, an organization for students with an interest in or ties to the Appalachian region.

Faculty and students interested in Appalachian Studies work in cooperation with the Appalachian Center, which was created in 1977, to fulfill the University's research and service missions in this region. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For more information, contact: Director Ann Kingsolver, **ann.kingsolver@uky.edu**; 203 Appalachian Center, 624 Maxwelton Court, 0347, (859) 257-8262.

http://appalachiancenter.as.uky.edu/

Cognitive Science

Cognitive Science is an interdisciplinary field of study focusing on the mind as an intelligent (information-processing) system. Arising from Noam Chomsky's seminal criticisms of Behaviorism in the 1950s, Cognitive Science has come to include such disparate disciplines as linguistics, computer science (artificial intelligence, knowledge representation, theory of computation and computational complexity, algorithms), psychology (concepts; memory; reasoning; developmental and cognitive psychology), biology (evolutionary theory, neurobiology), anatomy, neuroscience, the behavioral sciences, and philosophy (language, mind, and logic). The Cognitive Science program at UK offers an undergraduate minor, enabling students to study the mind in an interdisciplinary way. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For more information, contact: Director Lawrence Gottlob, **gottlob@uky.edu**; 207N Kastle Hall 0044, (859) 257-2280.

www.as.uky.edu/cognitive-science

Committee on Social Theory

Social theory considers the full range of our social practices, not only the taken-for-grantedness of our social institutions and cultural conditions but also the hidden aspects of our daily lives. Social theory is, as sociologist Charles Lemert puts it, a basic survival skill. It embraces substantive questions about the composition, structure and development of social phenomena, as well as the epistemological conditions that inform our ability to comprehend them. Today, it is one of the most significant and fastest-growing concerns in the humanities and the social sciences. It brings together scholars from a multitude of disciplines in investigations of such topics as the social construction of individuals in contemporary and historical contexts, the nature of the political, the structure of agency, the cultural and economic processes associated with globalization, and the constitution of public space and civil society.

Because many social theoretical issues refuse containment within extant disciplinary demarcations, they are best studied within a multidisciplinary framework. The Committee on Social Theory formed in 1989 to facilitate such theoretical teaching and research projects across disciplinary and college boundaries at the University of Kentucky. The program fosters practical communication through a range of pedagogical and research projects between the humanities and social sciences. The Committee on Social Theory's events assist faculty and students in testing their own disciplinary understandings and enhancing their own empirical and archival research by building transdisciplinary dialogues. Today, the Committee includes some 50 faculty associates, spanning fourteen departments and five schools, and offers students and faculty an innovative opportunity to pursue social thought in a bracingly interdisciplinary dialogue. Its activities form a unique and exciting environment where students and faculty study the expanding and increasingly important field of social theory and cultural studies.

Visit the Committee on Social Theory website at:

http://socialtheory.as.uky.edu/

Environmental Studies

Environmental considerations permeate almost every facet of modern life, and concern for "the environment" is practically universal as we approach the twenty-first century. The minor in Environmental Studies is designed to provide students with the opportunity to become conversant in a range of environmental topics, whether as private citizens in their daily lives or as professional members of corporate, government, legal, medical, and educational circles.

Environmental Studies Minor

The minor draws on topics and perspectives from the natural and physical sciences, the social sciences, and the humanities to underscore the interdisciplinary nature of environmental issues and problems. Students taking the minor are encouraged to integrate the program with their major study focus in order to gain a competitive advantage in grappling with environmental topics. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For more information, contact Director David Atwood, **datwood@uky.edu**; 347 Chemistry-Physics Building, (859) 257-7304.

http://idp.as.uky.edu/idp-environmental-studies

Indian Culture

The minor in Indian Culture is designed to allow students to develop a more profound understanding of Indian culture. The curriculum is strongly interdisciplinary, encompassing courses in linguistics, anthropology, English, geography, mathematics, philosophy, political science, and sociology.

Students completing the minor will possess (1) an ability to read Sanskrit (vital for comprehending Indian culture); (2) a well-rounded, multidisciplinary understanding of the culture and geography of India and of contemporary Indian society and politics; and (3) a high degree of preparedness to pursue careers in business or teaching that require knowledge of Indian society and its traditions. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For more information, contact: Professor Paul Karan, (859) 257-6953; **ppkaran@uky.edu**

http://is.as.uky.edu/indian-studies-program-minor

Islamic Studies

The interdisciplinary minor in Islamic Studies will provide the opportunity to study the culture, language, literature, religion, history and philosophy of Muslim peoples throughout the world from antiquity to the present. Students will acquire a rounded understanding of Islamic culture, the ability to interpret information and news from the Middle East and elsewhere in an independent way, with understanding of the issues from the perspective of the Muslim countries, and will be prepared to pursue careers that require a knowledge of Islamic civilization. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For more information, contact the director of Arabic and Islamic Studies.

http://mcl.as.uky.edu/arabic-and-islamic-studies

Jewish Studies

The interdisciplinary minor in Jewish Studies at the University of Kentucky provides students with the opportunity to become acquainted with the culture, language, literature, religion, history, and philosophy of the Jewish people from antiquity to the present. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For further information, contact: Director Janice Fernheimer, **jfernheimer@uky.edu**; 1457 Patterson Office Tower 0027, (859) 257-1994.

http://mcl.as.uky.edu/jewish-studies

Latin American, Caribbean and Latino Studies

Latin American, Caribbean and Latino Studies is an interdisciplinary program bringing together scholars in the arts, humanities, social and environmental sciences who wish to understand Latin America as a major world region that continues to contribute unique and original understandings to the global community. By Latin America, we include South America, the Caribbean and North America. We are particularly focused on Latin American peoples, including those residents in the contemporary United States. Latin American scholars celebrate diversity, recognizing the signal contributions of indigenous (first) peoples, African diaspora, European immigrants, women and other diverse communities. As such, Latin American scholars have developed such important intellectual contributions as dependency theory, magical realism, and critiques of 'ecological neocolonialism' among others.

Latin American, Caribbean and Latino Studies embraces the many missions of the University of Kentucky. We work to provide undergraduate education, study abroad opportunities, graduate and faculty scholarship and enrichment, and to engage the broader Latino community of Kentucky in accordance with the University's 'Land Grant' mission to enrich the lives of all Kentuckians.

Latin American, Caribbean and Latino Studies Minor

Through an interdisciplinary approach, students pursuing a minor in Latin American, Caribbean and Latino Studies select from courses in anthropology, geography, history, and Spanish language, among others, in order to gain a cultural and geographic understanding of a specific region. Students also conduct senior research and interact heavily with faculty members. See the listing in the *College of Arts and Sciences* section of this Bulletin.

For more information, consult the Director of Latin American Studies.

http://lacls.as.uky.edu/

Linguistics

Linguistics is an interdisciplinary program combining resources from English, anthropology, psychology, philosophy, computer science, and the foreign languages, to develop an understanding of the nature and implications of human language. The Linguistics program provides solid foundations in phonological and grammatical analysis, as well as opportunities to investigate the social, cultural, psychological, and physical aspects of language use.

Linguistics Major

The Linguistics program offers an undergraduate major that includes courses in linguistics and related courses cross-listed with a variety of departments. Linguistics students frequently graduate with a double major in linguistics and one of the related departments, such as the foreign languages. See the listing in the *College of Arts and Sciences* section of this Bulletin.

Linguistics Minor

The Linguistics program also offers an undergraduate minor that includes 18 hours of course work in linguistics and related courses in a variety of departments. As part of the linguistics major or minor, students may elect to complete the sequence of courses focusing on Teaching English as a Second language; this track within linguistics can open up a variety of avenues for English teaching positions in the U.S. and abroad. For additional information on the minor, see the listing in the *College of Arts and Sciences* section of this Bulletin.

Visit the Linguistics Program Web site at: **www.as.uky.edu/linguistics/**

Undergraduate Certificates

UNDERGRADUATE CERTIFICATE PROGRAMS AT UK

The University of Kentucky's undergraduate certificate programs offer our students a convenient and flexible way to earn credentials for career advancement. All are cross-disciplinary clusters of courses integrated in a way that identifies a set of skills or knowledge that carry college credit and is applied to a student's undergraduate degree program. Students may declare their intent to complete a certificate program at any time. To do so they should contact the Student Services or Advising Office where their primary major is housed, but they are not required to see an advisor before adding the certificate. This is the same process a student would follow to add a minor or second program of study to their record.

Certificates at UK are only awarded to students who successfully complete (or have completed) a baccalaureate degree. Ideally, a certificate can show a potential employer or graduate program's faculty a specific expertise that a UK graduate brings with them to their new career.

A certificate program at UK must be at least 12 hours but rarely exceeds 24 credit hours. It is typically constructed to be flexible and respond quickly to emerging and cutting edge fields. Unlike the usual minor attached to a baccalaureate program, certificate programs must include at least two different academic disciplines and students are expected to have experiences that do not fit "traditional" academic models. All UK certificate programs must require students to:

- be in good academic standing upon admission to the certificate program;
- take at least 12 credit hours taken for a letter grade; at least 12 credits at 200-level or above and a minimum of 6 credit hours at 300-level or above;
- take no more than 9 credits in the certificate program that are used to satisfy requirements for the student's bachelor's degree, minor, or another certificate (exclusive of free or unrestricted electives);
- earn a C or better in each required certificate course;
- take courses in at least two disciplines, with a minimum of three credits to be completed in a second discipline;
- work with the designated Faculty Director to assure that the individual certificate curriculum is appropriate.

All certificate programs are assessed upon the fifth year of its duration. If a certificate is suspended or terminated, students currently enrolled shall have a reasonable period of time, not to exceed three years, to complete the requirements for the certificate.

UK undergraduate certificate programs listed by academic home:

College of Agriculture, Food and Environment

Distillation, Wine and Brewing Studies

The Undergraduate Certificate in Distillation, Wine and Brewing Studies (DWBS) is inclusive of students from all departments and colleges at UK. The Departments of Animal and Food Sciences; Biosystems and Agricultural Engineering; Chemistry; Chemical and Materials Engineering; History; Horticulture, Plant and Soil Sciences; Retailing and Tourism Management; and Writing, Rhetoric and Digital Studies are all engaged in DWBS. Three key student learning outcomes comprise the DWBS and are accomplished through a cluster of courses.

Faculty Director: Dr. Seth DeBolt, Department of Horticulture.

Details and requirements for the DWBS Certificate are listed in the *College of Agriculture, Food and Environment* section in this *Bulletin*.

College of Arts and Sciences

Appalachian Studies

Students in any college may earn the Undergraduate Certificate in Appalachian Studies. The Certificate is interdisciplinary (requiring course work in at least two colleges) and combines critical analysis with experiential education in the Appalachian region. The course work and practicum are tailored for each student in consultation with the program director to make the interdisciplinary certificate relevant to the student's major, interests, and career plans.

Faculty Director: Professor Ann Kingsolver, Director, Appalachian Studies and Appalachian Center, (859) 257-4852.

Details and requirements for the Appalachian Studies Certificate are listed in the *College of Arts and Sciences* section of this Bulletin.

Peace Studies

The purpose of the Peace Studies program is to develop students with increased interests and understanding of issues of peace and justice from individual to global levels; to provide them with basic skills in peaceful communication, nonviolent and transformative conflict resolution; and to help them develop peaceful and cooperative cultures. The Peace Studies program will empower students to understand and reduce conflict at multiple levels, and will provide them with conflict resolution skills that are increasingly valued by employers, graduate programs, and are much needed in our communities.

Faculty Director: Dr. Clayton Thyne, Department of Political Science.

Details and requirements for the Peace Studies Certificate are listed in the *College of Arts and Sciences* section in this *Bulletin*.

Gatton College of Business and Economics

Global Scholars

The Certificate in Global Scholars gives students who have successfully completed the Global Scholars Program the recognition of this accomplishment on their transcripts. This program is designed to prepare those students accepted into the College for careers in international business.

Faculty Director: Dr. Scott Kelley, Department of Marketing and Supply Chain.

Details and requirements for the Global Scholars Certificate are listed in the *College of Business and Economics* section of this Bulletin.

College of Communication and Information

Directing Forensics

The Division of Instructional Communication and Research offers an undergraduate certificate that will prepare students to teach and coach competitive forensics at the middle school, high school, and collegiate levels and serve the growing demand for forensics coaches. Currently, over 300 colleges and universities sponsor this activity at the state, regional, and national level. Over 100,000 students and 3,500 coaches also

compete annually in high school competitions across the nation. This certificate serves both current undergraduate students who wish to enhance their ability to teach public speaking and post-baccalaureates seeking additional training or continuing education credits.

Faculty Director: Dr. Will Buntin, Department of Information Science.

Details and requirements for the Directing Forensics Certificate are listed in the *College of Communication and Information* section of this Bulletin.

Health Communication

The Health Communication Undergraduate Certificate is designed to give students an enhanced education in communication skills critical to health-related professions, beyond what would normally be received from the UK Core. Upon completion of the Certificate students will be able to determine how communication impacts the major contributors for disease prevention and control as well as how to identify and analyze communication strategies that are most effective for health promotion and wellness.

Faculty Director: Dr. Donald Helme at **don.helme@uky.edu**

Details and requirements for the Health Communication Certificate are listed in the *College of Communication and Information* section of this Bulletin.

Innovation and Entrepreneurial Thinking

The Certificate program in Innovation and Entrepreneurial Thinking is designed to provide a coherent, integrated approach to helping ambitious undergraduate students develop and document the skills needed to become a successful innovator and entrepreneurial thinker. The Certificate is multi-disciplinary but is hosted by the College of Communication and Information and includes four courses (12 credit hours) completed over a one- to two-year period. Courses include a mix of topics such as communication and leadership, two elective courses on innovation and entrepreneurial thinking from participating colleges, and a required capstone course (EXP 455) involving a project with the iNET entrepreneur-in-residence.

Faculty Director: Dr. Kimberly A. Parker, School of Journalism and Telecommunications.

Details and requirements for the Innovation and Entrepreneurial Thinking Certificate are listed in the *College of Communication and Information* section of this Bulletin.

College of Education

Leadership Studies

The Undergraduate Certificate in Leadership Studies will allow students to demonstrate their preparedness to lead, live, and work in an interconnected and interdependent global community. Students will improve their understanding of leadership and develop the skills needed to lead in their particular field through a series of courses designed to provide a rich leadership focus.

Faculty Director: Dr. Jayson W. Richardson at **jayson.richardson@uky.edu**, or (859) 379-9097.

Details and requirements for the Leadership Studies Certificate are listed in the *College of Education* section of this Bulletin.

College of Engineering

Power and Energy

This Certificate in Power and Energy gives students the recognition of competency in the power and energy field. Successful completers of this Certificate will have an understanding of global energy issues, knowledge of electric power in an area that best fits their particular discipline (focusing particularly in power generation, transmission and distribution, or economics and public policy).

Faculty Director: Dr. Joseph Sottile, Department of Mining Engineering.

Details and requirements for the Power and Energy Certificate are listed in the *College of Engineering* section of this Bulletin.

College of Fine Arts

Musical Theatre Certificate for Voice Majors

Musical Theatre Certificate for Theatre Majors

These two interdisciplinary Certificates are offered jointly by the Department of Theatre and Dance and the School of Music. They will provide an opportunity for students in both units to gain knowledge in an area of study that includes acting, dance, voice and musical theatre techniques. Successful completers of this Certificate will be able to synthesize acting, singing and dancing in a musical theatre performance.

Faculty Co-Directors for the Musical Theatre Certificate for Voice Majors: Nancy Jones, Department of Theatre, and Noemi Lugo, Department of Voice in the School of Music.

Details and requirements for the Musical Theatre Certificate for Voice Majors and the Musical Theatre Certificate for Voice Majors are listed in the *College of Fine Arts* section of this Bulletin.

College of Health Sciences

Clinical Healthcare Management

Successful completion of the Certificate in Clinical Healthcare Management will demonstrate that the graduate is prepared to function successfully in a clinical leadership and management role in a health care institution. The program is useful for any currently enrolled UK student interested in obtaining clinical management skills; in addition, the program is useful for practicing clinical professionals (non-degree-seeking) such as nurses, physicians, dentists, physician assistants, physical therapists, respiratory therapists and other interested in enhancing their management skills.

Faculty Director: Dr. Ray Hill, Division of Clinical Leadership and Management within the Department of Clinical Sciences.

Details and requirements for the Clinical Healthcare Management Certificate are listed in the *College of Health Sciences* section of this Bulletin.

Research in Health Sciences

The Office of Research in the College of Health Sciences in collaboration with The Departments of Rehabilitation Sciences and Clinical Sciences offers an undergraduate certificate in Undergraduate Research in Health Sciences. This certificate will enhance the educational goals of any University of Kentucky student interested in obtaining experience in health-related research to benefit the pursuit of a health care career.

Faculty Director: Dr. Gilson Capilouto, Department of Rehabilitation Sciences.

Details and requirements for the Research in Health Sciences Certificate are listed in the *College of Health Sciences* section of this Bulletin.

Undergraduate Studies

(Note: the Dean of Undergraduate Studies is the Associate Provost for Undergraduate Education)

Global Studies

The Certificate in Global Studies is designed to show collaboration across all the undergraduate colleges in creating a focus for students' scholarly work in international settings. Successful completers of this interdisciplinary Certificate have demonstrated their preparedness to live and work in a global community. There are four components: globally focused course work, sec-

ond language coursework, credit-bearing education abroad experience, and co-curricular programming.

Faculty Director: Monica Blackmun Visonà, Administrative Associate, Undergraduate Education.

Details and requirements for the Global Scholars Certificate are listed below.

Undergraduate Certificate in Global Studies

Visit the Global Studies Web site at: **www.uky.edu/UGE/global-studies**

Participation in the Undergraduate Certificate of Global Studies at the University of Kentucky demonstrates your commitment to participating in a global community. Study at home, study abroad; do language; be part of the international community, at home, and overseas.

CGP recognizes your international experience, language study, your globally focused coursework, and, through co-curricular programming, your international engagement.

The Certificate of Global Studies will allow students to demonstrate their preparedness to live and work in a global community. By taking a series of courses with an international focus that amplifies the global dimension of their majors, by engaging in a credit-bearing education abroad experience, by enhancing their experience with a second language, and by participating in internationally-focused co-curricular activities, students will expand their view of the world and their place in it, and their perspectives on their own societies at home.

As the workplace seeks employees who can work in international or multicultural teams, and as participation in U.S. society increasingly demands the skills of global citizenship, our students will benefit from an additional degree credential, alongside their major(s) and/or minor(s), that demonstrates their dedication to and experience with global perspectives. Having this Certificate on the transcript will also show that the students are interested in the international facets of their academic and/or pre-professional training, which will be attractive to potential graduate programs or employers.

The structure of the Certificate of Global Studies offers an academic credential as well as a coherently planned academic core, for students who otherwise might simply take a smattering of international courses or participate in some type of isolated international experience. At the heart of the Certificate is the required Education Abroad experience (study abroad, internship, research abroad), but the Certificate's structure is designed to make that experience integral to the undergraduate program of study. A coherent program in which the time abroad is both preceded and followed by appropriate opportunities for reflection, and bolstered by rigorous academic course work, will enhance the impact of the international experience. Research has demonstrated that one advantage of education abroad is that, when appropriately designed, it can move students from dependent to independent learners, and can help them to acquire interpersonal and intercultural competence.

This Certificate facilitates development of both objective and subjective intercultural experience. It will appeal to a wide range of students. It is intended to encourage study abroad and cross-cultural experiences, and facilitate and credential that experience. Students in semester-long study abroad experiences as well as those students undertaking international programs during an 8-week summer period, a 4-week term abroad, or even a 1- or 2-week "study tour" will benefit by study *in situ*. The Undergraduate Certificate in Global Studies offers a curriculum and co-curriculum to bolster the learning that takes place abroad. Students gain both interpersonal and intercultural competence and are able to credential it (by enrolling in a defined certificate course of study).

In the Certificate curriculum, the skills that are acquired during the student's experience abroad is reinforced by course work that situates that experience in both academic and preprofessional growth, beyond that which is in the major or minor course of study. If the course work takes place before the program abroad, the student will be more receptive to the experience, better prepared to cope with cultural difference, and more educated about socio-historical contexts. If the course work takes place after the student's return, it offers opportunities for reflection and enrichment of the lessons learned abroad. In either case, the experiential learning in the international context goes hand-in-hand with course work that has an intercultural and global focus. The Certificate curriculum is designed to be feasible across the array of UK academic majors. If the student already has selected a major with an international focus, the Certificate's additional course work and required component abroad will extend and deepen that curriculum. And if the student has a major that does not have a visible and discrete international focus, the Certificate structure offers the student a context within which to understand the major from an internationally aware perspective.

Global Studies Curriculum

The Certificate of Global Studies curricula are as follows:

- A minimum of 12 credits of course work taken for a letter grade.
- At least 12 credits must be 200 level or above, and a minimum of 6 credits must be at the 300-level or above.
- The student must complete a three-credit breadth component. The breadth component requires that a student take courses in at least two disciplines, with a minimum of three credits to be completed in a second discipline.
- Student must earn a **C** or better in each required certificate course to receive the certificate.
- Certificates will only be awarded to students who successfully complete a degree, or have completed a four-year degree.
- No more than nine credits taken for a certificate can be used to satisfy the requirements for the student's bachelor's degree, a minor, or another certificate, exclusive of free or unrestricted electives.

The Undergraduate Certificate in Global Studies has four interlocking components: **1)** globally focused course work, **2)** second language course work, **3)** credit-bearing education abroad component, and **4)** co-curricular programming.

Globally Focused Course Work

Students must enroll in 12 hours of globally focused course work at the 200 level or above, in conformance with UK requirements for undergraduate certificates. As noted above at least 12 credits must be 200 level or above, and a minimum of 6 credits must be at the 300-level or above. "Globally focused course work" is satisfied as follows:

- Any course that has been deemed as appropriate for the A&S International Studies major/minor, at the 200+ level; this compendium of courses from across the university currently numbers over 230 courses.
- Any course within the General Education category of Global Dynamics, at the 200+ level
- Any courses taken abroad as part of the education abroad component
- Other courses can be considered, by petition to the faculty Director, if they are deemed to meet the learning outcomes of the Global Dynamics or International Studies course categories.

Second Language Course Work

For an academic credential that certifies a student as a global scholar, experience with a second language is required at a level beyond that required for all undergraduates. All language courses taken at UK provide linguistic competence and sophistication beyond what is provided in high school or by other means. The language ability enriches the international experience; further, because UK language courses incorporate significant cultural materials and exercise analytical facilities, they provide the tools for expanded

student awareness and interaction within the international experience. Students may satisfy this requirement in one of two ways:

- Complete the third semester of a language sequence (e.g. level 201), or the proficiency equivalent thereof;
- Enroll in a language not previously studied in high school, at the first-semester level or above, or demonstrate the proficiency equivalent thereof.

Credit-Bearing Education Abroad

Students will participate in an education abroad experience that involves at least one academic credit hour. Internationally oriented experiences undertaken within the U.S. will not satisfy this requirement; students must travel to a non-U.S. region to fulfill the requirement. Examples might include, but are not limited to:

- Education abroad programs facilitated by UK faculty or select customized programs offered in conjunction with Education Abroad at UK;
- University-wide or departmental education abroad exchange programs;
- Education abroad programs facilitated through UK consortia;
- Education abroad programs hosted by international institutions in which UK students are directly enrolled; and
- Education Abroad programs facilitated by third-party providers and other internship/service-learning based programs.

Co-Curricular Programming

Successful completers of the Certificate of Global Studies will have participated in at least two approved co-curricular activities with an international focus after returning to the U.S. from education abroad. These co-curricula" activities may include lectures, performances, workshops, volunteer work, or conferences. Some of the qualifying events at UK are listed on the Web site of the International Center, or students may hear of others from professors, friends, and organizations located both on and off campus. To find if an activity can be used for this requirement, contact the Certificate of Global Studies Director, Monica Blackmun Visonà: **m.b.visona@uky.edu**

After the Director has approved an activity as the co-curricular event, students will write a reflective essay placing their responses within the context of the other experiences gained while earning the Certificate of Global Studies (including education abroad, language learning, and coursework). Note: Descriptions of courses, study abroad, and language acquisition in your essay will be compared to those recorded on your transcript.

When both of the essays have been reviewed and accepted as complete by the Certificate of Global Studies Director, a staff member in Undergraduate Education will review your transcript and make sure that you have met all of the other requirements and send students' names to the Registrar for certification of completion. Contact Lauren James (**lauren.james@uky.edu**) for more information about the timing and process for certification.

UK Core

NOTE: Please use the UK Core search filter located on the online course catalog page to view current offerings of UK Core courses for fall 2015.

Courses listed in blue type are being offered in fall 2015.

The UK Core – General Education Requirements

The University of Kentucky's general education program – the UK Core – is foundational to a university education at the University of Kentucky. A university education is more than simply learning a set of skills in a specific area in preparation for a job or career. A university education is designed to broaden the students' understanding of themselves, of the world we live in, of their role in our global society, and of the ideals and aspirations that have motivated human thought and action throughout the ages. It must help individuals effectively put into action their acquired knowledge, to provide the bases for critical thinking and problem solving, and to develop life-long learning habits.

The UK Core is composed of the equivalent of 30 credit hours in 10 course areas that address four broad learning outcomes. Depending on choice of major or courses, some students may take more than 30 credit hours to complete the UK Core.

The UK Core Learning Outcomes

The UK Core curriculum is based on a comprehensive set of student learning outcomes that all students are expected to be able to demonstrate upon completion of a baccalaureate degree at the University of Kentucky. All UK Core courses are designed to meet one or more of the following learning outcomes:

I. Students will demonstrate an understanding of and ability to employ the processes of intellectual inquiry. [12 credit hours]

Students will be able to identify multiple dimensions of a good question (i.e., interesting, analytical, problematic, complex, important, genuine, researchable); determine when additional information is needed, find credible information efficiently using a variety of reference sources, and judge the quality of information as informed by rigorously developed evidence; explore multiple and complex answers to questions/issues problems within and across the four broad knowledge areas: arts and creativity, humanities, social and behavioral sciences, and natural/ physical/mathematical sciences; evaluate theses and conclusions in light of credible evidence; explore the ethical implications of differing approaches, methodologies or conclusions; and develop potential solutions to problems based on sound evidence and reasoning. Students will take four 3-credit courses, one in each of the four broad knowledge areas defined above.

II. Students will demonstrate competent written, oral, and visual communication skills both as producers and consumers of information. [6 credit hours]

Students will demonstrate the ability to construct intelligible messages using sound evidence and reasoning that are appropriate for different rhetorical situations (audiences and purposes) and deliver those messages effectively in written, oral, and visual form. Students will also demonstrate the ability to competently critique (analyze, interpret, and evaluate) written, oral, and visual messages conveyed in a variety of communication contexts. Students will take one 3-hour course focusing on the development of effective writing skills, and one 3-hour integrated communications course focusing on oral and visual communication skills, along with continued development of written communication skills.

III. Students will demonstrate an understanding of and ability to employ methods of quantitative reasoning. [6 credit hours]

Students will (a) demonstrate how fundamental elements of mathematical, logical and statistical knowledge are applied to solve real-world problems; and (b) explain the sense in which an important source of uncertainty in many everyday decisions is addressed by statistical science, and appraise the efficacy of statistical arguments that are reported for general consumption. Students will take one 3-hour course on the application of mathematical, logical and statistical methods, and one 3-hour course devoted to a conceptual and practical understanding of statistical inferential reasoning.

IV. Students will demonstrate an understanding of the complexities of citizenship and the process for making informed choices as engaged citizens in a diverse, multilingual world. [6 credit hours]

Students will recognize historical and cultural differences arising from issues such as ethnicity, gender, language, nationality, race, religion, sexuality, and socioeconomic class; students will demonstrate a basic understanding of how these differences influence issues of social justice, both within the U.S. and globally; students will recognize and evaluate the ethical dilemmas, conflicts, and trade-offs involved in personal and collective decision making. Students will take two courses, each with a topical or regional focus. The first course will include critical analysis of diversity issues as they relate to the contemporary United States. The second will be a non-US based course that includes critical analysis of local-to-global dynamics as they relate to the contemporary world. In addition, each course must address at least 2 of these 4 topics: societal and institutional change over time; civic engagement; cross-national/comparative issues; power and resistance.

– continued on next page –

Courses listed in blue type are being offered in fall 2015.

The Curricular Framework and Relationship to the Learning Outcomes

Students must take one course from each of the areas listed below in order to complete the UK Core. A course taken to satisfy a requirement in one area of the UK Core cannot be used to satisfy a requirement in another area, even if a specific course is present in more than one area (e.g., some courses are designed to meet the learning outcomes in more than one area).

Course Areas by Learning Outcome	Credit Hours
Learning Outcome I: Intellectual Inquiry	
The Nature of Inquiry in Arts and Creativity	3
The Nature of Inquiry in the Humanities	3
The Nature of Inquiry in the Social Sciences	3
The Nature of Inquiry in the Natural, Physical and Mathematical Sciences	3
Learning Outcome II: Written, Oral and Visual Communication	
Composition and Communication I	3
Composition and Communication II	3
Learning Outcome III: Quantitative Reasoning	
Quantitative Foundations	3
Statistical Inferential Reasoning	3
Learning Outcome IV: Citizenship	
Community, Culture and Citizenship in the USA	3
Global Dynamics	3
UK Core Credit-Hour Total*	**30**

**The UK Core is designed to provide the equivalent of 30 credit hours. Some courses in the UK Core require more than three credits, resulting in more than 30 credits in some cases.*

Please consult your advisor for a complete list of options.

I. Intellectual Inquiry in Arts and Creativity

Courses in this area are hands-on courses that allow students to engage actively with the creative process. Students will define and distinguish different approaches to creativity, demonstrate the ability to critically analyze work produced by other students, and evaluate results of their own creative endeavors. In general education, a focus on creativity adds to the vitality and relevance of learning and will translate into graduates who are better prepared to face the challenges of a dynamic society.

To fulfill the Arts and Creativity requirement, complete **one** of the following:

A-E 120	**Pathways to Creativity in the Visual Arts**
A-S 102	**Two-Dimensional Surface**
A-S 103	**Three-Dimensional Form**
A-S 130	**Drawing**
A-S 200	**Introduction to Digital Art, Space, and Time**
A-S 245	Introduction to Web Design
A-S 270	**Ceramics for Non-Majors**
A-S 280	**Introduction to Photographic Literacy**
A-S 300	**Digital Photography**
A-S 340	**Introduction to Graphic Design, Meaning and Image**
A-S 380	**Black & White Darkroom Photography**
AAS 168	All That Speak of Jazz: An Intellectual Inquiry Into Jazz and Democracy
BAE 402	**Biosystems Engineering Design I**
BAE 403	**Biosystems Engineering Design II**
CME 455*	**Chemical Engineering Product and Process Design I**
DES 100	**Design in Your World**
EE 101	**Creativity and Design in Electrical and Computer Engineering**
ENG 107	**Writing Craft: Introduction to Imaginative Writing**
ENG 130	**Literary Encounters**
ENG 168	All That Speak of Jazz: An Intellectual Inquiry Into Jazz and Democracy
GEO 109	**Digital Mapping**
ICT 200	**Information Literacy and Critical Thinking**
IS 200	**Information Literacy and Critical Thinking**
LA 111	**Living on the Right Side of the Brain**
ME 411	**ME Capstone Design I**
MNG 592	Mine Design Project II
MUS 123	**Beginning Classroom Guitar**
MUS 130	**Performing World Music (Subtitle required)**
MUS 200	Music for Living
MUS 222	**Creativity and Innovation in Rock Music**
PLS 240	**Introduction to Floral Design**
TA 110	**Theatre: An Introduction**
TA 120	**Creativity and the Art of Acting**
TA 150	**Creativity and the Art of Design and Production**
TA 220	Shakespeare Page to Stage
TA 370	Staging History
TAD 140	**Introduction to Dance**
UKC 100	**A&C Inquiry: Lens Arts**

**Chemical Engineering students only.*

Courses listed in blue type are being offered in fall 2015.

Courses listed in blue type are being offered in fall 2015.

II. Intellectual Inquiry in the Humanities

These courses develop students' skills in *interpretation* and *analysis* of creations of the human intellect such as art and literature (including folklore, popular culture, film and digital media), philosophical and religious contemplation and argumentation, language systems, and historical narratives. In these courses, students gain the ability not only to analyze the works themselves but to *evaluate* competing interpretations of such works.

To fulfill the Humanities requirement, complete **one** of the following:

A-H 101	**Introduction to Visual Studies**
A-H 105	**World Art Before 1400**
A-H 106	**Renaissance to Modern Art**
A-H 334	Reframing Renaissance Art
AAS 253	History of Pre-Colonial Africa
AAS 254	History of Colonial and Post-Colonial Africa
AAS 264	**Introduction to Black Writers**
AIS 228	**Islamic Civilization**
AIS 320	Modern Arabic Literature and Film in Translation
AIS 345	Islamic Mysticism
ARC 314*	**History and Theory III: 20th Century and Contemporary Architecture**
CHI 330	**Introduction to Chinese Culture, Pre-Modern to 1840**
CHI 331	Introduction to Chinese Culture, 1840 to Present
CLA 135	**Greek and Roman Mythology**
CLA 191	**Christianity, Culture, and Society: A Historical Introduction**
CLA 229	**The Ancient Near East and Greece to the Death of Alexander the Great**
CLA 230	The Hellenistic World and Rome to the Death of Constantine
CPH 309	Health, History, and Human Diversity
EGR 201	Literature, Technology, and Culture
ENG 142	**Global Shakespeare**
ENG 191	Literature and the Arts of Citizenship
ENG 209	**The Structure and Use of English**
ENG 230	**Introduction to Literature**
ENG 260	**Introduction to Black Writers**
ENG 280	**Introduction to Film**
ENG 290	**Introduction to Women's Literature**
EPE 350	Town and Gown in Fact and Fiction: Campus and Community as Local History
FR 103	**French Cinema**
FR 205	The French Graphic Novel
FR 225	French Film Noir
GER 103	Fairy Tales in European Context
GER 105	German Film Today
GWS 201	**Gender and Popular Culture**
GWS 309	Health, History, and Human Diversity
HIS 104	**A History of Europe Through the Mid-Seventeenth Century**
HIS 105	**A History of Europe from the Mid-Seventeenth Century to the Present**
HIS 112	**The Making of Modern Kentucky**
HIS 119	War and Society, 1350-1914
HIS 121	**War and Society, 1914-1945**
HIS 130	Drugs and Alcohol in Western Civilization, 1492 to the Present
HIS 191	**A History of World Religions (Subtitle required)**
HIS 202	**History of the British People to the Restoration**
HIS 203	History of the British People Since the Restoration
HIS 229	**The Ancient Near East and Greece to the Death of Alexander the Great**
HIS 230	The Hellenistic World and Rome to the Death of Constantine
HIS 253	History of Pre-Colonial Africa
HIS 254	History of Colonial and Post-Colonial Africa
HIS 296	East Asia Since 1600
ID 161	**History and Theory of Interior Environments I**
ID 162	History and Theory of Interior Environments II
ITA 263	Studies in Italian Culture (Subtitle required)
LIN 209	**The Structure and Use of English**
MCL 100	**The World of Language**
MCL 135	Vampires: Evolution of a Sexy Monster
MCL 200	**Global Literacy**
MCL 270	Introduction to Folklore and Mythology
MCL 343	**Global Horror**
MUS 100	**Introduction to Music**
PHI 100	**Introduction to Philosophy: Knowledge and Reality**
PHI 260	**History of Philosophy I: From Greek Beginnings to the Middle Ages**
PHI 270	**History of Philosophy II: From the Renaissance to the Present Era**
PHI 310	**Philosophy of Human Nature**
PHI 317	**Existentialist Thought and Literature**
PHI 380	**Death, Dying and the Quality of Life**
RUS 125	Mapping Russia (Subtitle required)
RUS 275	Russian Film
RUS 371	**Russian Culture 900-1900**
RUS 372	Russian Culture 1900-Present
SPA 262	**Hispanic Literatures in Translation (Subtitle required)**
SPA 330	Spanish and Globalization
SPA 371	Latin American Cinema (Subtitle required)
SPA 372	Spanish Cinema (Subtitle required)
TA 385	**World Theatre I**
TA 386	World Theatre II
TA 388	History of the American Musical
WRD 210	**Social Media: Theory, Culture, Politics, Practice**
WRD 320	**Rhetorical Theory and History**

**Architecture students only.*

Courses listed in blue type are being offered in fall 2015.

Courses listed in blue type are being offered in fall 2015.

III. Intellectual Inquiry in the Social Sciences

These courses promote an understanding of the relationships between individuals and society and how scholars have come to understand these relationships using conceptual models and processes of inquiry. Through a discipline-based study of social problems or themes, students will learn to critically evaluate the variety of social situations with which they may be confronted in their everyday lives.

To fulfill the Social Sciences Requirement, complete **one** of the following:

AIS 430	Islam in America
ANT 101	**What Makes Us Human? Intro to Anthropology**
ANT 102	**Archaeology: Mysteries and Controversies**
ANT 103	Sports, Culture, and Society
ANT 335	Religion in Everyday Life
ANT 339	**Human Rights in Global Perspective**
CLD 102*	**The Dynamics of Rural Social Life**
COM 101	**Introduction to Communications**
COM 311	**Taking Control of Your Health: Patient-Provider Communication**
COM 313	**Interpersonal Communication in Close Relationships**
COM 314	**The Dark Side of Interpersonal Communication and Relationships**
COM 317	**Communication in Family and Marital Relationships**
CPH 201	**Introduction to Public Health**
CPH 202	Public Health Through Popular Film
CPH 203	**Sexual Health**
ECO 101	**Contemporary Economic Issues**
EPE 174	**Theories of College Student Success**
EPE 374	**Theories of College Student Development and Mentoring**
GEO 172	**Human Geography**
GWS 200	**Sex and Power**
HP 101	**Historic Preservation: How the Past Informs the Future**
ICT 150	Experience ICT
MCL 135	Vampires: Evolution of a Sexy Monster
MCL 270	Introduction to Folklore and Mythology
PCE 201	**Introduction to Peace Studies**
PS 235	**World Politics**
PSY 100	**Introduction to Psychology**
RUS 370	Russian Folklore (in English)
SOC 101*	**Introduction to Sociology**

**Students may not receive credit for both SOC 101 and CLD 102.*

IV. Intellectual Inquiry in the Natural, Physical and Mathematical Sciences

These courses engage students in the fundamental processes of science through the exploration of an area in science. Students will be expected to use their knowledge of scientific concepts to formulate predictions, collect and analyze data, and construct explanations for the questions posed.

To fulfill the Natural, Physical and Mathematical Sciences requirement, complete **one** of the following:

ABT 120	Genetics and Society
ANT 230	**Introduction to Biological Anthropology**
ARC 333	Environmental Controls II
AST 191	**The Solar System**
BIO 102	**Human Ecology**
BIO 103	**Basic Ideas of Biology**
CHE 101	**Molecular Science for Citizens**
CHE 105*	**General College Chemistry I**
CHE 109**	**General Chemistry I**
CHE 110**	General Chemistry II
CHE 111*	**Laboratory to Accompany General Chemistry I**
CPH 310	**Disease Detectives: Epidemiology in Action**
EE 167	Fundamentals of Nanotechnology and Applications in Renewable Energy
EES 110	**Endangered Planet: An Introduction to Environmental Geology**
EES 120	**Sustainable Planet: The Geology of Natural Resources**
EES 150	**Earthquakes and Volcanoes**
EES 170	Blue Planet: Introduction to Oceanography
EES 180	Geology of the National Parks
ENT 110	**Insect Biology**
GEO 130	**Earth's Physical Environment**
GEO 133	Science and Policy of Natural Hazards
GEO 135	Global Climate Change
MUS 140	**Acoustics of Music**
PHY 120	How Things Work
PHY 130	Science and Technology for the Future
PHY 140	Quantum Theory for Everyone
PHY 211	**General Physics**
PHY 231***	**General University Physics**
PHY 241***	**General University Physics Laboratory**
PLS 104	**Plants, Soils, and People: A Science Perspective**

**CHE 105 and 111 are paired courses. To earn UK Core credit, both courses must be completed. CHE 111 may be taken concurrently with CHE 105 or after CHE 105 has been completed. Students must sign up for them separately.*

***CHE 109 and CHE 110 are equivalent to CHE 105. To earn UK Core credit, students must complete CHE 109, CHE 110 and CHE 111. Students must sign up for them separately.*

****PHY 231 and 241 are paired courses. To earn UK Core credit, both PHY 231 and PHY 241 must be completed. They may be taken in either order and students must sign up for them separately.*

Courses listed in blue type are being offered in fall 2015.

Courses listed in blue type are being offered in fall 2015.

V. Composition and Communication I

In this course, students are introduced to the process of writing, speaking, and visually representing their own ideas and the ideas of others; they also practice basic interpersonal communication skills and the ability to communicate with multiple audiences.

To fulfill the Composition and Communication I requirement, complete **one** of the following:

- **CIS 110 Composition and Communication I**
- **CIS 112 Accelerated Composition and Communication II (CIS)**
- **WRD 110 Composition and Communication I**
- **WRD 112 Accelerated Composition and Communication II (WRD)**

Placement in CIS/WRD 112 – *Students who have a score of **32 or above** on the English component of the **ACT**; a score of **720 or above** on **SAT I Verbal**; or a standard score of **4** or **5** on the **AP English Language Exam** receive placement in **CIS/WRD 112**. No credit for **CIS/WRD 110/111** is awarded.*

VI. Composition and Communication II

In this course, students research public controversies and work in teams to analyze and argue for a solution to these controversies in oral, written, and visual/digital forms for multiple audiences.

To fulfill the Composition and Communication II requirement, complete **one** of the following:

- **CIS 111 Composition and Communication II**
- **CIS 112 Accelerated Composition and Communication II (CIS)**
- CIS 184 Communicating Arguments
- **WRD 111 Composition and Communication II**
- **WRD 112 Accelerated Composition and Communication II (WRD)**

Placement in CIS/WRD 112 – *Students who have a score of **32 or above** on the English component of the **ACT**; a score of **720 or above** on **SAT I Verbal**; or a standard score of **4** or **5** on the **AP English Language Exam** receive placement in **CIS/WRD 112**. No credit for **CIS/WRD 110/111** is awarded.*

VII. Quantitative Foundations

These courses are concerned with the application of mathematical concepts and skills to solve real-world problems. In order to perform effectively as professionals and citizens, students must become competent in reading and using quantitative data, in understanding quantitative evidence and in applying basic quantitative skills to the solution of real-life problems.

NOTE: Students must have demonstrated basic proficiency in math skills as determined by a minimum Math ACT of 19 or the appropriate math placement test to take these courses.

To fulfill the Quantitative Foundations requirement, complete **one** of the following:

CS 261 Social Networks: Methods and Tools
EES 151 Earth Dynamics
EES 155 Earthquakes and Quantitative Reasoning
EES 185 Quantifying the Bluegrass Water Supply
MA 111 Introduction to Contemporary Mathematics
MA 113 Calculus I
MA 123 Elementary Calculus and Its Applications
MA 137 Calculus I With Life Science Applications
PHI 120 Introductory Logic

Courses listed in blue type are being offered in fall 2015.

Courses listed in blue type are being offered in fall 2015.

VIII. Statistical Inferential Reasoning

These courses will encourage students to evaluate claims based on statistical principles by providing an understanding of the conceptual and practical applications of statistical reasoning and thinking. Students will receive an introduction to the science of statistics, and while students will be expected to reason with statistical ideas and make sense of statistical information, computations are not the focus.

To fulfill the Statistical Inferential Reasoning requirement, complete **one** of the following:

BAE 202	Statistical Inferences for Biosystems Engineering
BST 330	**Statistical Thinking for Population Health**
MNG 335	**Introduction to Mine Systems Analysis**
PSY 215*	**Experimental Psychology**
PSY 216*	**Applications of Statistics in Psychology**
SOC 303	**Quantitative Sociological Analysis**
STA 210	**Making Sense of Uncertainty: An Introduction to Statistical Reasoning**
STA 296	**Statistical Methods and Motivations**
STA 381	**Engineering Statistics – A Conceptual Approach**

**PSY 215 and 216 are paired courses and are restricted to Psychology majors and minors. To earn UK Core credit, both PSY 215 and PSY 216 must be completed. They may be taken in either order and students must sign up for them separately.*

IX. Community, Culture and Citizenship in the USA

These courses promote a student's understanding of historical, societal, and cultural differences, such as those arising from race, ethnicity, gender, sexuality, language, nationality, religion, political and ethical perspectives, and socioeconomic class; engage students in grappling with conflicts, compromises, and/or ethical dilemmas stemming from the complex and diverse cultural contexts of US communities; and foster effective and responsible participation in a diverse community or society in the United States.

To fulfill the Community, Culture and Citizenship in the USA requirement, complete **one** of the following:

A-H 360	**Visual Culture of Politics**
AAS 168	All That Speak of Jazz: An Intellectual Inquiry Into Jazz and Democracy
AAS 235	**Inequalities in Society**
AAS 261	**African American History 1865-Present**
AIS 430	Islam in America
ANT 221	**Native People of North America**
ANT 330	North American Cultures
APP 200	**Introduction to Appalachian Studies**
CLD 360	**Environmental Sociology**
COM 312	Learning Intercultural Communication Through Media and Film
COM 315	**Understanding Workplace Communication in a Diverse U.S. Society**
CPH 309	Health, History, and Human Diversity
ENG 168	All That Speak of Jazz: An Intellectual Inquiry Into Jazz and Democracy
ENG 191	Literature and the Arts of Citizenship
EPE 301	**Education in American Culture**
GEN 100*	**Issues in Agriculture, Food and Environment**
GEO 220	U.S. Cities
GEO 221	Immigrant America: A Geographic Perspective
GEO 320	Geography of the United States and Canada
GRN 250	**Aging in Today's World**
GWS 301	**Crossroads (Subtitle required)**
GWS 309	Health, History, and Human Diversity
HIS 108	**History of the United States Through 1876**
HIS 109	**History of the United States Since 1877**
HIS 112	**The Making of Modern Kentucky**
HIS 261	**African American History 1865-Present**
LIN 331	Language in U.S. Society
PHI 130	**Introduction to Philosophy: Morality and Society**
PHI 205	Food Ethics
PHI 335	**The Individual and Society**
PS 101	**American Government**
PSY 320	Introduction to Forensics: Psychology and Legal Issues
SOC 235	**Inequalities in Society**
SOC 360	**Environmental Sociology**
SPA 208	U.S. Latino Culture and Politics
TA 286	Social Action Theatre
WRD 422	Public Advocacy (Subtitle required)

**GEN 100 is for College of Agriculture students only.*

Courses listed in blue type are being offered in fall 2015.

Courses listed in blue type are being offered in fall 2015.

X. Global Dynamics

These courses equip students to participate in a diverse, multiethnic, multilingual world community. Toward this end, students consider issues of equality, ethical dilemmas, global trends, social change, and civic engagement in the context of local cultures outside the U.S.

To fulfill the Global Dynamics requirement, complete **one** of the following:

A-H 104	African Art and Its Global Impact
A-H 311	**The Arts as Soft Power: The Japanese Tea Ceremony**
AAS 253	History of Pre-Colonial Africa
AAS 254	History of Colonial and Post-Colonial Africa
ANT 160	**Cultural Diversity in the Modern World**
ANT 222	Middle East Cultures
ANT 225	**Culture, Environment and Global Issues**
ANT 241	Origins of Old World Civilization
ANT 242	**Origins of New World Civilization**
ANT 311	Anthropology of Globalization
ANT 321	Introduction to Japanese Culture, Meiji (1868) to Present
ANT 329	**Cultures and Societies of Eurasia and Eastern Europe: Socialism and Post-Socialist Change**
ARC 315	History and Theory of Architecture IV: Urban Forms
CHI 331	Introduction to Chinese Culture, 1840 to Present
CLD 380	**Globalization: A Cross-Cultural Perspective**
COM 390	Communication Education Abroad (Subtitle required)
EGR 240	**Global Energy Issues**
ENG 142	**Global Shakespeare**
ENG 171	**Global Literature in English**
GEO 160	**Lands and Peoples of the Non-Western World**
GEO 161	Global Inequalities
GEO 162	**Introduction to Global Environmental Issues**
GEO 163	Global Conflicts
GEO 164	iWorlds: Global Information Geographies
GEO 222	**Cities of the World**
GEO 255	**Geography of the Global Economy**
GEO 260	Geographies of Development in the Global South
GEO 261	**Global Dynamics of Health and Disease**
GEO 316	Environment and Development
GER 342	War, Peace, and Terror in Germany and Europe
GER 361	German Cinema
GWS 302	**Gender Across the World (Subtitle required)**
HIS 104	**A History of Europe Through the Mid-Seventeenth Century**
HIS 105	**A History of Europe From the Mid-Seventeenth Century to the Present**
HIS 121	**War and Society, 1914-1945**
HIS 122	War and Society Since 1945
HIS 191	**A History of World Religions (Subtitle required)**
HIS 202	**History of the British People to the Restoration**
HIS 203	History of the British People Since the Restoration
HIS 206	**History of Colonial Latin America, 1492-1810**
HIS 208	History of the Atlantic World
HIS 253	History of Pre-Colonial Africa
HIS 254	History of Colonial and Post-Colonial Africa
HIS 296	East Asia Since 1600
HIS 357	Japan at War, 1850 to the Present
ICT 205	Issues in Information and Communication Technology Policy
JPN 320	**Introduction to Japanese Culture, Pre-Modern to 1868**
JPN 321	Introduction to Japanese Culture, Meiji (1868) to Present
JPN 351	The Japanese Experience of the Twentieth Century
LAS 201	**Introduction to Latin America**
MCL 324	The City in the Twentieth-Century: Tokyo, Shanghai, Paris
MCL 343	**Global Horror**
MUS 330	**Music in the World (Subtitle required)**
MUS 335	Exploring World Music and Ethnomusicology
PCE 410	Peace Studies Capstone Seminar
PHI 343	**Asian Philosophy**
PLS 103	**Plants, Soils, and People: A Global Perspective**
PS 210	**Introduction to Comparative Politics**
RUS 125	Mapping Russia (Subtitle Required)
RUS 275	Russian Film
RUS 370	Russian Folklore (in English)
RUS 371	**Russian Culture 900-1900**
RUS 372	Russian Culture 1900-Present
SAG 201	**Cultural Perspectives on Sustainability**
SOC 180	**Global Societies in Comparative Perspective**
SOC 380	**Globalization: A Cross-Cultural Perspective**
SPA 111	The Hispanic Caribbean
WRD 420	**Rhetorical Traditions (Subtitle required)**

Foreign Language Requirement

Foreign language is no longer explicitly required as part of the new UK General Education, the UK Core. However, foreign language proficiency is still an expectation for students who enter UK, and is still considered to be an important part of the students' educational background.

Any first-time freshman or transfer student must demonstrate that they have completed two high school credits in a single foreign language, or two semesters at the postsecondary level. A student who has not completed the high school foreign language requirement will be required to take a two-semester sequence in one foreign language at the University of Kentucky prior to graduation.

Courses listed in blue type are being offered in fall 2015.

College of Agriculture, Food and Environment

Nancy M. Cox, Ph.D., is Dean and Director of the College of Agriculture, Food and Environment; Associate Dean for Research to be announced; Jimmy C. Henning, Ph.D., is Associate Dean for Extension; Larry J. Grabau, Ph.D., is Associate Dean for Instruction.

The research, teaching, extension, and regulatory functions of the College of Agriculture, Food and Environment are combined into a coordinated, mutually supporting program of undergraduate and graduate education. Teaching in this college is closely related to the other functions thus providing the student with a unique opportunity to broaden his or her background in the areas of research and application of scientific findings to stakeholders.

Degrees and preprofessional programs in the college encompass the entire range of the food, fiber, and agricultural system from farm production and marketing, manufacturing, processing and fabrication through nutrition, hospitality management, and consumer, community, and family sciences.

The School of Human Environmental Sciences is part of the College of Agriculture, Food and Environment. Degree requirements and information pertaining to these programs are listed beginning on page 121.

Admission

All students planning to study any phase of agriculture, food or environment, including preveterinary medicine, are admitted directly into the College of Agriculture, Food and Environment. Application for admission is made through the Office of Undergraduate Admissions.

Students interested in the Landscape Architecture program must meet all requirements for admission to the University. In addition, enrollment in the landscape architecture program is determined by a selective admission procedure. Applicants are selected on a competitive basis as determined by potential success in the program.

Students must apply for the Coordinated Program in Dietetics by **February 1** prior to potential admission to year three in the Dietetics Program. For additional information, see page 122.

Accreditation

The undergraduate Forestry program at the University of Kentucky is accredited by the Society of American Foresters. The Landscape Architecture program is accredited by the American Society of Landscape Architects and meets all the requirements for licensing of landscape architects in Kentucky and other states. The Food Science program is accredited by the Institute of Food Technologists.

Accreditations for the School of Human Environmental Sciences are listed on page 121 of this Bulletin.

Undergraduate Programs in Agriculture, Food and Environment

The University of Kentucky grants the following degrees in the College of Agriculture, Food and Environment:

- Bachelor of Science in Agriculture
- Bachelor of Science in Agricultural Biotechnology
- Bachelor of Science in Agricultural Economics
- Bachelor of Science in Animal Sciences
- Bachelor of Science in Career and Technical Education
- Bachelor of Science in Community and Leadership Development
- Bachelor of Science in Dietetics
- Bachelor of Science in Equine Science and Management
- Bachelor of Science in Family Sciences
- Bachelor of Science in Food Science
- Bachelor of Science in Forestry
- Bachelor of Science in Horticulture, Plant and Soil Sciences
- Bachelor of Science in Hospitality Management and Tourism
- Bachelor of Science in Human Nutrition
- Bachelor of Science in Landscape Architecture
- Bachelor of Science in Merchandising, Apparel and Textiles
- Bachelor of Science in Natural Resources and Environmental Science

Information and degree requirements for each program follows. Students may obtain additional information on programs and recommended plans of study from the Office of Academic Programs Advising Resource Centers.

The college offers minors in agricultural economics, community and leadership development, animal sciences, entomology, family sciences, pest management, plant and soil science, and sustainable agriculture.

SPECIAL APPLICATION DEADLINE FOR SCHOOL OF HUMAN ENVIRONMENTAL SCIENCES

Coordinated Program in Dietetics Upper division program applicants (students who have 71 semester hours of lower division courses) – special application, transcript(s), and recommendations are due by:

February 1	For fall entry to Coordinated Program

The college offers an undergraduate certificate in Distillation, Wine and Brewing Studies.

Students majoring in biosystems engineering are enrolled in the College of Engineering. Degree requirements and curriculum are listed in the *College of Engineering* section of this Bulletin.

See page 121 of this Bulletin for the list of degree requirements for majors in the School of Human Environmental Sciences.

Undeclared Majors

Students who are interested in the College of Agriculture, Food and Environment but are undecided about a major should work closely with an advisor in the college who will assist them in selecting courses that will fulfill general requirements while exploring the various areas of study in agriculture, food and environment.

Scholarships and Financial Aid

The College of Agriculture, Food and Environment offers scholarship awards to students on the basis of academic accomplishment and involvement in extracurricular activities. Many of the departments in the college employ students in laboratories, greenhouses, barns, and field work in connection with the college's research programs in agriculture. Information about scholarships and work opportunities is available in the Office of Academic Programs.

Freshman scholarship applications are due **January 15**. Upperclass and transfer scholarship applications are due **April 1**. For more information go to:
http://academics.ca.uky.edu/scholarships

Academic Advising

Students in the College of Agriculture, Food and Environment are advised by selected faculty or academic coordinators in the department of the student's major. Each student's academic record

is maintained in the Office of Academic Programs Advising Resource Centers in N8 Ag. Science Center or 112 Erikson Hall. Students needing assistance selecting an advisor or general information about academics may go to either of the Office of Academic Programs Advising Resource Centers.

Inquiries about programs or majors within the College of Agriculture, Food and Environment may be directed to:

College of Agriculture, Food and Environment
Office of Academic Programs
N6 Ag. Science Building – North
University of Kentucky
Lexington, KY 40546-0091
(859) 257-3468 or (859) 257-3469

Graduate Work

The College of Agriculture, Food and Environment offers the Master of Science degree in the following areas: Agricultural Economics, Animal and Food Sciences, Biosystems Engineering, Career, Technical and Leadership Education, Entomology, Family Sciences, Forestry, Integrated Plant and Soil Science, Nutrition and Food Systems, Plant Pathology, Retailing and Tourism Management, and Veterinary Science.

Doctor of Philosophy degrees are offered in the following areas: Agricultural Economics, Animal and Food Sciences, Biosystems and Agricultural Engineering, Entomology, Family Sciences, Integrated Plant and Soil Science, Plant Pathology, and Veterinary Science. For more information, visit the Graduate School Web site at: **www.research.uky.edu/gs/**.

MINIMUM REQUIREMENTS FOR GRADUATION

NOTE: The following graduation requirements do not apply to degree programs in the School of Human Environmental Sciences; those requirements are described in the corresponding section of this Bulletin. Except where noted in specific degree programs, all students pursuing a Bachelor of Science degree in the College of Agriculture, Food and Environment must complete:

1. the UK Core and University graduation requirements;
2. GEN 100: Issues in Agriculture, Food and Environment is required for all first semester Freshmen. Students who transfer into the College and have already completed the UK Core U.S. Citizenship requirement are not required to take GEN 100;
3. a minimum of 120 credit hours with at least a 2.0 grade-point average. Some programs require more than the minimum 120 credit hours and have other grade-point average requirements. Remedial courses may **not** be counted toward the total hours required for the degree;
4. an Agriculture Major with a minimum of 24 hours including 3 hours in a 400-level capstone course;
5. a core of specialty or professional support courses outside the major department totaling at least 18 hours at the 200 level or above; and
6. a minimum of 45 credit hours from upper division courses (300 and above).

B.S. in Agriculture with a major in INDIVIDUALIZED PROGRAMS

Individualized program opportunities have been developed to assist students with academic goals that cross several disciplines. Students pursuing the Bachelor of Science in Agriculture may pursue an individualized program in agriculture such as Entomology or Sustainable Agriculture.

The procedure for entering an individualized program is as follows:

1. Each student must apply to the Associate Dean for Instruction. The student will receive an explanation of the program and its objectives, and the possible risks involved, including prospective employment and acceptance for advanced graduate degree work.
2. Students who continue their interest in the individualized program develop, with the assistance of an advisor, the plan which they propose to follow.
3. This plan must be submitted to the Associate Dean for consideration and possible approval.
4. Approval of the student's program by the Associate Dean will admit the student to the individualized program option.

For more information, contact:

College of Agriculture, Food and Environment
Office of Academic Programs
N6 Ag. Science Building – North
University of Kentucky
Lexington, KY 40546-0091
(859) 257-3468 or (859) 257-3469

BACHELOR OF SCIENCE IN AGRICULTURAL BIOTECHNOLOGY

Agricultural biotechnology encompasses cellular and molecular approaches to the manipulation and improvement of agricultural plants, animals and microorganisms, and the control of agricultural pests and diseases. The primary purpose of the baccalaureate degree program in Agricultural Biotechnology is to train students in modern cellular and molecular biology and genetic engineering. Students will be provided with a firm foundation in the principles of genetics and molecular biology of both prokaryotic and eukaryotic organisms. Each student will then specialize in an area appropriate to his or her interest and career objectives, including: microbial, fungal, plant, insect and mammalian biotechnology.

Graduates will be prepared to assume government, university, and industry positions with research and technology applications to agriculture and food production. Employment opportunities include research scientists, laboratory technicians or managers in university, government, industrial, or clinical laboratories using biotechnological tools for research and production. Examples of research areas include: gene cloning, construction of novel pest and disease resistance genes, development of new immunological and nucleic acid types of diagnostic probes for plant and animal disease, genetic engineering of microorganisms for the production of important pharmaceutical agents, and development of new bioengineered strains of microorganisms for fermentation and food production services. Students will also be prepared to enter graduate programs in agriculture, molecular biology, and the biological sciences.

Graduation Requirements

To earn a Bachelor of Science in Agricultural Biotechnology the student must complete 128 semester hours with at least a 2.0 grade-point standing. A minimum of 45 credit hours must be from upper division courses (300 and above). Remedial courses may **not** be counted toward the total hours required for the degree. In addition to the UK Core requirements, students must complete college, premajor, major, and specialty support requirements, including an independent research project relevant to the student's interest in biotechnology.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I
or
MA 137 Calculus I
With Life Science Applications 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations
or
BST 330 Statistical Thinking for Population Health 3

IX. Community, Culture and Citizenship in the USA
GEN 100 Issues in Agriculture,
Food and Environment 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

ABT 201 Scientific Method in Biotechnology 1
ABT 301 Writing and Presentations
in the Life Sciences 2

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
BIO 155 Laboratory for Introductory Biology I 1
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany
General Chemistry I 1
CHE 113 Laboratory to Accompany
General Chemistry II 2
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1

MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I
or
MA 137 Calculus I With Life Science Applications 4

PHY 211 General Physics 5
PHY 213 General Physics 5
(or equivalent with laboratory)

Subtotal: Premajor hours 39-42

Major Requirements — Hours

Biotechnology
ABT 101 Introduction to Biotechnology 1
ABT 201 Scientific Method in Biotechnology 1
ABT 301 Writing and Presentations
in the Life Sciences 2

Microbiology
BIO 208 Principles of Microbiology 3
BIO 209 Principles of Microbiology Laboratory 2

Biochemistry
BCH 401G Fundamentals of Biochemistry 3

Genetics
ABT 120 Genetics and Society 3

ABT/ENT 360 Genetics
or
BIO 304 Principles of Genetics 3-4

ABT 460 Introduction to Molecular Genetics 3
ABT 461 Introduction to Population Genetics 3

Statistics
STA 296 Statistical Methods and Motivations
or
BST 330 Statistical Thinking for Population Health 3

Advanced Practical Skills
ABT 495 Experimental Methods in Biotechnology
or
BIO 510 Recombinant DNA Techniques Laboratory 4

Independent Study
ABT 395 Independent Study in Biotechnology
or
ABT 399 Experiential Learning in Biotechnology 3

All students are expected to undertake an independent study project in an area of their interest for a minimum of 3 credit hours. This requirement can be met by a research project or an internship that is agreed upon by a student's advisor and approved by the Biotechnology Coordinating Committee prior to initiation of the project. Both written and oral reports are required when the project is completed.

Subtotal: Major hours 34-35

Specialty Support — Hours

Students must take a minimum of 21 credit hours of specialty support courses including at least one of the courses listed below. A number of the courses listed here may have additional prerequisites. Additional specialty support courses will be selected according to the student's area of interest with approval of the academic advisor.

ASC 364 Reproductive Physiology of Farm Animals 4
BIO 315 Introduction to Cell Biology 4
BIO 350 Animal Physiology 4
BIO/PGY 502 Principles of Systems,
Cellular and Molecular Physiology 5

Subtotal: Specialty Support hours 21

Electives

Electives should be selected to complete the 128 hours required for graduation.

Subtotal: Electives ..... minimum of 4

TOTAL HOURS: 128

BACHELOR OF SCIENCE IN AGRICULTURAL ECONOMICS

The Agricultural Economics program enables graduates to pursue careers in agribusiness and food industries, international marketing and trade, or farm management and production. Opportunities are also available in public policy for agriculture and rural America and environmental economics. These career opportunities may be found in both the private and public sectors. Economic theory is applied to problems concerning the production, marketing, and distribution of agricultural and food products and also to public policy and natural resource and environmental issues facing rural communities.

Agricultural Economics students choose one of two options – Option A: Agricultural Economics; and Option B: Agribusiness Management and Food Marketing.

Graduation Requirements

To earn the Bachelor of Science in Agricultural Economics, the student must have a minimum of 120 credit hours with at least a 2.0 grade-point average in one of the two program options. A student must earn a minimum grade of **C** in each of the four agricultural economics courses required in the major. A minimum of 45 credit hours must be from upper division courses (300 and above). Remedial courses may **not** be counted toward the total hours required for the degree. In addition to UK Core requirements, students must complete college, departmental and support requirements.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
ECO 101 Contemporary Economic Issues
or course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations 3

IX. Community, Culture and Citizenship in the USA
GEN 100 Issues in Agriculture,
Food and Environment 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 31

Graduation Composition and Communication Requirement (GCCR)

AEC 306 Technical Communication in Economics 2

Graduation Composition and Communication Requirement hours (GCCR) 2

OPTIONS

Option A – Agricultural Economics

This option provides a program of study for students interested in careers in rural public policy analysis, rural economic development, natural resource and environmental economics, cooperative extension, or a more individualized program.

Premajor Requirements — Hours

ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3

MA 113 Calculus I 4
OR
MA 123 Elementary Calculus and Its Applications
and
MA 162 Finite Mathematics and Its Applications 7

STA 296 Statistical Methods and Motivations 3
ECO 391 Economic and Business Statistics 3

Subtotal: Premajor hours 16-19

Major Requirements **Hours**

Notes: Students must have a **C** or higher in ECO 201 to enroll in the core classes and a **C** or higher in ECO 201 and MA 123 to enroll in AEC 303. Students must receive a grade of **C** or better in each of the following four agricultural economics courses required for graduation:

AEC 302 Agricultural Management Principles 4
AEC 303 Microeconomic Concepts in Agricultural Economics 3
AEC 305 Food and Agricultural Marketing Principles ... 3
AEC 490 Quantitative Methods and Price Analysis 3

plus, after completing AEC 302 or AEC 303 or AEC 305:
AEC 301 Career Readiness for Agricultural Economics 1

plus one of the following:
AEC 395 Independent Research in Agricultural Economics
AEC 396 International Studies in Agricultural Economics
AEC 399 Experiential Learning in Agricultural Economics 3

plus 12 additional hours in the major (at least 3 hours at 400+ level) 12

Subtotal: Major hours **29**

Specialty Support **Hours**

ACC 201 Financial Accounting I 3
ACC 202 Managerial Uses of Accounting Information 3

plus 15 additional hours of courses at the 200 level or higher to fulfill the student's area of interest and selected with advisor's approval from the following departments: ACC, AEN, AN, ASC, BAE, COM, CS, ECO, ENT, FIN, FOR, MA, MGT, MKT, PLS, PS, PSY, SOC, VS 15

Subtotal: Specialty Support hours **21**

Electives

Electives should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Electives ..... **minimum of 16**

TOTAL HOURS: **120**

Option B – Agribusiness Management and Food Marketing

A student in this option should be qualified for careers in marketing, sales, and management of farms or firms involved in production, financing, processing, marketing and distribution of food and agricultural products, depending on the electives chosen.

Premajor Requirements **Hours**

CS 101 Introduction to Computing I 3
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3

MA 113 Calculus I 4
OR
MA 123 Elementary Calculus and Its Applications
and
MA 162 Finite Mathematics and Its Applications 7

STA 296 Statistical Methods and Motivations 3
ECO 391 Economic and Business Statistics 3

Subtotal: Premajor hours **19-22**

Major Requirements **Hours**

Notes: Students must have a **C** or higher in ECO 201 to enroll in the core classes and a **C** or higher in ECO 201 and MA 123 to enroll in AEC 303. Students must receive a grade of **C** or better in each of the following four agricultural economics courses required for graduation:

AEC 302 Agricultural Management Principles 4
AEC 303 Microeconomic Concepts in Agricultural Economics 3
AEC 305 Food and Agricultural Marketing Principles ... 3
AEC 422 Agribusiness Management 3

plus, after completing AEC 302 or AEC 303 or AEC 305:
AEC 301 Career Readiness for Agricultural Economics 1

plus one of the following:
AEC 395 Independent Research in Agricultural Economics
AEC 396 International Studies in Agricultural Economics
AEC 399 Experiential Learning in Agricultural Economics 3

plus 12 additional hours in the major (at least 3 hours at 400+ level) 12

Subtotal: Major hours **29**

Specialty Support **Hours**

ACC 201 Financial Accounting I 3
ACC 202 Managerial Uses of Accounting Information 3

plus completion of the requirements of the business minor, plus 3 additional hours of courses at the 200 level or higher selected with advisor's approval from the following departments: ACC, AEN, AN, ASC, BAE, COM, CS, ECO, ENT, FIN, FOR, MA, MGT, MKT, PLS, PS, PSY, SOC, VS 15

Subtotal: Specialty Support hours **21**

Electives

Electives should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Electives ..... **minimum of 14**

TOTAL HOURS: **120**

BACHELOR OF SCIENCE IN ANIMAL SCIENCES

Animals have many important roles in human societies including the provision of food and fiber, draft power, recreational and athletic activities, and companionship. In addition, animals and their interactions with humans have environmental consequences. Processing, preservation, and quality of animal-derived foods significantly affect human health and economics. Animal Sciences involves studying and applying the basic principles of nutrition, reproduction, and genetics to the production and management of animals including horses, dairy and beef cattle, sheep, swine, poultry, and other domesticated species. Additional course work provides information on production and handling of animal-derived foods.

No one program fits all Animal Sciences students. Students come from varied backgrounds and their interests range from livestock and poultry production and management to marketing and public relations; from public education and extension to graduate training in research and teaching and veterinary medicine. No matter what species you have an interest in, the Animal Sciences major will allow you to combine your interest with your desire for an exciting and rewarding career.

As an Animal Sciences major, students have the opportunity to pursue specific interests by selecting one of three study options: Animal Industry, Food Industry or Pre-Professional. The Animal Industry option is for those students interested in animal production and management and allows specialization in one of three areas: livestock, equine, or dairy. The Food Industry option is designed to provide an emphasis on aspects of food processing, chemistry, and safety. The Pre-Professional option is a rigorous study program for students with interests in veterinary sciences, human medicine, and graduate research. Students must consult the pre-professional advisor or graduate school advisor of the university to which they intend on applying for additional or specific requirements.

Career Opportunities

To keep pace with the food, fiber, and recreation requirements of a growing world population, Animal Sciences graduates are needed in the livestock industry and closely related fields. The Animal Sciences major offers considerable flexibility in fulfilling specific career objectives, whether you are interested in working directly with livestock or indirectly in closely related areas such as agribusiness, research, government, or education.

Graduation Requirements

To earn the Bachelor of Science in Animal Sciences, the student must have a minimum of 120 credit hours with at least a 2.0 grade-point standing. A minimum of 45 credit hours must be from upper division courses (300 and above). Remedial courses may **not** be counted toward the total hours required for the degree. In addition to UK Core requirements, students must complete college, departmental and specialty support requirements.

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I
or
MA 137 Calculus I With Life Science Applications 4

VIII. Statistical Inferential Reasoning
Recommended:
STA 210 Making Sense of Uncertainty:
An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
GEN 100 Issues in Agriculture,
Food and Environment 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

WRD 203 Business Writing
or
WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I
or
MA 137 Calculus I With Life Science Applications 4

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany
General Chemistry I 1
CHE 113 Laboratory to Accompany
General Chemistry II 2

Subtotal: Premajor hours 20

Major Requirements — Hours

ASC 101 Domestic Animal Biology 3
ASC 102 Applications of Animal Science 3
ASC 205 Livestock, People and Their Interactions 1
ASC 325 Animal Physiology 3
ASC 362 Animal Genetics 4
ASC 364 Reproductive Physiology of Farm Animals 4
ASC 378 Animal Nutrition and Feeding 4
ASC 470 Capstone for Animal Agriculture 3
ASC 499 Academic Enrichment Experience
in Animal Sciences 1
plus at least three of the following courses:
ASC 340 Poultry Production 2
ASC 404G Sheep Science 4
ASC 406 Beef Cattle Science 4
ASC 408G Swine Production 2
ASC 410G Equine Science 3
ASC 420G Dairy Cattle Science 3

Subtotal: Major hours 33-37

In addition to the Major Requirements, students choose one of three options:

OPTIONS

Option A – Animal Industry

Students fulfilling the Major Requirements are eligible for the Animal Industry Option by taking certain required Specialty Support Courses (see below). In addition, students with more specific interests may, but are not required to, choose from three specializations available within this Option.

No Specialization
(required Specialty Support only; see below) 0

Livestock Specialization
ASC 300 Meat Science 4
and at least two from:
ASC 340 Poultry Production 2
ASC 404G Sheep Science 4
ASC 406 Beef Cattle Science 4
ASC 408G Swine Production 2

Equine Specialization
ASC 310 Equine Anatomy 2
ASC 320 Equine Management 3
ASC 410G Equine Science 3

Dairy Specialization
ASC 420G Dairy Cattle Science 3
ASC 564 Milk Secretion 3

Subtotal: Option A hours 0-5

Option B – Food Industry

Students fulfilling the Major Requirements are eligible for the Food Industry Option by taking certain required Specialty Support Courses (see below) and:

ASC 300 Meat Science 4
FSC 107 Introduction to Food Science 3

Subtotal: Option B hours 7

Option C – Pre-Professional

Students fulfilling the Major Requirements are eligible for the Pre-Professional Option by taking certain Specialty Support Courses (see below). Students must consult the pre-professional advisor or graduate school advisor of the university to which they intend on applying for additional or specific requirements.

Specialty Support

Animal Industry Option
CHE 230 Organic Chemistry I
or
CHE 236 Survey of Organic Chemistry 3

Depending on the student's area of interest and subject to the advisor's approval, additional courses at the 200-level or above may be selected from biochemistry, biology, chemistry, physics, statistics, or any agriculture-related area other than Animal Sciences 15

Food Industry Option
CHE 230 Organic Chemistry I
or
CHE 236 Survey of Organic Chemistry 3

FSC 304 Animal Food Products 4

Depending on the student's area of interest and subject to the advisor's approval, additional courses at the 200-level or above may be selected from biochemistry, biology, chemistry, physics, statistics, or any agriculture-related area other than Animal Sciences 12

Pre-Professional Option*
BIO 304 Principles of Genetics
or
ABT/ENT 360 Genetics 3-4

CHE 230/231 Organic Chemistry
and Laboratory I 4
CHE 232/233 Organic Chemistry
and Laboratory II 4
PHY 211 General Physics 5
PHY 213 General Physics 5

**Students must consult the pre-professional advisor or graduate school advisor of the university to which they will apply for additional or specific requirements.*

Subtotal: Specialty Support 18-22

Electives

Electives should be selected to complete the 120 hours required for graduation.

Subtotal: Electives ..... minimum of 18

TOTAL HOURS: 120

BACHELOR OF SCIENCE IN BIOSYSTEMS ENGINEERING

Biosystems engineering provides an essential link between the biological sciences and the engineering profession. This linkage is essential for the development of production and processing systems involving biological materials that preserve our natural resource base. Students have the latitude to develop an area of specialization relating to bioenvironmental engineering, food and bioprocessing, machine systems, or controlled environment engineering. The curriculum is also ideal preparation for those students wanting to pursue a graduate or professional degree in biomedical engineering or veterinary medicine through pre-biomedical engineering and pre-veterinary medicine options.

The degree requirements and curriculum are listed in the *College of Engineering* section of this Bulletin.

BACHELOR OF SCIENCE IN CAREER AND TECHNICAL EDUCATION

Students pursuing a degree in Career and Technical Education complete courses in education and agriculture. Graduates with this degree pursue careers in both formal and informal education of agriculture. Formal education opportunities include teaching in the middle school or high school classroom. Informal education opportunities include working in Extension and the public or private sectors of industry. In addition to receiving the degree, graduates attain Rank III teaching certification in Agricultural Education.

Teacher Certification

Besides receiving the B.S. in Career and Technical Education, students completing the requirements obtain a letter of endorsement to teach agricultural education.

Requirements for teacher certification are as follows:

You must be admitted to the teacher education program (TEP) after you have completed, or complete during the semester in which you apply, 60 semester hours of course work and AED/FCS 110 Introduction to Career and Technical Education and have at least a 2.75 grade-point standing (on a 4.0 scale). See a full description of "Admission, Retention, and Completion from Teacher Education Programs" in the *College of Education* section of this Bulletin.

Applicants are evaluated on an interview, recommendations, scholastic achievement, demonstrated skills, and professional commitment and goals. A student's progress is continuously monitored, assessed, and reviewed throughout the teacher education program as described in the Teacher Education Programs section of this Bulletin. You must successfully complete assessment items and portfolio items as required. Fur-

ther, you must successfully complete the Principles of Learning and Teaching Exam and a professional exam, scoring above cutoff scores specified by the State Board of Education for each exam. After completing these exams, students hired by Kentucky schools will complete a one-year paid internship as a first-year teacher and will be evaluated at least three times by a three-person committee before certification is completed.

Note: Because graduation and teacher certification requirements change frequently, students should obtain more complete information from their advisors.

Graduation Requirements

To earn the Bachelor of Science in Career and Technical Education, the student must have a minimum of 120 credit hours with at least a 2.75 grade-point average (required for Teacher Certification). A minimum of 45 credit hours must be from upper division courses (300 level and above). Remedial courses may **not** be counted toward the total hours required for the degree.

Students must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
CLD 102 The Dynamics of Rural Social Life 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty:
An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
GEN 100 Issues in Agriculture,
Food and Environment 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

AED/FCS 583 Designing Curriculum and
Assessment in Career and Technical Education 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Major Requirements	Hours
AED/FCS 110 Introduction to Career and Technical Education	3
AED/FCS 362 Field Experiences in Career and Technical Education	3
AED/FCS 371 Advising a Career and Technical Student Organization	3
AED/FCS 580 Foundations of Teaching Career and Technical Education	3
AED/FCS 583 Designing Curriculum and Assessment in Career and Technical Education	3
AED/FCS 586 Methods of Teaching Career and Technical Education	3
AED/FCS 592 Teaching Experience in Career and Technical Education	12
EDP 203 Teaching Exceptional Learners in Regular Classrooms	3
FAM 357 Adolescent Development	3
Subtotal: Major Required hours	**36**

Agricultural Education Requirements

*AEC 302 Agricultural Management Principles	4
AEN 252 Fabrication and Construction for Technical Systems	3
ASC 101 Domestic Animal Biology	3
ASC 102 Applications of Animal Science	3
CLD 102 The Dynamics of Rural Social Life (or other Social Science elective)	3
ECO 201 Principles of Economics I	3
PLS 210 The Life Processes of Plants **or** PLS 386 Plant Production Systems	3-4
**PLS 366 Fundamentals of Soil Science	4
Subtotal: Agricultural Education hours	**26-27**

**ECO 201 is a prerequisite for AEC 302.*
***CHE 105 is a prerequisite for PLS 366.*

Specialty Support Requirements

Students must complete one additional agricultural economics course, one additional animal sciences course, one additional agricultural engineering course, two additional plant and soil sciences courses, and three additional courses in the College of Agriculture, Food and Environment in consultation with your advisor.

Subtotal: Specialty Support 24

Other agriculture majors can also qualify to teach agricultural education provided they meet current certification requirements.

Electives

Electives should be selected by the student to lead to the minimum total of 120 hours required for graduation

Subtotal: Electives ..... minimum of 7

Total Minimum Hours for Program 120

BACHELOR OF SCIENCE IN COMMUNITY AND LEADERSHIP DEVELOPMENT

Community and Leadership Development is an interdisciplinary social science major. It provides students with the knowledge and skills to integrate communications, sociology, journalism, and community development theories and apply them to real-world situations involving local communities and agricultural organizations.

The major focuses on such skills as written and oral communication; strategic problem solving; critical thinking; understanding of group, organizational, and community dynamics; and ethical decision making.

Graduation Requirements

To earn the Bachelor of Science in Community and Leadership Development, the student must have a minimum of 120 credit hours with at least a 2.0 grade-point average. A minimum of 45 credit hours musts be from upper division courses (300 level and above). Remedial courses may **not** be counted toward the total hours required for the degree.

Students must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

The UK Core courses listed below are **recommended** by the College to fulfill each area.

I. Intellectual Inquiry in Arts and Creativity
Choose **one** of the following:
A-S 245 Introduction to Web Design
A-S 280 Introduction to Photographic Literacy
LA 111 Living on the Right Side of the Brain 3

II. Intellectual Inquiry in the Humanities
Choose **one** of the following:
EGR 201 Literature, Technology, and Culture
ENG 230 Introduction to Literature
ENG 264 Introduction to Black Writers
GWS 201 Gender and Popular Culture
HIS 112 The Making of Modern Kentucky
MCL 100 The World of Language 3

III. Intellectual Inquiry in the Social Sciences
CLD 102 The Dynamics of Rural Social Life 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose **one** of the following:
PLS 104 Plants, Soils, and People: A Science Perspective
ANT 230 Introduction to Biological Anthropology
BIO 102 Human Ecology
GEO 130 Earth's Physical Environment
GEO 135 Global Climate Change
EES 120 Sustainable Planet:
The Geology of Natural Resources 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 111 Introduction to Contemporary Mathematics
or
MA 123 Elementary Calculus and Its Applications ... 3-4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty:
An Introduction to Statistical Reasoning
or
PSY 215 Experimental Psychology
and
PSY 216 Applications of Statistics in Psychology 3-8

IX. Community, Culture and Citizenship in the USA
CLD 360 Environmental Sociology
or
GEN 100 Issues in Agriculture, Food and Environment 3

X. Global Dynamics
CLD 380 Globalization: A Cross-Cultural Perspective 3

UK Core hours 30-36

Graduation Composition and Communication Requirement (GCCR)

CLD 305 Research Methods in Community and Leadership Development 3
CLD 497 Professional Practicum in Community and Leadership Development 3

Graduation Composition and Communication Requirement hours (GCCR) 6

Premajor Requirements — Hours

CLD 100 Introduction to Community and Leadership Development 1
CLD 225 Community and Communication: Exploring Their Intersections 3
CLD 230 Intrapersonal Leadership 3
CLD 260 Community Portraits 3

Students must earn at least a **C** in the above four courses before they will be admitted to any upper-division courses in the program.

Students in Career and Technical Education who are admitted into the Teacher Education Program would also be able to register for upper-division courses in the program.

Subtotal: Premajor Requirements 10

Major Requirements — Hours

CLD 300 Foundational Theories in Community and Leadership Development 3
CLD 305 Research Methods in Community and Leadership Development 3
CLD 362 Field Experience in CLD 3
CLD 370 Learning in Society 3
CLD 490 Senior Seminar in Community Communications and Leadership Development 3
CLD 497 Professional Practicum in Community and Leadership Development 3

Students must choose 18 hours of additional CLD courses from the following list:
CLD 325 Writing for Community Media 3
CLD 330 Interpersonal Skills for Tomorrow's Leaders 3
CLD 340 Community Interaction 3
CLD 375 Contemporary Adult Learning 3
CLD 420 Sociology of Communities 3
CLD 430 Leading in Communities: Vision, Action, and Change 3
CLD 440 Community Processes and Communication 3
CLD 460 Community Development and Change 3
CLD 465 Topics in Community Communications (Subtitle required) 3
CLD 470 Topics in Leadership (Subtitle required) 3
CLD 475 Topics in Non-Formal Education (Subtitle required) 3
CLD 480 Topics in Community (Subtitle required) 3
CLD 525 Community Diversity and Media 3
CLD 530 Fundamentals of Organizational Leadership 3
CLD 560 Community Inequalities 3
CLD 575 Schools, Community and Society 3

plus other CLD courses such as CLD 360, CLD 401, CLD 517, CLD 534.

Subtotal: Major Requirements 36

Specialty Support Requirements

Depending on the student's area of interest and subject to his/her academic advisor's approval, he/she will complete an additional 6 hours of courses in the College of Agriculture, Food and Environment and 12 hours in related areas at the 200 level or higher.

Subtotal: Option Specialty Support 18

Electives

Electives should be selected by the student to lead to the minimum total of 120 hours required for graduation

Subtotal: Electives ..... minimum of 23
Total Minimum Hours for Program 120

BACHELOR OF SCIENCE IN EQUINE SCIENCE AND MANAGEMENT

The horse industry is a dynamic industry that encompasses not only the breeding, raising and training of horses but also the development of activities for the use of the horse in sports and recreation. The industry has a significant economic impact across the U.S. and world-wide.

Equine science and management involves the study and application of science and business concepts to the horse industry. Additional course work supports learning in areas that aid in breeding and raising horses and marketing the industry. Students come from varied equine backgrounds but have a common interest in the horse. Regardless of which breed of horse or activity focus students have, equine science and management majors will have the opportunity to combine their interest in the horse with a desire to become active participants in the horse industry.

Students in equine science and management considering a career in veterinary medicine or graduate research can meet those goals in the degree program as well. Interested students need to consult with an advisor to ensure all specific academic requirements are met.

Career Opportunities

The horse industry is continually changing. Equine science and management graduates are needed in all aspects of the industry including production, business management and other related support industries.

Graduation Requirements

To earn the Bachelor of Science in Equine Science and Management, the student must have a minimum of 120 credit hours with at least a 2.0 grade-point average. A minimum of 45 credit hours must be from upper division courses (300 level and above). Remedial courses may **not** be counted toward the total hours required for the degree.

Students must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose course(s) from approved list 3-5

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I
or
MA 137 Calculus I with Life Science Applications 4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
GEN 100 Issues in Agriculture, Food and Environment 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30-32

Graduation Composition and Communication Requirement (GCCR)

WRD 203 Business Writing
or
WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3

CHE 105 General College Chemistry I
CHE 107 General College Chemistry II
CHE 111 Laboratory to Accompany General Chemistry I
CHE 113 Laboratory to Accompany General Chemistry II 10
OR
CHE 104 Introductory General Chemistry
CHE 108 Introduction to Inorganic, Organic and Biochemistry without Laboratory 6
OR
CHE 105 General College Chemistry I
CHE 108 Introduction to Inorganic, Organic and Biochemistry without Laboratory 7

ECO 201 Principles of Economics I 3

MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I 4

Subtotal: Premajor hours 19-23

Major Requirements — Hours

AEC 302 Agricultural Management Principles 4
ASC 101 Domestic Animal Biology 3
ASC 310 Equine Anatomy 2
ASC 320 Equine Management 3
EQM 101 Introduction to the Horse and the Horse Industry 2
EQM 105 Equine Behavior and Handling 2
EQM 351 Equine Health and Diseases 3
EQM 399 Equine Science and Management Internship 3
EQM 490 Capstone in Equine Science and Management 3

Subtotal: Major hours 25

Emphasis Areas

Students must have one emphasis area. In order to have an emphasis area, students must take 9 credits in one area. Students will then select 12 additional credits from any emphasis area:

Community Leadership and Development

Students who are interested in leadership roles in business, breed associations or non-profit equine organizations and cooperative extension should consider this area. They will enhance their communication skills and be required to take courses in community dynamics, leadership development, and agriculture communication.

CLD 100 Introduction to Community and Leadership Development 1
CLD 102 The Dynamics of Rural Social Life 3
CLD 225 Community and Communication: Exploring Their Intersections 3
CLD 230 Intrapersonal Leadership 3
CLD 260 Community Portraits 3
CLD 401 Principles of Cooperative Extension 3
EQM 300 Topics in Equine Science and Management 1-6

Equine Business

Students will learn skills related to marketing, operations, and management of equine businesses. This will prepare students for careers as farm managers as well as business managers for equine enterprises, breed associations, and sales associates. This area also introduces them to the diversity of the equine industry through courses in equine law, sales, careers, event planning, marketing, and human resources.

*AEC 300 Special Topics in Agricultural Economics (Subtitle required) 3
AEC 305 Food and Agricultural Marketing Principles 3

AEC 320 Agricultural Product Marketing and Sales
or
MKT 300 Marketing Management 3

AEC 324 Agricultural Law 3
AEC 325 Equine Law 3
AEC 340 Human Resource Management in Agriculture 3
EQM 106 Introduction to Careers in the Equine Industry 1
EQM 205 Equine Career Preparation 1
EQM 300 Topics in Equine Science and Management 1-6
EQM 301 Thoroughbred Sales 1
EQM 302 Equine Event Planning 1

Equine Science

This area will provide the students with a strong background in basic sciences which will prepare them for graduate school or careers such as laboratory research assistants, breeding technicians, pharmaceutical sales representatives, and technical representatives for the feed industry.

ASC 311 Advanced Equine Evaluation 1
ASC 325 Animal Physiology 3
ASC 362 Animal Genetics 4
ASC 364 Reproductive Physiology of Farm Animals 4
ASC 378 Animal Nutrition and Feeding 4
ASC 389 Advanced Equine Nutrition and Feeding 2
ASC 410G Equine Science 3
EQM 300 Topics in Equine Science and Management 1-6
VS 307 Genetics of Horses 3
VS 500 Advanced Equine Reproduction 3

Forage/Pasture

Students will obtain knowledge in agronomic practices focusing on pasture and forage management. This area will prepare students for careers related to general horse farm management or graduate school. These students will take courses in soil composition and fertility, forages, weed identification and control, and pest management.

EQM 300 Topics in Equine Science and Management 1-6
PLS 366 Fundamentals of Soil Science 4
PLS 404 Integrated Weed Management 4
PLS 468G Soil Use and Management 3
PLS 470G Soil Nutrient Management 3
PLS 510 Forage Management and Utilization 3
PLS 531 Field Schools in Crop Pest Management 2

Subtotal: Emphasis hours 21

**When offered under a subtitle with a focus on equine marketing.*

Specialty Support Requirement

The student will choose, in consultation with an advisor, at least 18 hours of courses at the 200 level or above that will strengthen the program in an area of importance to the student. To aid in developing this area of study, a list of suggested courses is available from your advisor. The list includes courses in agricultural economics, animal sciences, community and leadership development, marketing, management, finance, plant and soil sciences plus other areas of study at UK.

Subtotal: Specialty Support 18

Electives

Electives should be selected by the student to lead to the minimum total of 120 hours required for graduation

Subtotal: Electives ..... minimum of 6

Total Minimum Hours for Program 120

BACHELOR OF SCIENCE IN FOOD SCIENCE

Food science is the study of the transformation of biological materials into food products acceptable for human consumption. This requires studying diverse scientific disciplines related to food, including chemistry, engineering, microbiology, biochemistry, toxicology, and management; and effectively applying the industrial and practical aspects to product development, food processing, preservation, and marketing. The program is administered by the Department of Animal and Food Sciences and offers training in the basic sciences and in the fundamentals of food science.

Career opportunities in food industries include: management, research and development of new food products and ingredients, process supervision, quality control, procurement, distribution, sales, and merchandising. Positions include sales and services in allied industries; consulting and trade association activities; and promotional and educational services. Governmental agencies employ food scientists whose work is directed towards research, regulatory control, and the development of food standards.

Graduation Requirements

To earn the Bachelor of Science in Food Science, the student must complete a minimum of 128 semester hours with at least 45 hours from courses at the 300 level and above. A 2.0 grade-point standing (on a 4.0 scale) is necessary and remedial courses may **not** be counted toward the total hours required for the degree.

The Food Science program meets the requirements for accreditation by the Institute of Food Technologists and the National Organization of Food Science Professionals.

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I
or
MA 123 Elementary Calculus and Its Applications
or
MA 137 Calculus I With Life Science Applications 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations 3

IX. Community, Culture and Citizenship in the USA
GEN 100 Issues in Agriculture, Food and Environment 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

WRD 203 Business Writing 3

Graduation Composition and Communication Requirement hours (GCCR) 3

BACHELOR OF SCIENCE IN FORESTRY

Kentucky boasts many forested areas with famous reputations, such as Natural Bridge, Red River Gorge, Daniel Boone National Forest, and Robinson Forest. Robinson Forest is one of the largest research and educational forests in the eastern United States. It is managed by the Department of Forestry, and as a forestry student at the University of Kentucky all of its resources will be available to you as a unique outdoor laboratory.

The missions of the Department of Forestry are to identify and address the challenges and opportunities facing sustained management of our renewable natural resources, including forests, soils, water, and wildlife. These missions involve three interrelated functions: research, extension, and education. The research goal of the department is to obtain basic and applied information leading to wise and effective management of our natural resources. Forestry extension seeks to inform land owners and the general public about forest stewardship. Forestry education prepares students for careers as forestry and natural resource professionals. The objectives of the required courses in the forestry curriculum are to educate and train students in the communication, managerial, scientific, processing, and administrative skills and principles related to the stewardship and utilization of renewable natural resources. Accomplishment of these objectives will ensure a continuing supply of entry-level professionals for Kentucky and the nation.

The undergraduate (B.S.) program leading to the professional degree in forestry is accredited by the Society of American Foresters (SAF). SAF is the specialized accrediting body recognized by the Commission on Recognition of Postsecondary Accreditation as the accrediting agency for forestry in the United States. Additionally, you may become certified by The Wildlife Society if you choose appropriate elective courses.

Career Opportunities

Forestry graduates are employed as professional foresters in private forest industries and organizations, consulting companies, and public agencies, including the U.S. Forest Service, Soil Conservation Service, and state, county, or urban forestry programs. Graduates are also qualified to be research technicians in government, university, and private laboratories, or may continue their studies in specialized graduate programs.

The inclusion in the curriculum of management and processing principles makes UK forestry graduates attractive to the forest products industry; graduates are often employed as technical specialists, managers, and marketing and wood procurement personnel.

Premajor Requirements — Hours

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
ECO 201 Principles of Economics I 3
BIO 208 Principles of Microbiology 3
BIO 209 Introductory Microbiology Laboratory 2
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2

CHE 236 Survey of Organic Chemistry
or
CHE 230 Organic Chemistry I 3

DHN 212 Introductory Nutrition 3

MA 113 Calculus I
or
MA 123 Elementary Calculus and Its Applications
or
MA 137 Calculus I With Life Science Applications 4

STA 296 Statistical Methods and Motivations 3

Subtotal: Premajor hours 37

Major Requirements — Hours

Required:
FSC 107 Introduction to Food Science 3
FSC 306 Introduction to Food Processing 4

FSC 395 Special Problems in Food Science 3
or
FSC 399 Experiential Learning in Animal Sciences/Food Science 3
or
EXP 396 Experiential Education 3-6

FSC 434G Food Chemistry 4
FSC 530 Food Microbiology 5
FSC 535 Food Analysis 4
FSC 536 Advanced Food Technology 4

plus at least three of the following courses:
FSC 304 Animal Food Products 4
FSC 430 Sensory Evaluation of Foods 3
FSC 538 Food Fermentation and Thermal Processing 4
FSC 540 Food Sanitation 3

Subtotal: Major hours 38-41

Specialty Support

AEN 340 Principles of Food Engineering 4

DHN 311 Nutritional Biochemistry
or
BCH 401G Fundamentals of Biochemistry 3

PHY 211 General Physics 5

plus two of the following courses:
AEC 305 Food and Agricultural Marketing Principles 3
ASC 300 Meat Science 4

CLD 230 Intrapersonal Leadership
or
CLD 340 Community Interaction 3

Subtotal: Specialty Support 18-19

Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Electives 6
TOTAL HOURS: 120

Graduation Requirements

To earn the Bachelor of Science in Forestry, the student must complete a minimum of 120 semester hours. A 2.0 grade-point standing (on a 4.0 scale) is necessary and remedial courses may **not** be counted toward the total hours required for the degree.

Students will complete a field semester in the spring of their junior year. Throughout the spring field semester, students will visit numerous sites to see different ecosystems in the region. Students will periodically return to one site, or sample property, that will be used for in-depth analysis to show integration and application of field semester concepts.

The curriculum consists of UK Core requirements, preprofessional, professional, and specialty support components. Preprofessional, professional, and specialty support courses provide the skills and understanding to manage forest resources. Electives, chosen with the assistance of your advisor, strengthen your knowledge of basic principles in areas of special interest to you.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
BIO 103 Basic Ideas of Biology 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Recommended:
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
GEN 100 Issues in Agriculture, Food and Environment 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

FOR 400 Human Dimensions of Forestry and Natural Resources 3
FOR 480 Integrated Forest Research Management 5

Graduation Composition and Communication Requirement hours (GCCR) 8

Premajor Requirements	Hours
GEN 100 Issues in Agriculture, Food and Environment	3
BIO 103 Basic Ideas of Biology **or** BIO 150 Principles of Biology I	3
CHE 104 Introductory General Chemistry **or** CHE 105 General College Chemistry I	3-4
Subtotal: Premajor hours	**9-10**

Major Requirements	Hours
FOR 110 Natural Resource Issues	1
FOR 150 Computer Applications in Natural Resource Professions	2
FOR 200 Basics of Geospatial Technology	2
FOR 219 Dendrology	4
FOR 230 Conservation Biology	3
FOR 240 Forestry and Natural Resource Ethics	2
FOR 250 Statistics and Measurements I	3
FOR 260 Forest Products and Wood Science	4
FOR 280 Forest Policy	2
FOR 310 Introduction to Forest Health and Protection	3
FOR 320 Forest Valuation and Economics	3
FOR 330 GIS and Spatial Analysis	3
FOR 340 Forest Ecology	4
FOR 350 Silviculture	4
FOR 355 Forest Fire Control and Use	1
FOR 356 Landscape Assessment	5
FOR 357 Inventory and Measurements II	2
FOR 358 Silvicultural Practices	3
FOR 359 Forest Operations and Utilization	3
FOR 370 Wildlife Biology and Management	4
FOR 400 Human Dimensions of Forestry and Natural Resources	3
FOR 425 Forest Management	4
FOR 460 Forest Hydrology and Watershed Management	4
FOR 470 Interdependent Natural Resource Issues	3
FOR 480 Integrated Forest Resource Management	5
PLS 366 Fundamentals of Soil Science	4
Subtotal: Major hours	**81**

Electives

Elective courses should be selected by the student to lead to the minimum total of 121 hours required for graduation.

Subtotal: Electives	**2**
TOTAL HOURS:	**120**

BACHELOR OF SCIENCE IN HORTICULTURE, PLANT AND SOIL SCIENCES

The Horticulture, Plant and Soil Sciences degree program is designed to provide students with the knowledge and skills needed for a career in the production and management of plants and soils for food, fiber, forage, oil, recreation, landscaping and the enhancement of the human environment. Graduates have the technical and scientific skills as well as the communication, computational, leadership, and interpersonal capabilities necessary to function effectively as professionals. Careers are as diverse as they are challenging. Each Option prepares graduates for specific professional opportunities.

Options

Students pursuing a Horticulture, Plant and Soil Sciences degree may choose from the following Options:

- Horticulture Enterprise Management
- Turfgrass Science
- Crops and Livestock
- Crop, Soil and Horticulture Science

Graduation Requirements

Students must complete a minimum of 120 semester credit hours with at least 45 credit hours from courses at the 300 level or above. A 2.0 grade-point standing (on a 4.0 scale) is necessary and remedial courses may **not** be counted toward the total hours required for the degree. In addition to the UK Core and college requirements, students must select an Option with the assistance of an advisor and fulfill the area's program requirements.

UK Core Requirements

See the UK Core section of this Bulletin for the complete *UK Core* requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity	
Choose one course from approved list	3
II. Intellectual Inquiry in the Humanities	
Choose one course from approved list	3
III. Intellectual Inquiry in the Social Sciences	
Recommended:	
CLD 102 The Dynamics of Rural Social Life	3
IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences	
CHE 105 General College Chemistry I	4
CHE 111 Laboratory to Accompany General Chemistry I	1
V. Composition and Communication I	
CIS/WRD 110 Composition and Communication I	3
VI. Composition and Communication II	
CIS/WRD 111 Composition and Communication II	3
VII. Quantitative Foundations	
MA 123 Elementary Calculus and Its Applications	4
VIII. Statistical Inferential Reasoning	
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning	3
for the **Crop, Soil and Horticulture Science Option**, students take:	
STA 296 Statistical Methods and Motivations	3
IX. Community, Culture and Citizenship in the USA	
GEN 100 Issues in Agriculture, Food and Environment	3
X. Global Dynamics	
Choose one course from approved list	3
UK Core hours	**33**

Graduation Composition and Communication Requirement (GCCR)

PLS 490 Topics in Plant and Soil Science	3
Subtotal: Graduation Composition and Communication hours (GCCR)	**3**

In addition, the student must submit a proposed plan of study for the junior and senior years.

Premajor Requirements	Hours
CHE 105 General College Chemistry I	4
CHE 107 General College Chemistry II	3
CHE 111 Laboratory to Accompany General Chemistry I	1
CHE 113 Laboratory to Accompany General Chemistry II	2
MA 123 Elementary Calculus and Its Applications	4
Subtotal: Premajor hours	**14**

Students choose one of four Options in the Horticulture, Plant and Soil Science program – Horticulture Enterprise Management; Turfgrass Science; Crops and Livestock; and Crop, Soil and Horticulture Science. All students take the Major Requirements listed below. Then, depending on their Option, take specific courses and 21 hours of Specialty Support courses, some of which may be specified. Option requirements follow Major Requirements.

Major Requirements	Hours
PLS 104 Plants, Soils, and People: A Science Perspective	3
PLS 210 The Life Processes of Plants **or** *BIO 148 Introductory Biology I **and** *BIO 152 Principles of Biology II	3 6
PLS 220 Introduction to Plant Identification	3
PLS 366 Fundamentals of Soil Science	4
PLS 386 Plant Production Systems	4
PLS 395 Special Problems in Plant and Soil Science **or** PLS 399 Experiential Learning in Plant and Soil Science	3
PLS 404 Integrated Weed Management	4
PLS 470G Soil Nutrient Management	3
PLS 490 Topics in Plant and Soil Science	3

**Students in the Crop, Soil and Horticulture Science Option take BIO 148/152.*

Subtotal: Major hours	**30-33**

OPTIONS

Horticulture Enterprise Management Option

PLS 100 An Introduction to Horticulture Professions	1
PLS 440 Plant Propagation	3
PLS 525 Nursery and Floriculture Crop Production	4
PPA 400G Principles of Plant Pathology	3
Select 12 credit hours from the following courses:	
PLS 320 Woody Horticultural Plants	4
PLS 330 Herbaceous Horticultural Plants I	2
PLS 332 Herbaceous Horticultural Plants II	2
PLS 451 Landscape Management and Arboriculture	3
PLS 515 Turf Management	3
PLS 520 Fruit and Vegetable Production	4
Other PLS courses with consent of advisor	
Subtotal: Option hours	**23**

Specialty Support Requirements

Select 21 hours of courses with consent of advisor 21

Subtotal: Specialty Support **21**

Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Electives ..... **minimum of 1**

TOTAL HOURS: **120**

Turfgrass Science Option

PLS 514 Grass Taxonomy and Identification 3
PLS 515 Turf Management 3
PPA 400G Principles of Plant Pathology 3

Select additional 9 credit hours of PLS courses 9

Subtotal: Option hours **18**

Specialty Support Requirements

ENT 320 Horticultural Entomology 3

CHE 226 Analytical Chemistry
or
CHE 236 Survey of Organic Chemistry 3

Select additional 15 credit hours of specialty support in consultation with academic advisor 15

Subtotal: Specialty Support **21**

Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Electives ..... **minimum of 1**

TOTAL HOURS: **120**

Crops and Livestock Option

PLS 510 Forage Management and Utilization 3
Select 15 credit hours of additional PLS courses 15

Subtotal: Option hours **18**

Specialty Support Requirements

CHE 236 Survey of Organic Chemistry 3
Earn a minor in Animal Science 18

Minor in Animal Sciences

Prerequisites

Note that several classes in Group A and Group B have prerequisites beyond/other than ASC 101. These are indicated in parentheses following the courses below. Students taking the minor are responsible for satisfying the prerequisites.

Minor Requirements

ASC 101 Domestic Animal Biology 3
ASC 102 Applications of Animal Science 3

Additional Course Work 9
An additional 9 hours from the list that follows, with at least one course from Group A and one course from Group B.

Group A

ASC 300 Meat Science (*ASC 101 and ASC 102*) 4
ASC 325 Animal Physiology (*BIO 152*) 3
ASC 362 Animal Genetics (*ASC 101 and BIO 152*) 4
ASC 364 Reproductive Physiology of Farm Animals (*ASC 101 and BIO 152*) 4
ASC 378 Animal Nutrition and Feeding (*ASC 101 and CHE 230 or CHE 236*) 4

Group B

ASC 340 Poultry Production (*ASC 101 and ASC 102*) 2
ASC 404G Sheep Science (*ASC 300, ASC 362, ASC 364 and ASC 378*) 4
ASC 406 Beef Cattle Science (*ASC 300, ASC 362, ASC 364 and ASC 378*) 4
ASC 408G Swine Production (*ASC 101, ASC 102 and ASC 378*) 2
ASC 410G Equine Science (*ASC 101 and ASC 320*) 3
ASC 420G Dairy Cattle Science (*ASC 362, ASC 364 and ASC 378*) 3

Total Hours Required **15**

Additional specialty support classes may be selected in consultation with your academic advisor for a total of 21 hours in specialty support.

Subtotal: Specialty Support **21**

Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Electives ..... **minimum of 1**

TOTAL HOURS: **120**

Crop, Soil and Horticulture Science Option

Select 18 hours of PLS courses with consent of advisor 18

Subtotal: Option hours **18**

Specialty Support Requirements

CHE 226 Analytical Chemistry
or
CHE 230 Organic Chemistry I
or
CHE 236 Survey of Organic Chemistry 3

STA 296 Statistical Methods and Motivations 3

An additional 15 credit hours of other science courses from the following list or other science courses selected with consent of advisor for a total of 21 hours:

BIO 304 Principles of Genetics 4
BIO 308 General Microbiology 3
BIO 315 Introduction to Cell Biology 4
BIO 430G Plant Physiology 4
EES 220 Principles of Physical Geology 4
PHY 211 General Physics 5
PHY 213 General Physics 5
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1

Subtotal: Specialty Support **21**

Electives

Elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Electives ..... **minimum of 1**

TOTAL HOURS: **120**

BACHELOR OF SCIENCE IN LANDSCAPE ARCHITECTURE

The profession of landscape architecture has grown out of the tradition of the great garden designers of Italy, France, England, and China to encompass the art and science of design, planning, and management of the land. The *science* of landscape architecture is concerned with the conservation and management of natural resources. The *art* of landscape architecture is concerned with the creation of more enjoyable, comfortable, and safe outdoor areas where human use requires adaptation of the natural environment.

This four-year professional program is accredited by the American Society of Landscape Architects and meets all the requirements for licensing of landscape architects in Kentucky and other states. Landscape architecture employment opportunities may be found in the designing of urban communities, plazas, university campuses, institutional grounds, parks and recreational areas, commercial and industrial sites, and residential communities, as well as in the areas of historic preservation, regional planning, and mine reclamation.

Admission Requirements

Admission to the University of Kentucky and to the College of Agriculture, Food and Environment does not guarantee admission to the Landscape Architecture program. All applicants must be reviewed by the Landscape Architecture Program Chairperson. The number of applicants ultimately admitted is determined by the resources available to provide high quality instruction. Applicants will be reviewed on a comparative basis. Determination of acceptability into the program is based on the following.

Entering freshmen and transfer students from degree programs other than Landscape Architecture must:

1. submit a formal application to the Undergraduate Admissions Office indicating Landscape Architecture as your major;
2. meet the minimum criteria for admission or readmission to the University as specified in this Bulletin (The Landscape Architecture program requires a minimum of a 2.0 grade-point average on a 4.0 scale for eligibility to transfer into the program.); and
3. successfully complete the aptitude testing designated by the Landscape Architecture program.

If a student transferring from another degree program has a background in related design fields, he or she may submit available work, such as a portfolio or other work examples, as an indication of potential success.

Transfer students from degree programs in Landscape Architecture at other accredited institutions must:

1. submit a formal application to the Office of Undergraduate Admissions indicating Landscape Architecture as your major;
2. meet the minimum criteria for admission to the University as specified in this Bulletin (The Landscape Architecture program requires a minimum of a 2.0 grade-point average on a 4.0 scale for eligibility to transfer into the program.); and
3. submit a portfolio for review which, combined with an evaluation of courses completed, will determine acceptance into the program as well as the level to which the student will be accepted.

Graduation Requirements

To earn a Bachelor of Science degree in Landscape Architecture, the student must have 129 semester hours with at least a 2.0 grade-point standing (on a 4.0 scale). Remedial courses may **not** be counted toward the total hours required for graduation. In addition to satisfying the UK Core requirements, each student must complete pre-major, professional, and specialty support requirements. The Landscape Architecture program policy requires a student to achieve a **C** grade or better in major design studios in order to advance to the next level.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
LA 111 Living on the Right Side of the Brain 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

LA 222 Landscape Architecture Design Studio II 6
LA 223 Landscape Architecture Design Studio III 6

Graduation Composition and Communication Requirement hours (GCCR) 12

Premajor Requirements — Hours

Premajor requirements met by UK Core courses:
LA 111 Living on the Right Side of the Brain 3

Subtotal: Premajor hours 3

Departmental Professional Requirements

LA 105 Introduction to Landscape Architecture 3
LA 121 Landscape Architecture Design Studio I 6
LA 161 Graphics I 3
LA 162 Digital Representation I 3
LA 205 History of Landscape Architecture 3
LA 222 Landscape Architecture Design Studio II 6
LA 223 Landscape Architecture Design Studio III 6
LA 271 Design Implementation I 4
LA 324 Landscape Architecture Design Studio IV 6
LA 372 Design Implementation II 4
LA 373 Design Implementation III 6
LA 390 International Study 3
LA 399 Internship in Landscape Architecture 3
LA 425 Landscape Architecture Design Studio V 6
LA 426 Landscape Architecture Design Studio VI 6
LA 490 Capstone and Professional Practice Seminar 2

Students must complete 9 hours from the following list of Topical Studies courses:

LA 262 Graphics II 3
LA 305 Design Theories in Landscape Architecture 3
LA 307 Cultural Landscape Preservation 3
LA 308 Regional Land Use Planning Systems 3
LA 345 Design with Plants 3
LA 355 Introductory Geospatial Applications for Land Analysis 3
LA 395 Independent Study in Landscape Architecture 1-6
LA 397 Special Topics in Landscape Architecture (Subtitle required) 3
LA 457 Contemporary Regional Land Use Planning Applications 3
LA 462 Digital Representation II 3
LA 556 Contemporary Geospatial Applications for Land Analysis 3

Subtotal: Major hours 79

Specialty Support Requirements

PLS 220 Introduction to Plant Identification 3
PLS 320 Woody Horticultural Plants 4
PLS 366 Fundamentals of Soil Science 4

One course in ecology from the following or other ecology-focused courses approved by Director of Undergraduate Studies:

FOR 230 Conservation Biology 3
FOR 340 Forest Ecology 4
GEO 530 Biogeography and Conservation 3

Select one additional course from the 300-500 series with advisor assistance 3

Subtotal: Specialty Support .... minimum of 17

Electives

Electives should be selected by the student to lead to the minimum total of 129 hours required for graduation. Electives may be chosen from the Landscape Architecture Topical Studies or other university courses at any level.

Subtotal: Electives ..... minimum of 3

TOTAL HOURS: 129

BACHELOR OF SCIENCE IN NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE

The program in Natural Resources and Environmental Science is designed to provide students with the knowledge and skills needed for a career in the rapidly growing fields of environmental science, natural resource management, and environmental policy. With global climate change and an inter-connected world economy, the conservation and management of our natural resources and sustainability of our natural environment is becoming an issue for all societies. This curriculum provides students with exposure to a broad array of disciplines that are essential in approaching issues of natural resources, environmental quality, and environmental sustainability. Experiential learning is a key component in the curriculum. As a result, graduates have the capacity to integrate perspectives and diverse bodies of knowledge in dealing with environmental resource management problems.

All students in the program take a common core of major requirements which is designed to provide exposure to technical and socioeconomic dimensions of natural resource management and policy. Important components of the core requirements are a required three-week summer camp, a pre-professional internship or research experience, and a senior capstone course that is problem based. In addition to the core requirements, all students must complete nine hours of course work in both an Analytical Skill Development Area (ASD) and an Environmental System Emphasis Area (ESEA). This allows students to match analytical skills to an area of particular interest in conservation biology, natural resource planning, environmental soil science, water resources, forestry, wildlife management, agricultural sustainability, geological processes, or related areas. Courses completed for the ASD and ESEA are selected from a list of choices in each area. Students are required to complete an off-campus internship or a research experience that is related to their ESEA and/or ASD. NRES majors have completed internships in several foreign countries, although most are conducted within the U.S. with organizations such as the National Park Service, the U.S. Forest Service, with local nature preserves, an Alaskan salmon recovery program, a national laboratory, environmental consulting firms, private corporations, and both state and local governments. All seniors apply their course work and experiential learning to the senior capstone course which focuses on a well-defined natural resource issue, requires group collaboration and problem-solving, and involves actual stakeholders.

Graduates of the Natural Resources and Environmental Science degree program move on to graduate work or careers. Many graduates continue their studies in Masters or Ph.D. programs or go on to law school. Most graduates begin careers as aspiring environmental professionals in both the public and private sector. Additional employment opportunities exist in environmental education, journalism, and work with nonprofit organizations which have environmental concerns.

Graduation Requirements

To earn a Bachelor of Science in Natural Resources and Environmental Science, a student must complete at least 120 semester hours of credit with at least a 2.0 cumulative grade-point average. A minimum of 45 credits must be from upper division courses (300-level and above). Remedial courses may **not** be counted toward the total degree hours. In addition to the UK Core requirements, students must complete College requirements, premajor and major requirements, and complete an internship or research experience. With advisor approval, students select and Analytical Skill Development and an Environmental System Emphasis Area which focuses course work in a student's area of interest.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I
or
MA 137 Calculus I With Life Sciences Applications 4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
GEN 100 Issues in Agriculture, Food and Environment 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

NRE 395 Independent Study in Natural Resources and Environmental Science
or
NRE 399 Experiential Education in Natural Resources and Environmental Science 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1
ECO 201 Principles of Economics I 3
EES 220 Principles of Physical Geology 4

MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I
or
MA 137 Calculus I With Life Sciences Applications 4

STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

Subtotal: Premajor hours 25

Major Requirements — Hours

AEC 326 Principles of Environmental Law 3
AEC 445G Introduction to Resource and Environmental Economics 3
FOR 230 Conservation Biology 3

FOR 240 Forestry and Natural Resource Ethics
or
PHI 336 Environmental Ethics 2-3

FOR 325 Economic Botany: Plants and Human Affairs 3
FOR 340 Forest Ecology 4

FOR 460 Forest Hydrology and Watershed Management
or
EES 385 Hydrology and Water Resources 3-4

NRE 201 Natural Resources and Environmental Science 3
*NRE 320 Natural Resource and Environmental Analysis 3
NRE 381 Natural Resource and Environmental Policy Analysis 3

†NRE 395 Independent Study in Natural Resources and Environmental Science
or
†NRE 399 Experiential Education in Natural Resources and Environmental Science 3

NRE 471 Senior Problem in Natural Resources and Environmental Science 4
NRE 355 Introductory Geospatial Applications for Land Analysis 3
PLS 366 Fundamentals of Soil Science 4

**NRE 320 is a three-week summer camp field data collection experience. The student will attend this camp after the sophomore or junior year. This camp exposes the student to a wide range of natural resource techniques and concepts, including aquatic ecology, soil and plant sciences, wildlife and forestry, and waste management.*

†Requires an approved Learning Contract through the Stuckert Career Center prior to registration.

Subtotal: Major hours 44-45

Analytical Skill Development (ASD) and Environmental System Emphasis Areas (ESEA)

Students must select one area within Analytical Skill Development and one Environmental System Emphasis Area and complete nine hours of course work in each area from the list of courses provided below. Students must select from the courses listed under each ASD and ESEA but may request one (1) substitute course per ASD and ESEA, subject to approval by both their academic advisor and the DUS. For the 18 hours of ASD and ESEA course work, all classes must be 200-level or above and at least twelve (12) credit hours must be in 300-level or above courses. Classes taken to complete the ASD requirement may not count towards the ESEA course requirement and vice versa. Research experiences, internships, or apprenticeships cannot be used to satisfy the ASD and ESEA requirements, including individualized options.

Analytical Skill Development Areas

1. Economic and Policy Analysis — Hours

AEC 309 International Agriculture, World Food Needs and U.S. Trade in Agricultural Products 3
AEC 483 Regional Economics 3
AEC 532 Agricultural and Food Policy 3
AEC/NRE 545 Resource and Environmental Economics 3
CLD/SOC 360 Environmental Sociology 3
FOR 320 Forest Valuation and Economics 3
FOR 400 Human Dimensions of Forestry and Natural Resources 3
GEO 235 Environmental Management and Policy 3
GEO 455 Globalization and the Changing World Economy 3

2. Field and Laboratory Analysis of Ecosystems

BIO/NRE 420G Taxonomy of Vascular Plants 4
ENT 300 General Entomology 3
ENT/FOR 402 Forest Entomology 3
FOR 219 Dendrology 4
FOR 250 Statistics and Measurements I 3
PLS 396 Soil Judging 3
PLS/NRE 455G Wetland Delineation 3
PLS 573 Soil Morphology and Classification 3
PLS 597 Special Topics in Plant and Soil Science (Subtitle required) 3

3. Geospatial Analysis

BAE 538 GIS Applications for Water Resources 3
FOR 200 Basics of Geospatial Technology 2
FOR 330 GIS and Spatial Analysis 3
GEO 309 Introduction to GIS 3
GEO 409 Advanced GIS 3
GEO 415 Map Interpretation 3
LA/NRE 556 Contemporary Geospatial Applications for Land Analysis 3

4. Environmental Education

*NRE 390 Special Topics in Natural Resources and Environmental Science 3
CLD 230 Intrapersonal Leadership 3
CLD/SOC 360 Environmental Sociology 3
AED/FCS 583 Designing Curriculum and Assessment in Career and Technical Education 3
EDP 202 Human Development and Learning 3

**For the environmental education ASD, students must take NRE 390 Special Topics in Natural Resources and Environmental Science.*

5. Individualized Analytical Skill Development

With advisor approval, a student may submit a request for an individualized ASD. The written proposal must include a memo explaining the rationale, a list of proposed courses for the ASD, an explanation of how those courses meet the intent of the ASD, and a copy of the student's Plan of Study which includes the proposed course work. The written proposal must be submitted to the DUS for Steering Committee approval.

Environmental System Emphasis Areas

1. Conservation Biology — Hours

BIO/PLS 210 The Life Processes of Plants 3
BIO 325 Ecology 4
BIO 375 Behavioral Ecology and Sociobiology 3
BIO/NRE 420G Taxonomy of Vascular Plants 4
BIO/GEO 530 Biogeography and Conservation 3
FOR 219 Dendrology 4
FOR 370 Wildlife Biology and Management 4

2. Forestry

*FOR 219 Dendrology 4
*FOR 350 Silviculture 4
FOR 320 Forest Valuation and Economics 3
FOR 400 Human Dimensions of Forestry and Natural Resources 3
FOR 402 Forest Entomology 3
FOR 425 Forest Management 4

**For the Forestry ESE, students must take FOR 219 and FOR 350.*

3. Human Dimensions and Natural Resource Planning

BIO/GEO 530 Biogeography and Conservation 3
CLD/SOC 340 Community Interaction 3
CLD/SOC 360 Environmental Sociology 3
CLD/SOC 420 Sociology of Communities 3
CLD/SOC 440 Community Processes and Communication 3
FOR 400 Human Dimensions of Forestry and Natural Resources 3
FOR 470 Interdependent Natural Resource Issues 3
GEO 285 Introduction to Planning 3
GEO 485G Urban Planning and Sustainability 3
GEO 490G American Landscapes 3
GEO 531 Landscape Ecology 3
LA 308 Regional Land Use Planning Systems 3
LA 457 Contemporary Regional Land Use Planning Applications 3

4. Environmental Soil Science

PLS 396 Soil Judging 3
PLS/NRE 450G Biogeochemistry 3
PLS/NRE 455G Wetland Delineation 3
PLS 468G Soil Use and Management 3
PLS/NRE 470G Soil Nutrient Management 3
PLS 566 Soil Microbiology 3
PLS 573 Soil Morphology and Classification 3
PLS 575 Soil Physics 3

5. Water Resources

AEN 461G Biometeorology 3
BAE 532/CE 542 Introduction to Stream Restoration 3
BAE 538 GIS Applications for Water Resources 3
BIO/GEO 530 Biogeography and Conservation 3
CHE 565 Environmental Chemistry 3
EES 530 Low Temperature Geochemistry 3
EES 585 Hydrogeology 3
GEO 230 Weather and Climate 3
GEO 451G Fluvial Forms and Processes 3
PLS/NRE 450G Biogeochemistry 3
PLS/NRE 455G Wetland Delineation 3
PLS 573 Soil Morphology and Classification 3
PLS 575 Soil Physics 3

6. Wildlife Management

BIO/ENT 300 General Entomology 3
BIO 304 Principles of Genetics 4
BIO 325 Ecology 4

BIO 350 Animal Physiology
or
ASC 325 Animal Physiology 3-4

BIO 375 Behavioral Ecology and Sociobiology 3
BIO 559 Ornithology 4
FOR 370 Wildlife Biology and Management 4
PLS/NRE 455G Wetland Delineation 3

7. Global Sustainable Food Systems

AEC 309 International Agriculture, World Food Needs and U.S. Trade in Agricultural Products 3
CLD/SOC 360 Environmental Sociology 3
ECO 410 Current Issues in Economics: (Subtitle required) 3
ENT 300 General Entomology 3
ENT 310 Insect Pests of Field Crops 3
PLS 404 Integrated Weed Management 4
SAG 201 Cultural Perspectives on Sustainability 3
SAG/PLS 386 Plant Production Systems 4
SAG 390 Agroecology 3

8. Earth Systems Science

EES 230 Fundamentals of Geology I 3
EES 235 Fundamentals of Geology II 3
EES 323 Field Work in Regional Geology 6
EES 360 Mineralogy 4
EES 420G Structural Geology 4
EES 450G Sedimentary Geology 4
EES 461 Igneous and Metamorphic Petrology 4
EES 530 Low Temperature Geochemistry 3
EES 550 Fundamental Geophysics 3
EES 585 Hydrogeology 3
GEO 331 Global Environmental Change 3
GEO 351 Physical Landscapes 3
GEO 451G Fluvial Forms and Processes 3
PLS 450G Biogeochemistry 3

9. Individualized System Emphasis Area

With advisor approval, a student may submit a request for an individualized ESEA. The written proposal must include a memo explaining the rationale, a list of proposed courses for the ESEA, an explanation of how those courses meet the intent of the ESEA, and a copy of the student's Plan of Study which includes the proposed course work. The written proposal must be submitted to the DUS for Steering Committee approval.

Subtotal: Analytical Skill Development and Environmental System Emphasis Areas 18

Electives

Free elective courses should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Electives 7-9

TOTAL HOURS: 120

MINORS IN AGRICULTURE, FOOD AND ENVIRONMENT

Minor in Agricultural Economics

Preprofessional Requirement	Hours
ECO 201 Principles of Economics I	3

Minor Requirements

Two courses selected from:
AEC 302 Agricultural Management Principles 4
AEC 303 Microeconomic Concepts in Agricultural Economics 3
AEC 305 Food and Agricultural Marketing Principles 3

In addition, students should select 9 hours from other agricultural economics courses. A maximum of 3 credit hours from AEC 312, 313, 314, 315, or 341 may be credited to the minor. AEC 399 may not be included.

Minor in Animal Sciences

Prerequisites

Note that several classes in both Group A and Group B have prerequisites beyond ASC 101. These are indicated in parenthesis following the courses below. Students taking the minor are responsible for satisfying the prerequisites.

Minor Requirements	Hours
ASC 101 Domestic Animal Biology	3
ASC 102 Applications of Animal Science	3
Additional Course Work	9

At least 9 credit hours must be selected from the list that follows (Groups A and B). At least one course must be selected from Group A and one course from Group B.

Group A
ASC 300 Meat Science 4
ASC 325 Animal Physiology (*BIO 152 and CHE 107/113*) 3
ASC 362 Animal Genetics 4
ASC 364 Reproductive Physiology of Farm Animals (*CHE 230 or 236*) 4
ASC 378 Animal Nutrition and Feeding (*CHE 230 or 236*) 4

Group B
ASC 340 Poultry Production 2
ASC 404G Sheep Science (*ASC 300, 362, 364*) 4
ASC 406 Beef Cattle Science (*ASC 300, 362, 364*) 4
ASC 408G Swine Production (*ASC 378*) 2
ASC 410G Equine Science (*ASC 362, 364*) 3
ASC 420G Dairy Cattle Science (*ASC 362, 364*) 3

Total Hours Required 15

Minor in Community and Leadership Development

The minor in Community and Leadership Development requires 22 hours as follows:

Preminor Requirements	Hours
CLD 100 Introduction to Community and Leadership Development	1
CLD 225 Community and Communication: Exploring Their Intersections	3
CLD 230 Intrapersonal Leadership	3
CLD 260 Community Portraits	3

Students must earn at least a **C** in the above four courses before they will be admitted to any upper-division courses in the program.

Subtotal: Preminor Requirements 10

Minor Requirements	Hours
CLD 300 Foundational Theories in Community and Leadership Development	3
CLD 370 Learning in Society	3

Select two additional CLD courses at the 300 level and above, with advisor's approval.

Subtotal: Minor Requirements 12

Minor in Entomology

Preminor Requirement	Hours
Two semesters of introductory biology	6

Minor Requirements

Required: 15
ENT 300 General Entomology 3

Select the remaining credits (12 hours) from:
ENT 310 Insect Pests of Field Crops 3
ENT 320 Horticultural Entomology 3
ENT 340 Livestock Entomology 2
ENT 360 Genetics 3
ENT 395 Independent Work 1-3
ENT 402 Forest Entomology 3
ENT 530 Integrated Pest Management 3
ENT 561 Insects Affecting Human and Animal Health 3
ENT 563 Parasitology 4
ENT 564 Insect Taxonomy 4
ENT 568 Insect Behavior 3
ENT 574 Advanced Applied Entomology 4

Minor in Food Science

Required Courses	Hours
FSC 535 Food Analysis **or**	4
FSC 434G Food Chemistry	4
FSC 530 Food Microbiology	5
FSC 536 Advanced Food Technology **or**	4
FSC 538 Food Fermentation and Thermal Processing	4

Elective Courses

Two of the following:

FSC 306 Introduction to Food Processing	4
AEN 340 Principles of Food Engineering	4
*FSC 535 Food Analysis **or**	4
*FSC 434G Food Chemistry	4
*FSC 536 Advanced Food Technology **or**	4
*FSC 538 Food Fermentation and Thermal Processing	4

**If not taken as one of the required courses.*

Minor in Pest Management

Prerequisite	Hours
One course from the following: ASC 320, 404G, 406, 408G, 420G PLS 352, 386, 402, 408, 512, 515, 520, 525, 556	2-4

Minor Requirements

ENT 300 General Entomology	3
PLS 404 Integrated Weed Management	4
PPA 400G Principles of Plant Pathology	3
Select at least 9 hours from the following:	
ENT 310 Insect Pests of Field Crops	3
ENT 320 Horticultural Entomology	3
ENT 340 Livestock Entomology	2
ENT 402 Forest Entomology	3
ENT 530 Integrated Pest Management	3
ENT 574 Advanced Applied Entomology	4
PPA 595 Epidemiology and Control of Plant Diseases	4
VS 351 Principles of Animal Hygiene and Disease Control	3
PLS 470G Soil Nutrient Management	3
ASC 378 Animal Nutrition and Feeding	4

Minor in Plant and Soil Science

Preminor Requirement	Hours
CHE 105 General College Chemistry I	4

Minor Requirements

Required:	18
PLS 104 Plants, Soils, and People: A Science Perspective	3
PLS/BIO 210 The Life Processes of Plants **or** BIO 152 Principles of Biology II	3
PLS 366 Fundamentals of Soil Science	4

plus 9 more hours of plant and soil science courses chosen from the following prefixes: PLS, PPA.

Minor in Sustainable Agriculture

The minor in Sustainable Agriculture requires 21 to 23 hours as follows:

Minor Prerequisite	Hours
ECO 201 Principles of Economics I	3

Minor Requirements

Required:	9
SAG 101 Introduction to Sustainable Agriculture	3
SAG 201 Cultural Perspectives on Sustainability	3
SAG 397 Apprenticeship in Sustainable Agriculture	3
Select one from:	
GEO 235 Environmental Management and Policy	3
*PLS 366 Fundamentals of Soil Science	4
Select one from:	
AEC 302 Agricultural Management Principles	4
AEC 305 Food and Agricultural Marketing Principles	3
AEC 445G Introduction to Resource and Environmental Economics	3
Select one from:	
**SOC 360 Environmental Sociology	3
GEN 501 Agricultural and Environmental Ethics	3

**Prerequisite: CHE 105.*

***Prerequisite: SOC 101.*

Undergraduate Certificate in Distilling, Wine and Brewing Studies

The Undergraduate Certificate in Distillation, Wine and Brewing Studies (DWBS) is inclusive of students from all departments and colleges at UK. The Departments of Animal and Food Sciences; Biosystems and Agricultural Engineering; Chemistry; Chemical and Materials Engineering; History; Horticulture, Plant and Soil Sciences; Retailing and Tourism Management; and Writing, Rhetoric and Digital Studies are all engaged in DWBS. Three key student learning outcomes comprise the DWBS and are accomplished through a cluster of courses:

- Students will comprehend the breadth of the career opportunities in the DWBS industry.
- Students will be able to identify key technical methods and analytical skills required in the DWBS industry.
- Students will be capable of outlining the history of DWBS and clearly explain how this relates to human cultures.

UK is offering this program because, (a) this industry represents the science of one of the oldest products linked to human civilization; thus, education opportunities span a breadth of disciplines; and (b) this is a global industry that provides a wide and interdisciplinary range of careers. The curriculum was developed due to an urgent need to train people in this area as identified by the local industries. The Bluegrass is home to nearly 95 percent of the production of bourbon, one of the world's premier distilled spirits. There are over 70 wineries in the area as well, in addition to numerous large and small breweries. The program is suited to an undergraduate certificate rather than a minor because the undergraduate certificate creates a framework for students from programs across the UK to gain a certificate without changing their major/minor of interest, which is congruent with the interdisciplinary nature of the career opportunities available in this space.

The DWBS is affiliated with the Department of Horticulture in the College of Agriculture, Food and Environment (CAFE). The DWBS will complement the undergraduate B.S. program in Horticulture, Plant and Soil Science by providing additional opportunities for students already interested in these industries (e.g., in wine-growing) to delve into the related areas of wine-making.

Distillation, wine and brewing industries form a multi-billion dollar industry with a myriad of careers in science, engineering and the arts. Regionally, Kentucky is famous for bourbon production and in 2013 the industry surpassed 5 million barrels in over 40 distilleries worth more than $8 billion/year. Current estimates suggest Kentucky employment may now number 10,000 within the bourbon industry alone.

Further, approximately 25 new craft and full scale distillers are opening in the coming year with a shortage of trained intellectual infrastructure identified recently as a major hurdle to growth (by the Kentucky Distillers Association Technical Committee Meeting). There are over 70 wineries that also demand trained and knowledgeable employees, and a thriving craft beer movement has been established in the past 5 years.

Despite Kentucky being a landmark destination for producers, few courses focused on this industry have been delivered in the past at UK. The proposed certificate pedagogy will engage an inter-disciplinary team that will align certificate enrollees with skills and knowledge of career options. Intellectual infrastructure will immediately benefit the career opportunities and serve a rapidly growing industry.

The DWBS certificate program is designed to be applicable across many of the current UK academic majors. Most obviously, the DWBS would serve students in the colleges of Agriculture, Food and Environment; Arts & Sciences; Business & Economics; Education; and Engineering. However the DWBS is designed to also attract students from other colleges and units based on interest.

Distilling, Wine and Brewing Studies Curriculum

The Certificate in Distilling, Wine and Brewing Studies curricula are as follows:

- A minimum of 12 credits of course work taken for a letter grade.
- At least 12 credits must be 200 level or above, and a minimum of 6 credits must be at the 300-level or above.

- The student must complete a 3-credit breadth component. The breadth component requires that a student take courses in at least two colleges, with a minimum of three credits to be completed in a discipline other than the student's major.
- Student must earn a **C** or better in each required certificate course to receive the certificate.
- Certificates will only be awarded to students who successfully complete a degree, or have completed a four-year degree.
- No more than 9 credits taken for a certificate can be used to satisfy the requirements for the student's bachelor's degree, a minor, or another certificate, exclusive of free or unrestricted electives.

Students must complete a minimum of 12 hours from the list of courses in the chart on the right. A&S 306 and PLS 335 are required. Students will select an additional 6 hours from the list of elective courses to complete the certificate.

Certificate in Distillation, Wine and Brewing Studies

Course	Credit Hours	Term Offered	Minimum Age
Required Courses			
A&S 306 Spirit Chemistry	3	Fall	
PLS 335 Distillation, Wine and Brewing Science	3	Fall	
Elective Courses Select 6 hours from the following:			
AEN/TSM 341 Brewing Science and Technology	3	Spring	
FSC 430 Sensory Evaluation of Foods	3	Fall (even years)	
FSC 538 Food Fermentation and Thermal Processing	4	Spring	
FSC 540 Food Sanitation	3	Fall (even years)	
PLS 336 Introduction to Viticulture – Grape Production	3	Spring	
PLS 337 Introduction to Enology: Wine Production	3	Fall	21
HMT 420 Kentucky Bourbon Hospitality and Tourism	3	Fall	21
PLS 389 Wine Appreciation	3	Fall/Spring	21
PLS 395 Special Problems in Plant and Soil Science	3	Fall/Spring	
PLS 399 Experiential Learning in Plant and Soil Science	3	Fall/Spring	
WRD 225 Craft Writing	3	Spring	

PRE-VETERINARY MEDICINE (Non-Degree)

Students interested in becoming veterinarians may enroll in the College of Agriculture, Food and Environment at the University of Kentucky and complete their requirements for admission to veterinary school. Most students completing a science-based degree program (e.g., Animal Science, Agricultural Biotechnology, etc.) can complete pre-vet requirements at the same time.

Although the Commonwealth of Kentucky does not have a school of veterinary medicine, it is a participating member of the Southern Regional Education Board plan, under which legal Kentucky residents may attend the Auburn University School of Veterinary Medicine. Each year 38 qualified Kentucky students are chosen from Kentucky to enter the Auburn program. There is also a plan whereby three legal Kentucky residents may be accepted by the Tuskegee University School of Veterinary Medicine each year.

Admission is on a competitive basis with the final selection being made by a committee from each of the veterinary schools.

Pre-veterinary studies is not a degree program, but a pre-professional curriculum. It is strongly recommended that all pre-veterinary students choose a degree goal early in their college career. Although it is possible to complete pre-vet requirements in three years, the majority of students accepted to veterinary school have a B.S. or B.A. degree.

An overall grade-point average of 2.50 (on a 4.0 basis) is required prior to consideration for admission to Auburn; 2.70 is required for Tuskegee. Due to the high level of competition for admission to any veterinary school, a student should maintain at least a 3.0 academic standing on all college work. The average overall GPA for students accepted to veterinary schools is approximately 3.50. All required courses must have a grade of **C** or greater.

Most US veterinary schools use the Veterinary Medical College Application Service (VMCAS) application.

The following is a list of courses for Auburn College of Veterinary Medicine requirements. However, some changes in the pre-veterinary curriculum may go into effect during the school year. **The student has the responsibility to work closely with his or her pre-veterinary advisor in making certain that all requirements are met for consideration for acceptance.**

All advanced placement credit for required courses must have prior approval by Dr. Dwyer. Auburn does not accept correspondence credit for required courses, except for Animal Nutrition.

Auburn's Pre-Veterinary Curriculum

Written Composition* 6
Literature (e.g. ENG 251)** ..... 3 or 6
Fine Arts (e.g. MUS 100)** 3
Humanities/Fine Arts electives** 6
History (e.g. HIS 108/109)** ..... 3 or 6
Social sciences electives** 9

MA 123 Elementary Calculus and Its Applications

or

MA 113 Calculus I 4

The above courses are waived for students with a B.S. or B.A. degree.

BIO 148 (or 150)/152 Principles of Biology I and II 6
BIO 151/153 Principles of Biology Laboratory I and II*** 4
BIO 315 Introduction to Cell Biology 4
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1
PHY 211 General Physics 5
BCH 401G Fundamentals of Biochemistry 3

ASC 378 Animal Nutrition and Feeding 4

or

ASC 380 Feeds and Feeding 3

Science Electives**** 6

**Consult advisor.*

***Students should contact a UK pre-veterinary advisor regarding alternative courses.*

****Check with pre-veterinary advisor for alternative courses.*

*****Science electives must be two of the following courses: BIO 304, BIO 350 or ASC 325, BIO 308, BIO 315, BIO 542, ASC 364, BIO 561 or BIO 563, BIO 529, PHY 213.*

Auburn strongly urges students to take organic chemistry and physics courses at a four-year college or university.

Tuskegee's Pre-Veterinary Curriculum

Organic Chemistry w/Lab 4
Biochemistry w/Lab 4
Physics w/Lab 8

Advanced Biology (300 level or above) 9
ASC 101 Domestic Animal Biology 3
ASC 378 Animal Nutrition and Feeding 4
Mathematics 6
English 6
Social Sciences/Humanities 6
Liberal Arts 6
Advanced Biology Electives 8

The student has the responsibility to work closely with his or her pre-veterinary advisor in making certain that all requirements are met for consideration for acceptance.

All pre-veterinary students who enter veterinary school without obtaining an Animal Science degree and petition UK for one later must fulfill the departmental requirements for an Animal Science degree. In order to be eligible for the B.S. in Animal Sciences, students must have completed all UK Core courses, all college requirements and all of the required core courses and production courses required in the Animal Sciences degree program.

SCHOOL OF HUMAN ENVIRONMENTAL SCIENCES

Human Environmental Sciences provides science-based programs concerned with the interactions of individuals and families within multiple environmental contexts, including social, cultural, economic, and political. The specialized areas of study prepare graduates for professional roles through academic work, practicum or field experience, and research with a focus on improving quality of life for individuals and families throughout the lifespan.

There are three departments in the School of Human Environmental Sciences – Dietetics and Human Nutrition; Family Sciences; and Retailing and Tourism Management. Each department offers both undergraduate and graduate study.

Undergraduate Programs in Human Environmental Sciences

The University of Kentucky grants the following degrees in the School of Human Environmental Sciences:

- Bachelor of Science in Dietetics
- Bachelor of Science in Family Sciences
- Bachelor of Science in Hospitality Management and Tourism
- Bachelor of Science in Human Nutrition
- Bachelor of Science in Merchandising, Apparel and Textiles

Minor Offered

The following minor is available:

- Family Sciences

Accreditations and Approvals

All undergraduate programs in the School of Human Environmental Sciences are accredited by the American Association of Family and Consumer Sciences.

Additionally, all programs and facilities which can be accredited or approved have achieved that recognition:

- Didactic and Coordinated Programs in Dietetics are both accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND)
- The Masters Specialization in Couple and Family Therapy (M.S. in Family Sciences) is accredited by the Commission on Accreditation for Couple and Family Therapy Education (COACFTE). The program includes course work and clinical practicum required for licensure.

Unique Features of the School Facilities and Services

The School oversees the Research Center for Families and Children and the Family Center. The Family Center is a learning laboratory for students who provide services to students, staff, and community members. The Department of Retailing and Tourism Management oversees the Betty D. Eastin Costume Collection and the Textiles Quality Research Laboratory. The Department of Family Sciences includes two research labs. The Family Interaction Research Lab (FIRL) features equipment to measure family interactions, including psychological arousal and electrical brain activity. The Family Social Science Research Center includes equipment to complete random digit dialing research. The Department of Dietetics and Human Nutrition operates the Lemon Tree Restaurant and the Nutritional Assessment Laboratory.

Scholarships

Over fifty scholarships are awarded each year to undergraduate and graduate students enrolled in the School of Human Environmental Sciences. Information about scholarships is available from the Advising Resource Office, 112 Erikson Hall, and the College of Agriculture, Food and Environment Scholarship Office, N-6 Ag Science Building.

Advising

All students are assigned an advisor during their first semester in a program in the School of Human Environmental Sciences. For more information about programs or advising, contact:

HES Advising Resource Office
112 Erikson Hall
University of Kentucky
Lexington, KY 40506-0050
(859) 257-2855
http://hes.ca.uky.edu/

DEPARTMENT OF DIETETICS AND HUMAN NUTRITION

The Department of Dietetics and Human Nutrition provides sound undergraduate and graduate programs in foods and nutrition, and is concerned with research and extension services.

The department offers the Bachelor of Science in Dietetics and the Bachelor of Science in Human Nutrition. A post-baccalaureate dietetic internship is also offered.

Visit us on the Web at:
http://dhn-hes.ca.uky.edu/

Admission Policy

Admission to the University is sufficient for lower-division admission to the human nutrition and dietetics majors. However, lower-level admission to the majors or any admission to the University does not guarantee upper-division admission to either of the degree programs in the Department of Dietetics and Human Nutrition. In general, admission depends upon the qualifications and preparation of applicants, as well as the availability of resources for maintaining quality instruction.

Upper-division admission into the human nutrition or dietetics degree programs is necessary in order to be granted a baccalaureate degree from the Department of Dietetics and Human Nutrition. Students who have attained a **2.8** or higher grade-point average in the premajor component required for all students in the Department of Dietetics and Human Nutrition will be assured admission.

To be considered for upper-division admission to either the human nutrition or dietetics undergraduate degree programs, an applicant must fulfill the following requirements:

1. Enrollment in the University of Kentucky. (Students are considered for acceptance by the Department only after acceptance by the University of Kentucky.);
2. Completion of the premajor component (premajor courses include: CHE 105, CHE 107, CHE 111, CHE 113, BIO 152, DHN 212, and DHN 241) required for all students within the Department of Dietetics and Human Nutrition with a minimum premajor course work grade-point average of 2.8.*
3. Submission of an application form to the Department of Dietetics and Human Nutrition Academic Coordinator.

**A student can repeat a premajor course to meet this GPA requirement. If a student repeats the course as one of their three University-accepted repeat options only the repeat grade will be factored into the premajor course work GPA. If a student repeats the course outside of the University-accepted repeat options then the course grades will be averaged and then factored into the premajor course work GPA.*

Applications from students outside the University of Kentucky seeking admission to the Human Nutrition or Dietetics degree programs, whether for upper-division or lower-division status, must be received by the University Admissions Office no later than **April 15** (first summer session); **May 15** (second summer session); August 1 (fall semester); and **December 1** (spring semester).

Students enrolled in other UK programs on campus should apply for admission prior to the priority registration period. (The appropriate deadlines are listed in the University calendar for approved times to change major.)

Lower-division students enrolled in the Department of Dietetics and Human Nutrition should apply for upper-division admission to the Human Nutrition Program or Didactic Program in Dietetics during the semester they are completing the premajor course work. The application for upper-division admission should be made before the priority registration period for the upcoming semester.

Appeal Process

Students with a GPA below 2.8 and who have completed all premajor requirements may appeal for admission into the human nutrition or dietetic programs. If the Appeals Committee feels that there is persuasive evidence that personal, academic or professional circumstances have affected a student's grades and the student shows promise for successful completion of a degree in the Department of Dietetics and Human Nutrition, acceptance may be granted. Materials and information necessary for the appeals process will be available in the School of Human Environmental Science Advising Resource Center. The deadline for submission of the appeals is generally 45 days prior to the beginning of the semester; however, appeals materials are not accepted for the first summer session.

BACHELOR OF SCIENCE IN DIETETICS with a major in Dietetics

Dietetics prepares professionals who are recognized for expertise in food and nutrition. Graduates of the University of Kentucky Dietetics Program are prepared to apply to an accredited Dietetic Internship program to become Registered Dietitians to function as entry level professionals with opportunities for practice in medical nutrition therapy, community dietetics, food systems management, and/or the business of dietetics. Becoming a registered dietitian involves a combination of academic preparation, including a minimum of a baccalaureate degree, and a supervised practice component and successfully passing the registration examination for dietitians.

The UK DHN Dietetics Program offers two options to earn a bachelor's degree in dietetics. Option A is the Didactic Program in Dietetics (DPD) and Option B is the Coordinated Program in Dietetics (CP). Both options lead to the Bachelor of Science in Dietetics and fulfill the foundation knowledge and/or competencies established by the Accreditation Council for Education in Nutrition and Dietetics, ACEND, the accrediting agency for the Academy of Nutrition and Dietetics, AND. The DPD and the CP are both fully accredited by ACEND. Option B, CP, is a selective admission program to which students must apply prior to beginning the major course work in the third year of the dietetics program.

Option A, designated as the Didactic Program in Dietetics, DPD, focuses on the foundation knowledge requirements provided by the academic component of dietitian education. A student must be a declared dietetics major in the Department of Dietetics and Human Nutrition to complete the DPD. Students must attain a cumulative grade-point average of **2.4** or above to progress into course work designated as major requirements.

Successful completion of the DPD curriculum enables graduates to apply to a ACEND-accredited supervised practice program, SPP, in a post-baccalaureate Dietetic Internship.

Upon successful completion of the Dietetic Internship the individual is eligible to sit for the national registry exam administered by the Commission on Dietetic Registration, CDR, the credentialing agency of the AND, which grants use of the nationally recognized credential "RD" Registered Dietitian.

Graduates of the UK DHN Option A may apply for placement in the Dietetic Internship program offered by the Department of Dietetics and Human Nutrition, School of Human Environmental Sciences, or any other ACEND-accredited dietetic internship outside the department. Students must consider the highly competitive scenario in competing for acceptance into a Dietetic Internship.

Option B, designated as the Coordinated Program in Dietetics, CP, provides the foundation knowledge requirements provided by the academic component of dietitian education (see DPD above) **and** an ACEND-accredited supervised practice component. Students who have completed the premajor requirements and are interested in the Coordinated Program to attain the academic preparation and supervised practice program through the UK DHN Dietetics Program may apply for admission to Option B, the CP. Option B requires three additional semesters of didactic course work in the major requirements prior to beginning the 1,200 hour supervised practice program. Students in the CP must successfully complete the didactic and supervised practice component to receive the B.S. in Dietetics degree.

The ACEND-accredited CP is a selective admission program. Admission to the University of Kentucky DHN Dietetics Program does not guarantee admission to the Coordinated Program, CP. A limited number of students who have completed the required preprofessional courses will be admitted on the basis of cumulative grade-point average, potential qualities for becoming a successful dietitian, leadership potential and professional involvement and commitment.

The application deadline for the UK DHN CP is February 1, prior to potential fall admission in Year Three of the Dietetics Program. Year Three of the Dietetics Program is the beginning of the Major Requirements for completion of course work. Program application materials should include an application form, a letter of professional goals and qualifications, three letters of reference, and record of academic performance.

The CP Admissions Committee considers grade-point average, letter of application, work experience, honors and extracurricular activities and letters of recommendation. Students who apply to the UK DHN CP will be granted an interview where the applicant's goals, communication skills, knowledge of the profession, and organizational and leadership skills are evaluated.

Successful CP applicants will be notified of provisional acceptance into the CP before UK's priority registration dates for the ensuing fall semester. Final acceptance depends on successful completion of the work in progress at the time of the application and throughout the remaining didactic component prior to beginning the supervised practice component of the undergraduate dietetics program.

Transfer students are urged to contact the Advising Resource Office, 112 Erikson Hall, for a preliminary evaluation of credits well in advance of the application date. Year Three of the Dietetics Program is the beginning of the Major Requirements for completion of course work. CP applicants must be a declared major in the UK DHN dietetics program or if a transfer student, indicate intent to declare dietetics as their major. Students accepted into the CP must be majors in the UK DHN dietetics program.

Successful completion of Option B, the UK DHN CP, results in the Bachelor of Science in Dietetics degree. Graduates of Option B are eligible to sit for the national registry exam administered by the Commission on Dietetic Registration, CDR, the credentialing agency of the AND, which grants use of the nationally recognized credential "RD" Registered Dietitian.

The UK DHN ACEND-accredited Dietetic Internship, DI, selects competitive students who have completed a Didactic Program in Dietetics at UK or other ACEND-accredited institutions. Qualified graduates compete for a limited number of positions in the UK DHN DI. For information regarding the UK DHN Dietetic Internship, the

application and/or screening procedures, please contact:

Director, Dietetic Internship Program
203 Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054

Degree Requirements

Each student must complete the following:

1. Complete UK Core requirements.
2. Complete the School requirements listed below.
3. Complete 128 credit hours with a minimum grade-point average of 2.0.
4. Complete the required curriculum in the major program.

School Requirements

HES 100 An Introduction to Professions in Human Environmental Sciences 1
FAM 352 Issues in Family Sciences 3

Subtotal: School Required hours 4

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology
or
SOC 101 Introduction to Sociology 3-4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 111 Introduction to Contemporary Mathematics 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 32-33

Graduation Composition and Communication Requirement (GCCR)

DHN 374 Research and Writing in Dietetics 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Progression Requirements

Students must attain a grade-point average of 2.4 or above to progress into course work designated as major requirements. In addition, students must achieve a grade of **C** or better in all course work designated as major requirements.

Students must complete the following requirements:

Premajor Requirements — Hours

BIO 152 Principles of Biology II 3
BIO 208 Principles of Microbiology 3
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2
CHE 230 Organic Chemistry I
or
CHE 236 Survey of Organic Chemistry 3
CLA 131 Medical Terminology from Greek and Latin 3
ECO 201 Principles of Economics I 3
DHN 212 Introductory Nutrition 3
DHN 241 Food Service Sanitation 1
PGY 206 Elementary Physiology 3
PSY 100 Introduction to Psychology 4
SOC 101 Introduction to Sociology 3
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

Subtotal: Premajor hours 42

Major Requirements — Hours

Prior to beginning the major requirements, students should indicate a choice of Option A or Option B with the Advising Resources Office, 112 Erikson Hall, and the UK DHN Dietetics Program, 203 Funkhouser. Option B is a selective admissions program.

DHN 301 Dietetics Practice 2
DHN 302 Principles of Food Preparation 3
DHN 304 Experimental Foods 3
DHN 311 Nutritional Biochemistry 3
DHN 312 Nutrition and Wellness in the Life Cycle 3
DHN 340 Institutional Purchasing 3
DHN 342 Quantity Food Production 4
DHN 346 Human Resources Management for the Food and Hospitality Industries
or
MGT 301 Business Management 3
DHN 374 Research and Writing in Dietetics 3
DHN 403 Community Nutrition and Wellness 3
DHN 408G Seminar in Dietetics and Human Nutrition 1
DHN 510 Advanced Nutrition 3
DHN 512 Medical Nutrition Therapy I 4
DHN 514 Dietetics: Counseling and Communication Theories and Applications 3
DHN 517 Medical Nutrition Therapy II 3

Subtotal: Major hours 44

Option Requirements

One option must be completed concurrently with the major requirements stated above.

OPTIONS

Option A – Didactic Program in Dietetics (DPD)

DHN 480 Dietetics Pre-Professional Practice 1-6

Subtotal: Option A 1-6

Option B – Coordinated Program in Dietetics (CP)

Option B requires the student to apply to admission to the CP after completion of premajor requirements. See Bulletin for details.

DHN 800 Nutrition in the Life Cycle: Practicum* 1
DHN 808 Community Nutrition II: Supervised Practice* 2
DHN 810 Medical Nutrition Therapy I: Supervised Practice* 5
DHN 812 Food Service Systems Management: Supervised Practice* 5
DHN 814 Food Service Systems Management II: Supervised Practice* 3
DHN 816 Medical Nutrition Therapy II: Supervised Practice* 3
DHN 518 Evaluation of Dietetic Issues and Leadership 2
*800-level course requires admission to CP.

Subtotal: Option B 21

Electives

Professional Support Elective 3

Electives should be selected by the student to lead to the minimum total hours required for graduation.

Subtotal: Elective hours Option A 1-6
Subtotal: Elective hours Option B 21
TOTAL HOURS: Option A 128
TOTAL HOURS: Option B 137

Requests for applications or further information may be directed to:

College of Agriculture, Food and Environment
Director, Coordinated Program
Department of Dietetics and Human Nutrition
203 Funkhouser Building
University of Kentucky
Lexington, KY 40506-0054

BACHELOR OF SCIENCE IN HUMAN NUTRITION with a major in Human Nutrition

The Bachelor of Science in Human Nutrition offers appropriate preparation for further study in nutritional sciences and health-related sciences, particularly public health, pharmacy, medicine, dentistry, physical therapy, physician assistant school, optometry, and nutrition research.

Each student must complete the following:

1. Complete UK Core requirements.
2. Complete the School requirements listed below.
3. Complete 120 credit hours with a minimum grade-point average of 2.0.

4. Complete the required curriculum in the major program.

School Requirements

HES 100 An Introduction to Professions in Human Environmental Sciences 1
FAM 352 Issues in Family Sciences 3

Subtotal: School Required hours 4

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and its Applications
or
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33-34

Graduation Composition and Communication Requirement (GCCR)

DHN 474 Research in Nutrition: Theory 3
DHN 475 Research in Nutrition: Application 3

Graduation Composition and Communication Requirement hours (GCCR) 6

Premajor Requirements Hours

PSY 100 Introduction to Psychology 4

MA 113 Calculus I
or
MA 123 Elementary Calculus and Its Applications 4

CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1
STA 296 Statistical Methods and Motivations 3
BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
BIO 155 Laboratory for Introductory Biology I 1
BIO 208 Principles of Microbiology 3
PGY 206 Elementary Physiology 3
ANA 209 Principles of Human Anatomy 3

Subtotal: Premajor hours 45

Major Requirements Hours

DHN 212 Introductory Nutrition 3
DHN 241 Food Service Sanitation 1
DHN 302 Principles of Food Preparation 3
DHN 304 Experimental Foods 3
DHN 311 Nutritional Biochemistry 3
DHN 312 Nutrition and Wellness in the Life Cycle 3
DHN 315 Nutrition Issues in Physical Activity 3
DHN 318 Hunger, Food Behavior, and the Environment 3
DHN 403 Community Nutrition and Wellness 3
DHN 408G Seminar in Dietetics and Human Nutrition 1
DHN 474 Research in Nutrition: Theory 3
DHN 475 Research in Nutrition: Application 3
DHN 510 Advanced Nutrition 3
PHI 305 Health Care Ethics 3

At least 45 hours of course credit at the 300-level or above is required for graduation.

Subtotal: Major hours 38

Professional Support Electives

Select 18 hours in Professional Support Electives at the 200 level or above.

Subtotal: Professional Support hours 18

Electives

Electives should be selected by the student to complete the minimum total of 120 hours required for graduation.

Subtotal: Minimum Elective hours 1

TOTAL HOURS: 120

DEPARTMENT OF FAMILY SCIENCES

The Department of Family Sciences is committed to offering quality programs for students preparing to work with individuals and families in various settings including schools, private and public social agencies, and business. The focus is on enhancing the quality of life for families. Undergraduate programming is at an applied level using an interdisciplinary approach from the perspectives of individual and family development, family resource management, and family systems.

The department offers a major in family sciences. Students in the family sciences major earn the degree Bachelor of Science in Family Sciences. A minor in family sciences is available.

Family sciences prepares students to work with individuals and families in unique ways. Positions include coordinators of community education and outreach, crisis management, residential care, family financial management, research and planning, and social service workers. Students completing the program are eligible to apply to become certified family life educators through the National Council on Family Relations. Contact the Department of Family Sciences, 315 Funkhouser Building, (859) 257-7750, for more information about this optional credential.

Visit us on the Web at:
http://fam-hes.ca.uky.edu/

BACHELOR OF SCIENCE IN FAMILY SCIENCES

Each student must complete the following:

1. Complete UK Core requirements.
2. Complete the School requirements listed below.
3. Complete 120 credit hours with a minimum grade-point average of 2.0.
4. Complete the required curriculum in the major program.

School Requirements

HES 100 An Introduction to Professions in Human Environmental Sciences 1
FAM 352 Issues in Family Sciences 3

Subtotal: School Required hours 4

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology
or
SOC 101 Introduction to Sociology 3-4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
PHI 120 Introductory Logic 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30-31

Graduation Composition and Communication Requirement (GCCR)

FAM 357 Adolescent Development 3
FAM 360 Introduction to Family Intervention: Working with Families and Individuals 3
FAM 390 Introduction to Research Methods 3

Graduation Composition and Communication Requirement hours (GCCR) 9

Premajor Requirements **Hours**

COM 252 Introduction to Interpersonal Communication 3

PHI 120 Introductory Logic
or
PHI 332 Professional Ethics 3

PSY 100 Introduction to Psychology 4
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3
DHN 101 Human Nutrition and Wellness 3
SOC 101 Introduction to Sociology 3
ECO 201 Principles of Economics I 3

Subtotal: Premajor hours 22

Major Requirements

FAM 251 Personal and Family Finance 3
FAM 253 Human Sexuality: Development, Behavior and Attitudes 3
FAM 254 Life Course Human Development 3
FAM 357 Adolescent Development 3
FAM 360 Introduction to Family Intervention: Working With Families and Individuals 3
FAM 390 Introduction to Research Methods 3
FAM 402 Issues in Family Resource Management 3
FAM 499 Internship in Family Sciences 3

FAM 544 Cultural Diversity in American Children and Families
or
FAM 354 The Family in Cross-Cultural Perspective 3

Subtotal: Major hours 27

Professional Support

In addition to the major requirements, each student in consultation with his or her academic advisor will select a minimum of 18-21 credits in course work in a university-recognized minor. At least 12 of these hours must be at the 300 level or above. A minor is a structured group of courses that leads to considerable knowledge and understanding of a subject. Suggested minors include Psychology, Sociology, Gender and Women's Studies, Anthropology, Economics, Political Science, Appalachian Studies, Business, Communication, Health Promotion, Human Nutrition, Community and Leadership Development, etc.

Students must contact the department responsible for the minor program for guidance and advising.

Subtotal: Professional Support hours 18-21

Electives

Electives at the 300 level or above to reach 120 credits including sufficient credits to reach 45 hours at the 300 level or above. Work with an advisor to select additional FAM classes if available.

Subtotal: Electives 6
TOTAL HOURS: 120

Minor in Family Sciences

Any student interested in a minor in family sciences should file an application with the student's college prior to entering the program.

Minor Requirements

FAM 251 Personal and Family Finance 3
FAM 254 Life Course Human Development 3
FAM 352 Issues in Family Sciences 3

Plus 12 additional hours in family sciences with at least 6 hours at the 300-level or above.

DEPARTMENT OF RETAILING AND TOURISM MANAGEMENT

The Department of Retailing and Tourism Management is committed to excellence in teaching, service and research resulting from innovative interdisciplinary education with a global, product, and consumer focus. Students build competencies for outstanding business and customer service in retail and hospitality organizations in a changing society. Opportunities are provided for experiential education through industry-related work experiences, internships, study tours, and exchange programs. Graduates are prepared for careers in the merchandising, hospitality and tourism industries in the developing experience economy. The department offers the Bachelor of Science in Hospitality Management and the Bachelor of Science in Merchandising, Apparel and Textiles.

Visit us on the Web at:
http://rtm-hes.ca.uky.edu/

BACHELOR OF SCIENCE IN HOSPITALITY MANAGEMENT AND TOURISM

The Hospitality Management and Tourism program focuses on the specialized knowledge needed for careers in the hospitality industry. The degree develops graduates who are consumer and technology focused within the service industry. Couse work integrates hospitality marketing strategies, communications and financial management through a curriculum focused on management of facilities and operations that provide hospitality services to the public.

The curriculum challenges students to exercise an integration of creativity and business components for various tourism services such as, Food & Beverage, Lodging, Attractions, Convention and Meeting Planning, Non-Profit Management, and Special Event Coordinating. The hospitality and tourism industries are rapidly growing; as the United States' second largest employer, a degree in Hospitality Management and Tourism provides many career opportunities for graduates.

Internships are a required component of the program, which can lead to permanent professional placement. The internship provides students with first-hand experience in hospitality and tourism related fields, allowing them to exercise classroom knowledge in a real-world setting. Visit us at:
http://rtm-hes.ca.uky.edu/content/bachelor-science-hospitality-management-and-tourism

Entrance Requirement

The minimum grade-point average for entrance of all students into the Hospitality Management and Tourism program is 2.30.

Progression Requirement

In addition, students must have completed the following premajor courses with a grade of **C** or better in order to progress to courses which are major requirements: CS 101, ACC 201, ACC 202, ECO 201, ECO 202, HMT 120, HMT 210, DHN 241, and HMT 270.

Graduation Requirement

Students must fulfill all prerequisites and achieve a grade of **C** or better in all DHN and HMT courses which are major requirements.

Each student must complete the following:

1. Complete UK Core requirements.
2. Complete the School requirements listed below.
3. Complete 120 credit hours with a minimum grade-point average of 2.0.
4. Complete the required curriculum in the major program.

School Requirements

HES 100 An Introduction to Professions in Human Environmental Sciences 1
FAM 352 Issues in Family Sciences 3

Subtotal: School Required hours 4

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and Its Applications 4

VIII. Statistical Inferential Reasoning
Recommended:
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
ANT 160 Cultural Diversity in the Modern World 3

UK Core hours 31

Graduation Composition and Communication Requirement (GCCR)

RTM 425 Human Resource Management 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

Two semesters of a single foreign language chosen from: Arabic; Chinese; French; German; Italian; Japanese; Russian; Spanish; and Sign Language (exclude: Latin, Hebrew, Greek) 8

Diversity Requirements

ANT 160 Cultural Diversity in the Modern World

plus one of the following courses:

AAS 200 Introduction to African-American Studies
AAS 235 Inequalities in Society
AAS 261 African American History 1865-Present
ANT 220 Introduction to Cultural Anthropology
ANT 225 Culture, Environment and Global Issues
ANT 324 Contemporary Latin American Cultures
ANT 327 Culture and Societies of India and South Asia
ANT 340 Development and Change in the Third World
CHI 331 Introduction to Chinese Culture, 1840 to Present
GEO 160 Lands and Peoples of the Non-Western World
GWS 200 Sex and Power
LAS 201 Introduction to Latin America
MAT 247 Dress and Culture
RUS 372 Russian Culture 1900-Present
SOC 380 Globalization: A Cross-Cultural Perspective

CS 101 Introduction to Computing I 3
ACC 201 Financial Accounting I 3
ACC 202 Managerial Uses of Accounting Information 3
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
WRD 203 Business Writing 3
HMT 120 Introduction to Hospitality Management and Tourism 3
MA 123 Elementary Calculus and Its Applications (prerequisite for STA 291) 4
STA 291 Statistical Methods 3
DHN 241 Food Service Sanitation 1

Subtotal: Premajor hours 43

Major Requirements — Hours

Required:

HMT 210 Hotel Rooms Division Management 3
HMT 270 Principles of Travel and Tourism 3

HMT 308 Principles of Food and Beverage
or
DHN 302 Principles of Food Preparation 3

HMT 350 Revenue Management 3
*RTM 340 Pre-Internship Seminar I 1
RTM 345 Service Management 3
RTM 425 Human Resource Management 3
RTM 499 Retailing and Tourism Management Internship 6
DHN 342 Quantity Food Production 4
FIN 300 Corporation Finance 3
MGT 301 Business Management 3
MKT 300 Marketing Management 3

Subtotal: Major Core hours 38

**At the time of publication, RTM 340 was pending approval.*

Plus 6 hours from the following. Must select 3 hours from 400-500 level classes:

DHN 340 Institutional Purchasing 3
HMT 320 Hospitality and Tourism Marketing 3
HMT 330 Meetings and Convention Management 3
HMT 359 Hospitality and Tourism Special Topics (Subtitle required) 1-3
HMT 360 Tourism Planning and Development 3
HMT 395 Hospitality and Tourism Independent Study 1-3
HMT 560 Advanced Seminar in Lodging and Tourism 3
HMT 570 Event Planning and Coordination 3
HMT 580 Trends Analysis for the Hospitality Industry 3
HMT 588 Strategic Management in the Hospitality and Food Service Industry 3
MAT 570 Electronic Retailing (E-Tailing) 3

Subtotal: Major Selection 6

Plus additional upper-level credits to complete 45 hours of 300-400-500 level classes.

Subtotal: Major Requirements 44

Electives

Electives should be selected by the student to lead to the minimum total of 120 hours required for graduation.

Subtotal: Minimum Elective hours 5

TOTAL HOURS: 120

BACHELOR OF SCIENCE IN MERCHANDISING, APPAREL, AND TEXTILES

The Merchandising, Apparel, and Textiles program blends creativity with business components to develop graduates who are consumer and technology focused. Students study concepts and develop skills necessary for understanding market trends, retail strategies, and industry structures that facilitate the development, sourcing, marketing, and merchandising of consumer goods and services in the domestic and international marketplace.

The curriculum challenges students to exercise resourceful thinking in business operations, merchandising strategies, and the interrelationships of people, technology, and materials. Course work is designed to match industry expectations and intended to provide students with the knowledge and experience they will need to understand trends and applications in the merchandising, apparel, and textiles industries.

Internships are a required component of the program, which can lead to permanent professional placement. The internship provides students with first-hand experience in merchandising, apparel, and textiles related fields, allowing them to exercise classroom knowledge in a real-world setting. Visit us at:
http://rtm-hes.ca.uky.edu/content/bachelor-science-merchandising-apparel-and-textiles

Each student must complete the following:

1. Complete UK Core requirements.
2. Complete the School requirements listed below.
3. Complete 120 credit hours with a minimum grade-point average of 2.0.
4. Complete the required curriculum in the major program.

School Requirements

HES 100 An Introduction to Professions in Human Environmental Sciences 1
FAM 352 Issues in Family Sciences 3

Subtotal: School Required hours 4

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Recommended:
MA 123 Elementary Calculus and its Applications
or
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one:
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning
or
STA 296 Statistical Methods and Motivations 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 32

Graduation Composition and Communication Requirement (GCCR)

RTM 425 Human Resource Management 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Program Entrance Requirements

The minimum grade-point average for entrance of all students into the Merchandising, Apparel and Textiles program is 2.0.

Graduation Requirements

MAT majors and transfer students must obtain or have received a **C** or better in ALL premajor, professional support and MAT major required courses. No letter grade of a **D** would be accepted in the premajor, professional support and MAT major required courses.

Premajor Requirements — Hours

FAM 350 Consumer Issues 3
PSY 100 Introduction to Psychology 4
SOC 101 Introduction to Sociology 3
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3

STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning
or
STA 296 Statistical Methods and Motivations 3

Subtotal: Premajor hours 19

Major Requirements	Hours
MAT 114 Introduction to Merchandising	3
MAT 120 Textiles for Consumers	3
MAT 237 Aesthetic Experience in Retail	3
MAT 247 Dress and Culture	3
MAT 315 Merchandise Planning and Control	3
MAT 340 Professional Practice	1
MAT 414 Merchandising Strategy Analysis	3
MAT 425 Economics of Merchandise Sourcing	3
MAT 470 International Merchandising	3
RTM 345 Service Management	3
RTM 499 Retailing and Tourism Management Internship	6
Choose 6 credits from:	
MAT 359 Special Topic in Merchandising, Apparel and Textiles (Subtitle required)	3
MAT 395 Independent Study in Merchandising, Apparel and Textiles	3
MAT 480 Merchandising, Apparel and Textiles Study Tour	3
MAT 515 Specification and Evaluation of Textiles and Apparel	3
MAT 520 Textiles for Interiors	3
MAT 522 History of Textiles	3
MAT 533 History of Costume	3
MAT 547 Social and Psychological Aspects of Apparel	3
MAT 559 Special Topic in Merchandising, Apparel and Textiles (Subtitle required)	3
MAT 570 Electronic Retailing (E-Tailing)	3
MAT 595 Independent Study in Merchandising, Apparel and Textiles	3
Subtotal: Major hours	**40**

Professional Support (21 hours)

ACC 201 Financial Accounting I	3
ACC 202 Managerial Uses of Accounting Information	3
MKT 300 Marketing Management	3
MKT 320 Retail and Distribution Management	3
MGT 301 Business Management	3

plus 6 hours at the 200 level or above to be chosen with approval of the academic advisor from such areas as business, communication and social sciences or additional MAT courses.

Subtotal: Professional Support	**21**

Electives

Electives should be selected to complete the minimum total of 120 hours required for graduation.

Subtotal: Minimum Elective hours	**5**
TOTAL HOURS	**120**

College of Arts and Sciences

Mark Lawrence Kornbluh, Ph.D., is Dean of the College of Arts and Sciences; Anna Bosch, Ph.D., is Associate Dean for Undergraduate Programs; Elizabeth Lorch, Ph.D., is Associate Dean for Research and Graduate Studies; Theodore Schatzki, Ph.D., is Senior Associate Dean of Faculty; Dr. Ruth Beattie is Interim Associate Dean for Advising; Adrienne McMahan, M.S., is Assistant Dean for Undergraduate Affairs; Kirsten Turner, Ph.D., is Assistant Dean for Academic Planning and Chief of Staff.

The College of Arts and Sciences embodies the liberal arts: the natural sciences and mathematics, the social sciences, and the humanities. Students augment their knowledge in all three areas by exploring the interconnections among them.

Study of the liberal arts opens to students the vast scope and excitement of human intellectual and cultural achievement. It enlarges the student's vision and enriches the student's life. Study of arts and sciences prepares students for life-long learning and vocational success. It also prepares them for a life of effective civic participation as informed and critical citizens of a diverse global society.

In essence, an Arts and Sciences education fosters the ability to think and learn independently. Arts and Sciences graduates are well prepared to meet future technological and cultural transformations.

Undergraduate Programs in Arts and Sciences

The University of Kentucky grants the following degree in the College of Arts and Sciences:

- Bachelor of Arts
- Bachelor of Science

Students pursuing the Bachelor of Arts or the Bachelor of Science select from these majors: anthropology; biology; chemistry; economics; English; foreign language and international economics; geography; geological sciences; history; international studies; linguistics; mathematical economics; mathematics; modern and classical languages, literatures and cultures (with tracks in Arabic and Islamic studies, Chinese studies; classics; French and Francophone studies; German studies; Japan studies; and Russian studies) philosophy, physics; political science; psychology; sociology; writing, rhetoric, and digital studies; and topical studies. The College also offers a Bachelor of Arts with these majors: environmental and sustainability studies; gender and women's studies; health, society, and populations; and Spanish; and a Bachelor of Science with a major in Neuroscience.

For more information on degree programs, visit: **www.as.uky.edu/**

Undergraduate Certificates in Arts and Sciences

The University of Kentucky grants the following undergraduate certificates in the College of Arts and Sciences:

- Appalachian Studies
- Peace Studies

Information and requirements for these certificates are listed at the end of this section.

ADMISSION

Admission requirements are the same as those of the University, except for the topical studies major. Prospective students should see the college Web site: **www.as.uky.edu/**.

PROGRAMS AND SERVICES

Academic Advising

Academic advising in the College of Arts and Sciences is provided by professional advisors, faculty, and graduate students beginning with new student advising conferences all the way through to graduation. All Arts and Sciences students are assigned an academic advisor after enrollment. Students and advisors will work as partners to help the student meet their academic goals.

All currently enrolled primary A&S majors have an assigned professional academic advisor or faculty advisor. All Arts and Sciences freshmen have an advising hold placed on their record requiring the student to meet with their A&S academic advisor prior to registration each semester. All students are encouraged to meet with their A&S advisor at least once each semester.

Students experiencing academic difficulty (academic probation) will be required to meet with their academic advisor at the beginning of each semester and before the last day to withdraw from classes. For more information concerning these meetings, contact the Arts and Sciences Advising Center at (859) 257-8712.

All Arts and Sciences students are expected to familiarize themselves with the degree requirements and keep track of requirements. The University has an online degree audit system called APEX (**myuk.uky.edu/irj/portal**). Students are expected to view their personalized degree audit prior to any advising session where scheduling for classes will be discussed. Routine questions concerning UK Core, college, major and minor requirements, grade-point average, repeat or bankruptcy options, transient student forms, credit overload requests, transfer credit equivalencies, forms required for graduation, and changing majors should be addressed to the student's academic advisor.

For more information or to schedule an appointment with an advisor, visit **www.as.uky.edu/advising**

Dean's List

A student who completes at least 12 credits of "letter" grades with a 3.60 or higher grade-point average with no **I** grades listed for the fall or spring semester will be named to the Dean's List in the College of Arts and Sciences. CLEP, AP, special exam and Independent Study credits are **excluded**. The student's cumulative grade-point average is not considered; only the grade-point average for that particular semester is relevant. Exceptional circumstances including fewer than 12 credits will be considered for inclusion on the Dean's List; students should submit a petition to the A&S Advising Center, 311 Patterson Office Tower.

Commencement and Departmental Honors

Commencement honors are determined by University standards. A full explanation of these honors can be found in the *Graduation Requirements* section of this Bulletin. Please note that if a student has not completed at least 90 hours at the University of Kentucky, but has completed at least 60 hours at the University of Kentucky, the student is eligible for commencement honors, but is held to a 0.2 point higher standard. If the student has not completed at least 60 hours, the student is not eligible for commencement honors. Commencement honors are indicated on the student's final transcript.

Departments in the College of Arts & Sciences award departmental honors to their outstanding graduates. The standards for departmental honors are not collectively established by the College, but determined by each department. For details on departmental honors, see "Guide to A&S Departmental Honors Requirements" on pages 129-130. Address questions to the department awarding honors. Departmental honors are indicated on the student's final transcript.

Scholarships

For information on general scholarships in the College, contact the A&S Advising Center, 311 Patterson Office Tower, (859) 257-8712, or **www.as.uky.edu/scholarships**. Students interested in scholarships in a specific major should contact the individual department.

Guide to A&S Departmental Honors Requirements

Major	Cumulative GPA	Criteria
Anthropology	3.5	The Honors Program in Anthropology is a research-intensive experience in which students work closely with a faculty mentor. Requirements are: (1) Departmental GPA of 3.5 or better. (2) One upper-division course (300+) in each of the three subdisciplines represented in the department (archaeology, biological anthropology and cultural anthropology). (3) One 600 or 700 level graduate seminar (requires approval of course instructor). (4) Research component designed by the student and faculty mentor.
Biology	3.5	Biology majors are eligible for Honors in Biology if they: (1) Complete 6 hours of BIO 395. (2) Have an overall 3.5 GPA on graduation. (3) Successfully complete two biology honors (BIO--H) courses or two honors-selected 500 or 600 level Biology (BIO) courses, or a combination of BIO--H and honors-selected 500/600 BIO courses. Each semester the honors-selected 500/600-level BIO courses will be identified by a course note in the course schedule: this note will state "fulfills an Honors in Biology course requirement". (4) A public presentation of one's research results. Such a presentation can be a journal article, a seminar given to a diverse group, a talk or a poster at a professional meeting, a thesis or some form of public presentation approved by the Director of Undergraduate Studies.
Chemistry	3.5	12 hours in CHE or BCH courses (other than CHE 440G, 441G, and 572) at or above the 300 level. At least 6 of those hours must be in CHE 395. 3.5 cumulative GPA and 3.5 major GPA or above.
Chinese Language and Literature	3.5	3.5 cumulative GPA and a major GPA of 3.75 or above.
Classics	3.5	3.5 cumulative GPA and a major GPA of 3.75 or above.
Earth and Environmental Sciences	3.5	3.3 cumulative GPA and senior thesis or 3.5 cumulative GPA or above.
Economics	3.2	3.2 cumulative GPA and a major GPA of 3.2 or above.
English	3.75	1) 3.75 major GPA or above in courses taken at UK which count toward the English major. (2) At least 8 such courses taken at UK (i.e., not transferred). (3) Successful completion of at least one designated ENG honors seminar with a grade of **B** or higher.
French	3.5	3.5 cumulative GPA and a major GPA of 3.75 or above.
Geography	3.5	3.5 cumulative GPA and major GPA of 3.5 or above.
German	3.5	3.5 cumulative GPA and a major GPA of 3.75 or above.
Hispanic Studies	3.5	3.5 cumulative GPA or above in 300-500 level Spanish courses.

– continued on next page –

Guide to A&S Departmental Honors Requirements, continued

Major	Cumulative GPA	Criteria
History	3.5	minimum 3.5 cumulative GPA, 3.5 departmental GPA or above and a grade of **A** or **B** in HIS 301 and HIS 499.
International Studies	3.5	3.5 cumulative GPA and major GPA of 3.5 or above.
Japanese Language and Literature	3.5	3.5 cumulative GPA and major GPA of 3.75 or above.
Linguistics	3.75	3.75 cumulative GPA or above in courses taken at UK which count or could count toward the linguistics major and premajor. At least 8 such courses taken at UK (i.e., not transferred).
Mathematical Economics	3.2	3.2 cumulative GPA or above and 3.2 major GPA or above.
Mathematics	3.5	3.5 cumulative GPA or above.
Philosophy	3.5	3.5 cumulative GPA or above in PHI courses, plus a senior thesis. Students are encouraged to enroll in PHI 395 for support in writing the senior thesis.
Physics	3.4	3.4 cumulative GPA or above and 3.4 major GPA or above in physics and astronomy. All students awarded department honors will have fully participated in independent study or research including the preparation of a final report; participation with a high grade in a 3-credit-hour PHY 395 or participation in a summer research experience are ways of achieving this. Other factors such as citizenship, leadership in the Society of Physics Students, and other meritorious activity will be considered in the selection of seniors for graduation with honors.
Political Science	3.5	(1) 3.5 cumulative GPA. (2) At least 6 hours of Honors credit in Political Science course work, usually taken in special sections of the introductory lecture courses. (3) At least a **B** grade in PS 372, which should be taken no later than the second semester of the junior year. And (4) A qualifying honors thesis submitted to the Director of Undergraduate Studies no later than midterm of the semester in which the student intends to graduate. Students normally fulfill the thesis requirement by taking PS 490, Honors in Political Science, offered during the fall semester. Should that option be unavailable, however, students might be able to arrange writing a thesis under faculty guidance as part of PS 395, the department's Independent Study course.
Psychology	3.5	3.6 major GPA or above and successful completion of PSY 495 and PSY 496.
Russian Studies	3.5	3.5 cumulative GPA and a major GPA of 3.75 or above.
Sociology	3.5	3.5 cumulative GPA or above.
Topical	3.6	3.6 cumulative GPA or above and recommendation of the Associate Dean based on the final thesis.
Writing, Rhetoric, and Digital Studies	3.5	3.5 or above cumulative GPA and major GPA of 3.5 or above and GPA of 3.5 or above in 400-level WRD courses.

College Policy on Learning Disabilities

The College of Arts and Sciences anticipates that virtually all of its students will satisfy all of its requirements. However, any student who believes that he or she can show evidence – by diagnostic testing and/or psychological evaluation – that he or she has a learning disability which warrants course substitution of any specific college requirement may request such an exception from the College. Students should begin their inquiries and/or discussions in the UK Disability Resource Center, 102 Alumni Gym.

Readmission After a Two-Year Absence

In accordance with the University Senate rules which allow the dean of each college to determine which degree requirements a returning student shall follow, students should note the following: Students enrolling in the College of Arts and Sciences after an absence from the University of Kentucky of two or more years will be expected to satisfy the university, college, graduation, and department requirements in effect at the time of readmission.

Students with extenuating circumstances may petition the College for permission to continue under the degree requirements that were in effect during their previous enrollment in the UK system.

ACADEMIC SUSPENSION AND REINSTATEMENT

The College of Arts and Sciences follows the general University rules for academic suspension and reinstatement, which are outlined in the *Academic Requirements* section of this Bulletin. Students placed on academic suspension **must be reinstated by the college in which they plan to enroll** before applying for readmission to the university. Students planning to pursue a degree program in the College of Arts and Sciences should arrange for reinstatement proceedings before **May 15** for any fall semester reinstatement, or **October 1** for any spring semester reinstatement by calling the A&S Advising Center, (859) 257-8712. Students who fail to request reinstatement prior to these deadlines will normally not be considered for reinstatement until the subsequent semester.

A student who has been suspended for a second time from the University of Kentucky will usually not be considered for reinstatement by the College of Arts and Sciences until **two years** have passed since the date of the second suspension.

THE BACHELOR OF ARTS AND BACHELOR OF SCIENCE DEGREE

Students must complete **four** areas of requirements to obtain a UK Arts and Sciences degree. The four areas are: UK Core; major requirements; college requirements; and university graduation requirements. The following information outlines the specific degree requirements for the B.A. and the B.S. in Arts and Sciences. Please read them carefully and also note the ***specific*** differences in each degree program.

The B.S. degree requires **three hours** in college disciplinary requirements for the natural sciences, social sciences and humanities beyond those required for the UK Core and requires **60 hours of physical, biological and/or mathematical sciences**.

The B.A. degree requires **six hours** in college disciplinary requirements for the natural sciences, social sciences and humanities beyond those required for the UK Core and requires **39 hours in course work numbered at or above the 300 level**.

College Requirements for a Bachelor of Arts Degree

It is important to review the "**NOTES**" **section** that immediately follows the "College Requirements for a Bachelor of Science Degree" section.

To receive the Bachelor of Arts degree, students must:

1. Complete the UK Core requirements.[1]
2. Complete the following college requirements:
   a. Foreign Language Requirement. Students must satisfy one of the following options (all options include American Sign Language). All A&S students are encouraged to take a foreign language placement exam at the time of their initial enrollment at UK or during their advising conference:
      i. satisfy the third and fourth semester of a college-level sequence in one language by successfully completing each semester course, or by demonstrating equivalent competency on a departmentally approved placement exam; **or**
      ii. successfully complete three college-level semester courses in one language and two college-level semester courses in a second language. (Two or more years of a foreign language in secondary school, as indicated on transcripts, are considered equal to two college-level semester courses); or demonstrate equivalent competency on a departmentally approved placement exam; **or**

   Courses taken to satisfy options ***i*** or ***ii*** above may not be taken pass/fail or audit; **or**

      iii. To demonstrate your proficiency in a language not taught at UK, contact the Office of International Affairs with regard to taking a proficiency exam. You are responsible for any costs related to testing; **or**
      iv. If you have a specific language-learning disability that is certified through the UK Disability Resource Center, you may petition the College for a substitution of course work in lieu of completing the language courses normally taken for the foreign language requirement; **or**
      v. International students, excluding native speakers of English, automatically fulfill this requirement; **or**
      vi. International students who graduated from a U.S. high school and are unable to provide proficiency exam results may petition the College for a waiver of the College foreign language requirement; students must provide official documentation establishing that English is their second language.
   b. Students must take **six** college hours in disciplines in the natural sciences.†
   c. Students must take **six** college hours in disciplines in the social sciences.†
   d. Students must take **six** college hours in disciplines in the humanities.
3. Complete at least **120** credit hours in courses acceptable to the College of Arts and Sciences.[2]
4. Complete at least **90** credit hours in Arts and Sciences courses.[3]
5. Complete at least **39** credit hours in courses numbered at or above the 300 level.[4]
6. Complete at least **39** credit hours within the major. At least 24 of these hours must be at or above the 300 level.
7. Complete at least one course that includes some laboratory or field experience. (See the description of the *College Laboratory or Field Experience Requirement* which follows.)
8. Attain an overall grade-point average of at least 2.0.
9. Attain a grade-point average of at least 2.0 in all major requirements courses (including all premajor courses).
10. Complete a minimum of **six** credit hours of free electives. These college electives cannot be counted towards UK Core or Arts and Sciences major requirements.
11. Complete University graduation requirements, the Graduation Writing Requirement, and the residence requirement.

†See *College Core Requirements for B.A. and B.S. Degree* following the next section.

College Requirements for a Bachelor of Science Degree

It is important to review the "**NOTES**" **section** that immediately follows the "College Requirements for a Bachelor of Science Degree" section.

To receive the Bachelor of Science degree, students must:

1. Complete the UK Core requirements.[1]
2. Complete the following college requirements:

a. Foreign Language Requirement. Students must satisfy one of the following options (all options include American Sign Language). All A&S students are encouraged to take a foreign language placement exam at the time of their initial enrollment at UK or during their advising conference:

i. satisfy the third and fourth semester of a college-level sequence in one language by successfully completing each semester course, or by demonstrating equivalent competency on a departmentally approved placement exam; **or**

ii. successfully complete three college-level semester courses in one language and two college-level semester courses in a second language. (Two or more years of a foreign language in secondary school, as indicated on transcripts, are considered equal to two college-level semester courses); or demonstrate equivalent competency on a departmentally approved placement exam; **or**

Courses taken to satisfy options i or ii above may not be taken pass/fail or audit; **or**

iii. To demonstrate your proficiency in a language not taught at UK, contact the Office of International Affairs with regard to taking a proficiency exam. You are responsible for any costs related to testing; **or**

iv. If you have a specific language-learning disability that is certified through the UK Disability Resource Center, you may petition the College for a substitution of course work in lieu of completing the language courses normally taken for the foreign language requirement; **or**

v. International students, excluding native speakers of English, automatically fulfill this requirement; **or**

vi. International students who graduated from a U.S. high school and are unable to provide proficiency exam results may petition the College for a waiver of the College foreign language requirement; students must provide official documentation establishing that English is their second language.

b. Students must take **three** college hours in disciplines in the natural sciences.†

c. Students must take **three** college hours in disciplines in the social sciences.†

d. Students must take **three** college hours in disciplines in the humanities.

3. Complete at least **120** credit hours in courses acceptable to the College of Arts and Sciences.[2]

4. Complete at least **90** credit hours in Arts and Sciences courses.[3]

5. Complete at least **60** credit hours in the physical, biological and/or mathematical sciences.[5]

6. Complete at least **39** credit hours within the major. At least 24 of these hours must be at or above the 300 level.

7. Complete at least one course that includes some laboratory or field experience. (See the description of the *College Laboratory or Field Experience Requirement* which follows.)

8. Attain an overall grade-point average of at least 2.0.

9. Attain a grade-point average of at least 2.0 in all major requirements courses (including all premajor requirements).

10. Complete a minimum of **six** credit hours of free electives. These college electives cannot be counted towards UK Core or any other Arts and Sciences major or college requirements.

11. Complete University graduation requirements, the Graduation Writing Requirement, and the residence requirement.

†See *College Core Requirements for B.A. and B.S. Degree* following the next section.

NOTES

1. See the *UK Core* section of this Bulletin for a detailed explanation of the requirements.

2. a. 001-099 courses, or courses followed by an "R" designation **cannot** be counted as credit towards a bachelor's degree.

b. Physical education one-hour service courses (KHP) **are** acceptable as electives only and may count toward the total 120 minimum hours needed to graduate. Only **one** successful completion of multiple completions of the same KHP course will count.

c. A maximum of 16 semester credit hours earned in military science (AMS) and aerospace studies (AFS) are acceptable towards fulfilling both the College 90-hour and 120-hour requirement for the B.A. or B.S. degree. AMS/HIS 320 is not included in this 16 hour limit.

d. A maximum of 12 semester credit hours earned in experiential education and internship courses (EXP 396, departmental 399 courses) will be accepted. For ANT 399, SOC 399 and SPA 399, a maximum of 15 semester credit hours can be earned. See *Experiential Education and Internship Course* section within the Arts and Sciences section of the Bulletin.

e. All courses offered by the College of Arts and Sciences are acceptable with the exception of MA 108R.

f. Courses transferred from other institutions and judged by the College to be equivalent or comparable to Arts and Sciences courses are acceptable.

g. Usually the College will apply only six hours of technical course work taken at any institution.

h. The student is permitted to elect and count toward graduation courses in other colleges within the University of Kentucky or their equivalent from other institutions, not to exceed 30 hours. Hours taken in the other colleges at UK gained during the junior and senior years may, if at the 200-level or above, be counted towards the major requirements with approval from the Director of Undergraduate Studies/Program Director and the College.

i. Courses with an "S" grade designation or a "place holder" designation such as NSE (National Student Exchange) for 1 credit hour **cannot** be counted as credit toward a bachelor's degree in Arts & Sciences. ISP 599, 1 credit hour, **can count** towards the A&S "hours" requirements for the degree.

3. Courses classified as Arts and Sciences courses for purposes of the 90-hour requirement include all courses offered by the College of Arts and Sciences; all art history courses; all courses in music and theatre appreciation and ART 100 plus the history of music and theatre; ARC 820, ARC 822; TAD 370; all economics courses; all undergraduate courses in the Department of Computer Sciences (CS); all undergraduate courses in the Department of Communication (COM); and all American Sign Language courses officially transferred to the student's UK record.

4. CHE 230, 231, 232 and 233 will count towards the 39 credit hours in courses numbered at or above the 300 level needed for degree requirements. Please note that courses numbered 800-899 cannot be counted as 300-level and above for the purpose of completing the 39 hours needed for the degree.

5. The following courses will count toward the required 60 credit hours in the physical, biological and/or mathematical sciences hours for the Bachelor of Science degree: all courses with a MA prefix (except MA 108R); all anatomy courses; all physiology courses; all biochemistry courses; all statistics courses; all computer science courses; DHN 101; ECO 391; GEO 130, GEO 230, GEO 351, GEO 451G, and GEO 530; PHI 120 and PHI 320; PSY 215, PSY 216, PSY 312, PSY 456, and PSY 565; and ANT 230, 332, and 333.

College Core Requirements for B.A. and B.S. Degree

To satisfy the Arts and Sciences college core requirement, students must complete three (for a B.S.) or six (for a B.A.) college hours in each of three areas – natural sciences, social sciences, and humanities – not counting any courses taken to fulfill the requirements of UK Core.

Students may also use other Arts and Sciences courses to satisfy the college core requirement if these courses have been approved to fulfill parallel inquiry areas in the UK Core.

Natural Sciences

1. All courses offered by Arts and Sciences departments or programs within the disciplines of the natural sciences including courses with the following departmental prefixes: **AST, BIO, CHE, EES, PHY**.

2. The following courses may also be used to satisfy the Arts and Sciences College requirement for course work within the discipline of natural sciences. However, if used to count as a Natural Science they cannot also be used for any Social Science requirement.

ANA 209
ANT 230, 332, 333, 353
CGS 500
DHN 101
ENS 200, 400
ENT 110, 300
GEO 130, 135, 230, 351, 451G, 530
PGY 206
PLS 104
PSY 312, 456, 459, 565

Students who take courses fulfilling the Natural, Physical, and Mathematical Sciences UK Core requirement that exceed the credit hours needed for the requirement itself may apply the excess to this college core requirement, accumulating credit hours until the minimum has been fulfilled. This option applies to all Arts and Sciences students regardless of where the course work was completed (e.g., main campus or transfer credit).

Social Sciences

1. All courses offered by Arts and Sciences departments or programs within the disciplines of the social sciences including courses with the following departmental prefixes: **ANT, APP, ECO, GEO, GWS, IAS, PS, PSY, SOC** if content is designated as a social science; also, see #3 below.

2. The following courses may also be used to satisfy the Arts and Sciences College requirement for course work within the discipline of social sciences:

   AAS 200, 235, 326, 328, 336, 417G, 432, 471
   ANT/ENG/LIN 515
   ANT/ENG/LIN 516
   ANT/LIN 519
   ANT/JPN 321
   CGS 500
   ENS 200, 400
   GEO/JPN 334
   GEO/JPN 551

3. The following courses **may NOT** be used in the social sciences area: GWS 201, PSY 459.

Humanities

1. **Excluding the courses listed below**, all courses offered by Arts and Sciences departments or programs within the disciplines of the humanities, including courses with the following prefixes: **A-H, AAS, CLA, ENG, FR, GER, HIS, JPN, LAS, LIN, MCL, PHI, RS, RUS, SPA**, and **HON** courses designated as humanities. Note exceptions in #2 and #3 below.

2 **The following courses may NOT be used in the humanities area:**

   AAS 200, 235, 326, 328, 336, 417G, 432, 471
   AIS 101, 102, 201, 202, 442, 443
   CHI 101, 102, 201, 202
   CLA 101, 102, 131, 151, 152, 201, 202, 251, 252
   ENG 102, 207, 405, 407, 507, 509
   FR 011, 101, 102, 106, 201, 202, 203, 204, 307, 310, 507, 516, 553, 570
   GER 011, 101, 102, 201, 202, 205, 206, 211, 212, 307, 308, 310, 507, 553, 612
   HJS 101, 102, 201, 202
   ITA 101, 102, 201, 202
   JPN 101, 102, 201, 202, 301, 302, 401, 402, JPN/GEO 334, JPN/GEO 551
   LIN 520, 521
   PHI 120, 320
   PS 417G, 471
   RUS 101, 102, 201, 202, 301, 302, 401, 404, 501, 502, 520, 530
   SPA 011, 101, 102, 103, 151, 201, 202, 203, 205, 210, 211, 215, 302, 313, 413, 501, 506, 553
   WRD 203, 204, 205, 306

3. The following courses may also be used to satisfy the Arts and Sciences College requirement for course work within the discipline of humanities:

   AMS 201
   ANT 515, 516, 519
   ART 100
   CGS 500
   GWS 201, 506
   MUS 203, 222, 301, 302, 303, 325

College Laboratory or Field Experience Requirement

The college requires its students to complete at least one course that includes some laboratory or field experience. In such courses the external world is observed in a controlled manner using systematic techniques and methods. A substantial portion of the course must include data collection, data analysis, and hypothesis testing under supervised conditions. The approved courses for the laboratory requirement are:

Natural Sciences

Biology – BIO 111, 155, 209
Chemistry – CHE 111, 113
Earth and Environmental Sciences – EES 160, 220
Physics – PHY 211, 213, 241, 242

Social and Behavioral Sciences

Anthropology – ANT 541, 585
Geography – GEO 406
Political Science – PS 372
Psychology – PSY 100, 215
Sociology – SOC 302, 303

When appropriate, other upper level courses may be used to satisfy this requirement by petition.

MAJOR REQUIREMENTS

A major concentration in the College of Arts and Sciences consists of at least a 39-credit-hour program, referred to as the "major requirements."

Each department or program has specified the requirements for their majors, as listed in this Bulletin under each relevant heading and as outlined in APEX (the electronic degree audit system) at: **myuk.uky.edu/irj/portal**.

Aside from any exceptions explicitly approved by the Arts and Sciences Educational Policy Committee and the Undergraduate Council, however, major requirements must conform to the following restrictions:

1. A total of 39 credits is required in the major requirements.
2. Courses *electively* taken pass-fail will not count toward UK Core, major/minor, or College requirements.
3. At least 24 credits must be in courses at the 300 level or above.
4. A minimum of 18 credits in a department, taken at the 200 level or above, is required for a major.
5. An overall grade-point average of at least 2.0 in all courses listed for the major requirements, including all premajor courses. This includes all grade attempts except those used for which repeat options or academic bankruptcy has been approved.

Students are expected to review and understand all degree requirements listed on the University's online degree audit system, APEX.

Students who have taken courses (200 level or above) outside the college should talk with their academic advisor to see if these courses are applicable to their major requirements.

Topical Studies Majors

Students who have multiple interests or interests which do not fall into departmental areas may select a topic for concentration instead of a departmental major. Topical Studies offers academic flexibility and allows students to cut across departmental and college lines in constructing meaningful and imaginative programs. Courses in several departments might be selected to pursue special interests – Asian studies, for instance. Other examples might be African American studies or human studies.

Each topical studies major is designed and directed by the student in consultation with a faculty advisor in the general area of study, and in consultation with the topical studies advisor in the A&S Advising Center and an Arts and Sciences Associate Dean.

Topical Studies is the only selective admission program in the College of Arts and Sciences. The student must have a cumulative UK grade-point standing of at least 2.5 to be accepted to Topical Studies. The specific requirements of the topical studies major are that the student must meet UK Core and College requirements, must enroll in and complete at least 30 credit hours after formal admission, and complete the 39-hour major requirements (see preceding section entitled "Major Requirements"). Except for electives, all of the student's work must be related to the topic. Additionally, in the senior year, the student must complete a comprehensive paper or project that serves to integrate his or her topical studies field. Frequently, it is advantageous to begin writing this paper or project in the context of an independent work course or a seminar, with the instructor's approval. The paper or project proposal must be approved by a faculty advisor, an Arts and Sciences Associate Dean, and the Topical Studies advisor before significant work has begun on the project. Students must submit the final paper or project for review and approval **no later than eight weeks** before finals during the semester the student intends to graduate. The paper should be submitted to the Associate Dean **no later than six weeks** before the final exam week during the semester the student intends to graduate. Departmental honors for topical studies majors are determined by the Associate Dean and the Topical Studies advisor. To be eligible for departmental honors, a student must have a cumulative GPA of at least 3.6 and a final paper or project that has been judged to be outstanding.

For more information, contact the Arts and Sciences Topical Studies advisor in the A&S Advising Center (311 Patterson Office Tower); or visit the Topical Studies major Web site at: **www.as.uky.edu/topical-studies**.

A Second Major

A student may obtain a second major by meeting all requirements in two departments. Major work in one department can, if there is a generic relationship, serve as the outside field in the second major, and vice versa. However, the International Studies major allows a maximum of 15 hours of course work to overlap between two majors. The student must indicate his or her second major to the A&S Advising Center, 311 Patterson Office Tower. He or she must have an advisor in both departments. If one of the majors is in another college, the student is still required to know the list of requirements from the other college. The student who completes requirements for a second major will receive only one degree, but his or her transcript and diploma will reflect the two majors.

For information on second majors (not the same as second degree), consult the *Graduation Requirements* section of this Bulletin.

A Second Bachelor's Degree

A student may obtain a second bachelor's degree by completing all university requirements for one degree; by completing all the major requirements of both degree; and by completing all college requirements of both degree. Courses taken towards fulfilling one degree may also count towards fulfilling parallel requirements in the other, but the total credits in the two degree programs must be at least 144 hours. Major work in one department can, if there is a generic relationship, serve as the outside field in the second major and vice versa. However, the International Studies major allows a maximum of 15 hours of course work to overlap between two majors. The student must indicate his/her double degree in his/her primary college. The student may elect to receive the degree simultaneously, if college and departmental requirements can be met simultaneously. For information regarding double degree (not the same as double majors), consult the *Graduation Requirements* section of this Bulletin. Students are expected to be knowledgeable of requirements for any major in Arts and Sciences by checking the University's online degree audit system, APEX.

Minors

The College of Arts and Sciences does not require minors. However, students can earn a minor in the following disciplines in the college:

- anthropology
- biological sciences
- chemistry
- creative writing
- criminology
- economics
- English
- gender and women's studies
- geography
- geology
- history
- international studies
- linguistics
- mapping and GIS
- mathematics
- microbiology
- modern and classical languages, literatures and cultures
- neuroscience
- philosophy
- physics
- political science
- professional and technical writing
- psychology
- sociology
- Spanish
- statistics
- writing, rhetoric and digital media

Interdisciplinary minors are also available in:

- African American studies
- American studies
- Appalachian studies
- cognitive science
- environmental studies
- Indian culture
- Jewish studies
- Latin American, Caribbean, and Latino studies

Minors can only be awarded in conjunction with a UK undergraduate degree. Additionally, students cannot pursue a minor in the same discipline as their major. This includes the area of concentration for a Topical Studies major and International Studies major.

For more information about choosing or declaring a minor, please review the requirements in APEX at: **myuk.uky.edu/irj/portal**; contact the department where the minor is offered; and/or consult the departmental section of this Bulletin. To officially declare a minor, students must complete a Declaration/Change of Major or Minor form in the A&S Advising Center, 311 Patterson Office Tower.

Awarded minors appear on the student's final transcript but not on their diploma.

The Preparation of Teachers

Any Arts and Sciences student intending to seek teaching certification should so indicate to his or her academic advisor. The student should also contact the College of Education, 166 Taylor Education Building. As soon as the student has determined to seek certification he or she is assigned an advisor both in the College of Education and in the major department in the College of Arts and Sciences.

Students seeking certification should be sure to familiarize themselves with the requirements of both colleges. The sooner and the more thoroughly this is done, the greater the advantage to the student.

INFORMATION ON COURSES

Transfer of Kentucky Community and Technical College System (KCTCS) Courses

The college will usually apply up to 6 hours of technical course work taken at any accredited institution including KCTCS. Beyond these 6 credit hours, courses will be evaluated on an individual basis and as it applies to the student's baccalaureate degree program.

Independent Work Courses

A junior or senior may, with prior approval of his or her faculty advisor and the instructor who would direct the work, register for an independent work course in his or her major department. Normally, a cumulative GPA of 3.0 in the major is required. In exceptional circumstances a nonmajor or topical studies major may be permitted to enroll in a departmental independent work course. Such a course is characterized by special assignments for study, regular conferences, reports, and usually involves preparation of a paper. The instructor in each case must file with the department evidence of the nature of the work achieved. Credit for such courses may be granted to undergraduates to an amount of not more than 12 hours.

Experiential Education and Internship Courses

The College of Arts and Sciences accepts experiential education and internship courses (such as EXP 396, departmental 399 courses,) on a pass-fail basis only, regardless of which college is offering the courses. A total of 12 credit hours in these courses may be counted toward the 120 credit hours required for graduation. For ANT 399 and SPA 399, a maximum of 15 semester credit hours can be earned. However, College of Arts and Sciences majors may only earn a maximum of six credit hours of experiential education credit (EXP) in one semester.

ROTC Program

A maximum of 16 semester credit hours earned in American Military Studies and Air Force Studies courses will be accepted towards fulfilling the 90 hours of A&S courses required and the 120 minimum number of hours needed for graduation with a baccalaureate degree in the College of Arts and Sciences, even though students typically enroll for more than 16 semester credit hours of AMS and AFS course work. However, credit received from taking AMS/HIS 320, American Military History, can apply in addition to the 16 credit hour limit earned in AMS or AFS course work. Additionally, AMS 350 (1 credit hour) can only be counted for a maximum of 4 credit hours. Please note that a maximum of 1 credit hour of KHP 107 will count toward degree requirements, regardless how many credits are earned.

AEROSPACE STUDIES (Air Force ROTC)

The Department of Aerospace Studies provides a campus education program through which qualified students can simultaneously earn an Air Force commission and a college degree. Faculty members are experienced, active duty Air Force officers with advanced degree.

Admission to the Program

Non-scholarship freshmen and sophomores may register for Air Force Studies (AFS) courses without incurring a military commitment. Students with a minimum of five semesters of school remaining in a graduate or undergraduate status may qualify for Air Force ROTC. For more information, call (859) 257-7115.

Requirements

An academic major in aerospace studies is not offered. However, by successfully completing the Air Force ROTC program, a qualified student may concurrently earn a commission as an active duty Air Force Second Lieutenant while completing requirements for a degree. Students may enroll in some Aerospace Studies courses without joining the Air Force ROTC cadet corps. For more information, call (859) 257-7115.

AFROTC Curriculum

The AFROTC curriculum consists of both academic classes and leadership laboratory or seminar classes. The General Military Course (GMC) is a two-year course normally taken during the freshman and sophomore years. The Professional Officer Course (POC) is a two-year course normally taken during the junior and senior years. Along with academic classes each semester, all cadets also take leadership laboratory classes.

In the GMC, there are four academic classes (AFS 111, AFS 113, AFS 211, and AFS 213). These cover two main themes – the development of air power and the contemporary Air Force in the context of the U.S. military organization. The GMC academic classes are open to any student.

In the POC, there are four academic classes (AFS 311, AFS 313, AFS 411, and AFS 413). These cover Air Force management and leadership and national security studies. Entry into the POC is competitive and is based on Air Force Officer Qualifying Test scores, grade-point average, and evaluation by the AFROTC Detachment Commander. Only physically qualified students in good academic standing may compete for entry into the POC. Typically, these courses are for those cadets who have already completed the courses in the GMC.

Students enrolled as cadets are involved once a week in a 1-credit-hour course in the cadet corps training program designed to simulate a typical Air Force organization and its associated functions. This course is known as Leadership Laboratory. During a student's GMC program, he or she will register for AFS 112, AFS 114, AFS 212 and AFS 214 respectively. A POC cadet will attend AFS 312, AFS 314, AFS 412 and AFS 414. The leadership laboratories are largely cadet-planned and conducted under the concept that they provide leadership training experiences that will improve the cadets' capabilities as Air Force officers. This also involves three hours of physical training each week. Leadership laboratory is open to students who are members of the Air Force Reserve Officer Training Corps or are eligible to pursue a commission as determined by the Air Force ROTC Detachment Commander.

Field Training

Field training is offered at Maxwell Air Force Base in Alabama. Students receive officer training and leadership development with other students. Simultaneously, the Air Force has an opportunity to evaluate each student as a potential member of its officer corps. Field training courses include cadet orientation, survival training, officer training, aircraft and aircrew orientation, physical training, organizational and functional aspects of an Air Force base, career orientation, small arms familiarization, first aid, and other supplemental training.

Scholarships

Students interested in AFROTC scholarships should refer to the *Student Financial Aid, Awards, and Benefits* section of this Bulletin or call (859) 257-7115. Information is subject to change.

ANTHROPOLOGY

The Department of Anthropology offers opportunities to learn about the diverse people of today's world, as well as about their biological and cultural origins. This area of study deals with ecology, society, biology, culture, and language, among other aspects of human life. In addition, anthropologists study history and evolution in both a cultural and biological framework.

Anthropology provides an excellent foundation for careers in a variety of professions and occupations, including community health, public health policy, medicine and health services, planning and community development, international relations and development, private business, government, law, journalism, museum work, and university teaching and research.

Students can major or minor in anthropology. The major is structured to provide the student with a broad overview of the major subdisciplines: cultural anthropology, physical anthropology and archaeology. It also allows sufficient flexibility for a student to concentrate on a specific area of interest.

Visit our Web site at:
http://anthropology.as.uky.edu/

Bachelor of Arts with a major in ANTHROPOLOGY

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
ANT 101 What Makes Us Human? Intro to Anthropology
or
ANT 102 Archaeology: Mysteries and Controversies
or
One course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
ANT 221 Native People of North America
or
One course from approved list 3

X. Global Dynamics
One of the following:
ANT 160 Cultural Diversity in the Modern World
ANT 222 Middle East Cultures
ANT 225 Culture, Environment and Global Issues
ANT 241 Origins of Old World Civilization
ANT 242 Origins of New World Civilization
ANT 311 Anthropology of Globalization
ANT 321 Introduction to Japanese Culture, Meiji (1868) to Present
ANT 329 Cultures and Societies of Eurasia and Eastern Europe: Socialism and Post-Socialist Change
or
One course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

ANT 582 Senior Integrative Seminar 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science *(partially completed by Premajor Requirements)* 3
  b. Social Science *(completed by Premajor Requirements)*
  c. Humanities 6
III. Laboratory or Field Work *(can be completed by Major Requirement)*
IV. Electives 6

College Requirement hours: **15-29**

Major Requirements

ANT 220 Introduction to Cultural Anthropology 3
ANT 230 Introduction to Biological Anthropology 3
ANT 240 Introduction to Archaeology 3
ANT 582 Senior Integrative Seminar 3

Anthropology Electives
21 hours. No more than 3 hours at the 100 level; at least 15 hours at the 300+ level. The student chooses electives according to specific interests within anthropology and in consultation with advisors 21

From Outside the Major Department
Choose 6 hours outside Anthropology at the 300+ level. 200+ level courses used to satisfy College Requirements can also be counted here 6

Subtotal: Major requirements: **39**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 4

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Bachelor of Science with a major in ANTHROPOLOGY

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. **Please note**: courses with an ANT prefix are generally ***not*** accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
ANT 101 What Makes Us Human? Intro to Anthropology
or
ANT 102 Archaeology: Mysteries and Controversies
or
One course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
ANT 221 Native People of North America
or
One course from approved list 3

X. Global Dynamics
One of the following:
ANT 160 Cultural Diversity in the Modern World
ANT 222 Middle East Cultures
ANT 225 Culture, Environment and Global Issues
ANT 241 Origins of Old World Civilization
ANT 242 Origins of New World Civilization
ANT 311 Anthropology of Globalization
ANT 321 Introduction to Japanese Culture, Meiji (1868) to Present
ANT 329 Cultures and Societies of Eurasia and Eastern Europe: Socialism and Post-Socialist Change
or
One course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

ANT 582 Senior Integrative Seminar 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science *(completed by Premajor Requirement)*
  b. Social Science *(completed by Premajor Requirement)*
  c. Humanities 3
III. Laboratory or Field Work *(can be completed by Major Requirement)*
IV. Electives 6

College Requirement hours: **9-23**

Major Requirements

ANT 220 Introduction to Cultural Anthropology 3
ANT 230 Introduction to Biological Anthropology 3
ANT 240 Introduction to Archaeology 3
ANT 582 Senior Integrative Seminar 3

Anthropology Electives
21 hours. Can include up to 3 hours at the 100 level and must include at least 15 hours at the 300+ level. The student chooses electives according to specific interests within anthropology and in consultation with advisors 21

From Outside the Major Department
Choose 6 hours outside Anthropology at the 300+ level. 200+ level courses used to satisfy College Requirements can also be counted here 6

Subtotal: Major requirements: **39**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 4

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Minor in Anthropology

The minor in Anthropology requires 21 hours of course work to include:

Preminor Courses (9 hours)

Students must take ANT 220, 230, 240.

Additional Courses (12 hours)*

Students must take four ANT courses from at least two subdisciplines. Two courses must be at the 200 level or above and two courses must be at the 300 level or above.

**ANT 350, 399, 580, 581 and other ANT courses not listed here may be used to fulfill the Additional Courses requirement with the consent of the Director of Undergraduate Studies.*

Courses taken to meet a requirement in one area cannot be used to meet a requirement in another area of the minor.

BIOLOGY

To address the breadth and depth essential to educating biologists, the biology major is structured to include both a broad foundation through core courses and opportunity for specialization within a biological subfield through biology electives. The major is designed to prepare the student for a post-baccalaureate profession in biology, for advanced professional training in the health sciences, or for graduate study in basic and applied areas of the biological sciences.

Bachelor of Arts with a major in BIOLOGY

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 137 Calculus I With Life Science Applications
or
MA 113 Calculus I
or
MA 123 Elementary Calculus
and its Applications 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: 33

Graduation Composition and Communication Requirement (GCCR)

BIO 350 Animal Physiology
and
BIO 425 Biology Seminar (Subtitle required) 5
or
WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) 3-5

College Requirements

Humanities – two courses 6
Social Science – two courses 6
Third and fourth semesters of language 6
Free Electives 6
Lab or Field Experience – *satisfied by major*
Graduation Writing Requirement (choose any GWR Humanities 300-level course; this will also count as one of the two Humanities courses in the College Requirements)

UK Core and College hours: 57 (45)

Premajor Requirements

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3

BIO 155 Laboratory for Introductory Biology I
or
BIO 198 Scholars Biology Research 1-2

†CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany
General Chemistry I 1
CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany
General Chemistry II 2

MA 137 Calculus I With Life Science Applications
or
MA 113 Calculus I
or
MA 123 Elementary Calculus
and its Applications 4

Free Elective 0-1

Premajor hours: 21

†The CHE 105 requirement can be satisfied with CHE 109 and CHE 110.

Major Requirements

Minimum major requirement for graduation is 54 credit hours in courses as detailed below. The minimum GPA of all major and premajor courses must be at least 2.0.

First Tier Core
BIO 303 Introduction to Evolution 4
BIO 304 Principles of Genetics 4

Second Tier Core
To be taken **after** completion of First Tier Core.

Choose two of the following to complete 8 hours:
BIO 350 Animal Physiology
or
BIO 430G Plant Physiology 4

BIO 315 Introduction to Cell Biology 4
BIO 325 Ecology 4

plus:
STA 296 Statistical Methods and Motivations 3

BIO 425 Biology Seminar (Subtitle required)
or
BIO 499 Biology Research Seminar 1

Core hours: 20

Other Course Work Required for the Major

From Outside the Major Department
CHE 236/231 Survey of Organic Chemistry/
Organic Chemistry Laboratory I
or
CHE 230/231 Organic Chemistry I/Laboratory I 4

*PHY 211 General Physics
or
††PHY 151 Introduction to Physics 3-5

††PHY 151 is not accepted for admission into Medical, Dental or Pharmacy School. Check with your advisor before choosing a physics course.

Other Major hours: 7-9

OPTIONS

Complete one of the following options. **Students cannot mix and match requirements from the two options.** An option must be completed in its entirety.

Option A – Minor Option

NOTE: 14 of these hours must be at the 300-level or above.

Complete the requirements for any minor other than the biology minor 18-21
**Biology Electives 4-9

***Biology Electives – A maximum of 3 credits of independent research course work may be used in this section.*

If students double-dip major and minor requirements, additional biology electives must be taken to meet the graduation requirement of 55 hours for the B.A. in Biology.

Total Hours Option A 25-27

Option B – Topical Focus Option

NOTE: 14 of these hours must be at the 300-level or above.

Complete a 12 credit hour sequence of courses with a topical focus. At least 6 of these hours must be at the 300-level or above 12

NOTE: Students who have multiple interests or interests that do not fall into the requirements for a minor offered at the University of Kentucky may select a 12 credit hour sequence of courses with a topical focus. Courses in several disciplines and in the various interdisciplinary programs may be combined to pursue the topical focus. **Students interested in pursuing Option B must have the 12 credit hour sequence of courses APPROVED IN ADVANCE by the Director of Undergraduate Studies, Department of Biology. Students must submit an *Approval of Topical Focus Form* to the Director of Undergraduate Studies.**

**Biology Electives 13-15

***Biology Electives – A maximum of 6 credits of independent research course work may be used in this section.*

Total Hours Option B 25-27

Acceptable biology electives from outside the Department.

Hours to be chosen from 300+ level BIO courses or the list below. Note: ANA 209, BIO 208, BIO 209, BIO 210 and PGY 206 CANNOT be used for this requirement. A maximum of 1 credit hour of seminar course work (for example BIO 425, BIO 426, BIO 427) may be counted within this elective requirement.

Acceptable upper-level electives for the B.A. in Biology:

BIO 3XX, BIO 4XX, BIO 5XX, BIO 6XX *(BIO 208, BIO 209 and BIO 210 CANNOT be used to satisfy the upper-level requirement for the B.A., B.S. or minor in Biology.*

A&S 300, 500 *(acceptable as upper-level credit **only** when offered by the Department of Biology)*
ABT 460
ANA 511*, 512*, 516* *(some other anatomy courses at the 500-level are accepted, but are usually restricted to professional students)*
ANT 332
ASC 364, 378
BCH 401G
CHE 226, 233, 440G, 441, 442G, 446G, 532, 533, 550, 552, 558, 565
EES 401G
ENT 310, 320, 402, 460, 561, 564, 568
FOR 340*, 375*, 402*
FSC 530*
MI 494G, 595*, 598
NRE 320, 420G*, 450G, 455G
PGY 412G, 560, 590 *(PGY 412G is acceptable as an elective for upper-level biology credit but **does not** substitute for BIO 350 or BIO 430G)*
PLS 320*, 330*, 332*, 366, 450G, 502, 566, 567*
PPA 400G*
PSY 456, 459, 552, 565
STA 570, 580 *(Biology usually accepts only **one** of these courses for each student. Other STA courses may be accepted at the discretion of your advisor, and this may depend upon the area of biology in which you choose to specialize.)*
TOX 509

Other courses may be accepted at the discretion of the Director of Undergraduate Studies in the Department of Biology.

**Lab courses that satisfy upper-level lab requirement.*

Total Minimum Hours Required for Degree 120

Bachelor of Science with a major in BIOLOGY

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I
or
MA 137 Calculus I With Life Science Applications 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **33**

Graduation Composition and Communication Requirement (GCCR)

BIO 350 Animal Physiology
and
BIO 425 Biology Seminar (Subtitle required) 5
or
WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) **3-5**

College Requirements

Humanities – one course 3
Social Science – one course 3
Third and fourth semesters of language 6
Free Electives 6
Lab or Field Experience – *satisfied by major*
Graduation Writing Requirement (choose any GWR Humanities 300-level course; this will also count as one of the two Humanities courses in the College Requirements)

General Education and College hours: ..... **49 (*39*)**

Premajor Requirements

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
BIO 155 Laboratory for Introductory Biology I
or
BIO 198 Scholars Biology Research 1-2
†CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany General Chemistry II 2
MA 137/138 Calculus I/II With Life Science Applications
or
MA 113/114 Calculus I/II 8

Premajor hours: **25-26**

†The CHE 105 requirement can be satisfied with CHE 109 and CHE 110.

Major Requirements

Minimum major requirement for graduation is 56 credit hours in courses not open to freshmen. The minimum GPA of all major and premajor courses must be at least 2.0.

Major Core

First Tier Core
BIO 303 Introduction to Evolution 4
BIO 304 Principles of Genetics 4

Second Tier Core
To be taken **after** completion of First Tier Core.

BIO 315 Introduction to Cell Biology 4
BIO 325 Ecology 4
BIO 350 Animal Physiology
or
BIO 430G Plant Physiology 4
STA 296 Statistical Methods and Motivations 3
BIO 425 Biology Seminar (Subtitle required)
or
BIO 499 Biology Research Seminar 1

Core hours: **24**

Other Course Work Required for the Major

From Outside the Major Department
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
PHY 211 General Physics
or
PHY 231/241 General University Physics/Laboratory
AND
PHY 213 General Physics
or
PHY 232/242 General University Physics/Laboratory 10

Biology Electives
Choose 15 hours of acceptable biology electives 15

15 hours to be chosen from 200+ level BIO courses (excluding BIO 208) or the list below. One course must have lab, one of which may be BIO 395. A maximum of 6 hours of Independent Research course work from biological sciences departments may be counted within the 15 hour requirement. **NOTE:** ANA 209, BIO 208, BIO 209, BIO 210 and PGY 206 **CANNOT** be used for this requirement. A maximum of 1 credit hour of seminar course work (ex. BIO 425, BIO 426, BIO 427) may be counted within the 15 hour requirement.

Other Major hours: **32**

Acceptable upper-level electives for the B.S. in Biology:

BIO 3XX, BIO 4XX, BIO 5XX, BIO 6XX *(BIO 208, BIO 209 and BIO 210 CANNOT be used to satisfy the upper-level requirement for the B.A., B.S. or minor in Biology.*

A&S 300, 500 *(acceptable as upper-level credit **only** when offered by the Department of Biology)*
ABT 460
ANA 511*, 512*, 516* *(some other anatomy courses at the 500-level are accepted, but are usually restricted to professional students)*
ANT 332
ASC 364, 378
BCH 401G
CHE 226, 233, 440G, 441, 442G, 446G, 532, 533, 550, 552, 558, 565
EES 401G
ENT 310, 320, 402, 460, 561, 564, 568
FOR 340*, 375*, 402*
FSC 530*
MI 494G, 595*, 598
NRE 320, 420G*, 450G, 455G
PGY 412G, 560, 590 *(PGY 412G is acceptable as an elective for upper-level biology credit but **does not** substitute for BIO 350 or BIO 430G)*
PLS 320*, 330*, 332*, 366, 450G, 502, 566, 567*
PPA 400G*
PSY 456, 459, 552, 565
STA 570, 580 *(Biology usually accepts only **one** of these courses for each student. Other STA courses may be accepted at the discretion of your advisor, and this may depend upon the area of biology in which you choose to specialize.)*
TOX 509

Other courses may be accepted at the discretion of the Director of Undergraduate Studies in the Department of Biology.

**Lab courses that satisfy upper-level lab requirement.*

Total Minimum Hours Required for Degree **120**

Minor in Biological Sciences

The minor in Biological Sciences consists of 21 hours of course work to include:

Preminor Requirements

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
BIO 155 Laboratory for Introductory Biology I 1

Minor Requirements

BIO 303 Introduction to Evolution 4
BIO 304 Principles of Genetics 4

Minor Electives

Approved 300+ level BIO courses or other courses from the approved list. Up to 3 hours of life science independent research course work can be counted here.

Approved list:

*(**Note:** BIO 208, BIO 209 and BIO 210 CANNOT be used to satisfy the upper-level elective requirement for the Minor in Biology.)*

ANT 332
CHE 226, 233, 440G, 441, 442G, 446G, 532, 533, 550, 552, 558, 565
EES 401G
A&S 300, 500 *(acceptable as upper-level credit **only** when offered by the Department of Biology)*
PSY 456, 459, 552, 565
STA 570, 580 *(Biology usually accepts only **one** of these courses for each student. Other STA courses may be accepted at the discretion of your advisor, and this may depend upon the area of biology in which you choose to specialize.)*
ABT 460
ASC 364, 378
ENT 310, 320, 402, 460, 561, 564, 568
FOR 340, 375, 402
FSC 530
NRE 320, 420G, 450G, 455G
PLS 320, 330, 332, 366, 450G, 502, 566, 567
PPA 400G
ANA 511, 512, 516 *(some other anatomy courses at the 500-level are accepted, but are usually restricted to professional students)*
BCH 401G
MI 494G, 595, 598
PGY 412G, 560, 590 *(PGY 412G is acceptable as an elective for upper level biology credit but DOES NOT substitute for BIO 350 or BIO 430G)*
TOX 509

Other courses may be accepted at the discretion of the Director of Undergraduate Studies in the Department of Biology.

Minor in Microbiology

NOTE: At the time of publication, the minor in Microbiology had been approved by the Senate and was awaiting approval by the UK Board of Trustees.

The minor in Microbiology consists of a total of 19 hours as follows:

Minor Requirements

BIO 308 General Microbiology 3
BIO 309 Microbiology Laboratory 2

BCH 401G Fundamentals of Biochemistry
or
BIO 315 Introduction to Cell Biology 3-4

CHE 550 Biological Chemistry I
or
CHE 552 Biological Chemistry II 3

One course from the following:
BIO/MI 494G Immunobiology 3
BIO/MI 495G Bacterial Pathogenesis 3
BIO/MI 582 Virology 3

If more than one course is taken from this list, the additional course(s) would count as an elective for the minor.

Minor Electives

Select 7 or 8 hours of electives (to make a total of 19 hours for the minor) from:

BIO 397 Research in Microbiology 1-3
BIO 427 Seminar in Microbiology (Subtitle required) 1
BIO/ENT 561 Introduction to Population Genetics 3
CPH 310 Disease Detectives:
Epidemiology in Action 3
FSC 530 Food Microbiology 5
PLS 566 Soil Microbiology 3
PLS 567 Methods in Soil Microbiology 1
PPA 500 Physiology of Plant Health and Disease 3
Other microbiology-related courses at the 300-level or above, as approved by the Director of Undergraduate Studies for the Microbiology minor.

High achieving students may take advanced level course work from (permission of the Dean of the Graduate School is required to register for these courses):

FSC 632 Foodborne Disease Agents 3
PPA 650 Fungal Biology 3
PPA 670 Plant Bacteriology 1
PPA 671 Advanced Plant Virology 2

Minor in Neuroscience

The minor in Neuroscience requires 18 hours of course work to include:

Minor Prerequisites

BIO 152 Principles of Biology II or equivalent 3

Minor Requirement

One of the following:
BIO 302 Introduction to Neuroscience
or
PSY 312 Brain and Behavior 3

Minor Electives

Choose 12 credits from the following courses:
ANA 605 Neurobiology of CNS Injury and Repair 3
ANA 625 Introduction to Functional MRI 1
ANA 780 Special Topics in Neurobiology 1-3
BIO 395 Research in Biology – up to 6 credits can be used in this category 3-6
BIO 507 Biology of Sleep and Circadian Rhythms 3
BIO 535 Comparative Neurobiology and Behavior 3
BIO 638 Developmental Neurobiology 3
BIO 650 Animal Physiology Laboratory 2
CGS 500 Cognitive Science in Theory and Practice 3
CHE 580 Topics in Chemistry 1-3
PSY 459 Neuropharmacology: Drugs and Behavior 3

Other neuroscience-related courses at the 200-level or above, as approved by DUS in Biology

Total Hours: **18**

CHEMISTRY

The Department of Chemistry offers the Bachelor of Science degree for students who intend to become professional chemists or do graduate work in chemistry or a closely related discipline. There are two options in the B.S. program: a traditional version covering all the major areas of chemistry, and an option that emphasizes biochemistry. Both degree options are certified by the American Chemical Society. A Bachelor of Arts degree program is offered as well for students who want greater flexibility in the selection of courses in other fields of science. The B.A. is designed particularly for students planning to enter the professional health fields, to teach in secondary schools, or to work in such varied areas as ecology, criminal justice, materials science, patent law, or technical service and sales. The Department also offers the Master of Science and the Doctor of Philosophy degree.

Bachelor of Arts with a major in CHEMISTRY

122 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. Please also note that the Organic Chemistry Sequence (CHE 230/231/232/233) will count towards completion of this requirement. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **33**

Graduation Composition and Communication Requirement (GCCR)

CHE 372 Communication in Chemistry I 1
CHE 472 Communication in Chemistry II 1

Graduation Composition and Communication Requirement hours (GCCR) **2**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science *(completed by Major Requirements)*
b. Social Science 6
c. Humanities 6
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: **18-32**

Premajor Requirements

*MA 113 Calculus I
or
MA 132 Calculus for the Life Sciences 4

MA 114 Calculus II 4
*CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
*CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2

Premajor hours: **18**

Major Requirements

Major Core Requirements
CHE 226 Analytical Chemistry 3
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1
CHE 372 Communication in Chemistry I 1
CHE 440G Introductory Physical Chemistry 4
CHE 441 Physical Chemistry Laboratory 2
CHE 472 Communication in Chemistry II 1

Major Core hours: **19**

Other Course Work Required for the Major

Chemistry Major Field Options

Choose 21 hours at the 300-500 level with a prefix of ANA, BCH, BIO, CHE, CME, CS, EES, MA, MI, MSE, PAT, PGY, PHA, PHR, PHY, PM, RM, or STA. Credit will not be given for both BCH 401G and CHE 550 or CHE 552. At least 5 of these hours must be in CHE courses; at least 4 hours must be taken outside CHE. Up to 9 hours of CHE 395 are recommended for students having a minimum GPA of 3.0 in CHE courses. Other courses may be approved by the Undergraduate Program Committee. Students working towards teaching accreditation may count 6 hours taken at the 300+ level from the College of Education. A maximum of 9 hours in undergraduate research or reading courses may be counted; such courses require approval of the Undergraduate Program Committee if the courses do not carry the CHE prefix 21

From the Physics Department

*PHY 211/213 General Physics
or
*PHY 231/232 General University Physics **and**
*PHY 241/242 General University Physics Laboratory 10

Other Major hours: **31**

Total Minimum Hours Required for Degree **122**

^Any language may be used to satisfy the College Foreign Language requirements – German is recommended.

**Course used towards completion of a UK Core Requirement.*

Curriculum for B.A. in Chemistry

Freshman Year

First Semester	Hours
CHE 105 General College Chemistry I	4
CHE 111 Laboratory to Accompany General Chemistry I	1
CIS/WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
UK Core	3

Second Semester

CHE 107 General College Chemistry II	3
CHE 113 Laboratory to Accompany General Chemistry II	2
MA 114 Calculus II	4
CIS/WRD 111 Composition and Communication II	3
UK Core	3

Sophomore Year

First Semester	Hours
CHE 230 Organic Chemistry I	3
CHE 231 Organic Chemistry Laboratory I	1
PHY 211 General Physics	5
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning	3
UK Core	3

Second Semester

CHE 226 Analytical Chemistry	3
CHE 232 Organic Chemistry II	3
CHE 233 Organic Chemistry Laboratory II	1
PHY 213 General Physics	5
A&S Humanities/Social Science	3

Junior Year

First Semester	Hours
CHE 440G Introductory Physical Chemistry	4
Foreign Language I†	4
UK Core	3
Major Field Option*	3

Second Semester

CHE 441 Physical Chemistry Laboratory	2
CHE 372 Communication in Chemistry I	1
Foreign Language II†	4
A&S Humanities/Social Science	3
Major Field Option*	6

Senior Year

First Semester	Hours
Free Elective (A&S)	3
Foreign Language III†	3
Major Field Option*	6
A&S Humanities/Social Science	3

Second Semester

CHE 472 Communication in Chemistry II	1
Major Field Options*	6
A&S Humanities/Social Science	3
UK Core	3
Electives	3

**Major field options (21 credits) must be chosen from courses at the 300- to 500-level with the prefixes CHE, ANA, BCH, BIO, CME, CS, EES, MA, MI, MSE, PAT, PGY, PHA, PHR, PHY, PM, RM or STA. Credit will not be given for both BCH 401G and CHE 550 or CHE 552. Other courses may be approved as Major Field Options by the Undergraduate Program Committee. At least 5 of these hours must be in CHE courses; at least 4 of the 21 credits must be taken in non-CHE courses. Students working towards teaching accreditation may count 6 credits in courses taken at or above the 300-level in the College of Education. Six credits of CHE 395 are recommended for students having a minimum 3.0 GPA in chemistry courses. Oral and written reports are required from CHE 395 students during their final semester of registration in CHE 395. A maximum of 9 credits in undergraduate research or reading courses may be counted; such courses require approval of the Undergraduate Program Committee if the courses do not carry the CHE prefix.*

†Any foreign language sequence satisfying the College of Arts and Sciences requirement in foreign languages may be taken. German is recommended.

Bachelor of Science with a major in CHEMISTRY

Traditional Option

123 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **33**

Graduation Composition and Communication Requirement (GCCR)

CHE 372 Communication in Chemistry I 1
CHE 472 Communication in Chemistry II 1

Graduation Composition and Communication Requirement hours (GCCR) **2**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science *(completed by Major Requirements)*
  b. Social Science 3
  c. Humanities 3
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: **12-26**

Premajor Requirements

*MA 113 Calculus I 4
MA 114 Calculus II 4
*CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
*CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2

Premajor hours: **18**

Major Requirements

Major Core Requirements

CHE 226 Analytical Chemistry 3
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 372 Communication in Chemistry I 1
CHE 410G Inorganic Chemistry 2
CHE 412 Inorganic Chemistry Laboratory 2
CHE 422 Instrumental Analysis 4
CHE 441 Physical Chemistry Laboratory 2
CHE 442G Thermodynamics and Kinetics 3
CHE 472 Communication in Chemistry II 1
CHE 532 Spectrometric Identification of Organic Molecules 2
CHE 533 Qualitative Organic Analysis Laboratory 2
CHE 547 Principles of Physical Chemistry I 3
CHE 550 Biological Chemistry I
or
CHE 552 Biological Chemistry II 3

Major Core hours: **35**

Other Course Work Required for the Major

From the Major Department:

Chemistry Major Field Options 6
Choose 6 hours from the following: up to 6 hours of CHE 395,

any CHE 500-level course except for those required (CHE 422/532/533/ [550 or 552]); BCH 401G.

From the Mathematics Department

MA 213 Calculus III 4
MA 322 Matrix Algebra and its Applications 3

From the Physics Department

*PHY 231/232 General University Physics 8
*PHY 241/242 General University Physics Laboratory 2

Other Major hours: 23

Total Minimum Hours Required for Degree 123

^Any language may be used to satisfy the College Foreign Language requirements – German is recommended.

**Course used towards completion of a UK Core Requirement.*

Curriculum for B.S. in Chemistry Traditional Option

Freshman Year

First Semester	Hours
CHE 105 General College Chemistry I	4
CHE 111 Laboratory to Accompany General Chemistry I	1
CIS/WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
UK Core	3

Second Semester

CHE 107 General College Chemistry II	3
CHE 113 Laboratory to Accompany General Chemistry II	2
MA 114 Calculus II	4
CIS/WRD 111 Composition and Communication II	3
UK Core	3

Sophomore Year

First Semester	Hours
CHE 226 Analytical Chemistry	3
CHE 230 Organic Chemistry I	3
MA 213 Calculus III	4
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1

Second Semester

CHE 231 Organic Chemistry Laboratory I	1
CHE 232 Organic Chemistry II	3
MA 322 Matrix Algebra and Its Applications	3
PHY 232 General University Physics	4
PHY 242 General University Physics Laboratory	1
UK Core	3

Junior Year

First Semester	Hours
CHE 547 Principles of Physical Chemistry I	3
CHE 532 Spectrometric Identification of Organic Molecules	2
Foreign Language I*	4
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning	3
A&S Humanities/Social Science	3

Second Semester

CHE 410G Inorganic Chemistry	2
CHE 441 Physical Chemistry Laboratory	2
CHE 442G Thermodynamics and Kinetics	3
CHE 533 Qualitative Organic Analysis Laboratory	2
CHE 372 Communication in Chemistry I	1
Foreign Language II*	4
A&S Humanities/Social Science	3

Senior Year

First Semester	Hours
CHE 412 Inorganic Chemistry Laboratory	2
CHE 422 Instrumental Analysis	4
CHE 550 Biological Chemistry I **or** Major Field Option	3
Major Field Option	3
Foreign Language III*	3

Second Semester

CHE 472 Communication in Chemistry II	1
CHE 552 Biological Chemistry II **or** Major Field Option	3
UK Core	6

**Any foreign language sequence satisfying the College of Arts and Sciences requirement in foreign languages may be taken. German is recommended.*

Certification Requirements

The B.S. degree is certified by the American Chemical Society.

Bachelor of Science with a major in CHEMISTRY

Biochemistry Option

128 hours

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: 33

Graduation Composition and Communication Requirement (GCCR)

CHE 372 Communication in Chemistry I 1
CHE 472 Communication in Chemistry II 1

Graduation Composition and Communication Requirement hours (GCCR) 2

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science *(completed by Major Requirements)*
  b. Social Science 3
  c. Humanities 3
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: 12-26

Premajor Requirements

*MA 113 Calculus I 4
MA 114 Calculus II 4
*CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
*CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2
BIO 148 Introductory Biology I 3
BIO 151 Principles of Biology Laboratory I 2
BIO 152 Principles of Biology II 3
BIO 153 Principles of Biology Laboratory II 2

Premajor hours: 28

Major Requirements

Major Core Requirements

CHE 226 Analytical Chemistry 3
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
BIO 304 Principles of Genetics **or** BIO 308 General Microbiology **or** BIO 315 Introduction to Cell Biology 3-4
CHE 372 Communication in Chemistry I 1
CHE 410G Inorganic Chemistry 2
CHE 412 Inorganic Chemistry Laboratory 2
CHE 440G Introductory Physical Chemistry 4
CHE 441 Physical Chemistry Laboratory 2
CHE 454 Biological Chemistry Laboratory 2
CHE 472 Communication in Chemistry II 1
CHE 422 Instrumental Analysis **or** CHE 532/533 Spectrometric Identification of Organic Molecules/Qualitative Organic Analysis Laboratory 4
CHE 550 Biological Chemistry I 3
CHE 552 Biological Chemistry II 3

Major Core hours: 37-38

Other Course Work Required for the Major

From the Major Department:

Chemistry Major Field Options 4
Major Field Options must be chosen from the following: CHE 395; or any CHE 500-level course except for those required. CHE 395 is strongly recommended for students having a minimum 3.0 GPA in chemistry courses.

From the Mathematics Department
MA 213 Calculus III 4

From the Physics Department
*PHY 231/232 General University Physics 8
*PHY 241/242 General University Physics Laboratory 2
Other Major hours: **18**

Electives

Choose electives to lead to the minimum total of 128 hours required for graduation.

Total Minimum Hours Required for Degree 128

**Course used towards completion of a UK Core Requirement.*

Curriculum for B.S. in Chemistry Biochemistry Option

Freshman Year

First Semester **Hours**
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1
MA 113 Calculus I 4
CIS/WRD 110 Composition and Communication I 3
UK Core 3

Second Semester
CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany General Chemistry II 2
MA 114 Calculus II 4
BIO 148 Introductory Biology I 3
BIO 151 Principles of Biology Laboratory I 2
CIS/WRD 111 Composition and Communication II 3

Sophomore Year

First Semester **Hours**
CHE 230 Organic Chemistry I 3
BIO 152 Principles of Biology II 3
BIO 153 Principles of Biology Laboratory II 2
MA 213 Calculus III 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

Second Semester
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 226 Analytical Chemistry 3
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
UK Core 3

Junior Year

First Semester **Hours**
*CHE 440G Introductory Physical Chemistry 4
CHE 422 Instrumental Analysis 4
or
CHE 532 Spectrometric Identification of Organic Molecules 2
CHE 550 Biological Chemistry I 3
A&S Humanities/Social Science 3
UK Core 3

Second Semester
CHE 410G Inorganic Chemistry 2
CHE 454 Biological Chemistry Laboratory 2
CHE 533 Qualitative Organic Analysis Laboratory (if CHE 532 taken) 2
CHE 552 Biological Chemistry II 3
BIO 304 Principles of Genetics
or
BIO 308 General Microbiology
or
BIO 315 Introduction to Cell Biology 3-4
Foreign Language** 4

Senior Year

First Semester **Hours**
CHE 412 Inorganic Chemistry Laboratory 2
Major Field Option 2
CHE 372 Communication in Chemistry I 1
A&S Humanities/Social Science 3
UK Core 3
Foreign Language** 4

Second Semester
CHE 441 Physical Chemistry Laboratory 2
Major Field Option 2
CHE 472 Communication in Chemistry II 1
Foreign Language** 3
UK Core 3
Elective 3

**CHE 442G may be substituted for CHE 440G.*

***Any language may be used to satisfy the College Foreign Language requirements – German is recommended.*

Certification Requirements

The B.S. degree is certified by the American Chemical Society.

Minor in Chemistry

The minor in Chemistry requires the following:

MA 113 Calculus I **or** 4
MA 132 Calculus for the Life Sciences 3
MA 114 Calculus II 4
PHY 211/213 General Physics **or** 10
PHY 231/241 General University Physics and Laboratory **and** 5
PHY 232/242 General University Physics and Laboratory 5
CHE 105/107 General College Chemistry I and II 7
CHE 111/113 Laboratory to Accompany General Chemistry I and II 3
CHE 226 Analytical Chemistry 3
CHE 230/231 Organic Chemistry I and Laboratory I 4
CHE 232/233 Organic Chemistry II and Laboratory II 4
CHE 440G Introductory Physical Chemistry **or** 4
CHE 446G Physical Chemistry for Engineers 3

EARTH AND ENVIRONMENTAL SCIENCES

The earth and environmental sciences encompass a wide variety of studies of our planet, including the study of its composition, structure, prehistoric life, internal and surficial processes, and history. These studies have important implications for understanding how our planet functions, as well as for understanding the interactions between humans and their environment. The discipline includes numerous applications in the discovery and use of mineral, energy, and water resources; in the protection and restoration of the environment; and in planning for the impacts of natural hazards (earthquakes, landslides, etc.) and climate change on global societal development. Students undertake the study of earth and environmental sciences in the classroom, laboratory, and field.

Students in earth and environmental sciences earn the Bachelor of Science or Bachelor of Arts degree with a major in Geological Sciences. The B.S. program is designed for students who plan a career as a professional geologist or who plan to attend graduate school. The B.A. program is designed for students planning a career in public policy relating to earth science and environmental issues, earth-science education, business (environmental consulting), environmental law, or environmental medicine.

Bachelor of Arts with a major in GEOLOGICAL SCIENCES

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Fulfilled by Premajor Requirement – CHE 105/CHE 111

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Fulfilled by Premajor Requirement – MA 123 or MA 113

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: 24

Graduation Composition and Communication Requirement (GCCR)

EES 235 Fundamentals of Geology II 3
EES 461 Igneous and Metamorphic Petrology 4

Graduation Composition and Communication Requirement hours (GCCR) 7

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science *(completed by Major Requirements)*
b. Social Science *(can be partially fulfilled by Major Requirements)* 6
c. Humanities 6
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: 18-32

Premajor Requirements

*CHE 105 General College Chemistry I 4
*CHE 111 Laboratory to Accompany General Chemistry I 1
EES 220 Principles of Physical Geology 4
EES 295 Geoscience Orientation 1

*MA 123 Elementary Calculus and its Applications
or
*MA 113 Calculus I 4

*PHY 211 General Physics
or
*PHY 231/241 General University Physics/Lab 5

Premajor hours: 19

Major Requirements

Major Core Requirements

EES 230 Fundamentals of Geology I 3
EES 235 Fundamentals of Geology II 3
EES 350 Regional Historical Geology 3
EES 360 Mineralogy 4
EES 420G Structural Geology 4
EES 450G Sedimentary Geology 4
EES 461 Igneous and Metamorphic Petrology 4

Major Core hours: 25

Other Course Work Required for the Major

From the Major Department:

Elective I 6
Choose 6 hours of EES courses at the 400+ level, not to include EES 495 or 496

Elective II 6
Choose 6 additional hours of 300+ EES or related courses
NOTE: 14 hours at the 200 level or higher must be completed outside Geological Sciences. Partial fulfillment of this requirement can be completed by the PHY and EES Elective II Requirements 3-14

Other Major hours: 0-17

Total Minimum Hours Required for Degree 120

**Course used towards completion of a UK Core Requirement.*

Bachelor of Science with a major in GEOLOGICAL SCIENCES

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Fulfilled by Premajor Requirement – CHE 105/CHE 111

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Fulfilled by Premajor Requirement – MA 113

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: 24

Graduation Composition and Communication Requirement (GCCR)

EES 235 Fundamentals of Geology II 3
EES 461 Igneous and Metamorphic Petrology 4

Graduation Composition and Communication Requirement hours (GCCR) 7

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science *(completed by Major Requirements)*
b. Social Science 3
c. Humanities 3
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: 12-26

Premajor Requirements

*MA 113 Calculus I 4
MA 114 Calculus II 4
*CHE 105 General College Chemistry I 4
*CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany General Chemistry II 2
EES 220 Principles of Physical Geology 4
EES 230 Fundamentals of Geology I 3
EES 235 Fundamentals of Geology II 3
EES 295 Geoscience Orientation 1

Premajor hours: 29

Major Requirements

Major Core Requirements

EES 323 Field Work in Regional Geology 6
EES 360 Mineralogy 4
EES 420G Structural Geology 4
EES 450G Sedimentary Geology 4
EES 461 Igneous and Metamorphic Petrology 4
*EES 490 Earth Dynamics 3

Major Core hours: 25

Other Course Work Required for the Major

From the Major Department:

Elective I 6
Choose 6 hours of EES courses at the 400+ level, not to include EES 495 or 496

Elective II 6
Choose 6 additional hours of 300+ EES or related courses

From the Physics Department
*PHY 211/213 General Physics **or**
*PHY 231/232/241/242 General University Physics .. 10
NOTE: 14 hours at the 200 level or higher must be completed outside Geological Sciences. Partial fulfillment of this requirement can be completed by the PHY Sequence and EES Elective II Requirements 0-4

Other Major hours: 0-18

Total Minimum Hours Required for Degree 120

**Course used towards completion of a UK Core Requirement or Graduation Writing Requirement.*

Minor in Geological Sciences

The minor in Geological Sciences requires 19 hours of course work to include:

EES 220 Principles of Physical Geology 4
EES 230 Fundamentals of Geology I 3
EES 235 Fundamentals of Geology II 3
Plus 9 hours in EES courses at the 300 level or higher ... 9

ECONOMICS

The Department of Economics offers theoretical and applied courses in diverse areas including microeconomics, macroeconomics, labor, money and banking, international economics, public economics, and industrial organization. It provides an opportunity for the student to pursue his or her interests within the framework of a liberal arts education.

The department offers programs leading to different undergraduate degree – a Bachelor of Science in the Gatton College of Business and Economics, a Bachelor of Arts and a Bachelor of Science with a major in economics in the College of Arts and Sciences, and a Bachelor of Arts and a Bachelor of Science with a major in mathematical economics. The distinctions among these degree lie primarily in the required supporting courses in the various programs. (For students wishing to major in economics through the Gatton College of Business and Economics, please refer directly to that college's section in the Bulletin. Mathematical economics majors should refer directly to that section of the Bulletin under the College of Arts and Sciences.)

Bachelor of Arts with a major in ECONOMICS

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and its Applications
or
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **31**

Graduation Composition and Communication Requirement (GCCR)

ECO 499 Seminar in Economics (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science *(completed by Premajor and Major Requirements)*
  c. Humanities 6
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **19-33**

Premajor Requirements

*MA 113 Calculus I
or
*MA 123 Elementary Calculus and its Applications
and
MA 162 Finite Mathematics and its Applications 4-7

ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
STA 291 Statistical Methods 3

Premajor hours: **13-16**

Major Requirements

Major Core Requirements
ECO 391 Economic and Business Statistics 3
ECO 401 Intermediate Microeconomic Theory 3
ECO 402 Intermediate Macroeconomic Theory 3
ECO 499 Seminar in Economics (Subtitle required) 3

Major Core hours: **12**

Other Course Work Required for the Major

From the Major Department:
Choose 9-15 hours of 300+ level economics courses 9-15

From Outside the Major Department
Choose 15-21 hours outside Economics at the 200+ level, with at least 6 hours in two different departments. These courses are generally chosen from the following departments: Anthropology, Computer Science, History, Mathematics, Philosophy, Political Science, Psychology, Sociology, Statistics, or courses offered by the College of Business and Economics. 200+ level courses used to satisfy College Requirements can also be counted here 15-21

Other Major hours: **30**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 4

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Bachelor of Science with a major in ECONOMICS

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: courses with a prefix of ECO are generally not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this 60-hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and its Applications
or
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **31**

Graduation Composition and Communication Requirement (GCCR)

ECO 499 Seminar in Economics (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 3
  b. Social Science *(completed by Premajor Requirement)*
  c. Humanities 3
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **13-27**

Premajor Requirements

*MA 113 Calculus I
or
*MA 123 Elementary Calculus and its Applications
and
MA 162 Finite Mathematics and its Applications 4-7

ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
STA 291 Statistical Methods 3

Premajor hours: **13-16**

Major Requirements

Major Core Requirements
ECO 391 Economic and Business Statistics 3
ECO 401 Intermediate Microeconomic Theory 3
ECO 402 Intermediate Macroeconomic Theory 3
ECO 499 Seminar in Economics (Subtitle required) 3

Major Core hours: **12**

Other Course Work Required for the Major

From the Major Department:
Choose 9-15 hours of 300+ level Economics courses 9-15

From Outside the Major Department
Choose 15-21 hours outside Economics at the 200+ level, with at least 6 hours in two different departments. These courses are generally chosen from the following departments:

Anthropology, Computer Science, History, Mathematics, Philosophy, Political Science, Psychology, Sociology, Statistics, or courses offered by the College of Business and Economics. 200+ level courses used to satisfy College Requirements can also be counted here 15-21

Other Major hours: **30**

Electives

Choose electives to lead to the minimum total of 60 science hours and 120 earned hours required for graduation 7

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Minor in Economics

The minor in Economics requires 18 hours of course work to include:

ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3

ECO 401 Intermediate Microeconomic Theory
or
ECO 402 Intermediate Macroeconomic Theory 3

Three additional economics courses at the 300-level or above 9

ENGLISH

The Department of English offers a wide variety of courses in English and American literature as well as in imaginative writing, cultural studies, film, linguistics, and composition.

Bachelor of Arts with a major in ENGLISH

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the major requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core Hours **30**

Graduation Composition and Communication Requirement (GCCR)

ENG 330 Text and Context (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science 6
  c. Humanities *(completed by Major Requirements)* 0-6
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **19-33**

Premajor Requirements

*CIS/WRD 110 Composition and Communication I *(requirement fulfilled in UK Core)*
*CIS/WRD 111 Composition and Communication II *(requirement fulfilled in UK Core)*

plus one of the following
*ENG 107 Writing Craft: Introduction to Imaginative Writing 3
*ENG 209 The Structure and Use of English 3
*ENG 230 Introduction to Literature 3

Premajor hours: **3**

**Course used towards completion of a UK Core Requirement.*

Major Requirements

Major Core Requirements

ENG Historical Survey Requirement 6
Majors must take two Historical Survey courses of their choice. Historical Surveys can be taken in any combination and any order. Courses fulfilling the Historical Survey Requirement include:

ENG 241 Survey of British Literature I 3
ENG 242 Survey of British Literature II 3
ENG 251 Survey of American Literature I 3
ENG 252 Survey of American Literature II 3
ENG 265 Survey of African-American Literature I 3
ENG 266 Survey of African-American Literature II 3

ENG 330 Text and Context (Subtitle required) 3
Majors must complete this core course after completing the premajor requirements and before going on to 400-level courses in the major. ENG 330 fulfills the Graduation Writing Requirement.

ENG Early Period Requirement 0-3
Majors must take at least one designated Early Period ENG course of their choice. This requirement will NOT be waived. Majors should be careful to choose an appropriate Early Period ENG course accordingly. Courses fulfilling the Early Period Requirement include:

ENG 241 Survey of British Literature I 3
ENG 251 Survey of American Literature I 3
ENG 341 Chaucer and His Contemporaries 3
ENG 342 Shakespeare 3
ENG 343 Renaissance Drama and Society 3
ENG 518 Advanced History of the English Language 3
ENG 519 Introduction to Old English 3
or other Early Period subtitled courses as designated at the 300-400 level 3

Major Core hours: **9-12**

Other Course Work Required for the Major

From the Major Department:
Majors must take an additional seven courses in ENG (Major Electives) primarily at the 300-level and above. Of these required seven courses:

- two courses must be at the 400-level, of which one must be above ENG 407 (i.e., not ENG 401, 405, or 407);
- two courses maximum may be counted from additional Historical Surveys not used to fulfill the Historical Survey requirement (surveys cannot be double-counted for the Historical Survey Requirement and for the total ENG course requirement);
- two courses maximum may be counted from among ENG 207, ENG 221, ENG 260, ENG 280, and ENG 290.

Otherwise, all additional courses must be at the 300-500 level in ENG. Majors should fulfill the Early Period Requirement from among these courses 21

Total minimum ENG course hours (excluding premajor) **30**

From Outside the Major Department
For the English B.A. degree, 9 additional hours at the 200+ level outside English are required in allied departments and programs in Arts, Humanities, Social Sciences, and Education. Applicable departments and programs include (by prefix): A&S, AAS, AIS, ANT, APP, CHI, CLA, EDC, EDU, EPE, GER, GWS, HJS, HIS, HMN, HON, IAS, ITA, JOU, JPN, LAS, LIN, MAS, MCL, PHI, PS, RS, SPA, ST, WRD 9

Total Major hours: **39-42**

Other Electives

Choose electives and other courses to lead to the minimum total of 120 hours required for graduation.

Total Minimum Hours Required for Degree **120**

Imaginative Writing Option – B.A.

12 total hours within the ENG program

To fulfill the ENG Imaginative Writing Option, students must complete the following:

- ENG 207 Beginning Workshop in Imaginative Writing (Subtitle required) 3
- ENG 407 Intermediate Workshop in Imaginative Writing (Subtitle required) 3
- ENG 507 Advanced Workshop in Imaginative Writing (Subtitle required) *taken twice under two different subtitles* 6
- submission of a portfolio for evaluation by the Imaginative Writing staff six weeks prior to graduation

Bachelor of Science with a major in ENGLISH

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Courses with an ENG prefix are generally not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. For the ENG B.S. in particular, majors are allowed to apply an additional 9 hours of elective course work towards the science requirement. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core Hours 30

Graduation Composition and Communication Requirement (GCCR)

ENG 330 Text and Context (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) 3

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 3
  b. Social Science 3
  c. Humanities *(completed by Major Requirements)* 3
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: 13-27

Premajor Requirements

*CIS/WRD 110 Composition and Communication I *(requirement fulfilled in UK Core)*
*CIS/WRD 111 Composition and Communication II *(requirement fulfilled in UK Core)*

plus one of the following
*ENG 107 Writing Craft: Introduction to Imaginative Writing 3
*ENG 209 The Structure and Use of English 3
*ENG 230 Introduction to Literature 3

Premajor hours: 3

**Course used towards completion of a UK Core Requirement.*

Major Requirements

Major Core Requirements

ENG Historical Survey Requirement 6
Majors must take two Historical Survey courses of their choice. Historical Surveys can be taken in any combination and any order. Courses fulfilling the Historical Survey Requirement include:

ENG 241 Survey of British Literature I 3
ENG 242 Survey of British Literature II 3
ENG 251 Survey of American Literature I 3
ENG 252 Survey of American Literature II 3
ENG 265 Survey of African-American Literature I 3
ENG 266 Survey of African-American Literature II 3

ENG 330 Text and Context (Subtitle required) 3
Majors must complete this core course after completing the premajor requirements and before going on to 400-level courses in the major. ENG 330 fulfills the Graduation Writing Requirement.

ENG Early Period Requirement 0-3
Majors must take at least one designated Early Period ENG course of their choice. This requirement will NOT be waived. Majors should be careful to choose an appropriate Early Period ENG course accordingly. Courses fulfilling the Early Period Requirement include:

ENG 241 Survey of British Literature I 3
ENG 251 Survey of American Literature I 3
ENG 341 Chaucer and His Contemporaries 3
ENG 342 Shakespeare 3
ENG 343 Renaissance Drama and Society 3
ENG 518 Advanced History of the English Language 3
ENG 519 Introduction to Old English 3
or other Early Period subtitled courses as designated at the 300-400 level 3

Major Core hours: 9-12

Other Course Work Required for the Major

From the Major Department:
Majors must take an additional seven courses in ENG (Major Electives) primarily at the 300-level and above. Of these required seven courses:

- two courses must be at the 400-level, of which one must be above ENG 407 (i.e., not ENG 401, 405, or 407);
- two courses maximum may be counted from additional Historical Surveys not used to fulfill the Historical Survey requirement (surveys cannot be double-counted for the Historical Survey Requirement and for the total ENG course requirement);
- two courses maximum may be counted from among ENG 207, ENG 221, ENG 260, ENG 280, and ENG 290.

Otherwise, all additional courses must be at the 300-500 level in ENG. Majors should fulfill the Early Period Requirement from among these courses 21

Total minimum ENG course hours (excluding premajor) 30

From Outside the Major Department
For the English B.S. degree, 9 additional hours in the sciences are required that can be applied toward the 60-hour science requirement. Choose from among the applicable courses in the natural, physical, mathematical, and computer sciences 9

Major hours: 39-42

Other Electives

Choose electives and other courses to lead to the minimum total of 120 hours of course work and 60 hours of science credits required for graduation.

Total Minimum Hours Required for Degree 120

Imaginative Writing Option – B.S.

12 total hours within the ENG program

To fulfill the ENG Imaginative Writing Option, students must complete the following:

- ENG 207 Beginning Workshop in Imaginative Writing (Subtitle required) 3
- ENG 407 Intermediate Workshop in Imaginative Writing (Subtitle required) 3
- ENG 507 Advanced Workshop in Imaginative Writing (Subtitle required) *taken twice under two different subtitles* 6
- submission of a portfolio for evaluation by the Imaginative Writing staff six weeks prior to graduation

Minor in Creative Writing

The minor in Creative Writing consists of a total of 18 hours, of which at least 9 hours must be at or above the 300 level, distributed as follows:

Minor Requirements

One ENG Historical Survey course:
ENG 241 Survey of British Literature I
ENG 242 Survey of British Literature II
ENG 251 Survey of American Literature I
ENG 252 Survey of American Literature II
ENG 265 Survey of African-American Literature I
ENG 266 Survey of African-American Literature II 3

ENG 207 Beginning Workshop in Imaginative Writing (Subtitle required) 3

ENG 407 Intermediate Workshop in Imaginative Writing (Subtitle required)
or
ENG 507 Advanced Workshop in Imaginative Writing (Subtitle required) 3

plus one additional Creative Writing course:
ENG 107 Writing Craft: Introduction to Imaginative Writing
ENG 207 Beginning Workshop in Imaginative Writing (Subtitle required)
ENG 407 Intermediate Workshop in Imaginative Writing (Subtitle required)

ENG 507 Advanced Workshop in Imaginative Writing (Subtitle required) 3

Minor Electives

Two non-Creative Writing ENG courses 6

Minor in English

The minor in English requires 19 hours of course work to include:

Any one ENG Historical Survey course:
ENG 241 Survey of British Literature I 3
ENG 242 Survey of British Literature II 3
ENG 251 Survey of American Literature I 3
ENG 252 Survey of American Literature II 3
ENG 265 Survey of African-American Literature I 3
ENG 266 Survey of African-American Literature II 3

One core course:
ENG 330 Text and Context (Subtitle required) 3

Four more ENG courses, with a maximum of one 100-level course and a minimum of two 300+ level courses 12

Combinations may include:

1. any one 100-level ENG course plus one 200-level ENG introductory course (e.g. ENG 230, ENG 260, ENG 280, ENG 290) or a 300+ level ENG course, plus any two ENG courses at the 300+ level;
   or
2. any two 200-level ENG introductory courses, plus any two ENG courses at the 300+ level;
   or
3. any one 200-level ENG introductory course, plus any three ENG courses at the 300+ level;
   or
4. any four ENG courses at the 300+ level.

ENVIRONMENTAL AND SUSTAINABILITY STUDIES

The Environmental and Sustainability Studies B.A. degree educates students in a broad range of fundamental environmental studies subjects with concepts of sustainability integrated throughout the curriculum. The course work requirements consist of 18 credits of core courses and 24 credits of electives organized in the Areas of Economics, Environment, and Society. In order to ensure depth of knowledge and expertise 15 credits of courses will be taken within one Area. To provide breadth of knowledge, six credits of courses will be taken in a second Area and three credits of courses in the third Area. The Areas were selected in recognition that any type of sustainable activity, resource, or product must balance economic, environmental, and social considerations. In the Environmental and Sustainability Studies program, students will combine the fundamental knowledge they obtain in the three Areas to develop an understanding of sustainability and how sustainable practices can be implemented in their eventual careers. The ENS B.A. is an ideal double major for other disciplinary degrees.

Bachelor of Arts with a major in ENVIRONMENTAL AND SUSTAINABILITY STUDIES

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the major requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Recommended:
ECO 101 Contemporary Economic Issues 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

ENS 400 Senior Seminar (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science *(completed by Major Requirements)*
  b. Social Science *(completed by Major Requirements)*
  c. Humanities 6
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **13-27**

Required Core Courses — Hours

ENS 201 Environmental and Sustainability Studies I: Humanities and Social Sciences 3
ENS 202 Environmental and Sustainability Studies II: Natural Science and Policy 3
ENG 425 Environmental Writing 3
ENS 300 Special Topics (Subtitle required) 3
PHI 336 Environmental Ethics 3
ENS 400 Senior Seminar (Subtitle required) 3

Required Core Courses hours: **18**

AREAS OF EXPERTISE

Students must take five courses (15 credits) in one Area of Expertise, two in another Area (6 credits), and one in a third Area (3 credits)

Area 1 – Economics

A sustainable balance must be made between economic gain and protection of natural resources. Governments must determine policy and institute laws to provide the necessary protection of natural resources, and provide the guidelines for any development. This Area will provide the students with training in the interconnectedness of economics, policy and development. The students will have the freedom to select clusters of courses suited to their career goals. For example, students anticipating careers in business may select courses related to economics and those planning to go to Law School may focus on policy courses.

AEC 303 Microeconomic Concepts in Agricultural Economics 3
AEC 324 Agricultural Law 3
AEC 326 Principles of Environmental Law 3
AEC 445G Introduction to Resource and Environmental Economics 3
AEC/ECO 479 Public Economics 3
AEC 483 Regional Economics 3
AEC 532 Agriculture and Food Policy 3
AEC/NRE 545 Resource and Environmental Economics 3
ANT 225 Culture, Environment and Global Issues 3
ANT 311 Anthropology of Globalization 3
ANT 322 Ancient Mexican Civilizations 3
ANT 338 Economic Anthropology 3
ANT 340 Development and Change in the Third World 3
ANT 375 Ecology and Social Practice 3
ANT 470G Regional American Ethnography 3
ANT 532 Anthropology of the State 3
ANT 543 Cultural Resource Management 3
*ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
ECO 401 Intermediate Microeconomic Theory 3
ECO 410 Current Issues in Economics (Subtitle required) 3
ECO 473G Economic Development 3
ENS 395 Independent Work 3
FOR 280 Forest Policy 2
FOR 325 Economic Botany: Plants and Human Affairs 3
GEO 231 Environment and Development 3
GEO 235 Environmental Management and Policy 3
GEO 255 Geography of the Global Economy 3
GEO 260 Geographies of Development in the Global South 3
GEO 321 Land, People, and Development in Appalachia 3
GEO 442G Political Geography 3
GEO 455 Globalization and the Changing World Economy 3
GEO 550 Sustainable Resource Development and Environmental Management 3
NRE 201 Natural Resources and Environmental Science 3
NRE 381 Natural Resource and Environmental Policy Analysis 3
STA 210 Statistics: A Force in Human Judgment 3
STA 291 Statistical Methods 3
STA 320 Introductory Probability 3

**ECO 201 is required for Area 1.*

Area 2 – Environment

This area will build upon the fundamental natural science knowledge obtained in ENS 202 and the subjects taken to fulfill the A&S requirements. Students will be able to select from courses spanning a wide range of environmental subjects in order to focus on a subject of their specific interest. For example, this Area could be used to observe how societies have influenced the natural world from historic to modern times, the impact of development on ecology, and how climate change today compares to changes that occurred in the past.

ANT 240 Introduction to Archeology 3
ANT 241 Origins of Old World Civilization 3
ANT 242 Origins of New World Civilization 3
ANT 351 Special Topics in Archaeology (Subtitle required) 3
BIO 303 Introduction to Evolution 4
BIO 325 Ecology 4
BIO 375 Behavioral Ecology and Sociobiology 3
BIO 452G Laboratory in Ecology 2
CE 555 Microbial Aspects of Environmental Engineering 3
CHE 565 Environmental Chemistry 3
CPH 201 Introduction to Public Health 3
CPH 320 Fundamentals of Environmental Health 3
CPH 365 Special Topics in Public Health (Subtitle required) 3
EGR 240 Global Energy Issues 3
ENG 401 Special Topics in Writing (Subtitle required) 3
ENG 425 Environmental Writing 3
ENS 395 Independent Work 3
FOR 219 Dendrology 4
FOR 230 Conservation Biology 3
FOR 240 Forestry and Natural Resource Ethics 2
FOR 599 Independent Work in Forestry 1-3
GEO 231 Environment and Development 3
GEO 235 Environmental Management and Policy 3
GEO 322 Geography of Kentucky 3
GEO 331 Global Environmental Change 3
GEO 351 Physical Landscapes 3
GEO 431 Political Ecology 3
GEO/BIO 530 Biogeography and Conservation 3
GEO 531 Landscape Ecology 3
GEO 550 Sustainable Resource Development and Environmental Management 3
EES 220 Principles of Physical Geology 4
PHI 300 Special Topics in Philosophy (Subtitle required) 1-3

EES 341 Landforms
or
ANT 342 North American Archaeology 3

EES 360 Mineralogy 4
EES 385 Hydrology and Water Resources 3

Area 3 – Society

This Area explores the way that human society interacts with the environment. "Coupled human-natural systems" are a primary driver of environmental change, and also a key source of solutions to environmental problems. This Area will build students' knowledge of the mutually influencing human-environment dynamic.

ANT 221 Native People of North America 3
ANT 225 Culture, Environment and Global Issues 3
ANT 245 Food Culture and Society 3
ANT 303 Topics in the Anthropology of Food and Nutrition (Subtitle required) 3
ANT 311 Anthropology of Globalization 3
ANT/AAS 326 People and Cultures of Sub-Saharan Africa 3
ANT 340 Development and Change in the Third World 3
ANT 342 North American Archaeology 3
ANT 375 Ecology and Social Practice 3
ANT 470G Regional American Ethnography 3
ANT 525 Applied Anthropology 3
ANT 545 Historical Archaeology 3
ANT 555 Eastern North American Archaeology 3
ARC 314 History and Theory III: 20th Century and Contemporary Architecture 3
ARC 315 World Architecture and Urbanism 3
ENG 339 Author Studies (Subtitle required) 3
ENG 401 Special Topics in Writing (Subtitle required) 3
ENS 395 Independent Work 3
GEO 231 Environment and Development 3
GEO 285 Introduction to Planning 3
GEO 321 Land, People, and Development in Appalachia 3
GEO 331 Global Environmental Change 3
GEO 431 Political Ecology 3
GEO 485G Urban Planning and Sustainability 3
HIS 240 History of Kentucky 3
LA 205 History of Landscape Architecture 3
PHI 361 Biology and Society 3
PS 391 Special Topics in Political Science (Subtitle required) 3
SAG 201 Cultural Perspectives on Sustainability 3
SOC 302 Sociological Research Methods 3
SOC/CLD 360 Environmental Sociology 3
SOC 363 Environmental Justice 3
SOC/CLD 380 Globalization: A Cross-Cultural Perspective 3
SOC/CLD 420 Sociology of Communities 3
SOC/CLD 517 Rural Sociology 3
SOC/ANT/CLD 534 Sociology of Appalachia 3

Areas of Expertise hours: 24

From Outside the Major Department

Choose hours outside Environmental and Sustainability Studies at the 300+ level. 200+ level courses used to satisfy College Requirements can also be counted here.

Subtotal: Other Major hours: 6

Electives

Electives should be selected to complete the 120 hours required for graduation.

Subtotal: Electives ..... minimum of 6

Total Minimum Hours Required for Degree 120

FOREIGN LANGUAGE AND INTERNATIONAL ECONOMICS

The Foreign Language and International Economics (FLIE) major combines economics with proficiency in a non-English language and prepares students for a future in government, international relations, law, research, multinational corporations, and local industries who conduct business internationally. Economists are able to interpret and forecast general economic conditions, estimate trends, analyze data, and use economic theory to help their organization operate more efficiently. Combine those skills with the ability to communicate effectively in another language, and opportunities abound.

In the FLIE major, students take a minimum of nine economics courses and seven to ten intermediate and advanced courses in one of the following languages: French, German, Japanese, Russian, or Spanish. Chinese and Arabic are in development.

Bachelor of Arts with a major in FOREIGN LANGUAGE AND INTERNATIONAL ECONOMICS

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
AIS 320 Modern Arabic Literature and Film in Translation
AIS 345 Islamic Mysticism
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840
CHI 331 Introduction to Chinese Culture, 1840 to Present
FR 103 French Cinema
FR 205 The French Graphic Novel
FR 225 French Film Noir
GER 103 Fairy Tales in European Context
GER 105 German Film Today
MCL 100 The World of Language
MCL 135 Vampires: Evolution of a Sexy Monster
MCL 200 Global Literacy
MCL 270 Introduction to Folklore and Mythology
RUS 275 Russian Film
RUS 371 Russian Culture 900-1900
RUS 372 Russian Culture 1900-Present
SPA 371 Latin American Cinema (Subtitle required)
SPA 372 Spanish Cinema (Subtitle required)
or any area course 3

III. Intellectual Inquiry in the Social Sciences
AIS 430 Islam in America
ECO 101 Contemporary Economic Issues
MCL 135 Vampires: Evolution of a Sexy Monster
MCL 270 Introduction to Folklore and Mythology
RUS 370 Russian Folklore (in English)
or any area course 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
AIS 430 Islam in America
SPA 208 U.S. Latino Culture and Politics
or any area course 3

X. Global Dynamics
CHI 331 Introduction to Chinese Culture, 1840 to Present
GER 342 War, Peace, and Terror in Germany and Europe
GER 361 German Cinema
JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present
JPN 351 The Japanese Experience of the Twentieth Century
RUS 370 Russian Folklore (in English)
RUS 371 Russian Culture 900-1900
RUS 372 Russian Culture 1900-Present
or any area course 3

UK Core hours **30**

Graduation Composition and Communication Requirement (GCCR)

MCL/SPA 300 Contact Zones: Cultivating Intercultural Competence 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science 3
b. Social Science 3
c. Humanities 3
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **16-30**

Language Core Requirement

MCL/SPA 300 Contact Zones: Cultivating Intercultural Competence 3

Language Core hours: **3**

Economics Core Requirement

STA 291 Statistical Methods
or
STA 296 Statistical Methods and Motivations 3

ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
ECO 391 Economic and Business Statistics 3
ECO 401 Intermediate Microeconomic Theory 3
ECO 402 Intermediate Macroeconomic Theory 3
ECO 300+ Any 300+ level ECO course 3
plus two of the following:
ECO 471 International Trade 3
ECO 472 International Monetary Economics 3
ECO 473G Economic Development 3

Economics Core hours: **27**

Language Core Requirement: Arabic

AIS 202 Intermediate Modern Standard Arabic 3
AIS 311 Arabic for Business and Media I 3
AIS 312 Arabic for Business and Media II 3
plus at least 12 hours from the following:
AIS 228 Islamic Civilization 3
AIS 301 Colloquial Arabic I 3
AIS 302 Colloquial Arabic II 3
AIS 320 Modern Arabic Literature and Film in Translation 3
AIS 330 Islamic Civilization II 3
AIS 331 Classical Arabic Literature (in English) 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
AIS 345 Islamic Mysticism 3
AIS 410 Theology and Law in Islam 3
AIS 430 Islam in America 3
AIS 435 Topics in Islamic Studies (Subtitle required) 3
AIS 440 Introduction to the Qur'an 3
AIS 442 Arabic Reading I 3
AIS 443 Arabic Reading II 3
ANT 222 Middle East Cultures 3
ANT 331 Anthropology of North Africa 3
GEO 328 Geography of the Middle East and North Africa 3
HIS 549 History of the Middle East: 1920 to the Present 3
HIS 550 Studies in Mid-East History and Politics (Subtitle required) 3
PS 410 Topics in Regional Politics (Subtitle required) 3

Arabic Core hours: **21**

Language Core Requirement: Chinese

CHI 301 Advanced Intermediate Chinese I 3
CHI 302 Advanced Intermediate Chinese II 3
CHI 331 Introduction to Chinese Culture, 1840 to Present 3

plus 12 hours from the following:
CHI 310 Sounds of East Asian Languages 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to Contemporary Chinese Film 3
CHI 322 Self and Society in Chinese Culture 3
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840 3
CHI 345 Introduction to Early Chinese Thought 3
CHI 395 Independent Work in Chinese 1-3
CHI 401 Advanced Chinese I 3
CHI 402 Advanced Chinese II 3
CHI 430 Popular Culture in Modern China 3
CHI 450 Daoism: East and West 3
CHI 511 Literary Chinese 3
CHI 520 Introduction to Chinese Linguistics 3
*A-H 310 Asian Art and Culture (Subtitle required) 3
*HIS 355 Topics in Non-Western History Since 1789 3
HIS 597 Westerners in East Asia, 1839 to the Present 3
HIS 598 China in Revolution, 1895-1976 3
*A&S 300 Special Course (Subtitle required) 3
Other courses as approved by the advisor

Chinese Core hours: **21**

**Subtitle required.*

French Core Requirement

FR 204 Introduction to French and Francophone Studies 3

FR 214 France Today
or
FR 215 Visual Cultures 3

FR 307 French for Business and Economics 3

plus 12 hours from the following:
FR 310 French Phonetics 3
FR 311 Introduction to French Linguistics 3
FR 324 Studies in French Literature (Subtitle required) 3
FR 325 French Cinema (Subtitle required) 3
FR 344 The Literary Text (Subtitle required) 3
FR 350 Francophone Cultures (Subtitle required) 3
FR 410 French in Performance 3
FR 425 Media Studies 3

French Core hours: **21**

Language Core Requirement: German

GER 206 Spoken Communication 3
GER 307 Intermediate German Composition and Conversation I 3
GER 310 German for International Business and Professions 3

plus 12 hours from the following:
GER 308 Intermediate German Composition and Conversation II 3
GER 311 Introduction to German Literature: Themes (Subtitle required) 3
GER 312 Introduction to German Literature: Popular Forms 3
GER 317 History of German Culture 3
GER 319 Contemporary German Literature and Culture 3
GER 342 War, Peace, and Terror in Germany and Europe 3
GER 352 German-Speaking Europe (Subtitle required) 3
GER 361 German Cinema 3
GER 363 Germanic Mythology 3
GER 395 Independent Work in German 1-3
GER 507 Advanced German Composition and Conversation 3
GER 515 Studies in Major Authors 3
GER 516 Studies in Genre 3
GER 550 Multidisciplinary German Studies Seminar (Subtitle required) 3

German Core hours: **21**

Language Core Requirement: Japanese

JPN 302 Advanced Japanese II 3
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present 3
JPN 334 Environment, Society and Economy of Japan 3

plus 12 hours from the following:
A-H 310 Asian Art and Culture (Subtitle required) 3
A-H 311 The Arts As Soft Power: The Japanese Tea Ceremony 3
COM 525 Advanced Issues in Organizational Communication (Subtitle required) 3
GEO 333 Geography of East Asia 3
GEO 365 Special Topics in Regional Geography (Subtitle required) 3
GEO 406 Field Studies in Geography (Subtitle required) 3
GEO/JPN 491G Japanese Landscapes 3
GEO/JPN 551 Japanese Multinational Corporations 3
HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
JPN 283 Japanese Film 3
JPN 320 Introduction to Japanese Culture, Premodern to 1868 3
JPN 351 The Japanese Experience of the Twentieth Century 3
JPN 421G Contemporary Literary and Visual Arts of Japan 3
JPN 520 Japanese Linguistics and Society 3
PS 419G The Governments and Politics of Eastern Asia 3
and/or other related courses with the approval of the major advisor

Japanese Core hours: **21**

Language Core Requirement: Russian

RUS 301 Conversation and Composition I 3
RUS 302 Advanced Intermediate Russian II 3
RUS 372 Russian Culture 1900-Present 3

plus 12 hours from the following:
ANT 329 Cultures and Societies of Eurasia and Eastern Europe: Socialism and Post-Socialist Change 3
ANT 432 Anthropology of Eastern Europe and Russia 3
GEO 329 Geography of the Former Soviet Union 3
HIS 385 History of Russia to 1825 3
HIS 386 History of Russia Since 1825 3
HIS 534 Russia in the 19th Century 3
HIS 535 Russia in the 20th Century 3
HIS 536 Intellectual and Cultural History of Russia to 1800 3
HIS 537 Intellectual and Cultural History of Russia from 1800 to the Present 3
PS 429G Government and Politics in Russia and the Post-Soviet States 3
RUS 275 Russian Film 3
RUS 370 Russian Folklore (in English) 3
RUS 371 Russian Culture 900-1900 3
RUS 410G Russian for Special Purposes (Subtitle required) 3
RUS 525 Russian Literary Studies (Subtitle required) 3
RUS 535 Russian Visual Studies (Subtitle required) 3
RUS 545 Russian Cultural Studies (Subtitle required) 3
RUS 555 Topical Seminar on Russian Studies (Subtitle required) 3

Russian Core hours: **21**

Language Core Requirement: Spanish

SPA 302 Spanish for Business Professionals 3
SPA 323 Introduction to Spanish Translation 3
SPA 332 Spanish and Latin American Business Environments 3
SPA 420 Spanish in the World 3

plus 9 hours from the following:
SPA 312 Civilization of Spain 3
SPA 314 Civilization of Spanish America 3
SPA 423 Advanced Spanish Translation 3
SPA 480 Hispanic Kentucky 3
Any 400+ level SPA course 3

Spanish Core hours: **21**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation.

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement*

Bachelor of Science with a major in FOREIGN LANGUAGE AND INTERNATIONAL ECONOMICS

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. **Please note**: courses with a FR, GER, JPN, RUS, SPA or ECO prefix are generally ***not*** accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
AIS 320 Modern Arabic Literature and Film in Translation
AIS 345 Islamic Mysticism
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840
CHI 331 Introduction to Chinese Culture, 1840 to Present
FR 103 French Cinema
FR 205 The French Graphic Novel
FR 225 French Film Noir
GER 103 Fairy Tales in European Context
GER 105 German Film Today
MCL 100 The World of Language
MCL 135 Vampires: Evolution of a Sexy Monster
MCL 200 Global Literacy
MCL 270 Introduction to Folklore and Mythology
RUS 275 Russian Film
RUS 371 Russian Culture 900-1900
RUS 372 Russian Culture 1900-Present
SPA 371 Latin American Cinema (Subtitle required)
SPA 372 Spanish Cinema (Subtitle required)
or any area course 3

III. Intellectual Inquiry in the Social Sciences
AIS 430 Islam in America
ECO 101 Contemporary Economic Issues
MCL 135 Vampires: Evolution of a Sexy Monster
MCL 270 Introduction to Folklore and Mythology
RUS 370 Russian Folklore (in English)
or any area course 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
AIS 430 Islam in America
SPA 208 U.S. Latino Culture and Politics
or any area course 3

X. Global Dynamics
CHI 331 Introduction to Chinese Culture, 1840 to Present
GER 342 War, Peace, and Terror in Germany and Europe
GER 361 German Cinema
JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present
JPN 351 The Japanese Experience of the Twentieth Century
RUS 370 Russian Folklore (in English)
RUS 371 Russian Culture 900-1900
RUS 372 Russian Culture 1900-Present
or any area course 3

UK Core hours **30**

Graduation Composition and Communication Requirement (GCCR)

MCL/SPA 300 Contact Zones: Cultivating Intercultural Competence 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science 3
b. Social Science 3
c. Humanities 3
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **16-30**

Language Core Requirement

MCL/SPA 300 Contact Zones: Cultivating Intercultural Competence 3

Language Core hours: **3**

Economics Core Requirement

STA 291 Statistical Methods
or
STA 291 Statistical Methods and Motivations 3

ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
ECO 391 Economic and Business Statistics 3
ECO 401 Intermediate Microeconomic Theory 3
ECO 402 Intermediate Macroeconomic Theory 3
ECO 300+ Any 300+ level ECO course 3

plus two of the following:
ECO 471 International Trade 3
ECO 472 International Monetary Economics 3
ECO 473G Economic Development 3

Economics Core hours: **27**

Language Core Requirement: Arabic

AIS 202 Intermediate Modern Standard Arabic 3
AIS 311 Arabic for Business and Media I 3
AIS 312 Arabic for Business and Media II 3

plus at least 12 hours from the following:
AIS 228 Islamic Civilization 3
AIS 301 Colloquial Arabic I 3
AIS 302 Colloquial Arabic II 3
AIS 320 Modern Arabic Literature and Film in Translation 3
AIS 330 Islamic Civilization II 3
AIS 331 Classical Arabic Literature (in English) 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
AIS 345 Islamic Mysticism 3
AIS 410 Theology and Law in Islam 3
AIS 430 Islam in America 3
AIS 435 Topics in Islamic Studies (Subtitle required) 3
AIS 440 Introduction to the Qur'an 3
AIS 442 Arabic Reading I 3
AIS 443 Arabic Reading II 3
ANT 222 Middle East Cultures 3
ANT 331 Anthropology of North Africa 3
GEO 328 Geography of the Middle East and North Africa 3
HIS 549 History of the Middle East: 1920 to the Present 3
HIS 550 Studies in Mid-East History and Politics (Subtitle required) 3
PS 410 Topics in Regional Politics (Subtitle required) 3

Arabic Core hours: **21**

Language Core Requirement: Chinese

CHI 301 Advanced Intermediate Chinese I 3
CHI 302 Advanced Intermediate Chinese II 3
CHI 331 Introduction to Chinese Culture, 1840 to Present 3

plus 12 hours from the following:
CHI 310 Sounds of East Asian Languages 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to Contemporary Chinese Film 3
CHI 322 Self and Society in Chinese Culture 3
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840 3
CHI 345 Introduction to Early Chinese Thought 3
CHI 395 Independent Work in Chinese 1-3
CHI 401 Advanced Chinese I 3
CHI 402 Advanced Chinese II 3
CHI 430 Popular Culture in Modern China 3
CHI 450 Daoism: East and West 3
CHI 511 Literary Chinese 3
CHI 520 Introduction to Chinese Linguistics 3
*A-H 310 Asian Art and Culture (Subtitle required) 3
*HIS 355 Topics in Non-Western History Since 1789 3
HIS 597 Westerners in East Asia, 1839 to the Present 3
HIS 598 China in Revolution, 1895-1976 3
*A&S 300 Special Course (Subtitle required) 3
Other courses as approved by the advisor

Chinese Core hours: 21

**Subtitle required.*

Language Core Requirement: French

FR 204 Introduction to French and Francophone Studies 3

FR 214 France Today
or
FR 215 Visual Cultures 3

FR 307 French for Business and Economics 3

plus 12 hours from the following:
FR 310 French Phonetics 3
FR 311 Introduction to French Linguistics 3
FR 324 Studies in French Literature (Subtitle required) 3
FR 325 French Cinema (Subtitle required) 3
FR 344 The Literary Text (Subtitle required) 3
FR 350 Francophone Cultures (Subtitle required) 3
FR 410 French in Performance 3
FR 425 Media Studies 3

French Core hours: 21

Language Core Requirement: German

GER 206 Spoken Communication 3
GER 307 Intermediate German Composition and Conversation I 3
GER 310 German for International Business and Professions 3

plus 12 hours from the following:
GER 308 Intermediate German Composition and Conversation II 3
GER 311 Introduction to German Literature: Themes (Subtitle required) 3
GER 312 Introduction to German Literature: Popular Forms 3
GER 317 History of German Culture 3
GER 319 Contemporary German Literature and Culture 3
GER 342 War, Peace, and Terror in Germany and Europe 3
GER 352 German-Speaking Europe (Subtitle required) 3
GER 361 German Cinema 3
GER 363 Germanic Mythology 3
GER 395 Independent Work in German 1-3
GER 507 Advanced German Composition and Conversation 3
GER 515 Studies in Major Authors 3
GER 516 Studies in Genre 3
GER 550 Multidisciplinary German Studies Seminar (Subtitle required) 3

German Core hours: 21

Language Core Requirement: Japanese

JPN 302 Advanced Japanese II 3
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present 3
JPN 334 Environment, Society and Economy of Japan 3

plus 12 hours from the following:
A-H 310 Asian Art and Culture (Subtitle required) 3
A-H 311 The Arts As Soft Power: The Japanese Tea Ceremony 3
COM 525 Advanced Issues in Organizational Communication (Subtitle required) 3
GEO 333 Geography of East Asia 3
GEO 365 Special Topics in Regional Geography (Subtitle required) 3
GEO 406 Field Studies in Geography (Subtitle required) 3
GEO/JPN 491G Japanese Landscapes 3
GEO/JPN 551 Japanese Multinational Corporations 3
HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
JPN 283 Japanese Film 3
JPN 320 Introduction to Japanese Culture, Premodern to 1868 3
JPN 351 The Japanese Experience of the Twentieth Century 3
JPN 421G Contemporary Literary and Visual Arts of Japan 3
JPN 520 Japanese Linguistics and Society 3
PS 419G The Governments and Politics of Eastern Asia 3
and/or other related courses with the approval of the major advisor

Japanese Core hours: 21

Language Core Requirement: Russian

RUS 301 Conversation and Composition I 3
RUS 302 Advanced Intermediate Russian II 3
RUS 372 Russian Culture 1900-Present 3

plus 12 hours from the following:
ANT 329 Cultures and Societies of Eurasia and Eastern Europe: Socialism and Post-Socialist Change 3
ANT 432 Anthropology of Eastern Europe and Russia 3
GEO 329 Geography of the Former Soviet Union 3
HIS 385 History of Russia to 1825 3
HIS 386 History of Russia Since 1825 3
HIS 534 Russia in the 19th Century 3
HIS 535 Russia in the 20th Century 3
HIS 536 Intellectual and Cultural History of Russia to 1800 3
HIS 537 Intellectual and Cultural History of Russia from 1800 to the Present 3
PS 429G Government and Politics in Russia and the Post-Soviet States 3
RUS 275 Russian Film 3
RUS 370 Russian Folklore (in English) 3
RUS 371 Russian Culture 900-1900 3
RUS 410G Russian for Special Purposes (Subtitle required) 3
RUS 525 Russian Literary Studies (Subtitle required) 3
RUS 535 Russian Visual Studies (Subtitle required) 3
RUS 545 Russian Cultural Studies (Subtitle required) 3
RUS 555 Topical Seminar on Russian Studies (Subtitle required) 3

Russian Core hours: 21

Language Core Requirement: Spanish

SPA 302 Spanish for Business Professionals 3
SPA 323 Introduction to Spanish Translation 3
SPA 332 Spanish and Latin American Business Environments 3
SPA 420 Spanish in the World 3

plus 9 hours from the following:
SPA 312 Civilization of Spain 3
SPA 314 Civilization of Spanish America 3
SPA 423 Advanced Spanish Translation 3
SPA 480 Hispanic Kentucky 3
Any 400+ level SPA course 3

Spanish Core hours: 21

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation.

Total Minimum Hours Required for Degree 120

**Course used towards completion of a UK Core Requirement*

GENDER AND WOMEN'S STUDIES

The Department in Gender and Women's Studies offers an interdisciplinary curriculum which focuses on the study of gender as an aspect of everyday life, as well as on the political and cultural experiences and contributions of women across the world and through time. Majors in GWS have gone on to become artists, activists, to study law, medicine, social work, and to pursue academic careers.

Bachelor of Arts with a major in
GENDER AND WOMEN'S STUDIES

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

GWS 599 Senior Seminar: Subtitle required 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science 6
  c. Humanities 3
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **22-36**

Premajor Requirements

*GWS 200 Sex and Power 3
*GWS 201 Gender and Popular Culture 3

Premajor hours: **6**

Major Requirements

Core Courses
GWS 250 Social Movements
or
GWS 340 History of Feminist Thought to 1975 3
GWS 350 Introduction to Feminist Theorizing 3
GWS 400 Doing Feminist Research 3
GWS 599 Senior Seminar 3

Core hours: **12**

Elective Courses

Choose five 3-credit-hour courses (not to exceed more than 12 hours of GWS courses from the following) from a list of approved electives, including the courses below. Additional non-GWS courses will be approved on a semester-by-semester basis.

*GWS 300 Topics in Gender and Women's Studies (Subtitle required) 3
GWS 301 Crossroads (Subtitle required) 3
GWS 302 Gender Across the World (Subtitle required) 3
GWS 360 LGBTQ History in the United States 3
GWS 395 Undergraduate Research in Gender and Women's Studies 1-3
GWS 399 Internship in Gender and Women's Studies 1-6
GWS 410 Introduction to Queer Theory 3
GWS 430 Gender, Power and Violence 3
GWS 506 History of Sexuality in the U.S. 3
GWS 595 Issues in Gender and Women's Studies (Subtitle required) 3

Elective hours: **15**

Total Major hours: **27**

Other Course Work Required for the Major

Students must complete at least 27 credit hours of the major through upper-division course work (12 credit hours of core courses, 15 credit hours of electives).

From Outside the Major Department
Choose 12 hours outside GWS at the 300+ level. 200+ level courses used to satisfy College requirements can also be counted here.

Other Major hours: **12**

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Minor in Gender and Women's Studies

The minor in Gender and Women's Studies requires 18 hours of course work to include:

GWS 200 Sex and Power
or
GWS 201 Gender and Popular Culture 3

GWS 250 Social Movements
or
GWS 340 History of Feminist Thought to 1975 3

GWS 350 Introduction to Feminist Theorizing 3

Plus an additional 9 hours of electives to be selected with the approval of the Director of Undergraduate Studies in the Department of Gender and Women's Studies.

Courses used for the Gender and Women's Studies topical major, minor or graduate certificate must be taught by a Gender and Women's Studies Affiliated Faculty.

For further information, contact Betty Pasley, Administrative Assistant, Gender and Women's Studies, 112 Breckinridge Hall, (859) 257-1388.

GEOGRAPHY

Geography analyzes and explains the location of and interrelationships between human and physical features of the earth's environment. Geographers also examine how and why features and their locations change over time, with particular interest in the many impacts of these changes on both people and natural settings. Geography is, therefore, both a social and a physical science. Because its fundamental subject matter is people and their environments, the discipline serves as an effective bridge between the physical and cultural worlds.

Majors in geography build solid academic foundations that draw from and interrelate areas of study from the social and behavioral sciences, humanities, computer science and graphic communication, and the natural sciences. With developed analytical, critical thinking, and communication skills, geography is particularly useful for students wishing to enter such careers as economic development, environmental management, international trade, transportation analysis and planning, diplomacy, government administration from local to federal levels, market analysis, urban and regional planning, research, teaching, cartography, Geographic Information Systems (GIS), and private business.

The Department of Geography has developed detailed major concentration tracks in seven areas: environmental geography, physical geography, urban geography and planning, GIS focus, human geography, international studies, and design your own geography major. For more information, contact the Department of Geography at (859) 257-2931, or on the Web at: **www.uky.edu/AS/Geography/**.

Bachelor of Arts with a major in GEOGRAPHY

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

GEO 499 Senior Research Seminar 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science 6
b. Social Science *(completed by Major Requirements)*
c. Humanities 6
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **19-33**

Major Requirements

Major Core Requirements
GEO 130 Earth's Physical Environment 3
GEO 172 Human Geography 3
GEO 200 Orientation to Geography 3
GEO 406 Field Studies in Geography (Subtitle required) 3
GEO 309 Introduction to GIS 3
GEO 499 Senior Research Seminar 3

Major Core hours: **18**

Methods Requirements
Choose one methods course from the following options:
GEO 305 Elements of Cartography 3
GEO 310 Quantitative Techniques in Geography 3
GEO 311 Qualitative Methods in Geography 3
GEO 409 Advanced GIS 3

Methods hours: **3**

Other Course Work Required for the Major

Geography Tracks 18
Choose at least 18 hours of additional geography courses to include: no more than 3 hours of 100-level courses; no more than 6 hours of GEO 560 and GEO 399; a minimum of 3 hours of 400+ level courses (not including GEO 409, 406, or 499). The following focus areas represent specializations within Geography and are provided as guidelines. Most students will find it useful to concentrate their 18 hours within these focus areas, but this is not a requirement. On completion of 15 hours within any focus area, the Geography Department will award a certificate of completion of studies in the area of specialization. Consult with your advisor in making selections of courses.

GEOGRAPHY TRACKS

Environmental Geography Option

Suggested Courses:
GEO 135 Global Climate Change 3
GEO 162 Introduction to Global Environmental Issues 3
GEO 231 Environment and Development 3
GEO 235 Environmental Management and Policy 3
GEO 261 Global Dynamics of Health and Disease 3
GEO 321 Land, People, and Development in Appalachia 3
GEO 331 Global Environmental Change 3
GEO 334 Environment, Society and Economy of Japan 3
GEO 431 Political Ecology 3
GEO 530 Biogeography and Conservation 3
GEO 531 Landscape Ecology 3

Physical Geography Option

Suggested Courses:
GEO 135 Global Climate Change 3
GEO 130 Earth's Physical Environment 3
GEO 230 Weather and Climate 3
GEO 235 Environmental Management and Policy 3
GEO 351 Physical Landscapes 3
GEO 451G Fluvial Forms and Processes 3
GEO 530 Biogeography and Conservation 3
GEO 531 Landscape Ecology 3

Urban Geography and Planning Option

Suggested Courses:
GEO 220 U.S. Cities 3
GEO 285 Introduction to Planning 3
GEO 485G Urban Planning and Sustainability 3
GEO 235 Environmental Management and Policy 3
GEO 309 Introduction to GIS 3
GEO 310 Quantitative Techniques in Geography 3
GEO 415 Map Interpretation 3
GEO 422 Urban Geography 3
GEO 455 Globalization and the Changing World Economy 3
GEO 490G American Landscapes 3
GEO 544 Human Population Dynamics 3
GEO 545 Transportation Geography 3

GIS Focus

Suggested Courses:
GEO 109 Digital Mapping 3
GEO 164 iWorlds: Global Information Geographies 3
GEO 409 Advanced GIS 3
GEO 509 Workshop in Geospatial Technologies 3
GEO 419 Introduction to Remote Sensing 3
GEO 305 Elements of Cartography 3
GEO 506 Introduction to Computer Cartography 3
GEO 505 Practicum in Cartography 3
GEO 310 Quantitative Techniques in Geography 3
GEO 415 Map Interpretation 3
GEO 365 Special Topics in Geography (Subtitle required) 3

Human Geography Option

Suggested Courses:
GEO 161 Global Inequalities 3
GEO 240 Geography and Gender 3
GEO 260 Geographies of Development in the Global South 3
GEO 422 Urban Geography 3
GEO 442G Political Geography 3
GEO 455 Globalization and the Changing World Economy 3
GEO 475G Medical Geography 3
GEO 490G American Landscapes 3
GEO 544 Human Population Dynamics 3
GEO 545 Transportation Geography 3
GEO 546 Tourism and Recreation Geography 3

International Studies Option

Suggested Courses:
GEO 163 Global Conflicts 3
GEO 221 Immigrant America: A Geographic Perspective 3
GEO 222 Cities of the World 3
GEO 255 Geography of the Global Economy 3
GEO 326 Geography of Europe 3
GEO 328 Geography of the Middle East and North Africa 3
GEO 329 Geography of the Former Soviet Union 3
GEO 331 Global Environmental Change 3
GEO 334 Environment, Society and Economy of Japan 3
GEO 546 Tourism and Recreation Geography 3

Design Your Own Geography Major Option

Any Geography courses fulfilling the requirements for the major.

Major hours: **39**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 4

Total Minimum Hours Required for Degree **120**

Bachelor of Science with a major in GEOGRAPHY

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: courses with a GEO prefix are generally not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

GEO 499 Senior Research Seminar 3

Graduation Composition and Communication Requirement hours (GCCR) 3

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science 3
b. Social Science *(completed by Major Requirement)*
c. Humanities 3
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: 13-27

Major Requirements

Major Core Requirements

GEO 130 Earth's Physical Environment 3
GEO 172 Human Geography 3
GEO 200 Orientation to Geography 3
GEO 406 Field Studies in Geography (Subtitle required) 3
GEO 309 Introduction to GIS 3
GEO 499 Senior Research Seminar 3

Major Core hours: 18

Methods Requirements

Choose one methods course from the following options:

GEO 305 Elements of Cartography 3
GEO 310 Quantitative Techniques in Geography 3
GEO 311 Qualitative Methods in Geography 3
GEO 409 Advanced GIS 3

Methods hours: 3

Other Course Work Required for the Major

Geography Tracks 18

Choose at least 18 hours of additional geography courses to include: no more than 3 hours of 100-level courses; no more than 6 hours of GEO 560 and GEO 399; a minimum of 3 hours of 400+ level courses (not including GEO 409, 406, or 499). The following focus areas represent specializations within Geography and are provided as guidelines. Most students will find it useful to concentrate their 18 hours within these focus areas, but this is not a requirement. On completion of 15 hours within any focus area, the Geography Department will award a certificate of completion of studies in the area of specialization. Consult with your advisor in making selections of courses.

GEOGRAPHY TRACKS

Environmental Geography Option

Suggested Courses:

GEO 135 Global Climate Change 3
GEO 162 Introduction to Global Environmental Issues 3
GEO 231 Environment and Development 3
GEO 235 Environmental Management and Policy 3
GEO 261 Global Dynamics of Health and Disease 3
GEO 321 Land, People, and Development in Appalachia 3
GEO 331 Global Environmental Change 3
GEO 334 Environment, Society and Economy of Japan 3
GEO 431 Political Ecology 3
GEO 530 Biogeography and Conservation 3
GEO 531 Landscape Ecology 3

Physical Geography Option

Suggested Courses:

GEO 135 Global Climate Change 3
GEO 130 Earth's Physical Environment 3
GEO 230 Weather and Climate 3
GEO 235 Environmental Management and Policy 3
GEO 351 Physical Landscapes 3
GEO 451G Fluvial Forms and Processes 3
GEO 530 Biogeography and Conservation 3
GEO 531 Landscape Ecology 3

Urban Geography and Planning Option

Suggested Courses:

GEO 220 U.S. Cities 3
GEO 285 Introduction to Planning 3
GEO 485G Urban Planning and Sustainability 3
GEO 235 Environmental Management and Policy 3
GEO 309 Introduction to GIS 3
GEO 310 Quantitative Techniques in Geography 3
GEO 415 Map Interpretation 3
GEO 422 Urban Geography 3
GEO 455 Globalization and the Changing World Economy 3
GEO 490G American Landscapes 3
GEO 544 Human Population Dynamics 3
GEO 545 Transportation Geography 3

GIS Focus

Suggested Courses:

GEO 109 Digital Mapping 3
GEO 164 iWorlds: Global Information Geographies 3
GEO 409 Advanced GIS 3
GEO 509 Workshop in Geospatial Technologies 3
GEO 419 Introduction to Remote Sensing 3
GEO 305 Elements of Cartography 3
GEO 506 Introduction to Computer Cartography 3
GEO 505 Practicum in Cartography 3
GEO 310 Quantitative Techniques in Geography 3
GEO 415 Map Interpretation 3
GEO 365 Special Topics in Geography (Subtitle required) 3

Human Geography Option

Suggested Courses:

GEO 161 Global Inequalities 3
GEO 240 Geography and Gender 3
GEO 260 Geographies of Development in the Global South 3
GEO 422 Urban Geography 3
GEO 442G Political Geography 3
GEO 455 Globalization and the Changing World Economy 3
GEO 475G Medical Geography 3
GEO 490G American Landscapes 3
GEO 544 Human Population Dynamics 3
GEO 545 Transportation Geography 3
GEO 546 Tourism and Recreation Geography 3

International Studies Option

Suggested Courses:

GEO 163 Global Conflicts 3
GEO 221 Immigrant America: A Geographic Perspective 3
GEO 222 Cities of the World 3
GEO 255 Geography of the Global Economy 3
GEO 326 Geography of Europe 3
GEO 328 Geography of the Middle East and North Africa 3
GEO 329 Geography of the Former Soviet Union 3
GEO 331 Global Environmental Change 3
GEO 334 Environment, Society and Economy of Japan 3
GEO 546 Tourism and Recreation Geography 3

Design Your Own Geography Major Option

Any Geography courses fulfilling the requirements for the major.

Major hours: 39

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 4

Total Minimum Hours Required for Degree 120

Minor in Geography

The minor in Geography requires a minimum of 18 hours, 15 of which must be in courses at the 200+ level, taken within the department as follows:

The courses below are *suggested* courses; all GEO courses count toward the minor.

K-12 Teaching and Administration

Take 6 for 18 credit hours:
GEO 172 Human Geography 3
GEO 130 Earth's Physical Environment 3
GEO 200 Orientation to Geography 3

GEO 220 U.S. Cities
or
GEO 222 Cities of the World 3

GEO 320-365 Regional Geography Courses 3
GEO 452G World Geography for Teachers 3
GEO 430G Physical Geography for Teachers 3

Geosciences

Take 6 for 18 credit hours:
GEO 130 Earth's Physical Environment 3
GEO 230 Weather and Climate 3
GEO 331 Global Environmental Change 3
GEO 351 Physical Landscapes 3
GEO 451G Fluvial Forms and Processes 3
GEO 530 Biogeography and Conservation 3
GEO 531 Landscape Ecology 3

Social Sciences and Humanities

Take 6 for 18 credit hours:
one of the following:
GEO 160 Lands and Peoples of the Non-Western World
GEO 161 Global Inequalities
GEO 162 Introduction to Global Environmental Issues
GEO 163 Global Conflicts 3

plus:
GEO 172 Human Geography 3
GEO 221 Immigrant America: A Geographic Perspective 3
GEO 240 Geography and Gender 3
GEO 320-GEO 336 Regional Geography Courses
GEO 422 Urban Geography 3
GEO 442G Political Geography 3
GEO 470G America's Cultural Geographies 3

Environmental Studies

Take 6 for 18 credit hours:
GEO 162 Introduction to Global Environmental Issues 3
GEO 130 Earth's Physical Environment 3

GEO 230 Weather and Climate
or
GEO 331 Global Environmental Change 3

GEO 231 Environment and Development 3

GEO 235 Environmental Management and Policy 3
GEO 351 Physical Landscapes 3
GEO 431 Political Ecology 3
GEO 530 Biogeography and Conservation 3
GEO 531 Landscape Ecology 3
GEO 546 Tourism and Recreation Geography 3
GEO 550 Sustainable Resource Development and Environmental Management 3
GEO 585 Aging and Environment 3

Economic Geography

Take 6 for 18 credit hours:
GEO 161 Global Inequalities
or
GEO 164 iWorlds: Global Information Geographies 3

GEO 172 Human Geography 3
GEO 255 Geography of the Global Economy 3
GEO 260 Geographies of Development in the Global South 3
GEO 320-365 Regional Geography Courses 3
GEO 455 Globalization and the Changing World Economy 3
GEO 545 Transportation Geography 3
GEO 546 Tourism and Recreational Geography 3
GEO 551 Japanese Multinational Corporations 3

Medical and Health Geography

Take 6 for 18 credit hours:
GEO 172 Human Geography 3
GEO 261 Global Dynamics of Health and Disease 3
GEO 309 Introduction to GIS 3
GEO 320-365 Regional Geography Courses 3
GEO 422 Urban Geography 3
GEO 475G Medical Geography 3
GEO 585 Aging and Environment 3

Urban Planning and Urban Studies

Take 6 for 18 credit hours:
GEO 161 Global Inequalities
or
GEO 164 iWorlds: Global Information Geographies 3

GEO 172 Human Geography 3
GEO 220 U.S. Cities 3
GEO 222 Cities of the World 3
GEO 235 Environmental Management and Policy 3
GEO 285 Introduction to Planning 3
GEO 309 Introduction to GIS 3
GEO 422 Urban Geography 3
GEO 455 Globalization and the Changing World Economy 3
GEO 485G Urban Planning and Sustainability 3
GEO 550 Sustainable Resource Development and Environmental Management 3

Minor in Mapping and GIS

The minor in Mapping and GIS requires 18 hours as follows:

Introduction to Digital Mapping (3 hours)
GEO 109 Digital Mapping
or
GEO 164 iWorlds: Global Information Geographies 3

GIS Theories and Methods (6 hours)
GEO 309 Introduction to GIS 3
GEO 409 Advanced GIS 3

GIS Design and Application (9 hours)
Complete three of the following:
GEO 305 Elements of Cartography 3
*GEO 399 Internship in Geography 3
GEO 415 Map Interpretation 3
GEO 419 Introduction to Remote Sensing 3
GEO 505 Practicum in Cartography 3
GEO 506 Introduction to Computer Cartography 3
GEO 509 Workshop in Geospatial Technologies 3
*GEO 560 Independent Work in Geography 3
*GEO 565 Topics in Geography 3

**With approval of DUS for GIS/Mapping related internships or independent study.*

Geography majors can also minor in Mapping and GIS, but no more than 6 credits can be used to cover both major and minor requirements.

HEALTH, SOCIETY, AND POPULATIONS

The undergraduate program in Health, Society, and Populations (HSP) focuses on understanding health outcomes and their unequal distribution as a product of multiple interacting influences, including health care, behaviors, environmental conditions, genetic and biological factors, and social and cultural characteristics of groups and individuals. The B.A. in HSP provides graduates with a broad liberal-arts education in addition to a concentration on social science based approaches to population health. Students may further specialize in three areas: Global Health, Health Ecologies, and Social Inequalities in Health and Illness. HSP students will obtain fundamental knowledge of the complex relationship that exists among the global economy, societal problems and needs, and the distribution of health and illness, in addition to providing students the opportunity to develop critical thinking, communication, and independent study skills necessary for many entry-level career opportunities in city, state and federal government, nonprofit organizations and in the public and private health sectors.

Bachelor of Arts with a major in HEALTH, SOCIETY, AND POPULATIONS

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Recommended:
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Recommended – one of the following:
MA 111 Introduction to Contemporary Mathematics .. 3
MA 113 Calculus I 4
MA 123 Elementary Calculus and Its Applications 4
MA 137 Calculus I with Life Science Applications 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30-32**

Graduation Composition and Communication Requirement (GCCR)

HSP 499 Health, Society and Populations Capstone (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language
(placement test recommended) 6-14
II. Disciplinary Requirements
a. Natural Science
(may be satisfied by major requirements) 0-6
b. Social Science
(may be satisfied by major requirements) 0-6
c. Humanities 6
III. Laboratory or Field Work
(PSY 100 recommended) 1-3
IV. Electives 6

College Requirement hours: **19-29**

Major Requirements — Hours

Major courses that also fulfill the A&S College requirements are marked with "*"; major courses that also fulfill UK Core areas are marked with "†". 24 credit hours within the major must be at the 300+ level.

Statistics

Choose one of the following (3 hours):
STA 296 Statistical Methods and Motivations 3
*SOC 303 Quantitative Social Analysis 3
*GEO 309 Introduction to GIS 3

Math

Choose one of the following (3-4 hours):
MA 109 College Algebra 3
†MA 111 Introduction to Contemporary Mathematics 3
†MA 113 Calculus I 4
†MA 123 Elementary Calculus and Its Applications 4
†MA 137 Calculus I with Life Science Applications 4
MA 111, 113, 123, 137 recommended.

Writing
(3 hours):

WRD 205 Writing and Rhetoric (Subtitle required)
see HSP advisor for appropriate subtitles 3

Science
Choose one BIO course and one from any of the remaining science electives (6 hours):

ANA 109 Anatomy and Physiology for Nursing I 4
ANA 110 Anatomy and Physiology for Nursing II 4
*ANA 209 Principles of Human Anatomy 3
*†BIO 102 Human Ecology 3
*†BIO 103 Basic Ideas of Biology 3
*BIO 148 Introductory Biology I 3
*BIO 208 Principles of Microbiology 3
*CHE 104 Introductory General Chemistry 3
*CHE 108 Introduction to Inorganic, Organic, and Biochemistry without Laboratory 3
*PGY 206 Elementary Physiology 3

Social Science Approaches to Health
(9 hours):

Required

HSP/SOC 255 Medicine, Health, and Society 3

plus two of the following:

*ANT 429 Survey of Medical Anthropology 3
*GEO 475G Medical Geography 3
*PSY 223 Developmental Psychology 3
SOC 355 Sociology of Health and Illness 3

Topics in Society and Health
(12 hours):

For a total of four additional courses, choose any remaining courses from the *Social Science Approaches to Health* category above, or from the following list. Students must choose courses from at least two different disciplines:

*†ANT 225 Culture, Environment and Global Issues 3
*ANT 251 Global Health: Culture, Pathologies and Social Inequalities 3
*ANT 303 Topics in Anthropology of Food and Nutrition (Subtitle required) 3
*ANT 333 Contemporary Human Variation 3
*†GEO 261 Global Dynamics of Health and Disease 3
*GEO 544 Human Population Dynamics 3
†GRN 250 Aging in Today's World 3
GRN 585 Aging and Environment 3
*^GWS 300 Topics in Gender and Women's Studies (Subtitle required) 3
*HIS 584 Health and Disease in the U.S. 3
*PHI 305 Health Care Ethics 3
*†SOC 235 Inequalities in Society 3
*SOC 340 Community Interaction 3
*†SOC 360 Environmental Sociology 3
*SOC 439 Topics in Crime, Law and Deviance (Subtitle required) 3

^Course is approved only when the subtitle is "Gender, Race and Science."

Health Professions
Choose two from the following (6 hours):

CPH 201 Introduction to Public Health 3
CPH 202 Public Health Through Popular Film 3
CPH 203 Sexual Health 3
CPH 310 Disease Detectives: Epidemiology in Action 3
CPH 320 Fundamentals of Environmental Health 3
CPH 351 Preparing for An Apocalyptic Event: Population Health and Crisis Management 3
CPH 440 Foundations of Health Behavior 3
CPH 450 Managing Health Organizations to Improve Population Health 3
CPH 451G A Sick World: Global Public Health in the Early 21st Century 3
CPH 472 Public Health Professions and Practice 3
HSM 241 Health and Medical Care Delivery Systems 3
KHP 230 Human Health and Wellness 3
KHP 270 Introduction to Health Education and Health Promotion 3
KHP 590 Advanced Health Concepts 3

Capstone
(3 hours):

HSP 499 Health, Society and Populations Capstone (Subtitle required) 3

Major hours: 45-46

Electives
Choose electives to lead to the minimum total of 120 hours required for graduation.

Total Minimum Hours Required for Degree 120

HISPANIC STUDIES

The Department of Hispanic Studies aims to develop students' Spanish language skills, to deepen their understanding of Spanish-speaking cultures and literatures domestically and abroad, to sharpen their critical thinking, and to heighten their awareness of their role as local and global citizens in a pluralistic society. The department offers a major with three specialty options and a minor in Spanish.

Bachelor of Arts with a major in SPANISH

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements
See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: 30

Graduation Composition and Communication Requirement (GCCR)
SPA 323 Introduction to Spanish Translation 3

Graduation Composition and Communication Requirement hours (GCCR) 3

College Requirements
I. Foreign Language *(completed by Premajor Requirement)*
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science 6
  c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: 19

*Premajor Requirements
SPA 210 Spanish Grammar and Syntax
and
SPA 211 Intermediate Spanish Conversation 6
or
SPA 215 Written Spanish for Bilingual Students 3

Premajor hours: 3-6

**The premajor requirements may be fulfilled by AP exam – credit bearing – or departmental placement exam – noncredit bearing.*

Major Requirements
Major Core Requirement

SPA 310 Spanish Composition Through Textual Analysis 3

Major Core hours: 3

Other Course Work Required for the Major
From the Major Department:

Choose 10 300+ level Spanish courses to include at least 4 courses at the 400+ level from any of the 3 available options and that fulfill the requirements for one of the three options listed below 30

From Outside the Major Department

Choose 3 courses outside Spanish (SPA) with any of the following prefixes at the 200+ level that complement the major. Courses used to satisfy College requirements may also count here. Courses with prefixes not listed below must be approved by the Director of Undergraduate Studies 9

A-E – Art Education
A-H – Art History
A-S – Art Studio
AAD – Arts Administration
AAS – African American Studies
AIS – Arabic and Islamic Studies
ANT – Anthropology
APP – Appalachian Studies
ART – Art
BSC – Behavioral Science
CGS – Cognitive Science
CHI – Chinese Culture and Language
CIS – Communications and Information Studies
CLA – Classics
CLD – Community and Leadership Development

CLM – Clinical Leadership and Management
COM – Communication
CSD – Communication Sciences and Disorders
EAP – Education Abroad Program
EDC – Curriculum and Instruction
EDL – School Administration
EDP – Educational and Counseling Psychology
EDS – Special Education
EDU – Education
ELS – Teacher Leadership
ENG – English
EPE – Educational Policy Studies and Evaluation
FA – Fine Arts
FR – French Language and Literature
GEO – Geography
GER – German Studies
GWS – Gender and Women's Studies
HIS – History
HJS – Hebrew and Jewish Studies
HMN – Humanities
HP – Historic Preservation
IAS – Interdisciplinary American Studies
IEC – Interdisciplinary Early Childhood Education
INT – International Studies
IS – Information Studies
ISC – Integrated Strategic Communication
ISP – International Studies Program
ITA – Italian
JAT – Journalism, Advertising, Telecommunications
JOU – Journalism
JPN – Japan Studies
LAS – Latin American Studies
LIN – Linguistics
LIS – Library and Information Science
MAS – Media Arts and Studies
MCL – Modern and Classical Languages
MUC – Class Instruction in Music
MUP – Music Performance
MUS – Music
PA – Public Administration
PS – Political Science
PSY – Psychology
RS – Religious Studies
RUS – Russian
SOC—Sociology
ST – Social Theory
SW – Social Work
TA – Theatre
TSL – Teaching English as a Second Language
WRD – Writing, Rhetoric and Digital Media

Total Major hours: **42**

OPTIONS

Option A – Spanish Language and Linguistics

Required Course

SPA 310 Spanish Composition Through Textual Analysis 3

Specialty Option Courses

Choose 18 credit hours from Language and Linguistics courses:

*SPA 300 Contact Zones: Cultivating Intercultural Competence 3
SPA 302 Spanish for Business Professionals 3
SPA 313 Advanced Spanish Language 3
SPA 323 Introduction to Spanish Translation 3
SPA 332 Spanish and Latin American Business Environments 3
*SPA 397 Independent Work in Spanish 3
*SPA 399 Field Based/ Community Based Education 1-15
*SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 410 Advanced Spanish Grammar 3
SPA 413 Spanish Phonetics 3
SPA 420 Spanish in the World 3
SPA 423 Advanced Spanish Translation 3
SPA 430 Introduction to Spanish Linguistics 3
*SPA 480 Hispanic Kentucky 3
*SPA 497 Hispanic Studies Honors Thesis 3
SPA 501 Spanish Phonetics, Pronunciation and Phonemics 3
SPA 506 Introduction to Comparative Spanish, Portuguese, and Italian Linguistics 3

**These courses must have a focus on language or linguistics.*

Non-specialty Option Courses

Choose 6 credit hours from Literature and Culture courses:

**SPA 300 Contact Zones: Cultivating Intercultural Competence 3
SPA 312 Civilization of Spain 3
SPA 314 Civilization of Spanish America 3
SPA 315 Introduction to Hispanic Literature 3
SPA 320 Literature, Life and Thought of Spain 3
SPA 322 Literature, Life and Thought of Spanish America 3
SPA 324 The Theatre in Spain and Spanish America 3
SPA 350 Hispanic Cities (Subtitle required) 3
SPA 361 Latin American Literature in Translation (Subtitle required) 3
SPA 371 Latin American Cinema (Subtitle required) 3
SPA 372 Spanish Cinema (Subtitle required) 3
**SPA 397 Independent Work in Spanish 3
**SPA 399 Field Based/ Community Based Education 1-15
**SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 424 Medieval and Early Modern Spanish Studies (Subtitle required) 3
SPA 432 18th and 19th Century Spanish Studies (Subtitle required) 3
SPA 434 Spanish Literature of the 20th Century 3
SPA 438G Literature of Social Protest in Spanish America 3
SPA 444 20th and 21st Century Spanish Studies (Subtitle required) 3
SPA 454 Colonialism and 19th Century Spanish-American Studies (Subtitle required) 3
SPA 464 Contemporary Spanish-American Studies (Subtitle required) 3
SPA 474 Topics in Hispanic Studies (Subtitle required) 3
**SPA 480 Hispanic Kentucky 3
**SPA 497 Hispanic Studies Honors Thesis 3
SPA 519 Themes in Medieval and Early Modern Spanish Literature and Culture (Subtitle required) 3
SPA 529 Themes in Modern and Contemporary Spanish Literature, Culture and Film (Subtitle required) 3
SPA 539 Themes in Latin American Literature, Culture and Film (Subtitle required) 3

Additional Courses

Choose 6 credit hours from either list 6

***These courses must have a focus on literature or culture.*

Total SPA hours: **30**

Option B – Spanish Literature and Culture

Required Course

SPA 310 Spanish Composition Through Textual Analysis 3

Specialty Option Courses

Choose 18 credit hours from Literature and Culture courses:

**SPA 300 Contact Zones: Cultivating Intercultural Competence 3
SPA 312 Civilization of Spain 3
SPA 314 Civilization of Spanish America 3
SPA 315 Introduction to Hispanic Literature 3
SPA 320 Literature, Life and Thought of Spain 3
SPA 322 Literature, Life and Thought of Spanish America 3
SPA 324 The Theatre in Spain and Spanish America 3
SPA 350 Hispanic Cities (Subtitle required) 3
SPA 361 Latin American Literature in Translation (Subtitle required) 3
SPA 371 Latin American Cinema (Subtitle required) 3
SPA 372 Spanish Cinema (Subtitle required) 3
**SPA 397 Independent Work in Spanish 3
**SPA 399 Field Based/ Community Based Education 1-15
**SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 424 Medieval and Early Modern Spanish Studies (Subtitle required) 3
SPA 432 18th and 19th Century Spanish Studies (Subtitle required) 3
SPA 434 Spanish Literature of the 20th Century 3
SPA 438G Literature of Social Protest in Spanish America 3
SPA 444 20th and 21st Century Spanish Studies (Subtitle required) 3
SPA 454 Colonialism and 19th Century Spanish-American Studies (Subtitle required) 3
SPA 464 Contemporary Spanish-American Studies (Subtitle required) 3
SPA 474 Topics in Hispanic Studies (Subtitle required) 3
**SPA 480 Hispanic Kentucky 3
**SPA 497 Hispanic Studies Honors Thesis 3
SPA 519 Themes in Medieval and Early Modern Spanish Literature and Culture (Subtitle required) 3
SPA 529 Themes in Modern and Contemporary Spanish Literature, Culture and Film (Subtitle required) 3
SPA 539 Themes in Latin American Literature, Culture and Film (Subtitle required) 3

***These courses must have a focus on literature or culture.*

Non-specialty Option Courses

Choose 6 credit hours from Language and Linguistics courses:

*SPA 300 Contact Zones: Cultivating Intercultural Competence 3
SPA 302 Spanish for Business Professionals 3
SPA 313 Advanced Spanish Language 3
SPA 323 Introduction to Spanish Translation 3
SPA 332 Spanish and Latin American Business Environments 3
*SPA 397 Independent Work in Spanish 3
*SPA 399 Field Based/ Community Based Education 1-15
*SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 410 Advanced Spanish Grammar 3
SPA 413 Spanish Phonetics 3
SPA 420 Spanish in the World 3
SPA 423 Advanced Spanish Translation 3
SPA 430 Introduction to Spanish Linguistics 3
*SPA 480 Hispanic Kentucky 3
*SPA 497 Hispanic Studies Honors Thesis 3
SPA 501 Spanish Phonetics, Pronunciation and Phonemics 3
SPA 506 Introduction to Comparative Spanish, Portuguese, and Italian Linguistics 3

Additional Courses

Choose 6 credit hours from either list 6

**These courses must have a focus on language or linguistics.*

Total SPA hours: **30**

Option C – Spanish (General)

Required Course

SPA 310 Spanish Composition Through Textual Analysis 3

Specialty Option Courses

Choose 9 credit hours from Language and Linguistics courses:

*SPA 300 Contact Zones: Cultivating Intercultural Competence 3
SPA 302 Spanish for Business Professionals 3
SPA 313 Advanced Spanish Language 3
SPA 323 Introduction to Spanish Translation 3
SPA 332 Spanish and Latin American Business Environments 3
*SPA 397 Independent Work in Spanish 3
*SPA 399 Field Based/ Community Based Education 1-15
*SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 410 Advanced Spanish Grammar 3
SPA 413 Spanish Phonetics 3
SPA 420 Spanish in the World 3
SPA 423 Advanced Spanish Translation 3
SPA 430 Introduction to Spanish Linguistics 3
*SPA 480 Hispanic Kentucky 3
*SPA 497 Hispanic Studies Honors Thesis 3
SPA 501 Spanish Phonetics, Pronunciation and Phonemics 3
SPA 506 Introduction to Comparative Spanish, Portuguese, and Italian Linguistics 3

**These courses must have a focus on language or linguistics.*

Non-specialty Option Courses

Choose 9 credit hours from Literature and Culture courses:

**SPA 300 Contact Zones: Cultivating Intercultural Competence 3
SPA 312 Civilization of Spain 3
SPA 314 Civilization of Spanish America 3
SPA 315 Introduction to Hispanic Literature 3
SPA 320 Literature, Life and Thought of Spain 3
SPA 322 Literature, Life and Thought of Spanish America 3
SPA 324 The Theatre in Spain and Spanish America 3
SPA 350 Hispanic Cities (Subtitle required) 3
SPA 361 Latin American Literature in Translation (Subtitle required) 3
SPA 371 Latin American Cinema (Subtitle required) 3
SPA 372 Spanish Cinema (Subtitle required) 3
**SPA 397 Independent Work in Spanish 3
**SPA 399 Field Based/ Community Based Education 1-15
**SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 424 Medieval and Early Modern Spanish Studies (Subtitle required) 3
SPA 432 18th and 19th Century Spanish Studies (Subtitle required) 3
SPA 434 Spanish Literature of the 20th Century 3
SPA 438G Literature of Social Protest in Spanish America 3
SPA 444 20th and 21st Century Spanish Studies (Subtitle required) 3
SPA 454 Colonialism and 19th Century Spanish-American Studies (Subtitle required) 3
SPA 464 Contemporary Spanish-American Studies (Subtitle required) 3
SPA 474 Topics in Hispanic Studies (Subtitle required) 3
**SPA 480 Hispanic Kentucky 3
**SPA 497 Hispanic Studies Honors Thesis 3
SPA 519 Themes in Medieval and Early Modern Spanish Literature and Culture (Subtitle required) 3
SPA 529 Themes in Modern and Contemporary Spanish Literature, Culture and Film (Subtitle required) 3
SPA 539 Themes in Latin American Literature, Culture and Film (Subtitle required) 3

Additional Courses

Choose 12 credit hours from either list 12

***These courses must have a focus on literature or culture.*

Total SPA hours: 30

Minor in Spanish

The minor in Spanish requires a total of 21 hours based on the following distribution:

Prerequisites

SPA 210 Spanish Grammar and Syntax 3
SPA 211 Intermediate Spanish Conversation 3

Required Core Course

SPA 310 Spanish Composition Through Textual Analysis 3

plus 12 credit hours at the 300-level or above. At least 3 credit hours must be from the Language and Linguistics courses listed below; at least 3 credit hours must be from the Literature and Culture courses listed below:

Language and Linguistics Courses

SPA 300 Contact Zones: Cultivating Intercultural Competence 3
SPA 302 Spanish for Business Professionals 3
SPA 313 Advanced Spanish Language 3
SPA 323 Introduction to Spanish Translation 3
SPA 397 Independent Work in Spanish 3
SPA 399 Field Based/Community Based Education 3
SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 410 Advanced Spanish Grammar 3
SPA 413 Spanish Phonetics 3
SPA 420 Spanish in the World 3
SPA 423 Advanced Spanish Translation 3
SPA 430 Introduction to Spanish Linguistics 3
SPA 480 Hispanic Kentucky 3
SPA 497 Hispanic Studies Honors Thesis 3
SPA 501 Spanish Phonetics, Pronunciation and Phonemics 3
SPA 506 Introduction to Comparative Spanish, Portuguese, and Italian Linguistics 3

Literature and Culture Courses

SPA 300 Contact Zones: Cultivating Intercultural Competence 3
SPA 312 Civilization of Spain 3
SPA 314 Civilization of Spanish America 3
SPA 315 Introduction to Hispanic Literature 3
SPA 320 Literature, Life and Thought of Spain 3
SPA 322 Literature, Life and Thought of Spanish America 3
SPA 324 The Theatre in Spain and Spanish America 3
SPA 361 Latin American Literature in Translation (Subtitle required) 3
SPA 371 Latin American Cinema (Subtitle required) 3
SPA 372 Spanish Cinema (Subtitle required) 3
SPA 397 Independent Work in Spanish 3
SPA 399 Field Based/Community Based Education 3
SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 424 Medieval and Early Modern Spanish Studies (Subtitle required) 3
SPA 432 18th and 19th Century Spanish Studies (Subtitle required) 3
SPA 434 Spanish Literature of the 20th Century 3
SPA 438G Literature of Social Protest in Spanish America 3
SPA 444 20th and 21st Century Spanish Studies (Subtitle required) 3
SPA 454 Colonialism and 19th Century Spanish-American Studies (Subtitle required) 3
SPA 464 Contemporary Spanish-American Studies (Subtitle required) 3
SPA 474 Topics in Hispanic Studies (Subtitle required) 3
SPA 480 Hispanic Kentucky 3
SPA 497 Hispanic Studies Honors Thesis 3
SPA 519 Themes in Medieval and Early Modern Spanish Literature and Culture (Subtitle required) 3
SPA 529 Themes in Modern and Contemporary Spanish Literature, Culture and Film (Subtitle required) 3
SPA 539 Themes in Latin American Literature, Culture and Film (Subtitle required) 3

HISTORY

History is the study of the most important and exciting events that have ever occurred, providing students with a wide ranging introduction to modern societies, cultures, and global events. The Department of History's program provides rigorous instruction in critical thinking, writing, and composition. And as one of the broadest and most diverse disciplines in academia, history provides students with connections to numerous other programs and opportunities across campus. History majors develop research and presentation skills that are highly transferable to any career, including those in public policy, law, government, education, public relations, healthcare, journalism, publishing, sales, and marketing, among others.

Bachelor of Arts with a major in HISTORY

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

HIS 499 Senior Seminar for History Majors
(Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science 6
b. Social Science 6
c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **19-33**

Premajor Requirements

HIS 104 A History of Europe
through the Mid-Seventeenth Century
and
*HIS 105 A History of Europe
from the Mid-Seventeenth Century to the Present
OR
HIS 106 Western Culture: Science and Technology I
and
HIS 107 Western Culture: Science and Technology II
OR
*HIS 108 History of the United States Through 1876
and
*HIS 109 History of the United States Since 1877 6

Premajor hours: **6**

Major Requirements

Major Core Requirements
HIS 301 History Workshop: Introduction
to the Study of History 3
HIS 499 Senior Seminar for History Majors 3

Major Core hours: **6**

Other Course Work Required for the Major

From the Major Department:
Choose 24 hours to include at least 6 hours in pre-1789 work; at least 6 hours in post-1789 work; at least 3 hours in American history; at least 3 hours of European history; at least 3 hours in the history of Africa, Asia, Latin America, or the Middle East. At least 15 of these hours must be at the 300+ level 24

From Outside the Major Department
Choose 15 hours outside History at the 300+ level, or 200+ level courses used to satisfy College requirements can also be counted here. Foreign language instruction courses may not be used to fulfill the related field requirement. Literature, civilization, and culture classes do count toward fulfilling this requirement 15

Other Major hours: **39**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 4

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Bachelor of Science with a major in HISTORY

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: courses with an HIS prefix are generally not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

HIS 499 Senior Seminar for History Majors
(Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science 3
b. Social Science 3
c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **13-27**

Premajor Requirements

HIS 104 A History of Europe
through the Mid-Seventeenth Century
and
*HIS 105 A History of Europe
from the Mid-Seventeenth Century to the Present
OR
HIS 106 Western Culture: Science and Technology I
and
HIS 107 Western Culture: Science and Technology II
OR
*HIS 108 History of the United States Through 1876
and
*HIS 109 History of the United States Since 1877 6

Premajor hours: **6**

Major Requirements

Major Core Requirements
HIS 301 History Workshop: Introduction
to the Study of History 3
HIS 499 Senior Seminar for History Majors 3

Major Core hours: **6**

Other Course Work Required for the Major

From the Major Department:
Choose 24 hours to include at least 6 hours in pre-1789 work; at least 6 hours in post-1789 work; at least 3 hours in American history; at least 3 hours of European history; at least 3 hours in the history of Africa, Asia, Latin America, or the Middle East. At least 15 of these hours must be at the 300+ level 24

From Outside the Major Department
Choose 15 hours outside History at the 300+ level, or 200+ level courses used to satisfy College requirements can also be counted here. Foreign language instruction courses may not be used to fulfill the related field requirement. Literature, civilization, and culture classes do count toward fulfilling this requirement 15

Other Major hours: **39**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 7

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Minor in History

A minor in History provides training in critical thinking and expression and a valuable perspective on the varieties of civilizations and modes of human behavior, complementing coursework in numerous other disciplines, including the humanities, the social sciences, and the natural and applied sciences.

The minor in History requires a minimum of 18 hours of course work to include:

1. A 6-hour sequential introduction to the history of a civilization or a nation. This may be selected from:

HIS 104/105 A History of Europe through the Mid-Seventeenth Century/A History of Europe from the Mid-Seventeenth Century to the Present

HIS 106/107 Western Culture: Science and Technology I/ Western Culture: Science and Technology II

HIS 108/109 History of the United States Through 1876/ History of the United States Since 1877

HIS 202/203 History of the British People to the Restoration/History of the British People Since the Restoration

HIS 229/230 The Ancient Near East and Greece to the Death of Alexander the Great/The Hellenistic World and Rome to the Death of Constantine

HIS 295/296 East Asia to 1800/East Asia Since 1600

HIS 370/371 Early Middle Ages/Later Middle Ages

HIS 385/386 History of Russia to 1825/History of Russia Since 1825

2. 12 hours of course work at or above the 300 level, at least 6 hours of which must be at or above the 400 level. No more than 12 of the 18 hours required may be in any one of the subfields of American history, European history, or history of the non-Western world.

INTERNATIONAL STUDIES

International Studies is an interdisciplinary program that encourages students to explore global issues in disciplines such as anthropology, economics, history, political science, geography, foreign languages, English and the arts. Students will choose course work focused around a **central theme** and **geographical region**. Cultural knowledge will be developed further through expanded foreign language study. The program culminates in a capstone senior project. Study abroad is highly encouraged, although not required, for the International Studies major.

A degree in International Studies will prepare students for careers in business, government, non-government organizations, philanthropic agencies, or the arts. The major also prepares students for graduate study in the humanities, social sciences, international affairs, law, public health and communications.

Bachelor of Arts with a major in INTERNATIONAL STUDIES

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. A complete description of College requirements for a Bachelor of Arts degree can be found on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

INT 495 Capstone Seminar for International Studies Majors (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended, completed by Major Requirements)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science *(can be completed with Major Requirements)* 6
  c. Humanities *(can be completed with Major Requirements)* 6
III. Laboratory or Field Work 1
IV. Electives 6

Subtotal: College Hours: **25-39**

Distribution Requirements

1. Students may not apply to their IS major more than 15 credit hours that have already been applied to another major or minor program.
2. Students must apply to their IS major at least one course from four different departments and/or academic programs.
3. Students must complete at least 24 of the major's total credit hours at the 300 level or above.

Major Requirements

Pathway Courses

Complete 6 credit hours from the following list. Courses must be from two departments:

ANT 160 Cultural Diversity in the Modern World 3
ANT 225 Culture, Environment and Global Issues 3
GEO 152 Regional Geography of the World 3
GEO 160 Lands and Peoples of the Non-Western World 3
GEO 161 Global Inequalities 3
GEO 162 Introduction to Global Environmental Issues 3
HIS 104 A History of Europe through the Mid-Seventeenth Century 3
HIS 105 A History of Europe from the Mid-Seventeenth Century to the Present 3
PS 210 Introduction to Comparative Politics 3
PS 235 World Politics 3

Language Competency

Complete the fourth semester in one language
AND
Two semesters in a second language 6-8
OR
Two additional semesters in the same language 6

Capstone Senior Project

Complete the following course:

INT 495 Capstone Seminar for International Studies Majors (Subtitle required) 3

Thematic and Area Concentrations

Complete one of the following:

1. 15 credit hours in a thematic concentration and 12 credit hours with an area concentration 27
2. 15 credit hours with an area concentration and 12 credit hours in a thematic concentration 27

Thematic Concentrations

(12-15 credit hours in one theme and from at least two departments)

Culture and the Arts

The Culture and the Arts concentration focuses on forms of cultural expression and representation (performing arts, film, philosophy, literature, folklore and myth, visual arts) from global perspectives.

A-H 310 Asian Art and Culture (Subtitle required) 3
A-H 323 Medieval (Subtitle required) 3
A-H 334 Reframing Renaissance Art 3
AIS 228 Islamic Civilization 3
AIS 330 Islamic Civilization II 3
AIS 331 Classical Arabic Literature (in English) 3
^AIS 435 Topics in Islamic Studies (Subtitle required) 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to Contemporary Chinese Film 3
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840 3
CHI 331 Introduction to Chinese Culture, 1840 to Present 3
CHI 430 Popular Culture in Modern China 3
CHI 511 Literary Chinese 3
CLA 210 The Art of Greece and Rome 3
CLA 229 The Ancient Near East and Greece to the Death of Alexander the Great 3
CLA 230 The Hellenistic World and Rome to the Death of Constantine 3
CLA 261 Literary Masterpieces of Greece and Rome 3
CLA 301 Latin Literature I (Subtitle required) 3
CLA 302 Latin Literature II (Subtitle required) 3
CLA 331 Gender and Sexuality in Antiquity 3
CLA 382 Greek and Roman Religion 3
CLA 390 Backgrounds to and Early History of Christianity to 150 CE 3
CLA 391 Christians in the Roman Empire 3
CLA 480G Studies in Greek and Latin Literature (Subtitle required) 3
CLA 524 The Latin Literature of the Republic (Subtitle required) 3
CLA 525 The Latin Literature of the Empire (Subtitle required) 3

CLA 528 Late Antique and Post-Imperial Latin Literature (Subtitle required) 3
CLA 551 Greek Poetry and Drama (Subtitle required) 3
CLA 555 Greek Prose (Subtitle required) 3
ENG 241 Survey of British Literature I 3
ENG 242 Survey of British Literature II 3
ENG 274 Classics of Western Literature 3
ENG 342 Shakespeare 3
ENG 440G Studies in British Literature (Subtitle required) 3
FR 214 France Today 3
FR 215 Visual Cultures 3
FR 225 French Film Noir 3
FR 263 African and Caribbean Literature and Culture of French Expression in Translation (Subtitle required) 3
^FR 324 Studies in French Literature (Subtitle required) 3
FR 325 French Cinema (Subtitle required) 3
FR 504 Topics in French Literature and Culture (Subtitle required) 3
GER 263 The German Cultural Tradition I 3
GER 264 The German Cultural Tradition II 3
GER 311 Introduction to German Literature: Themes (Subtitle required) 3
GER 312 Introduction to German Literature: Popular Forms 3
GER 317 History of German Culture 3
GER 319 Contemporary German Literature and Culture 3
GER 342 War, Peace, and Terror in Germany and Europe 3
GER 361 German Cinema 3
GER 363 Germanic Mythology 3
GER 515 Studies in Major Authors 3
GER 516 Studies in Genre 3
GER 540 Multidisciplinary German Studies Seminar (Subtitle required) 3
HJS 324 Jewish Thought and Culture I: From Ancient Israel to the Middle Ages 3
HJS 325 Jewish Thought and Culture II: From the Expulsion from Spain to the Present 3
^INT 350 Special Topics in International Studies (Subtitle required) 3
INT 399 Internship in International Studies 3
ITA 263 Studies in Italian Culture (Subtitle required) 3
ITA 443G Survey of Italian Literature I 3
JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868 3
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present 3
JPN 421G Contemporary Literary and Visual Arts of Japan 3
MCL 270 Introduction to Folklore and Mythology 3
^MUS 330 Music in the World (Subtitle required) 3
PHI 504 Islamic and Jewish Philosophy and the Classical Tradition 3
RUS 275 Russian Film 3
RUS 370 Russian Folklore (in English) 3
RUS 371 Russian Culture 900-1900 3
RUS 372 Russian Culture 1900-Present 3
RUS 380 Nineteenth Century Russian Literature (in English) 3
RUS 381 Russian Literature 1900-Present (in English) 3
RUS 400G Russian Cultural Studies (Subtitle required) 3
RUS 460G Major Russian Writers (Subtitle required) 3
RUS 463 Russian Film and Theater (Subtitle required) 3
SPA 312 Civilization of Spain 3
^SPA 314 Civilization of Spanish America 3
SPA 315 Introduction to Hispanic Literature 3
SPA 323 Introduction to Spanish Translation 3
SPA 371 Latin American Cinema (Subtitle required) 3
SPA 372 Spanish Cinema (Subtitle required) 3
^SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 423 Advanced Spanish Translation 3
SPA 424 Medieval and Early Modern Spanish Studies (Subtitle required) 3
SPA 434 Spanish Literature of the 20th Century 3
SPA 438G Literature of Social Protest in Spanish America 3
^SPA 444 20th and 21st Century Spanish Studies (Subtitle required) 3
SPA 454 Colonialism and 19th Century Spanish-American Studies (Subtitle required) 3
TA 386 World Theatre II 3
TA 485 French Theatre: Culture, Text and Performance 3

*^The subtitle for this course must directly relate to the Culture and the Arts Concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Global Development

The Global Development concentration focuses on social justice, sustainable economic development, public health, global interconnection, public service and managing global businesses.

AEC 309 International Agricultural, World Food Needs and U.S. Trade in Agricultural Products 3
AEC 471 International Trade 3
AEC 510 International Trade and Agricultural Marketing 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
^AIS 435 Topics in Islamic Studies (Subtitle required) 3
AIS 440 Introduction to the Quran 3
ANT 251 Global Health: Culture, Pathologies and Social Inequalities 3
ANT 311 Anthropology of Globalization 3
ANT 324 Contemporary Latin American Cultures 3
ANT 329 Cultures and Societies of Eurasia and Eastern Europe: Socialism and Post-Socialist Change 3
ANT 338 Economic Anthropology 3
ANT 340 Development and Change in the Third World 3
EDC 554 Culture, Education and Teaching Abroad 3
EPE 554 Culture, Education and Teaching Abroad 3
GEO 222 Cities of the World 3
GEO 231 Environment and Development 3
GEO 235 Environmental Management and Policy 3
GEO 255 Geography of the Global Economy 3
GEO 260 Geographies of Development in the Global South 3
GEO 442G Political Geography 3
GEO 455 Globalization and the Changing World Economy 3
GEO 544 Human Population Dynamics 3
GEO 551 Japanese Multinational Corporations 3
HIS 521 European Social History, 1400-1800 3
HIS 556 The British Empire, 1322-1879 3
HIS 557 British Empire and Commonwealth, 1880-2000 3
^INT 350 Special Topics in International Studies (Subtitle required) 3
INT 399 Internship in International Studies 3
JOU 319 World Media Systems 3
JPN 461G Japanese Colonialism and its Legacies 3
LAS 201 Introduction to Latin America 3
MAT 470 International Merchandizing 3
*MGT 309 Introduction to International Business 3
*MKT 435 International Marketing 3
PS 433G Politics of International Economic Relations 3
PS 436G International Organization 3
PS 437G Dynamics of International Law 3
PS 538 Conflict and Cooperation in Latin American Relations 3
SOC 380 Globalization: A Cross-Cultural Perspective 3
SW 320 Global Poverty: Responses Across Cultures 3

*^The subtitle for this course must directly relate to the Global Development Concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

**Course is from the Gatton College of Business and Economics. They will be open to Gatton students who also seek to major in International Studies, but may not be available to International Studies majors enrolled entirely in other colleges.*

Comparative Politics and Societies

The Comparative Politics and Societies concentration focuses on how states and institutions interact in a global environment. It studies international struggles for political, social, and economic equality and international efforts to guarantee human rights.

AEC 471 International Trade 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
^AIS 435 Topics in Islamic Studies (Subtitle required) 3
AIS 440 Introduction to the Quran 3
ANT 241 Origins of Old World Civilization 3
ANT 242 Origins of New World Civilization 3
ANT 245 Food Culture and Society 3
ANT 324 Contemporary Latin American Cultures 3
ANT 433 Social Organization 3
ANT 450 Symbols and Culture 3
CLA 509 Roman Law 3
^FR 350 Francophone Cultures (Subtitle required) 3
GEO 255 Geography of the Global Economy 3
GEO 260 Geographies of Development in the Global South 3
GEO 442G Political Geography 3
GER 342 War, Peace, and Terror in Germany and Europe 3
GWS 250 Social Movements 3
HIS 561 Culture, Ideas, and Society in Latin America ... 3
HIS 562 Modern Mexico 3
HIS 563 The History of Women in Latin America 3
HIS 564 History of Brazil 3
^INT 350 Special Topics in International Studies (Subtitle required) 3
INT 399 Internship in International Studies 3
JOU 319 World Media Systems 3
JPN 430G Self and Other: The Politics of Culture in Japan-U.S. Relationship 3
JPN 451G Social Movements in Modern Japan 3
JPN 461G Japanese Colonialism and its Legacies 3
LAS 201 Introduction to Latin America 3
^PS 391 Special Topics in Political Science (Subtitle required) 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
PS 419G The Governments and Politics of Eastern Asia 3
PS 420G Governments and Politics of South Asia 3
PS 427G East European Politics 3
PS 428G Latin American Government and Politics 3
PS 429G Government and Politics in Russia and the Post-Soviet States 3
PS 433G Politics of International Economic Relations 3

PS 436G International Organization 3
PS 437G Dynamics of International Law 3
^PS 439G Special Topics in International Relations (Subtitle required) 3
PS 538 Conflict and Cooperation in Latin American Relations 3
^SOC 444 Topics in Political Sociology (Subtitle required) 3
SW 320 Global Poverty: Responses Across Cultures 3

*^The subtitle for this course must directly relate to the Comparative Politics and Societies concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Area Concentrations

(12-15 credit hours in one theme and from at least two departments)

Africa and the Middle East

AIS 228 Islamic Civilization 3
AIS 330 Islamic Civilization II 3
AIS 331 Classical Arabic Literature (in English) 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
^AIS 435 Topics in Islamic Studies (Subtitle required) 3
AIS 440 Introduction to the Quran 3
ANT 222 Middle East Cultures 3
ANT 241 Origins of Old World Civilization 3
ANT 326 People and Cultures of Sub-Saharan Africa 3
ENG 440G Studies in British Literature (Subtitle required) 3
FR 263 African and Caribbean Literature and Culture of French Expression in Translation (Subtitle required) 3
GEO 328 Geography of the Middle East and North Africa 3
GEO 336 Geography of Sub-Saharan Africa 3
HIS 208 History of the Atlantic World 3
HIS 254 History of Colonial and Post-Colonial Africa 3
HIS 549 History of the Middle East: 1952 to the Present 3
^HIS 550 Studies in the Mid-East History and Politics (Subtitle required) 3
HJS 324 Jewish Thought and Culture I: From Ancient Israel to the Middle Ages 3
HJS 325 Jewish Thought and Culture II: From the Expulsion from Spain to the Present 3
^INT 350 Special Topics in International Studies (Subtitle required) 3
INT 399 Internship in International Studies 3
PHI 504 Islamic and Jewish Philosophy and the Classical Tradition 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
^PS 417G Survey of Sub-Saharan Politics 3
^SOC 444 Topics in Political Sociology (Subtitle required) 3

*^The subtitle for this course must directly relate to the Africa and the Middle East concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

East, South, and Southeast Asia

A-H 310 Asian Art and Culture (Subtitle required) 3
ANT 241 Origins of Old World Civilization 3
ANT 327 Culture and Societies of India and South Asia 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to Contemporary Chinese Film 3
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840 3
CHI 331 Introduction to Chinese Culture, 1840 to Present 3
CHI 430 Popular Culture in Modern China 3
CHI 511 Literary Chinese 3
ENG 440G Studies in British Literature (Subtitle required) 3
GEO 330 Geography of the Indian Subcontinent 3
GEO 332 Geography of Southeast Asia 3
GEO 333 Geography of East Asia 3
GEO 334 Environment, Society and Economy of Japan 3
GEO 551 Japanese Multinational Corporations 3
HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
HIS 593 East Asian History Since World War II 3
HIS 597 Westerners in East Asia, 1839 to the Present 3
HIS 598 China in Revolution, 1895-1976 3
^INT 350 Special Topics in International Studies (Subtitle required) 3
INT 399 Internship in International Studies 3
ITA 443G Survey of Italian Literature I 3
JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868 3
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present 3
JPN 351 The Japanese Experience of the Twentieth Century 3
JPN 400G Topics in Japan Studies (Subtitle required) 3
JPN 405 Seminar in Japanese and Asian Studies (Subtitle required) 3
JPN 421G Contemporary Literary and Visual Arts of Japan 3
JPN 430G Self and Other: The Politics of Culture in Japan-U.S. Relationship 3
JPN 451G Social Movements in Modern Japan 3
JPN 461G Japanese Colonialism and Its Legacies 3
PHI 343 Asian Philosophy 3
PHI 504 Islamic and Jewish Philosophy and the Classical Tradition 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
^SOC 444 Topics in Political Sociology (Subtitle required) 3

*^The subtitle for this course must directly relate to the East, South, and Southeast concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Europe

A-H 323 Medieval (Subtitle required) 3
A-H 334 Reframing Renaissance Art 3
ANT 241 Origins of Old World Civilization 3
ANT 329 Cultures and Societies of Eurasia and Eastern Europe: Socialism and Post-Socialist Change 3
CLA 210 The Art of Greece and Rome 3
CLA 229 The Ancient Near East and Greece to the Death of Alexander the Great 3
CLA 230 The Hellenistic World and Rome to the Death of Constantine 3
CLA 261 Literary Masterpieces of Greece and Rome 3
CLA 301 Latin Literature I (Subtitle required) 3
CLA 302 Latin Literature II (Subtitle required) 3
CLA 331 Gender and Sexuality in Antiquity 3
CLA 382 Greek and Roman Religion 3
CLA 390 Backgrounds to and Early History of Christianity to 150 CE 3
CLA 391 Christians in the Roman Empire 3
CLA 480G Studies in Greek and Latin Literature (Subtitle required) 3
CLA 509 Roman Law 3
CLA 524 The Latin Literature of the Republic (Subtitle required) 3
CLA 525 The Latin Literature of the Empire (Subtitle required) 3
CLA 528 Late Antique and Post-Imperial Latin Literature (Subtitle required) 3
CLA 551 Greek Poetry and Drama (Subtitle required) 3
CLA 555 Greek Prose (Subtitle required) 3
ENG 241 Survey of British Literature I 3
ENG 242 Survey of British Literature II 3
ENG 274 Classics of Western Literature 3
ENG 342 Shakespeare 3
ENG 440G Studies in British Literature (Subtitle required) 3
FR 214 France Today 3
FR 215 Visual Cultures 3
FR 225 French Film Noir 3
^FR 324 Studies in French Literature (Subtitle required) 3
FR 335 War, Literature, Film 3
^FR 350 Francophone Cultures (Subtitle required) 3
FR 504 Topics in French Literature and Culture (Subtitle required) 3
GEO 326 Geography of Europe 3
GER 263 The German Cultural Tradition I 3
GER 264 The German Cultural Tradition II 3
GER 311 Introduction to German Literature: Themes (Subtitle required) 3
GER 312 Introduction to German Literature: Popular Forms 3
GER 317 History of German Culture 3
GER 319 Contemporary German Literature and Culture 3
GER 342 War, Peace, and Terror in Germany and Europe 3
GER 361 German Cinema 3
GER 515 Studies in Major Authors 3
GER 516 Studies in Genre 3
GER 540 Multidisciplinary German Studies Seminar (Subtitle required) 3
HIS 202 History of British People to the Restoration 3
HIS 203 History of British People Since the Restoration 3
HIS 229 The Ancient Near East and Greece to the Death of Alexander the Great 3
HIS 230 The Hellenistic World and Rome to the Death of Constantine 3
HIS 323 The Holocaust 3
HIS 370 Early Middle Ages 3
HIS 371 Later Middle Ages 3
HIS 500 Preclassical and Classical Greece 3
HIS 501 Fourth-Century Greece and the Hellenistic World 3
HIS 502 A History of the Roman Republic 3
HIS 503 A History of the Roman Empire 3
HIS 504 Greek and Roman Medicine 3
HIS 509 Roman Law 3
HIS 514 Spain: From Reconquest to Empire, 1200-1700 3
HIS 519 The Era of the Renaissance 3
HIS 521 European Social History, 1400-1800 3
HIS 522 Europe and the World in the Age of Revolution (1760-1815) 3
HIS 525 Modern Europe: 1890-1939 3
HIS 526 Europe Since 1939 3
HIS 529 Women in Modern Europe 3
HIS 540 History of Modern France to 1815 3
HIS 541 History of Modern France Since 1815 3
HIS 542 German History, 1789-1918 3
HIS 543 German History Since 1918 3
HIS 546 The Byzantine Empire 3
HIS 553 Eighteenth Century Britain 3

HIS 554 British History 1815-1901 3
HIS 555 British History Since 1901 3
HIS 556 The British Empire, 1322-1879 3
HIS 557 British Empire and Commonwealth, 1880-2000 3
^INT 350 Special Topics in International Studies (Subtitle required) 3
INT 399 Internship in International Studies 3
ITA 263 Studies in Italian Culture (Subtitle required) 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
PS 419G The Governments and Politics of Eastern Asia 3
PS 420G Governments and Politics of South Asia 3
^SOC 444 Topics in Political Sociology (Subtitle required) 3
SPA 262 Hispanic Literatures in Translation (Subtitle required) 3
SPA 312 Civilization of Spain 3
SPA 320 Literature, Life and Thought of Spain 3
SPA 372 Spanish Cinema (Subtitle required) 3
SPA 424 Medieval and Early Modern Spanish Studies (Subtitle required) 3
SPA 434 Spanish Literature of the 20th Century 3
SPA 438G Literature of Social Protest in Spanish America 3
^SPA 444 20th and 21st Century Spanish Studies (Subtitle required) 3
SPA 454 Colonialism and 19th Century Spanish-American Studies (Subtitle required) 3
TA 485 French Theatre: Culture, Text and Performance 3

*^The subtitle for this course must directly relate to the Europe concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Latin America

ANT 242 Origins of New World Civilization 3
ANT 320 Andean Civilization 3
ANT 322 Ancient Mexican Civilizations 3
ANT 324 Contemporary Latin American Cultures 3
ANT 328 The Ancient Maya 3
ENG 440G Studies in British Literature (Subtitle required) 3
FR 204 Introduction to French and Francophone Studies 3
FR 263 African and Caribbean Literature and Culture of French Expression in Translation (Subtitle required) 3
HIS 206 History of Colonial Latin America, 1492-1810 3
HIS 207 History of Modern Latin America, 1810 to Present 3
HIS 208 History of the Atlantic World 3
HIS 561 Culture, Ideas, and Society in Latin America 3
HIS 562 Modern Mexico 3
HIS 563 The History of Women in Latin America 3
HIS 564 History of Brazil 3
^INT 350 Special Topics in International Studies (Subtitle required) 3
INT 399 Internship in International Studies 3
LAS 201 Introduction to Latin America 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
PS 428G Latin American Government and Politics 3
PS 538 Conflict and Cooperation in Latin American Relations 3
^SOC 444 Topics in Political Sociology (Subtitle required) 3
^SPA 314 Civilization of Spanish America 3
SPA 315 Introduction to Hispanic Literature 3
SPA 322 Literature, Life and Thought of Spanish America 3
SPA 361 Latin American Literature in Translation (Subtitle required) 3
SPA 371 Latin American Cinema (Subtitle required) 3
^SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 480 Hispanic Kentucky 3

*^The subtitle for this course must directly relate to the Latin America concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Russia and Eurasia

ANT 329 Cultures and Societies of Eurasia and Eastern Europe: Socialism and Post-Socialist Change 3
ANT 432 Anthropology of Eastern Europe and Russia 3
ENG 440G Studies in British Literature (Subtitle required) 3
GEO 329 Geography of the Former Soviet Union 3
HIS 385 History of Russia to 1825 3
HIS 386 History of Russia Since 1825 3
HIS 534 Russia in the 19th Century 3
HIS 535 Russia in the 20th Century 3
HIS 536 Intellectual and Cultural History of Russia to 1800 3
HIS 537 Intellectual and Cultural History of Russia From 1800 to the Present 3
^INT 350 Special Topics in International Studies (Subtitle required) 3
INT 399 Internship in International Studies 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
PS 427G East European Politics 3
PS 429G Government and Politics in Russia and the Post-Soviet States 3
RUS 261 Introduction to Russian Studies 3
RUS 275 Russian Film 3
RUS 370 Russian Folklore (in English) 3
RUS 371 Russian Culture 900-1900 3
RUS 372 Russian Culture 1900-Present 3
RUS 380 Nineteenth Century Russian Literature (in English) 3
RUS 381 Russian Literature 1900-Present (in English) 3
RUS 400G Russian Cultural Studies (Subtitle required) 3
RUS 460G Major Russian Writers (Subtitle required) 3
RUS 463 Russian Film and Theatre (Subtitle required) 3
^SOC 444 Topics in Political Sociology (Subtitle required) 3

*^The subtitle for this course must directly relate to the Russia and Eurasia concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Bachelor of Science with a major in INTERNATIONAL STUDIES

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: 30

Graduation Composition and Communication Requirement (GCCR)

INT 495 Capstone Seminar for International Studies Majors (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) 3

College Requirements

I. Foreign Language *(placement exam recommended, completed by Major Requirements)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science *(can be completed with Major Requirements)* 6
  c. Humanities *(can be completed with Major Requirements)* 6
III. Laboratory or Field Work 1
IV. Electives 6

Subtotal: College hours: 25-39

Distribution Requirements

1. Students may not apply to their IS major more than 15 credit hours that have already been applied to another major or minor program.
2. Students must apply to their IS major at least one course from four different departments and/or academic programs.
3. Students must complete at least 24 of the major's total credit hours at the 300 level or above.

Major Requirements

Pathway Courses

Complete 6 credit hours from the following list. Courses must be from two departments:
ANT 130 Introduction to Comparative Religion 3
ANT 160 Cultural Diversity in the Modern World 3

GEO 152 Regional Geography of the World 3
GEO 160 Lands and Peoples
of the Non-Western World 3
HIS 104 A History of Europe
through the Mid-Seventeenth Century 3
HIS 105 A History of Europe from the
Mid-Seventeenth Century to the Present 3
PS 210 Introduction to Comparative Politics 3
PS 235 World Politics 3
TA 385 World Theatre I 3

Language Competency

Complete the fourth semester in one language
AND
Two semesters in a second language 6-8
OR
Two additional semesters in the same language 6

Capstone Senior Project

Complete the following course:
INT 495 Capstone Seminar for International Studies
Majors (Subtitle required) 3

Thematic and Area Concentrations

Complete one of the following:

1. 15 credit hours in a thematic concentration and 12 credit hours with an area concentration 27
2. 15 credit hours with an area concentration and 12 credit hours in a thematic concentration 27

Thematic Concentrations

(12-15 credit hours in one theme and from at least two departments)

International Relations

The International Relations concentration focuses on how states and institutions interact in a global environment. Sources of global conflict, international non-government organizations, international crisis resolution, and national sovereignty are examined.

ANT 311 Anthropology of Globalization 3
ANT 532 Anthropology of the State 3
GEO 442G Political Geography 3
HIS 355 Topics in Non-Western History Since 1789 3
HIS 574 The Diplomacy and Foreign Policy
of the United States to 1919 3
HIS 575 The Diplomacy and Foreign Policy
of the United States Since 1919 3
PS 391 Special Topics in Political Science
(Subtitle required)^ 3
PS 410 Topics in Regional Politics
(Subtitle required)^ 3
PS 427G East European Politics 3
PS 430G The Conduct of American Foreign Relations .. 3
PS 431G National Security Policy 3
PS 433G Politics of International
Economic Relations 3
PS 436G International Organization 3
PS 437G Dynamics of International Law 3
PS 439G Special Topics in International Relations
(Subtitle required) 3
SOC 444 Topics in Political Sociology
(Subtitle required)^ 3

Culture and the Arts

The Culture and the Arts concentration focuses on forms of cultural expression and representation (performing arts, film, philosophy, literature, folklore and myth, visual arts) from comparative and global perspectives. The role of language and the evolution of cultural identity are also explored.

A-H 308 Studies in African Arts (Subtitle required) 3
A-H 310 Asian Art and Culture (Subtitle required) 3
A-H 323 Medieval (Subtitle required) 3
A-H 334 Reframing Renaissance Art
(Subtitle required) 3
A-H 350 Contemporary Art and Visual Studies
(Subtitle required) 3
^A-H 527 Interdisciplinary Approaches
(Subtitle required) 3
AIS 228 Islamic Civilization 3
AIS 330 Islamic Civilization II 3
AIS 331 Classical Arabic Literature (in English) 3
^AIS 435 Topics in Islamic Studies
(Subtitle required) 3
AIS 440 Introduction to the Quran 3
ANT 241 Origins of Old World Civilization 3
ANT 242 Origins of New World Civilization 3
ANT 302 Ethnographic Methods:
Doing Anthropology 3
ANT 311 Anthropology of Globalization 3
ANT 320 Andean Civilization 3
ANT 322 Ancient Mexican Civilizations 3
ANT 324 Contemporary Latin American Cultures 3
ANT 326 People and Cultures
of Sub-Saharan Africa 3
ANT 327 Culture and Societies of India
and South Asia 3
ANT 328 The Ancient Maya 3
^ANT 350 Topics in Anthropology
(Subtitle required) 3
^ANT 351 Special Topics in Archaeology
(Subtitle required) 3
^ANT 352 Special Topics in Cultural Anthropology
(Subtitle required) 3
^ANT 353 Special Topics in Physical or
Biological Anthropology (Subtitle required) 3
ANT 432 Anthropology of Eastern Europe
and Russia 3
ANT 433 Social Organization 3
ANT 440 Anthropological Perspectives
on Child Growth 3
ANT 450 Symbols and Culture 3
ANT 515 Phonological Analysis 3
ANT 516 Grammatical Typology 3
ANT 532 Anthropology of the State 3
ANT 541 Archaeological Method and Theory 3
ANT 543 Cultural Resource Management 3
ANT 545 Historical Archaeology 3
ANT 582 Senior Integrative Seminar 3
ANT 585 Field Laboratory in
Archaeological Research 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to
Contemporary Chinese Film 3
CHI 330 Introduction to Chinese Culture,
Pre-Modern to 1840 3
CHI 331 Introduction to Chinese Culture,
1840 to Present 3
CHI 430 Popular Culture in Modern China 3
CLA 210 The Art of Greece and Rome 3
CLA 261 Literary Masterpieces of Greece and Rome ... 3
CLA 301 Latin Literature I (Subtitle required) 3
CLA 302 Latin Literature II (Subtitle required) 3
CLA 331 Gender and Sexuality in Antiquity 3
CLA 382 Greek and Roman Religion 3
CLA 390 Backgrounds to and Early History
of Christianity to 150 CE 3
CLA 391 Christians in the Roman Empire 3
CLA 450G Special Topics in Classical Studies
(Subtitle required) 3
CLA 462G Topics in Classical Literature
(Subtitle required) 3
CLA 480G Studies in Greek and Latin Literature
(Subtitle required) 3
CLA 509 Roman Law 3
CLA 524 The Latin Literature of the Republic
(Subtitle required) 3
CLA 525 The Latin Literature of the Empire
(Subtitle required) 3
CLA 528 Late Antique and Post-Imperial Latin
Literature (Subtitle required) 3
CLA 551 Greek Poetry and Drama
(Subtitle required) 3
CLA 555 Greek Prose (Subtitle required) 3
ENG 241 Survey of British Literature I 3
ENG 242 Survey of British Literature II 3
ENG 274 Classics of Western Literature 3
^ENG 330 Text and Context (Subtitle required) 3
ENG 342 Shakespeare 3
ENG 440G Studies in British Literature
(Subtitle required) 3
EPE 554 Culture, Education
and Teaching Abroad 3
^FA 501 Arts-Study Tour 3
FR 263 African and Caribbean Literature and
Culture of French Expression in Translation
(Subtitle required) 3
^FR 350 Francophone Cultures (Subtitle required) 3
FR 465G Topics in French Literature
and Culture in Translation (Subtitle required) 3
FR 470G Topical Seminar I (Subtitle required) 3
FR 504 Topics in French Literature and Culture
(Subtitle required) 3
GEO 442G Political Geography 3
GEO 491G Japanese Landscapes 3
GER 263 The German Cultural Tradition I 3
GER 264 The German Cultural Tradition II 3
GER 311 Introduction to German Literature:
Themes (Subtitle required) 3
GER 312 Introduction to German Literature:
Popular Forms 3
GER 317 History of German Culture 3
GER 319 Contemporary German Literature
and Culture 3
GER 352 German-Speaking Europe
(Subtitle required) 3
GER 361 German Cinema 3
GER 363 Germanic Mythology 3
GER 515 Studies in Major Authors 3
GER 516 Studies in Genre 3
^GER 520 Special Topics Seminar 3
GER 540 Multidisciplinary German Studies Seminar
(Subtitle required) 3
HIS 208 History of the Atlantic World 3
HIS 352 Topics in European History Before 1789 3
HIS 353 Topics in European History Since 1789 3
HIS 512 Carolingian Empire 3
HIS 536 Intellectual and Cultural History
of Russia to 1800 3
HIS 537 Intellectual and Cultural History
of Russia from 1800 to the Present 3
HIS 546 The Byzantine Empire 3
HIS 552 Tudor-Stuart Britain, 1485-1714 3
HIS 564 History of Brazil 3
HJS 324 Jewish Thought and Culture I:
From Ancient Israel to the Middle Ages 3
HJS 325 Jewish Thought and Culture II:
From the Expulsion from Spain to the Present 3
HJS 327 Women in Judaism 3
^HJS 425 Topics in Judaic Studies
(Subtitle required) 3
ITA 263 Studies in Italian Culture (Subtitle required) 3
ITA 443G Survey of Italian Literature I 3
JOU 319 World Media Systems 3
JPN 321 Introduction to Japanese Culture,
Meiji (1868) to Present 3
JPN 420G Pre-Modern Literary and Visual Arts
of Japan 3

JPN 421G Contemporary Literary and Visual Arts of Japan 3
JPN 430G Self and Other: The Politics of Culture in Japan-U.S. Relationship 3
MAT 247 Dress and Culture 3
MCL 270 Introduction to Folklore and Mythology 3
MCL/SPA 300 Contact Zones: Cultivating Intercultural Competence 3
^MUS 330 Music in the World (Subtitle required) 3
PHI 343 Asian Philosophy 3
PHI 504 Islamic and Jewish Philosophy and the Classical Tradition 3
PHI 516 Contemporary Philosophy: Phenomenological Directions 3
RUS 275 Russian Film 3
RUS 370 Russian Folklore (in English) 3
RUS 371 Russian Culture 900-1900 3
RUS 372 Russian Culture 1900-Present 3
RUS 380 Nineteenth-Century Russian Literature (in English) 3
RUS 381 Russian Literature 1900-Present (in English) 3
RUS 400G Russian Cultural Studies (Subtitle required) 3
RUS 460G Major Russian Writers (Subtitle required) 3
RUS 463 Russian Film and Theater (Subtitle required) 3
SAG 201 Cultural Perspectives on Sustainability 3
^SOC 435 Topics in Social Inequalities (Subtitle required) 3
SPA 262 Hispanic Literatures in Translation (Subtitle required) 3
SPA 315 Introduction to Hispanic Literature 3
SPA 320 Literature, Life and Thought of Spain 3
SPA 322 Literature, Life and Thought of Spanish America 3
SPA 361 Latin American Literature in Translation (Subtitle required) 3
SPA 371 Latin American Cinema (Subtitle required) 3
SPA 372 Spanish Cinema (Subtitle required) 3
^SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 420 Spanish in the World 3
SPA 424 Medieval and Early Modern Spanish Studies 3
SPA 434 Spanish Literature of the 20th Century 3
SPA 438G Literature of Social Protest in Spanish America 3
^SPA 444 20th and 21st Century Spanish Studies (Subtitle required) 3
SPA 454 Colonialism and 19th Century Spanish-American Studies (Subtitle required) 3
^SPA 464 Contemporary Spanish-American Studies (Subtitle required) 3
^SPA 474 Topics in Hispanic Studies (Subtitle required) 3
SPA 480 Hispanic Kentucky 3
SW 320 Global Poverty: Responses Across Cultures 3
TA 386 World Theatre II 3
TA 485 French Theatre: Culture, Text and Performance 3
TA 584 Asian Theatre 3

*^The subtitle for this course must directly relate to the Culture and the Arts Concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Global Environment

The Global Environment concentration focuses on the international interplay of peoples, information, capital, culture and physical geographies.

ANT 302 Ethnographic Methods: Doing Anthropology 3
ANT 311 Anthropology of Globalization 3
ANT 332 Human Evolution 3
ANT 333 Contemporary Human Variation 3
ANT 338 Economic Anthropology 3
^ANT 350 Topics in Anthropology (Subtitle required) 3
^ANT 351 Special Topics in Archaeology (Subtitle required) 3
^ANT 352 Special Topics in Cultural Anthropology (Subtitle required) 3
^ANT 353 Special Topics in Physical or Biological Anthropology (Subtitle required) 3
ANT 375 Ecology and Social Practice 3
GEO 222 Cities of the World 3
GEO 231 Environment and Development 3
GEO 235 Environmental Management and Policy 3
GEO 331 Global Environmental Change 3
^GEO 365 Special Topics in Regional Geography (Subtitle required) 3
^GEO 406G Field Studies (Subtitle required) 1-9
GEO 431 Political Ecology 3
GEO 530 Biogeography and Conservation 3
GEO 531 Landscape Ecology 3
GEO 550 Sustainable Resource Development and Environmental Management 3
HIS 595 Studies in History 3
JPN 334 Environment, Society and Economy of Japan 3
JPN 491G Japanese Landscapes 3
MCL/SPA 300 Contact Zones: Cultivating Intercultural Competence 3
^PS 391 Special Topics in Political Science (Subtitle required) 3
PS 433G Politics of International Economic Relations 3
PS 437G Dynamics of International Law 3
SAG 201 Cultural Perspectives on Sustainability 3
SAG 490 Integration of Sustainable Agriculture Principles 3
SPA 312 Civilization of Spain 3
SPA 314 Civilization of Spanish America 3

*^The subtitle for this course must directly relate to the Global Environment Concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

International Development

International Development concentration focuses on the developing world and examines development in relation to socio-political and socio-economic growth.

ANT 302 Ethnographic Methods: Doing Anthropology 3
ANT 311 Anthropology of Globalization 3
ANT 338 Economic Anthropology 3
ANT 340 Development and Change in the Third World 3
ANT 350 Topics in Anthropology (Subtitle required)^ 3
^ANT 351 Special Topics in Archaeology (Subtitle required) 3
^ANT 352 Special Topics in Cultural Anthropology (Subtitle required) 3
^ANT 353 Special Topics in Physical or Biological Anthropology (Subtitle required) 3
ANT 433 Social Organization 3
ANT 525 Applied Anthropology 3
ANT 532 Anthropology of the State 3
COM 462 Intercultural Communication 3
*ECO 473G Economic Development 3
EPE 555 Comparative Education 3
GEO 222 Cities of the World 3
GEO 231 Environment and Development 3
GEO 255 Geography of the Global Economy 3
GEO 260 Geographies of Development in the Global South 3
GEO 431 Political Ecology 3
JPN 461G Japanese Colonialism and its Legacies 3
MCL/SPA 300 Contact Zones: Cultivating Intercultural Competence 3
^PS 391 Special Topics in Political Science (Subtitle required) 3
PS 433G Politics of International Economic Relations 3
PS 436G International Organization 3
SOC 380 Globalization: A Cross-Cultural Perspective 3
^SOC 435 Topics in Social Inequalities (Subtitle required) 3
^SOC 444 Topics in Political Sociology (Subtitle required) 3
SPA 454 Colonialism and 19th Century Spanish-American Studies (Subtitle required) 3
SW 320 Global Poverty: Responses Across Cultures 3

**Course is from the Gatton College of Business and Economics. They will be open to Gatton students who also seek to major in International Studies, but may not be available to International Studies majors enrolled entirely in other colleges.*

International Commerce

The International Commerce concentration focuses on the issues of managing global businesses, such as the effects of differences in national requirements, cultural expectations, economic structures and governance.

AEC 309 International Agricultural, World Food Needs, and U.S. Trade in Agricultural Products 3
AEC 510 International Trade and Agricultural Marketing 3
*ECO 465G Comparative Economic Systems 3
*ECO 471 International Trade 3
*ECO 473G Economic Development 3
*FIN 423 International Finance 3
FR 307 French for Business and Economics 3
GEO 255 Geography of the Global Economy 3
GEO 551 Japanese Multinational Corporations 3
GER 310 German for International Business and Professions 3
JPN 334 Environment, Society and Economy of Japan 3
MAT 470 International Merchandizing 3
*MGT 309 Introduction to International Business 3
*MKT 435 International Marketing 3
PS 433G Politics of International Economic Relations 3
RUS 530 Business Russian 3
SPA 302 Spanish for Business Professionals 3

**Courses are from the Gatton College of Business and Economics. They will be open to Gatton students who also seek to major in International Studies, but may not be available to International Studies majors enrolled entirely in other colleges.*

Human Rights and Social Movements

The Human Rights and Social Movements concentration focuses on international struggles for political, social, and economic equality and international efforts to guarantee human rights by placing them into cross-cultural, interdisciplinary, and historical perspectives.

AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
ANT 302 Ethnographic Methods: Doing Anthropology 3
ANT 311 Global Dreams and Local Realities in a "Flat" World 3
ANT 340 Development and Change in the Third World 3
^ANT 350 Topics in Anthropology (Subtitle required) 3

^ANT 351 Special Topics in Archaeology (Subtitle required) 3
^ANT 352 Special Topics in Cultural Anthropology (Subtitle required) 3
^ANT 353 Special Topics in Physical or Biological Anthropology (Subtitle required) 3
ANT 401 Gender Roles in Cross-Cultural Perspective 3
ANT 429 Survey of Medical Anthropology 3
ANT 433 Social Organization 3
ANT 435 Cultures and Politics of Reproduction 3
ANT 440 Anthropological Perspectives on Child Growth 3
CHI 320 Gender Politics in Chinese Literature 3
^FR 263 African and Caribbean Literature and Culture of French Expression in Translation (Subtitle required) 3
^FR 350 Francophone Cultures (Subtitle required) 3
^FR 465G Topics in French Literature and Culture in Translation (Subtitle required) 3
^GER 352 German-Speaking Europe (Subtitle required) 3
GWS 250 Social Movements 3
HIS 521 European Social History, 1400-1800 3
HIS 529 Women in Modern Europe 3
HIS 563 The History of Women in Latin America 3
JPN 451G Social Movements in Modern Japan 3
MCL/SPA 300 Contact Zones: Cultivating Intercultural Competence 3
^PS 391 Special Topics in Political Science (Subtitle required) 3
PS 437G Dynamics of International Law 3
^SOC 435 Topics in Social Inequalities (Subtitle required) 3
^SOC 444 Topics in Political Sociology (Subtitle required) 3
SPA 438G Literature of Social Protest in Spanish America 3
SW 320 Global Poverty: Responses Across Cultures 3

^The subtitle for this course must directly relate to the Human Rights and Social Movements Concentration. You must check with the IS director or advisor for verification ***prior*** *to taking the course.*

Area Concentrations

(12-15 credit hours in one theme and from at least two departments)

Africa and the Middle East

A-H 308 Studies in African Arts (Subtitle required) 3
^A-H 527 Interdisciplinary Approaches (Subtitle required) 3
AIS 228 Islamic Civilization 3
AIS 330 Islamic Civilization II 3
AIS 331 Classical Arabic Literature (Subtitle required) 3
^AIS 435 Topics in Islamic Studies (Subtitle required) 3
AIS 440 Introduction to the Quran 3
ANT 326 People and Cultures of Sub-Saharan Africa 3
^ANT 350 Topics in Anthropology (Subtitle required) 3
^ANT 351 Special Topics in Archaeology (Subtitle required) 3
^ANT 352 Special Topics in Cultural Anthropology (Subtitle required) 3
^ANT 353 Special Topics in Physical or Biological Anthropology (Subtitle required) 3
^FA 501 Arts-Study Tour 3
FR 263 African and Caribbean Literature and Culture of French Expression in Translation (Subtitle required) 3
FR 350 Francophone Cultures (Subtitle required) 3
GEO 328 Geography of the Middle East and North Africa 3
GEO 336 Geography of Sub-Saharan Africa 3
HIS 254 History of Colonial and Post-Colonial Africa 3
^HIS 355 Topics in Non-Western History Since 1789 3
HIS 549 History of the Middle East: 1952 to Present 3
HIS 550 Studies in the Mid-East History and Politics (Subtitle required) 3
HJS 324 Jewish Thought and Culture I: From Ancient Israel to the Middle Ages 3
HJS 325 Jewish Thought and Culture II: From the Expulsion from Spain to the Present 3
HJS 327 Women in Judaism 3
^HJS 425 Topics in Judaic Studies (Subtitle required) 3
^MUS 330 Music in the World (Subtitle required) 3
PHI 504 Islamic and Jewish Philosophy and the Classical Tradition 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
PS 417G Survey of Sub-Saharan Politics 3

^The subtitle for this course must directly relate to the Africa and the Middle East Concentration. You must check with the IS director or advisor for verification ***prior*** *to taking the course.*

East, South, and Southeast Asia

A-H 310 Asian Art and Culture (Subtitle required) 3
^A-H 527 Interdisciplinary Approaches (Subtitle required) 3
AIS 228 Islamic Civilization 3
AIS 330 Islamic Civilization II 3
AIS 331 Classical Arabic Literature (in English) 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
^AIS 435 Topics in Islamic Studies (Subtitle required) 3
AIS 440 Introduction to the Quran 3
ANT 327 Culture and Societies of India and South Asia 3
^ANT 350 Topics in Anthropology (Subtitle required) 3
^ANT 351 Special Topics in Archaeology (Subtitle required) 3
^ANT 352 Special Topics in Cultural Anthropology (Subtitle required) 3
^ANT 353 Special Topics in Physical or Biological Anthropology (Subtitle required) 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to Contemporary Chinese Film 3
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840 3
CHI 331 Introduction to Chinese Culture, 1840 to Present 3
CHI 430 Popular Culture in Modern China 3
FA 501 Arts-Study Tour^ 3
GEO 330 Geography of the Indian Subcontinent 3
GEO 332 Geography of Southeast Asia 3
GEO 333 Geography of East Asia 3
GEO 334 Environment, Society and Economy of Japan 3
^GEO 365 Special Topics in Regional Geography (Subtitle required) 3
^GEO 406G Field Studies (Subtitle required) 1-9
HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
^HIS 355 Topics in Non-Western History Since 1789 3
HIS 593 East Asian History Since World War II 3
HIS 598 China in Revolution, 1895-1976 3
JPN 320 Introduction to Japanese Culture Pre-Modern to 1868 3
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present 3
JPN 334 Environment, Society and Economy of Japan 3
JPN 405 Seminar in Japanese and Asian Studies (Subtitle required) 3
JPN 420G Pre-Modern Literary and Visual Arts of Japan 3
JPN 421G Contemporary Literary and Visual Arts of Japan 3
JPN 430G Self and Other: The Politics of Culture in Japan-U.S. Relationship 3
JPN 451G Social Movements in Modern Japan 3
JPN 461G Japanese Colonialism and Its Legacies 3
JPN 491G Japanese Landscapes 3
JPN 551 Japanese Multinational Corporations 3
^MUS 330 Music in the World (Subtitle required) 3
PHI 343 Asian Philosophy 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
PS 419G The Governments and Politics of Eastern Asia 3
PS 420G Governments and Politics of South Asia 3
TA 584 Asian Theatre 3

^The subtitle for this course must directly relate to the East, South, and Southeast Concentration. You must check with the IS director or advisor for verification ***prior*** *to taking the course.*

Europe

A-H 334 Reframing Renaissance Art (Subtitle required) 3
^A-H 527 Interdisciplinary Approaches (Subtitle required) 3
^ANT 350 Topics in Anthropology (Subtitle required) 3
^ANT 351 Special Topics in Archaeology (Subtitle required) 3
^ANT 352 Special Topics in Cultural Anthropology (Subtitle required) 3
^ANT 353 Special Topics in Physical or Biological Anthropology (Subtitle required) 3
CLA 210 The Art of Greece and Rome 3
CLA 229 The Ancient Near East and Greece to the Death of Alexander the Great 3
CLA 230 The Hellenistic World and Rome to the Death of Constantine 3
CLA 261 Literary Masterpieces of Greece and Rome 3
CLA 301 Latin Literature I (Subtitle required) 3
CLA 302 Latin Literature II (Subtitle required) 3
CLA 331 Gender and Sexuality in Antiquity 3
CLA 382 Greek and Roman Religion 3
CLA 390 Backgrounds to and Early History of Christianity to 150 CE 3
CLA 391 Christians in the Roman Empire 3
CLA 450G Special Topics in Classical Studies (Subtitle required) 3
CLA 462G Topics in Classical Literature (Subtitle required) 3
CLA 480G Studies in Greek and Latin Literature (Subtitle required) 3
CLA 509 Roman Law 3
CLA 524 The Latin Literature of the Republic (Subtitle required) 3
CLA 525 The Latin Literature of the Empire (Subtitle required) 3
CLA 528 Late Antique and Post-Imperial Latin Literature (Subtitle required) 3
CLA 551 Greek Poetry and Drama (Subtitle required) 3
CLA 555 Greek Prose (Subtitle required) 3
ENG 241 Survey of British Literature I 3

ENG 242 Survey of British Literature II 3
ENG 274 Classics of Western Literature 3
^ENG 330 Text and Context (Subtitle required) 3
ENG 342 Shakespeare 3
ENG 440G Studies in British Literature (Subtitle required) 3
^FA 501 Arts-Study Tour 3
^FR 350 Francophone Cultures (Subtitle required) 3
^FR 465G Topics in French Literature and Culture in Translation (Subtitle required) 3
^FR 470G Topical Seminar I (Subtitle required) 3
GEO 326 Geography of Europe 3
GEO 365 Special Topics in Regional Geography (Subtitle required)^ 3
GER 263 The German Cultural Tradition I 3
GER 264 The German Cultural Tradition II 3
GER 311 Introduction to German Literature: Themes (Subtitle required) 3
GER 312 Introduction to German Literature: Popular Forms 3
GER 317 History of German Culture 3
GER 319 Contemporary German Literature and Culture 3
GER 352 German-Speaking Europe (Subtitle required) 3
GER 361 German Cinema 3
GER 363 Germanic Mythology 3
GER 515 Studies in Major Authors 3
GER 516 Studies in Genre 3
^GER 520 Special Topics Seminar 3
GER 540 Multidisciplinary German Studies Seminar (Subtitle required) 3
HIS 202 History of British People to the Restoration 3
HIS 203 History of British People Since the Restoration 3
HIS 208 History of the Atlantic World 3
HIS 230 The Hellenistic World and Rome to the Death of Constantine 3
HIS 323 The Holocaust 3
HIS 352 Topics in European History Before 1789 3
HIS 353 Topics in European History Since 1789 3
HIS 370 Early Middle Ages 3
HIS 371 Later Middle Ages 3
HIS 500 Preclassical and Classical Greece 3
HIS 501 Fourth Century Greece and the Hellenistic World 3
HIS 502 A History of the Roman Republic 3
HIS 503 A History of the Roman Empire 3
HIS 504 Greek and Roman Medicine 3
HIS 509 Roman Law 3
HIS 512 Carolingian Empire 3
HIS 514 Spain: From Reconquest to Empire, 1200-1700 3
HIS 519 The Era of the Renaissance 3
HIS 521 European Social History, 1400-1800 3
HIS 522 Europe and the World in the Age of Revolution (1760-1815) 3
HIS 525 Modern Europe: 1890-1939 3
HIS 526 Europe Since 1939 3
HIS 529 Women in Modern Europe 3
HIS 540 History of Modern France to 1815 3
HIS 541 History of Modern France Since 1815 3
HIS 542 German History, 1789-1918 3
HIS 543 German History Since 1918 3
HIS 546 The Byzantine Empire 3
HIS 552 Tudor-Stuart Britain, 1485-1714 3
HIS 553 Eighteenth Century Britain 3
HIS 554 British History 1815-1901 3
HIS 555 British History Since 1901 3
HIS 556 The British Empire, 1322-1879 3
HIS 557 British Empire and Commonwealth, 1880-2000 3
HJS 324 Jewish Thought and Culture I: From Ancient Israel to the Middle Ages 3
HJS 325 Jewish Thought and Culture II: From the Expulsion from Spain to the Present 3
HJS 425 Topics in Judaic Studies (Subtitle required) 3
ITA 263 Studies in Italian Culture (Subtitle required) 3
ITA 443G Survey of Italian Literature I 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
PS 427G East European Politics 3
SPA 262 Hispanic Literatures in Translation (Subtitle required) 3
SPA 312 Civilization of Spain 3
SPA 320 Literature, Life and Thought of Spain 3
^SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3
SPA 420 Spanish in the World 3
SPA 424 Medieval and Early Modern Spanish Studies 3
SPA 434 Spanish Literature of the 20th Century 3
^SPA 444 20th and 21st Century Spanish Studies (Subtitle required) 3
SPA 506 Introduction to Comparative Spanish, Portuguese, and Italian Linguistics 3
TA 485 French Theatre: Culture, Text and Performance 3

*^The subtitle for this course must directly relate to the Europe Concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Latin America

GEO 324 Geography of Central and South America and the Caribbean 3
^GEO 406G Field Studies (Subtitle required) 3
HIS 206 History of Colonial Latin America, 1492-1810 3
HIS 207 History of Modern Latin America, 1810 to Present 3
HIS 562 Modern Mexico 3
HIS 563 The History of Women in Latin America 3
PS 428G Latin American Government and Politics 3
PS 538 Conflict and Cooperation in Latin American Relations 3
SPA 314 Civilization of Spanish America 3
SPA 322 Literature, Life and Thought of Spanish America 3
SPA 361 Latin American Literature in Translation (Subtitle required) 3
SPA 371 Latin American Cinema (Subtitle required) 3
^SPA 400 Special Topics in Hispanic Literatures and Languages (Subtitle required) 3

*^The subtitle for this course must directly relate to the Latin America Concentration. You must check with the IS director or advisor for verification **prior** to taking the course.*

Russia and Eurasia

^A-H 527 Interdisciplinary Approaches (Subtitle required) 3
^ANT 350 Topics in Anthropology (Subtitle required) 3
^ANT 351 Special Topics in Archaeology (Subtitle required) 3
^ANT 352 Special Topics in Cultural Anthropology (Subtitle required) 3
^ANT 353 Special Topics in Physical or Biological Anthropology (Subtitle required) 3
ANT 432 Anthropology of Eastern Europe and Russia 3
^^FA 501 Arts-Study Tour 3
GEO 329 Geography of the Former Soviet Union 3
^GEO 365 Special Topics in Regional Geography (Subtitle required) 3
^HIS 355 Topics in Non-Western History Since 1789 3
HIS 385 History of Russia to 1825 3
HIS 386 History of Russia Since 1825 3
HIS 534 Russia in the 19th Century 3
HIS 535 Russia in the 20th Century 3
HIS 536 Intellectual and Cultural History of Russia to 1800 3
HIS 537 Intellectual and Cultural History of Russia From 1800 to the Present 3
^PS 410 Topics in Regional Politics (Subtitle required) 3
PS 427G East European Politics 3
PS 429G Government and Politics in Russia and the Post-Soviet States 3
RUS 261 Introduction to Russian Studies 3
RUS 275 Russian Film 3
RUS 370 Russian Folklore (in English) 3
RUS 371 Russian Culture 900-1900 3
RUS 372 Russian Culture 1900-Present 3
RUS 380 Nineteenth Century Russian Literature (in English) 3
RUS 381 Russian Literature 1900-Present (in English) 3
RUS 400G Russian Cultural Studies (Subtitle required) 3
RUS 460G Major Russian Writers (Subtitle required) 3
RUS 463 Russian Film and Theatre (Subtitle required) 3

Minor in International Studies

The minor in International Studies requires 18 credit hours of course work, 12 of which must be at the 300 level or above. Nine of the 18 credit hours should be in either a thematic or area concentration. No more than 9 credit hours from any other major can apply to the minor. All 18 credit hours must be in approved International Studies courses.

LINGUISTICS

Linguistics is an interdisciplinary program combining resources from English, anthropology, psychology, philosophy, computer science, and the foreign languages, to develop an understanding of the nature and implications of human language. The Linguistics program provides solid foundations in phonological and grammatical analysis, as well as opportunities to investigate the social, cultural, psychological, and physical aspects of language use.

Bachelor of Arts with a major in LINGUISTICS

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the

major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one ANT or SOC course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

LIN 222 Introduction to Linguistics II: Language in Context 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(completed by Premajor Requirements)*
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science 6
  c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **19**

Premajor Requirements

Complete the third and fourth semesters of a foreign language (or the equivalent) 6-8

Premajor hours: **6-8**

Major Requirements

Major Core Requirements
LIN 221 Introduction to Linguistics I: Theoretical Foundations and Analysis 3
LIN 222 Introduction to Linguistics II: Language in Context 3

plus four major area courses:
LIN 500 Phonetics 3
LIN 505 Linguistic Morphology 3
LIN 512 Analysis of English Syntax 3
LIN 515 Phonological Analysis 3

plus 15 additional hours of LIN courses of which six (6) or more must be at the 500 level and distinct from the major area courses 15

Major Core hours: **33**

Other Course Work Required for the Major

For the Related Component:
Choose 15 hours of additional courses relevant to the major chosen from the fields of anthropology, computer science, modern and classical languages, Hispanic studies, mathematics, psychology, philosophy or courses approved by the Director of the Program 15

Other Major hours: **15**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 9

Total Minimum Hours Required for Degree **120**

Bachelor of Science with a major in LINGUISTICS

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: courses with an LIN prefix are generally not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one ANT or SOC course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

LIN 222 Introduction to Linguistics II: Language in Context 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(completed by Premajor Requirements)*
II. Disciplinary Requirements
  a. Natural Science 3
  b. Social Science 3
  c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **13**

Premajor Requirements

Complete the third and fourth semesters of a foreign language (or the equivalent) 6-8

Premajor hours: **6-8**

Major Requirements

Major Core Requirements
LIN 211 Introduction to the Study of Language 3
LIN 212 Introduction to Linguistics II 3

plus four major area courses:
LIN 500 Phonetics 3
LIN 505 Linguistic Morphology 3
LIN 512 Analysis of English Syntax 3
LIN 515 Phonological Analysis 3

plus 15 additional hours of LIN courses of which six (6) or more must be at the 500 level and distinct from the major area courses 15

Major Core hours: **33**

Other Course Work Required for the Major

For the Related Component:
Choose 15 hours of additional courses relevant to the major chosen from the fields of anthropology, computer science, modern and classical languages, Hispanic studies, mathematics, psychology, philosophy or courses approved by the Director of the Program 15

Other Major hours: **15**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 12

Total Minimum Hours Required for Degree **120**

Minor in Linguistics

The minor in Linguistics requires 18 hours of course work to include:

LIN 221 Introduction to Linguistics I: Theoretical Foundations and Analysis 3
LIN 222 Introduction to Linguistics II: Language in Context 3

Choose one phonetics/phonology course:
  LIN 500 Phonetics
  or
  LIN 515 Phonological Analysis 3

Choose one morphosyntact/semantic course:
  LIN 512 Analysis of English Syntax
  LIN 505 Linguistic Morphology
  LIN 509 Semantics and Pragmatics

or
LIN 516 Grammatical Typology 3

Choose two other LIN courses at 300 level or above 6

MATHEMATICAL ECONOMICS

The mathematical economics major offers students a degree program that combines mathematics, statistics, and economics. In today's increasingly complicated international business world, a strong preparation in the fundamentals of both economics and mathematics is crucial to success. This degree program is designed to prepare a student to go directly into the business world with skills that are in high demand, or to go on to graduate study in economics or finance. A degree in mathematical economics would, for example, prepare a student for the beginning of a career in operations research or actuarial science.

In many ways, the mathematical economics program parallels the engineering philosophy. It combines the quantitative methods of mathematics with an applied science in order to solve real problems. As an example, operations research is used to optimize costs for extremely complicated systems such as airline scheduling. A major problem in business and economics is decision making under uncertainty. Efficient inventory control for large national retail chains can mean the difference between success and failure. A business will improve its bottom line if it can effectively control cost of inventory under the uncertainty of consumer demand. The solution of control problems of this type requires knowledge of relatively sophisticated mathematics and statistics as well as knowledge of basic economic principles.

There is currently a serious shortage of individuals who have sufficient training in mathematics and statistics as well as an understanding of business and economics. Companies that employ operations research analysts or actuaries cannot fill their positions. Mathematical economics and related areas have often been referred to as engineering for the service sector or "financial engineering." With the ever increasing importance of the service sector in our economy, the math-econ degree will prove to be a valuable asset. The program will give the student an opportunity to study a fascinating collection of ideas and it will also provide the student with very marketable skills.

Bachelor of Arts with a major in MATHEMATICAL ECONOMICS

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

ECO 491G Applied Econometrics 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science *(completed by Major Requirements)*
  c. Humanities 6
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **19-33**

Premajor Requirements

*MA 113 Calculus I 4
MA 114 Calculus II 4

Premajor hours: **8**

Major Requirements

Mathematics Core Requirements
MA 213 Calculus III 4
MA 214 Calculus IV 3
MA 320 Introductory Probability 3
MA 322 Matrix Algebra and its Applications 3

Mathematics Core hours: **13**

Economics Core Requirements
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
ECO 391 Economic and Business Statistics 3
ECO 401 Intermediate Microeconomic Theory 3
ECO 402 Intermediate Macroeconomic Theory 3

Economics Core hours: **15**

Other Course Work Required for the Major

For the Mathematics Component:
Choose one of the following sequences: MA 416G and MA 417G, MA 471G and MA 472G, or STA 524 and STA 525 6

For the Economics Component
Choose 9 hours of 300+ level economics courses 9

For the Statistics Component
Choose STA 291 or a higher level statistics course 3

Other Major hours: **18**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 9

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Bachelor of Science with a major in MATHEMATICAL ECONOMICS

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: courses with an ECO prefix are generally not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

ECO 491G Applied Econometrics 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 3
  b. Social Science *(completed by Major Requirements)*
  c. Humanities 3
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **13-27**

Premajor Requirements

*MA 113 Calculus I 4
MA 114 Calculus II 4

Premajor hours: **8**

Major Requirements

Mathematics Core Requirements
MA 213 Calculus III 4
MA 214 Calculus IV 3
MA 320 Introductory Probability 3
MA 322 Matrix Algebra and its Applications 3

Mathematics Core hours: **13**

Economics Core Requirements
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
ECO 391 Economic and Business Statistics 3
ECO 401 Intermediate Microeconomic Theory 3
ECO 402 Intermediate Macroeconomic Theory 3

Economics Core hours: **15**

Other Course Work Required for the Major

For the Mathematics Component:
Choose one of the following sequences: MA 416G and MA 417G, MA 471G and MA 472G, or STA 524 and STA 525 6

For the Economics Component
Choose 9 hours of 300+ level economics courses 9

For the Statistics Component
Choose STA 291 or a higher level statistics course 3

Other Major hours: **18**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 12

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

MATHEMATICS

The department offers two programs leading to the B.A. or B.S. degree. Students may major in mathematics by completing the requirements for either: Option A, Mathematics or Option B, Mathematical Sciences.

The mathematics option consists of courses offered solely by the department of mathematics and is intended for those who wish to follow a traditional mathematics career path. The mathematical sciences option consists of courses offered by the departments of computer science, mathematics and statistics, and is intended for those who opt for a career that requires the application of mathematics. The requirements for these programs are outlined below.

Bachelor of Arts with a major in MATHEMATICS

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **31**

Graduation Composition and Communication Requirement (GCCR)

MA 391 Mathematics: Composition and Communication 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science 6
  c. Humanities 6
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **25-39**

OPTIONS

Option A – Mathematics

Premajor Requirements

*MA 113 Calculus I 4
MA 114 Calculus II 4
CS 115 Introduction to Computer Programming 3

Premajor hours: **11**

Major Requirements

Major Core Requirements
MA 213 Calculus III 4

MA 214 Calculus IV
or
MA 261 Introduction to Number Theory 3

MA 322 Matrix Algebra and its Applications 3

Major Core hours: **10**

Other Course Work Required for the Major

From the Major Department:
Choose 18 hours of 300+ level mathematics courses. One of the following sequences, or a substitute approved by the Director of Undergraduate Studies, must be included: MA 351/352, MA 361/362, MA 471G/472G, MA 481G/483G, CS/MA 416G and MA/STA 417G; at least two of the following must be included (they can also count as the sequence if appropriate): MA 351, 352, 361, 362, 471G, 472G. May not include MA 322. 18

From Outside the Major Department
Choose 14 hours outside Mathematics at the 300+ level. Courses are generally chosen from physics, chemistry, biology, logic, statistics, computer science, economics, and engineering. 200+ level courses used to satisfy College requirements can also be counted here 14

Other Major hours: **32**

Option B – Mathematical Sciences

Premajor Requirements

*MA 113 Calculus I
or
*MA 137 Calculus I with Life Science Applications 4

MA 114 Calculus II
or
MA 138 Calculus II with Life Science Applications 4

CS 115 Introduction to Computer Programming 3

Premajor hours: **11**

Major Requirements

Major Core Requirements
CS 215 Introduction to Program Design, Abstraction and Problem Solving 4
MA 213 Calculus III 4
MA 214 Calculus IV 3
MA/STA 320 Introductory Probability 3
MA/CS 321 Introduction to Numerical Methods 3
MA 322 Matrix Algebra and its Applications 3
STA 321 Basic Statistical Theory I 3

plus a two-semester sequence chosen from the following:
MA/CS 340 Applicable Algebra
and
MA/CS 415G Combinatorics and Graph Theory

MA 432G Methods of Applied Mathematics I
and

MA 433G Introduction to Complex Variables

MA 481G Differential Equations
and
MA 483G Introduction to Partial Differential Equations

MA/CS 416G Introduction to Optimization
and
MA/STA 417G Decision Making Under Uncertainty ... 6

Major Core hours: ... **29**

Other Course Work Required for the Major

From the Major Department:
Choose 6 hours of acceptable MA courses at the 300 level and above (MA 308 may not be used) ... 6

From Outside the Major Department
Nine hour supporting program chosen from one area outside mathematics. The Director of Undergraduate Studies must approve the supporting program. Courses in the supporting program must be at the 300 level and above. Cross-listed courses may be used for the supporting program provided they are not used to satisfy another major requirement ... 9

Other Major hours: ... **15**

Total Minimum Hours Required for Degree ... **120**

**Course used towards completion of a UK Core Requirement.*

Bachelor of Science with a major in MATHEMATICS

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list ... 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list ... 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list ... 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list ... 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I ... 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II ... 3

VII. Quantitative Foundations
MA 113 Calculus I ... 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list ... 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list ... 3

X. Global Dynamics
Choose one course from approved list ... 3

UK Core hours: ... **31**

Graduation Composition and Communication Requirement (GCCR)

MA 391 Mathematics: Composition and Communication ... 3

Graduation Composition and Communication Requirement hours (GCCR) ... **3**

College Requirements

I. Foreign Language *(placement exam recommended)* ... 0-14
II. Disciplinary Requirements
  a. Natural Science ... 3
  b. Social Science ... 3
  c. Humanities ... 3
III. Laboratory or Field Work ... 1
IV. Electives ... 6

College Requirement hours: ... **16-30**

OPTIONS

Option A – Mathematics

Premajor Requirements

*MA 113 Calculus I ... 4
MA 114 Calculus II ... 4
CS 115 Introduction to Computer Programming ... 3

Premajor hours: ... **11**

Major Requirements

Major Core Requirements
MA 213 Calculus III ... 4

MA 214 Calculus IV
or
MA 261 Introduction to Number Theory ... 3

MA 322 Matrix Algebra and its Applications ... 3

Major Core hours: ... **10**

Other Course Work Required for the Major

From the Major Department:
Choose 18 hours of 300+ level mathematics courses. One of the following sequences, or a substitute approved by the Director of Undergraduate Studies, must be included: MA 351/352, MA 361/362, MA 471G/472G, MA 481G/483G, CS/MA 416G and MA/STA 417G; at least two of the following must be included (they can also count as the sequence if appropriate): MA 351, 352, 361, 362, 471G, 472G.
May not include MA 322. ... 18

From Outside the Major Department
Choose 14 hours outside Mathematics at the 300+ level. Courses are generally chosen from physics, chemistry, biology, logic, statistics, computer science, economics, and engineering. 200+ level courses used to satisfy College requirements can also be counted here ... 14

Other Major hours: ... **32**

Option B – Mathematical Sciences

Premajor Requirements

*MA 113 Calculus I
or
*MA 137 Calculus I with Life Science Applications ... 4

MA 114 Calculus II
or
MA 138 Calculus II with Life Science Applications ... 4

CS 115 Introduction to Computer Programming ... 3

Premajor hours: ... **11**

Major Requirements

CS 215 Introduction to Program Design, Abstraction and Problem Solving ... 4
MA 213 Calculus III ... 4
MA 214 Calculus IV ... 3
MA/STA 320 Introductory Probability ... 3
MA/CS 321 Introduction to Numerical Methods ... 3
MA 322 Matrix Algebra and its Applications ... 3
STA 321 Basic Statistical Theory I ... 3

plus a two-semester sequence chosen from the following:

MA/CS 340 Applicable Algebra
and
MA/CS 415G Combinatorics and Graph Theory

MA 432G Methods of Applied Mathematics I
and
MA 433G Introduction to Complex Variables

MA 481G Differential Equations
and
MA 483G Introduction to Partial Differential Equations

MA/CS 416G Introduction to Optimization
and
MA/STA 417G Decision Making Under Uncertainty ... 6

Major Core hours: ... **29**

Other Course Work Required for the Major

From the Major Department:
Choose 6 hours of acceptable MA courses at the 300 level and above (MA 308 may not be used) ... 6

From Outside the Major Department
Nine hour supporting program chosen from one area outside mathematics. The Director of Undergraduate Studies must approve the supporting program. Courses in the supporting program must be at the 300 level and above. Cross-listed courses may be used for the supporting program provided they are not used to satisfy another major requirement ... 9

Other Major hours: ... **15**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation ... 0-9

Total Minimum Hours Required for Degree ... **120**

**Course used towards completion of a UK Core Requirement.*

Mathematics Cooperative Education

Qualified students who major in mathematics may participate in the Mathematical Sciences Cooperative Education Program which provides the opportunity for alternate semesters of academic study and full-time employment in business or industry. Guidelines and application forms are available in the Engineering/Math Sciences Co-op Program Office, 320 Robotics Building.

Minor in Mathematics

The minor in Mathematics requires 21 hours of course work to include:

1. MA 113/114 Calculus I and II **and** ... 8
   MA 213 Calculus III ... 4
   or equivalent
2. MA 322 Matrix Algebra and Its Applications ... 3
   or equivalent

3. 6 additional hours of mathematics courses numbered greater than 213. Possible courses include: MA 214, MA 261, MA 320, MA 321, MA 330, MA 341, MA 351, MA 361, or any 400 level math course.

MILITARY SCIENCE AND LEADERSHIP (Army Officer Commissioning)

The Army Reserve Officers' Training program at the University of Kentucky is open to both men and women and follows a general military science curriculum that is normally completed in four years but which may be completed in two years. An academic major in military science is not offered. The program's primary objective is to commission the future leadership of the Active Army, Army National Guard, and U.S. Army Reserve.

Scholarships

Students interested in Army ROTC scholarships should contact the Army ROTC Admissions Officer at (859) 257-6865; or visit 101 Barker Hall on campus. Additionally, students should refer to the *Student Financial Aid, Awards, and Benefits* section of this Bulletin.

Academic Program

Required program courses are: AMS 101, AMS 102, AMS 211, AMS 212, AMS 301, AMS 302, AMS 341, AMS 342, an approved military history course (AMS 320), and continuous enrollment (or participation) in KHP 107 and AMS 250 or 350 once contracted in the ROTC program. Also, cadets attend a five-week Leadership Development Assessment Course, usually in the summer between the junior and senior years in Fort Knox, KY.

An alternative two-year program is available for students with at least two academic years remaining until graduation and who have not completed the AMS 100- and AMS 200-level courses. Students should contact the Professor of Military Science about the four-week summer Leadership Training Course conducted each summer at Fort Knox, Kentucky. Successful completion of the camp enables students to take AMS 300-level courses and complete the program in two years.

In certain cases, veterans or students who have completed Army basic training are also eligible to complete the program in two years. Members of the Army National Guard or U.S. Army Reserve may also directly enroll in the Leadership Development Assessment Course and participate in the Simultaneous Membership Program (SMP).

The Basic Course: (100 and 200 level) are orientational and deal with the Army's role in the U.S. government. American military history, small unit organizations/operations, military geography/map reading and some adventure training are also addressed. **No military obligation** is incurred by completion of the courses.

The Advanced Course: (300 level) focus on leadership, management, and command/staff responsibilities within military organizations. All upper division Army ROTC students receive up to $500 per month tax-free subsistence pay during the academic year. During the summer, students receive about $900 while attending Camp.

Leadership Lab periods, held weekly during the academic year, and on one Saturday per semester, focus on adventure-type training (e.g., orienteering, rappelling, survival training, and basic marksmanship). These activities are offered, subject to availability of equipment and facilities, to provide an opportunity to develop leadership, organizational abilities, and confidence.

Professional development and enrichment opportunities are also available through ROTC-sponsored university organizations – the Pershing Rifles and Kentucky Rangers.

Army ROTC incorporates the dimension of leadership into the academic curriculum and provides training and experience that can be valuable in any profession.

For more information, contact the Professor of Military Science, ATTN: Admissions Officer, U.S. Army ROTC, 101 Barker Hall, University of Kentucky, Lexington, KY 40506-0028; or call (859) 257-6865. Visit the Web site at: **http://armyrotc.as.uky.edu/**

MODERN AND CLASSICAL LANGUAGES, LITERATURES AND CULTURES

The Department of Modern and Classical Languages, Literatures and Cultures is comprised of the Divisions of Classics, French and Italian, German Studies, and Russian and Eastern Studies (including Arabic and Islamic Studies, Chinese Studies, Hebrew/Jewish Studies, Japan Studies, Russian Studies).

Bachelor of Arts with a major in MODERN AND CLASSICAL LANGUAGES, LITERATURES AND CULTURES

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one of the following courses
AIS 320 Modern Arabic Literature and Film in Translation
AIS 330 Islamic Civilization II
AIS 340 Fundamentalism and Reform in Islam
AIS 345 Islamic Mysticism
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840
CHI 331 Introduction to Chinese Culture, 1840 to Present
FR 103 French Cinema
FR 205 The French Graphic Novel
FR 225 French Film Noir
GER 103 Fairy Tales in European Context
GER 105 German Film Today
MCL 100 The World of Language
MCL 135 Vampires: Evolution of a Sexy Monster
MCL 200 Global Literacy
MCL 270 Introduction to Folklore and Mythology
RUS 275 Russian Film
RUS 371 Russian Culture 900-1900
RUS 372 Russian Culture 1900-Present
or any area course 3

III. Intellectual Inquiry in the Social Sciences
AIS 430 Islam in America
MCL 135 Vampires: Evolution of a Sexy Monster
MCL 270 Introduction to Folklore and Mythology
RUS 370 Russian Folklore (in English)
or any area course 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
AIS 430 Islam in America
or any area course 3

X. Global Dynamics
AIS 228 Islamic Civilization 3
CHI 331 Introduction to Chinese Culture, 1840 to Present
GER 342 War, Peace, and Terror in Germany and Europe
GER 361 German Cinema
JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present
JPN 351 The Japanese Experience of the Twentieth Century
MCL 343 Global Horror
RUS 370 Russian Folklore (in English)
RUS 371 Russian Culture 900-1900
RUS 372 Russian Culture 1900-Present
or any area course 3

UK Core hours: 30

Graduation Composition and Communication Requirement (GCCR)

MCL 495 Modern and Classical Languages, Literatures and Cultures Capstone 3

Graduation Composition and Communication Requirement hours (GCCR) 3

College Requirements

I. Foreign Language *(completed by Major Requirements)*
II. Disciplinary Requirements
  a. Natural Science 3-6
  b. Social Science 3-6
  c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **19**

MCL Common Core

MCL 100 The World of Language 3
MCL 200 Global Literacy 3
Cross-Disciplinary Requirement: a course at or above the 200-level offered by MCL in an area other than the student's field of concentration 3
MCL 495 Modern and Classical Languages, Literatures and Cultures Capstone 3

Common Core hours: **12**

TRACKS

MCL / Arabic and Islamic Studies

Track Requirements

AIS 228 Islamic Civilization 3
AIS 311 Arabic for Business and Media I 3
AIS 312 Arabic for Business and Media II 3
AIS 330 Islamic Civilization II 3

Track Requirement hours: **12**

Track Electives

Students must take 18 hours of the following courses toward a total of 42 credits:

AIS 301 Colloquial Arabic I 3
AIS 302 Colloquial Arabic II 3
AIS 320 Modern Arabic Literature and Film in Translation 3
AIS 331 Classical Arabic Literature (in English) 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
AIS 345 Islamic Mysticism 3
AIS 410 Theology and Law in Islam 3
AIS 430 Islam in America 3
AIS 440 Introduction to the Quran 3
AIS 442 Arabic Reading I 3
AIS 443 Arabic Reading II 3
ANT 222 Middle East Cultures 3
ANT 326 People and Cultures of Sub-Saharan Africa ... 3
ANT 327 Culture and Societies of India and South Asia 3
GEO 328 Geography of the Middle East and North Africa 3
GEO 330 Geography of the Indian Subcontinent 3
GEO 336 Geography of Sub-Saharan Africa 3
PHI 504 Islamic and Jewish Philosophy and the Classical Tradition 3
*PS 410 Topics in Regional Politics (Subtitle required) 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

**If topic is appropriate.*

Total Elective hours **18**

Major Requirement hours: **42**

MCL / Chinese Studies

Track Requirements

CHI 301 Advanced Intermediate Chinese I 3
CHI 302 Advanced Intermediate Chinese II 3
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840 3
CHI 331 Introduction to Chinese Culture, 1840 to Present 3

Track Requirement hours: **12**

Track Electives

Students must take 18 hours of the following courses toward a total of 42 credits:

CHI 310 Sounds of East Asian Languages 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to Contemporary Chinese Film 3
CHI 322 Self and Society in Chinese Culture 3
CHI 345 Introduction to Early Chinese Thought 3
CHI 395 Independent Work in Chinese 1-3
CHI 401 Advanced Chinese I 3
CHI 402 Advanced Chinese II 3
CHI 430 Popular Culture in Modern China 3
CHI 450 Daoism: East and West 3
CHI 495G Advanced Independent Work in Chinese 1-3
CHI 511 Literary Chinese 3
CHI 520 Introduction to Chinese Linguistics 3
HIS 355 Topics in Non-Western History Since 1789 3
HIS 597 Westerners in East Asia, 1839 to the Present 3
HIS 598 China in Revolution, 1895-1976 3
A&S 300 Special Course (Subtitle required) 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

In addition to the courses above, students may also choose to draw up to 6 credits maximum from the following courses in China and in its East Asian context toward their total of 42 credits:

HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
HIS 593 East Asian History Since World War II 3
A-H 310 Asian Art and Culture (Subtitle required) 3
TA 584 Asian Theatre 3
GEO 333 Geography of East Asia 3
MUS 330 Music in the World (Subtitle required) 3
PHI 343 Asian Philosophy 3
PS 419G The Governments and Politics of Eastern Asia 3

Total Elective hours **18**

Major Requirement hours: **42**

MCL / Classics

Track Requirements

To graduate with a field of study in Classics, the student must complete either Greek to the CLA 252 level or Latin to the 202-level either by successfully completing the specified course, by successfully completing a course above the 200-level in either language, or by demonstrating the equivalent competency.

The student must also complete 18 hours in courses at the 200-level or above with a CLA prefix or cross-listed CLA.

Total Requirement hours: **18**

Track Electives

In addition, the student must complete 12 hours in courses appropriate to the field of study at the 200-level or above not prefixed CLA (courses cross-listed CLA also fulfill this requirement). The following courses are automatically accepted to fulfill this requirement, but other courses may be accepted by the Director of Undergraduate Studies on a case-by-case basis.

A-H 314 Ancient (Subtitle required) 3
AIS 228 Islamic Civilization 3
ANT 240 Introduction to Archaeology 3
ENG 271 The Bible as Literature 3
HIS 330 A History of Western Religious Thought (I) 3
HIS 370 Early Middle Ages 3
HIS 500 Preclassical and Classical Greece 3
HIS 501 Fourth-Century Greece and the Hellenistic World 3
HIS 502 A History of the Roman Republic 3
HIS 503 A History of the Roman Empire 3
HIS 504 Greek and Roman Medicine 3
HIS 546 The Byzantine Empire 3
HJS 324 Jewish Thought and Culture I: From Ancient Israel to the Middle Ages 3
MCL 270 Introduction to Folklore and Mythology 3
MCL 595 Topics in Folklore and Myth (Subtitle required) 3
PHI 260 History of Philosophy I: From Greek Beginnings to the Middle Ages 3
PHI 503 Topics in Ancient Philosophy 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours **12**

Major Requirement hours: **42**

MCL / French and Francophone Studies

Track Requirements

FR 204 Introduction to French and Francophone Studies 3

FR 214 France Today
or
FR 215 Visual Cultures 3

FR 410 French in Performance
or
FR 425 Media Studies 3

FR 470G Topical Seminar I (Subtitle required) 3
FR 471G Topical Seminar II (Subtitle required) 3

Track Requirement hours: **15**

Track Electives

Choose 15 hours from among the following courses:

FR 307 French for Business and Economics 3
FR 310 French Phonetics 3
FR 311 Introduction to French Linguistics 3
FR 324 Studies in French Literature (Subtitle required) 3
FR 325 French Cinema (Subtitle required) 3
FR 344 The Literary Text (Subtitle required) 3
FR 350 Francophone Cultures (Subtitle required) 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or

other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours **15**

Major Requirement hours: **42**

MCL / German Studies

Track Requirements

GER 307 Intermediate German Composition and Conversation I 3
GER 308 Intermediate German Composition and Conversation II 3
GER 311 Introduction to German Literature: Themes (Subtitle required) 3
GER 312 Introduction to German Literature: Popular Forms 3

Track Requirement hours: **12**

Track Electives

In addition, the student must complete 12 hours from the following courses:

GER 310 German for International Business and Professions 3
GER 317 History of German Culture 3
GER 319 Contemporary German Literature and Culture 3
GER 342 War, Peace, and Terror in Germany and Europe 3
GER 352 German-Speaking Europe (Subtitle required) 3
GER 361 German Cinema 3
GER 363 Germanic Mythology 3
GER 395 Independent Work in German 3
GER 507 Advanced German Composition and Conversation 3
GER 515 Studies in Major Authors 3
GER 516 Studies in Genre 3
GER 550 Multidisciplinary German Studies Seminar (Subtitle required) 3
MCL 343 Global Horror 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

The student must also complete an additional 6 hours of related courses in History, Linguistics, Philosophy, English, Gender and Women's Studies, or Geography. Courses from an additional major or a minor could be applied here.

Total Elective hours **18**

Major Requirement hours: **42**

MCL / Japan Studies

Track Requirements

JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868 3

JPN/ANT 321 Introduction to Japanese Culture, Meiji (1868) to Present
or
JPN 351 The Japanese Experience of the Twentieth Century 3

JPN 401 Advanced Japanese III 3
JPN 402 Advanced Japanese IV 3

Track Requirement hours: **12**

Track Electives

In addition, the student must complete 18 hours from the following courses:

JPN 283 Japanese Film 3
JPN 400G Topics in Japan Studies (Subtitle required) 3
JPN 405 Seminar in Japanese and Asian Studies (Subtitle required) 3
JPN 420G Pre-Modern Literary and Visual Arts of Japan 3
JPN 421G Contemporary Literary and Visual Arts of Japan 3
JPN 520 Japanese Linguistics and Society 3
MCL 324 The City in the Twentieth Century: Tokyo, Shanghai, Paris 3
A-H 310 Asian Art and Culture (Subtitle required) 3
A-H 311 The Arts as Soft Power: The Japanese Tea Ceremony 3
HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
HIS 357 Japan at War, 1850 to the Present 3
GEO/JPN 334 Environment, Society and Economy of Japan 3
GEO/JPN 491G Japanese Landscapes 3
GEO/JPN 551 Japanese Multinational Corporations 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours **18**

Major Requirement hours: **42**

MCL / Russian Studies

Track Requirements

RUS 301 Conversation and Composition I 3
RUS 302 Advanced Intermediate Russian II 3
RUS 371 Russian Culture 900-1900 3
RUS 372 Russian Culture 1900-Present 3

Track Requirement hours: **12**

Track Electives

In addition, the student must complete 12 hours from the following courses:

RUS 275 Russian Film 3
RUS 370 Russian Folklore (in English) 3
RUS 401 Advanced Russian I 3
RUS 404 Advanced Russian II 3
RUS 410G Russian for Special Purposes (Subtitle required) 3
RUS 525 Russian Literary Studies (Subtitle required) 3
RUS 535 Russian Visual Studies (Subtitle required) 3
RUS 545 Russian Cultural Studies (Subtitle required) 3
RUS 555 Topical Seminar on Russian Studies (Subtitle required) 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Plus 6 credit hours related to Russia/Former USSR from outside the major department.

Total Elective hours **18**

Major Requirement hours: **42**

Total Minimum Hours Required for Degree **120**

Bachelor of Science with a major in MODERN AND CLASSICAL LANGUAGES, LITERATURES AND CULTURES

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one of the following courses
AIS 320 Modern Arabic Literature and Film in Translation
AIS 330 Islamic Civilization II
AIS 340 Fundamentalism and Reform in Islam
AIS 345 Islamic Mysticism
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840
CHI 331 Introduction to Chinese Culture, 1840 to Present
FR 103 French Cinema
FR 205 The French Graphic Novel
FR 225 French Film Noir
GER 103 Fairy Tales in European Context
GER 105 German Film Today
MCL 100 The World of Language
MCL 135 Vampires: Evolution of a Sexy Monster
MCL 200 Global Literacy
MCL 270 Introduction to Folklore and Mythology
RUS 275 Russian Film
RUS 371 Russian Culture 900-1900
RUS 372 Russian Culture 1900-Present
or any area course 3

III. Intellectual Inquiry in the Social Sciences
AIS 430 Islam in America
MCL 135 Vampires: Evolution of a Sexy Monster
MCL 270 Introduction to Folklore and Mythology
RUS 370 Russian Folklore (in English)
or any area course 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
AIS 430 Islam in America
or any area course 3

X. Global Dynamics
AIS 228 Islamic Civilization
CHI 331 Introduction to Chinese Culture, 1840 to Present
GER 342 War, Peace, and Terror in Germany and Europe
GER 361 German Cinema
JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868
JPN 321 Introduction to Japanese Culture, Meiji (1868) to Present
JPN 351 The Japanese Experience of the Twentieth Century
MCL 343 Global Horror
RUS 370 Russian Folklore (in English)
RUS 371 Russian Culture 900-1900
RUS 372 Russian Culture 1900-Present
or any area course 3

UK Core hours: 30

Graduation Composition and Communication Requirement (GCCR)

MCL 495 Modern and Classical Languages, Literatures and Cultures Capstone 3

Graduation Composition and Communication Requirement hours (GCCR) 3

College Requirements

I. Foreign Language *(completed by Major Requirements)*
II. Disciplinary Requirements
a. Natural Science 3-6
b. Social Science 3-6
c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: 19

MCL Common Core

MCL 100 The World of Language 3
MCL 200 Global Literacy 3
Cross-Disciplinary Requirement: a course at or above the 200-level offered by MCL in an area other than the student's field of concentration 3
MCL 495 Modern and Classical Languages, Literatures and Cultures Capstone 3

Common Core hours: 12

TRACKS

MCL / Arabic and Islamic Studies

Track Requirements
AIS 228 Islamic Civilization 3
AIS 311 Arabic for Business and Media I 3
AIS 312 Arabic for Business and Media II 3
AIS 330 Islamic Civilization II 3

Track Requirement hours: 12

Track Electives
Students must take 18 hours of the following courses toward a total of 42 credits:

AIS 301 Colloquial Arabic I 3
AIS 302 Colloquial Arabic II 3
AIS 320 Modern Arabic Literature and Film in Translation 3
AIS 331 Classical Arabic Literature (in English) 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
AIS 345 Islamic Mysticism 3
AIS 410 Theology and Law in Islam 3
AIS 430 Islam in America 3
AIS 440 Introduction to the Quran 3
AIS 442 Arabic Reading I 3
AIS 443 Arabic Reading II 3
ANT 222 Middle East Cultures 3
ANT 326 People and Cultures of Sub-Saharan Africa 3
ANT 327 Culture and Societies of India and South Asia 3
GEO 328 Geography of the Middle East and North Africa 3
GEO 330 Geography of the Indian Subcontinent 3
GEO 336 Geography of Sub-Saharan Africa 3
PHI 504 Islamic and Jewish Philosophy and the Classical Tradition 3
*PS 410 Topics in Regional Politics (Subtitle required) 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

**If topic is appropriate.*

Total Elective hours 18

Major Requirement hours: 42

MCL / Chinese Studies

Track Requirements
CHI 301 Advanced Intermediate Chinese I 3
CHI 302 Advanced Intermediate Chinese II 3
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840 3
CHI 331 Introduction to Chinese Culture, 1840 to Present 3

Track Requirement hours: 12

Track Electives
Students must take 18 hours of the following courses toward a total of 42 credits:

CHI 310 Sounds of East Asian Languages 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to Contemporary Chinese Film 3
CHI 322 Self and Society in Chinese Culture 3
CHI 345 Introduction to Early Chinese Thought 3
CHI 395 Independent Work in Chinese 1-3
CHI 401 Advanced Chinese I 3
CHI 402 Advanced Chinese II 3
CHI 430 Popular Culture in Modern China 3
CHI 450 Daoism: East and West 3
CHI 495G Advanced Independent Work in Chinese 1-3
CHI 511 Literary Chinese 3
CHI 520 Introduction to Chinese Linguistics 3
HIS 355 Topics in Non-Western History Since 1789 3
HIS 597 Westerners in East Asia, 1839 to the Present 3
HIS 598 China in Revolution, 1895-1976 3
A&S 300 Special Course (Subtitle required) 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

In addition to the courses above, students may also choose to draw up to 6 credits maximum from the following courses in China and in its East Asian context toward their total of 42 credits:

HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
HIS 593 East Asian History Since World War II 3
*A-H 310 Asian Art and Culture (Subtitle required) 3
TA 584 Asian Theatre 3
GEO 333 Geography of East Asia 3
MUS 330 Music in the World (Subtitle required) 3
PHI 343 Asian Philosophy 3
PS 419G The Governments and Politics of Eastern Asia 3

**If topic is appropriate.*

Total Elective hours 18

Major Requirement hours: 42

MCL / Classics

Track Requirements
To graduate with a field of study in Classics, the student must complete either Greek to the CLA 252 level or Latin to the 202 level either by successfully completing the specified course, by successfully completing a course above the 200 level in either language, or by demonstrating the equivalent competency.

The student must also complete 18 hours in courses at the 200 level or above with a CLA prefix or cross-listed CLA.

Total Requirement hours: 18

Track Electives
In addition, the student must complete 12 hours in courses appropriate to the field of study at the 200 level or above not prefixed CLA (courses cross-listed CLA also fulfill this requirement). The following courses are automatically accepted to fulfill this requirement, but other courses may be accepted by the Director of Undergraduate Studies on a case-by-case basis.

A-H 314 Ancient (Subtitle required) 3
AIS 228 Islamic Civilization 3
ANT 240 Introduction to Archaeology 3
ENG 271 The Bible as Literature 3
HIS 330 A History of Western Religious Thought (I) 3
HIS 370 Early Middle Ages 3
HIS 500 Preclassical and Classical Greece 3
HIS 501 Fourth-Century Greece and the Hellenistic World 3
HIS 502 A History of the Roman Republic 3
HIS 503 A History of the Roman Empire 3
HIS 504 Greek and Roman Medicine 3
HIS 546 The Byzantine Empire 3
HJS 324 Jewish Thought and Culture I: From Ancient Israel to the Middle Ages 3
MCL 270 Introduction to Folklore and Mythology 3
MCL 595 Topics in Folklore and Myth (Subtitle required) 3
PHI 260 History of Philosophy I: From Greek Beginnings to the Middle Ages 3
PHI 503 Topics in Ancient Philosophy 3

MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours 12

Major Requirement hours: 42

MCL / French and Francophone Studies

Track Requirements

FR 204 Introduction to French and Francophone Studies 3
FR 214 France Today
or
FR 215 Visual Cultures 3
FR 410 French in Performance
or
FR 425 Media Studies 3
FR 470G Topical Seminar I (Subtitle required) 3
FR 471G Topical Seminar II (Subtitle required) 3

Track Requirement hours: 15

Track Electives

Choose 15 hours from among the following courses:

FR 307 French for Business and Economics 3
FR 310 French Phonetics 3
FR 311 Introduction to French Linguistics 3
FR 324 Studies in French Literature (Subtitle required) 3
FR 325 French Cinema (Subtitle required) 3
FR 344 The Literary Text (Subtitle required) 3
FR 350 Francophone Cultures (Subtitle required) 3
MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours 15

Major Requirement hours: 42

MCL / German Studies

Track Requirements

GER 307 Intermediate German Composition and Conversation I 3
GER 308 Intermediate German Composition and Conversation II 3
GER 311 Introduction to German Literature: Themes (Subtitle required) 3
GER 312 Introduction to German Literature: Popular Forms 3

Track Requirement hours: 12

Track Electives

In addition, the student must complete 12 hours from the following courses:

GER 310 German for International Business and Professions 3
GER 317 History of German Culture 3
GER 319 Contemporary German Literature and Culture 3
GER 342 War, Peace, and Terror in Germany and Europe 3
GER 352 German-Speaking Europe (Subtitle required) 3
GER 361 German Cinema 3
GER 363 Germanic Mythology 3
GER 395 Independent Work in German 3
GER 507 Advanced German Composition and Conversation 3
GER 515 Studies in Major Authors 3
GER 516 Studies in Genre 3
GER 550 Multidisciplinary German Studies Seminar (Subtitle required) 3
MCL 343 Global Horror 3
MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

The student must also complete an additional 6 hours of related courses in history, linguistics, philosophy, English, gender and women's Studies, or geography. Courses from an additional major or a minor could be applied here.

Total Elective hours 18

Major Requirement hours: 42

MCL / Japan Studies

Track Requirements

JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868 3
JPN/ANT 321 Introduction to Japanese Culture, Meiji (1868) to Present
or
JPN 351 The Japanese Experience of the Twentieth Century 3
JPN 401 Advanced Japanese III 3
JPN 402 Advanced Japanese IV 3

Track Requirement hours: 12

Track Electives

In addition, the student must complete 18 hours from the following courses:

JPN 283 Japanese Film 3
JPN 400G Topics in Japan Studies (Subtitle required) 3
JPN 405 Seminar in Japanese and Asian Studies (Subtitle required) 3
JPN 420G Pre-Modern Literary and Visual Arts of Japan 3
JPN 421G Contemporary Literary and Visual Arts of Japan 3
JPN 520 Japanese Linguistics and Society 3
MCL 324 The City in the Twentieth Century: Tokyo, Shanghai, Paris 3
A-H 310 Asian Art and Culture (Subtitle required) 3
A-H 311 The Arts as Soft Power: The Japanese Tea Ceremony 3
HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
HIS 357 Japan at War, 1850 to the Present 3
GEO/JPN 334 Environment, Society and Economy of Japan 3
GEO/JPN 491G Japanese Landscapes 3
GEO/JPN 551 Japanese Multinational Corporations 3
MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours 18

Major Requirement hours: 42

MCL / Russian Studies

Track Requirements

RUS 301 Conversation and Composition I 3
RUS 302 Advanced Intermediate Russian II 3
RUS 371 Russian Culture 900-1900 3
RUS 372 Russian Culture 1900-Present 3

Track Requirement hours: 12

Track Electives

In addition, the student must complete 12 hours from the following courses:

RUS 275 Russian Film 3
RUS 370 Russian Folklore (in English) 3
RUS 401 Advanced Russian I 3
RUS 404 Advanced Russian II 3
RUS 410G Russian for Special Purposes (Subtitle required) 3
RUS 525 Russian Literary Studies (Subtitle required) 3
RUS 535 Russian Visual Studies (Subtitle required) 3
RUS 545 Russian Cultural Studies (Subtitle required) 3
RUS 555 Topical Seminar on Russian Studies (Subtitle required) 3
MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Plus 6 credit hours related to Russia/Former USSR from outside the major department.

Total Elective hours 18

Major Requirement hours: 42

Total Minimum Hours Required for Degree 120

Minor in Modern and Classical Languages, Literatures and Cultures

The minor in Modern and Classical Languages, Literatures and Cultures requires a minimum of 18 hours of course work. Students choose one of nine options (fields of concentration) from: Chinese Studies, Classics, Folklore and Mythology, French and Francophone Studies, German Studies, Islamic Studies, Italian, Japan Studies and Russian Studies.

MCL / Chinese Studies

Core Requirements

All students must complete a minimum 6 credits from among the following courses:

CHI 301 Advanced Intermediate Chinese I 3
CHI 302 Advanced Intermediate Chinese II 3
CHI 330 Introduction to Chinese Culture, Pre-Modern to 1840 3
CHI 331 Introduction to Chinese Culture, 1840 to Present 3

Total Core hours 6

Elective Requirements

In addition, students must take at least 12 additional credits from the following for a total of 18 credits. (Please note that courses on the core course list above NOT used to satisfy the Core Requirements may be used to satisfy the Elective Requirements.):

CHI 310 Sounds of East Asian Languages 3
CHI 320 Gender Politics in Chinese Literature 3
CHI 321 Introduction to Contemporary Chinese Film 3
CHI 322 Self and Society in Chinese Culture 3
MCL 100 The World of Language 3
MCL 200 Global Literacy 3
MCL 375 Language Study Abroad
or

MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours **12**

MCL / Classics

Core Requirements
The requirements for a Classics minor are 18 credit hours, at least 6 of which must be at the 300 level or above, earned from among the following courses:

1. Greek and Latin courses at any level

2. Non-language CLA courses at the 200 level or higher

All courses may be chosen from category 1, all from category 2, or the two categories may be combined in any manner, as long as students earn the requisite 18 credit hours. MCL 100, MCL 200, MCL 375 and MCL 376 may count toward the MCL/Classics minor.

MCL / Folklore and Mythology

Core Requirements
MCL 270 Introduction to Folklore and Mythology 3
CLA 135 Greek and Roman Mythology 3
or
CLA 100 Ancient Stories in Modern Films 3
GER 103 Fairy Tales in European Context 3

Total Core hours **9**

Students in this minor must also satisfy the current A&S Language Requirement, regardless of their college. The minor is not restricted to A&S majors.

Elective Requirements
Choose an additional 6 hours from the following courses:

CLA 331 Gender and Sexuality in Antiquity 3
CLA 382 Greek and Roman Religion 3
FR 263 African and Caribbean Literature and Culture of French Expression in Translation (Subtitle required) 3
GER 363 Germanic Mythology 3
RUS 370 Russian Folklore (in English) 3
MCL 595 Topics in Folklore and Myth (Subtitle required) 3

Choose 3 additional hours in elective courses (chosen from the MCL courses above not taken for the elective requirement) or from other courses approved by the advisor or from the following:

CLA 462G Topics in Classical Literature (Subtitle required) 3
GER 263 The German Cultural Tradition I 3
*GER 312 Introduction to German Literature: Popular Forms 3
AAS 200 Introduction to African-American Studies 3
AAS 254 History of Colonial and Post-Colonial Africa 3
ANT 220 Introduction to Cultural Anthropology 3
ANT 241 Origins of Old World Civilization 3
ANT 242 Origins of New World Civilization 3
ANT 245 Food Culture and Society 3
ANT 301 History of Anthropological Theory 3
ANT 401 Gender Roles in Cross-Cultural Perspective 3
ANT 450 Symbols and Culture 3
ANT 470G Regional American Ethnography 3
APP 200 Introduction to Appalachian Studies 3
*APP 300 Topics in Appalachian Studies (Subtitle required) 3
ENG 271 The Bible as Literature 3
*ENG 492G Cultural Studies (Subtitle required) 3
ENG 519 Introduction to Old English 3
HIS 521 European Social History, 1400-1800 3
HIS 536 Intellectual and Cultural History of Russia to 1800 3
LAS 201 Introduction to Latin America 3
*LIN 317 Language and Society (Subtitle required) 3
MAT 247 Dress and Culture 3
MUS 300 History of Jazz 3
MUS 301 Appalachian Music 3
*SOC 350 Topics in Sociology (Subtitle required) 3
GWS 200 Sex and Power 3
GWS 201 Gender and Popular Culture 3
*GWS 300 Topics in Gender and Women's Studies (Subtitle required) 3
*GWS 301 Crossroads (Subtitle required) 3
*GWS 302 Gender Across the World (Subtitle required) 3

Total Elective hours **9**

** Approved for the minor when the topic of the course is appropriate as determined by the minor advisor.*

MCL / French and Francophone Studies

Core Requirements
FR 204 Introduction to French and Francophone Studies 3
FR 214 France Today 3
or
FR 215 Visual Cultures 3

Total Core hours **6**

Elective Requirements
Choose 12 hours from:
FR courses 300+ level, excluding FR 553 and courses taught in English.
MCL 100 The World of Language 3
MCL 200 Global Literacy 3
MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours **12**

MCL / German Studies

Core Requirements
GER 307 Intermediate German Composition and Conversation I 3
GER 308 Intermediate German Composition and Conversation II 3

Total Core hours **6**

Elective Requirements
Choose 12 hours from:
GER courses at the 300 level or above
MCL 100 The World of Language 3
MCL 200 Global Literacy 3
MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours **12**

MCL / Islamic Studies

Core Requirements
AIS 228 Islamic Civilization 3
AIS 330 Islamic Civilization II 3

Total Core hours **6**

Elective Requirements
An additional 12 credit hours from among the following:

AIS 101 Elementary Modern Standard Arabic 4
AIS 102 Elementary Modern Standard Arabic 4
AIS 201 Intermediate Modern Standard Arabic 3
AIS 202 Intermediate Modern Standard Arabic 3
AIS 228 Islamic Civilization 3
AIS 301 Colloquial Arabic I 3
AIS 302 Colloquial Arabic II 3
AIS 320 Modern Arabic Literature and Film in Translation 3
AIS 330 Islamic Civilization II 3
AIS 331 Classical Arabic Literature (in English) 3
AIS 338 Women and Islam 3
AIS 340 Fundamentalism and Reform in Islam 3
AIS 345 Islamic Mysticism 3
AIS 410 Theology and Law in Islam 3
AIS 430 Islam in America 3
AIS 435 Topics in Islamic Studies (Subtitle required) 3
AIS 440 Introduction to the Quran 3
AIS 442 Arabic Reading I 3
AIS 443 Arabic Reading II 3
ANT 222 Middle East Cultures 3
ANT 331 Anthropology of North Africa 3
GEO 328 Geography of the Middle East and North Africa 3
HIS 549 History of the Middle East: 1952 to the Present 3
HIS 550 Studies in Mid-East History and Politics (Subtitle required) 3
PS 410 Topics in Regional Politics (Subtitle required) 3
MCL 100 The World of Language 3
MCL 200 Global Literacy 3
MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Other courses in the area may be elected with the approval of the director of the Islamic Studies Program

Total Elective hours **12**

MCL / Italian

Core Requirements
ITA 201 Intermediate Italian 3
ITA 202 Intermediate Italian 3

Total Core hours: **6**

Elective Requirements
In addition student must complete 12 hours from the following courses:

ITA 263 Studies in Italian Culture (Subtitle required) 3
ITA 300 Italian Conversation and Writing 3
ITA 301 Italy from Fascism to the Present 3
ITA 395 Independent Studies in Italian 3
MCL 100 The World of Language 3
MCL 200 Global Literacy 3
MCL 375 Language Study Abroad
or
MCL 376 Cultural Studies Abroad
or
other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

A-H 105 World Art Before 1400 3
A-H 106 Renaissance to Modern Art 3
A-H 314/CLA 314 Ancient (Subtitle required) 3
A-H 334 Reframing Renaissance Art 3
A-H 335 Early Modern Art and Visual Culture, 1400-1700 (Subtitle required) 3

CLA 100 Ancient Stories in Modern Films 3
CLA 135 Greek and Roman Mythology 3
CLA 191 Christianity, Culture, and Society: A Historical Introduction 3
CLA 210 The Art of Greece and Rome 3
CLA/HIS 230 The Hellenistic World and Rome to the Death of Constantine 3
CLA/HIS 391 Christians in the Roman Empire 3
CLA/HIS 509 Roman Law 3
HIS 120 The World at War, 1939-45 3
HIS 121 War and Society, 1914-1945 3
HIS 502 A History of the Roman Republic 3
HIS 503 A History of the Roman Empire 3
HIS 519 The Era of the Renaissance 3

Total Elective hours 12

MCL / Japan Studies

Core Requirements

3 credit hours of Japanese language courses at the 300 level

6 hours of core cultural studies courses as follows:

JPN 320 Introduction to Japanese Culture, Pre-Modern to 1868 3

and either

JPN/ANT 321 Introduction to Japanese Culture, Meiji (1868) to Present 3

or

JPN 351 The Japanese Experience of the Twentieth Century 3

Total Core hours 9

Elective Requirements

In addition student must complete 9 hours from the following courses:

JPN 283 Japanese Film 3
JPN 400G Topics in Japan Studies (Subtitle required) 3
JPN 405 Seminar in Japanese and Asian Studies (Subtitle required) 3
JPN 420G Pre-Modern Literary and Visual Arts of Japan 3
JPN 421G Contemporary Literary and Visual Arts of Japan 3
JPN 520 Japanese Linguistics and Society 3
MCL 324 The City in the Twentieth-Century: Tokyo, Shanghai, Paris 3
A-H 310 Asian Art and Culture (Subtitle required) 3
A-H 311 The Arts as Soft Power: The Japanese Tea Ceremony 3
HIS 295 East Asia to 1800 3
HIS 296 East Asia Since 1600 3
HIS 357 Japan at War, 1850 to the Present 3
GEO/JPN 334 Environment, Society and Economy of Japan 3
GEO/JPN 491 Japanese Landscapes 3
GEO/JPN 551 Japanese Multicultural Corporations 3
MCL 100 The World of Language 3
MCL 200 Global Literacy 3

MCL 375 Language Study Abroad

or

MCL 376 Cultural Studies Abroad

or

other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

Total Elective hours 9

MCL / Russian Studies

Core Requirements

6 hours of Russian language courses at the 300 level or above

Total Core hours 6

Elective Requirements

12 hours of additional course work taken from the following:

Russian Studies (RUS) courses
MCL 100 The World of Language 3
MCL 200 Global Literacy 3

MCL 375 Language Study Abroad

or

MCL 376 Cultural Studies Abroad

or

other Study Abroad courses approved by the Director of Undergraduate Studies 1-3

At least 9 of the 12 credit hours must be in RUS or in Study Abroad courses

Total Elective hours 12

Total Hours Required: 18

PHILOSOPHY

Philosophy encourages critical and systematic inquiry into fundamental questions of right and wrong, truth and falsehood, the meaning of life, and the nature of reality, knowledge, and society. More than any other discipline, philosophy explores the core issues of the Western intellectual tradition. With its emphasis on reason and argumentation, a philosophy major is an excellent preparation for a career in law or business.

Bachelor of Arts with a major in PHILOSOPHY

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: 30

Graduation Composition and Communication Requirement (GCCR)

PHI 350 Metaphysics and Epistemology 3

Graduation Composition and Communication Requirement hours (GCCR) 3

College Requirements

I. Foreign Language *(placement exam recommended)*^ 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science 6
  c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: 19-33

Premajor Requirements

PHI 260 History of Philosophy I: from Greek Beginnings to the Middle Ages 3
PHI 270 History of Philosophy II: from the Renaissance to the Present Era 3

Premajor hours: 6

Major Requirements

Major Core Requirements

PHI 320 Symbolic Logic I 3

PHI 330 Ethics

or

*PHI 335 The Individual and Society 3

PHI 350 Metaphysics and Epistemology 3

Major Core hours: 9

Other Course Work Required for the Major

From the Major Department:

Choose 15 hours of PHI 500+ level courses with at least one course from each group below 15

Group A: PHI 503, 504, 506, 509, 513, 514, 515, 516, 517

Group B: PHI 519, 530, 531, 535, 537, 540, 545, 592

Group C: PHI 520, 550, 560, 561, 562, 565, 570, 575

Choose 3 hours from any of the group courses listed above or the following: PHI 300, 305, 310, 317, 330, 332, 334, 335, 336, 337, 340, 343*, 361, 380, 395, 500 3

From Outside the Major Department

Choose 18 hours at the 200+ level; up to 4 hours may come from Philosophy courses 18

Other Major hours: 36

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 9

Total Minimum Hours Required for Degree 120

**Course used towards completion of a UK Core Requirement.*

^French or German is highly recommended to complete the College foreign language requirements. Greek is recommended if the student plans to concentrate on ancient philosophy. Latin is recommended if the student plans to concentrate on medieval philosophy.

NEUROSCIENCE

NOTE: At the time of publication, the B.S. with a major in Neuroscience had been approved by the Senate and was awaiting approval by the UK Board of Trustees.

The Bachelor of Science degree program in Neuroscience provides undergraduate students with an opportunity to engage in the in-depth study of neuroscience from a uniquely interdisciplinary perspective. Students receive extensive exposure to fundamental and applied aspects of neuroscience through classroom and laboratory-based interactions with faculty members and research staff from several departments housed in the College of Arts and Sciences and Medicine, including Biology, Anatomy and Neurobiology, and Psychology. The scope of training spans the entirety of of key topics in neuroscience and includes examination of biological systems ranging from cellular/molecular neuroscience; neurophysiology; neuroanatomy; and integrated neuroscience including behavior.

Bachelor of Science with a major in NEUROSCIENCE

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology
or equivalent transfer 3-4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany
General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 137 Calculus I with Life Science Applications
or
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations 3
or
PSY 215 Experimental Psychology
and
PSY 216 Applications of Statistics in Psychology 8

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **33**

Graduation Composition and Communication Requirement (GCCR)

WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science *(completed by Major Requirements)*
b. Social Science 3
c. Humanities 3
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **13-27**

Premajor/Preprofessional Requirements

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
BIO 155 Laboratory for Introductory Biology I 1
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany
General Chemistry I 1
CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany
General Chemistry II 2

MA 137 Calculus I With Life Science Applications
or
MA 113 Calculus I 4

PSY 100 Introduction to Psychology 4

Premajor/Preprofessional Requirement hours: **25**

Program Core

*ANA 394 Independent Research in Neurobiology and Neuroscience
or
BIO 394 Research in Neuroscience
or
PSY 393 Research in Neuroscience 1-3

BIO 302 Introduction to Neuroscience 3
BIO 305 Introduction to Neuroscience Techniques 4

BIO 315 Introduction to Cell Biology
or
BCH 401G Fundamentals of Biochemistry
or
CHE 550/552 Biological Chemistry I/II 3-6

BIO 426 Neuroscience Seminar 1
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1

PHY 211/213 General Physics 10
or
PHY 231/232 General University Physics
and
PHY 241/242 General University Physics Laboratory 10

**WRD 204 Technical Writing 3

Program Core hours: **35-38**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 6

Total Minimum Hours Required for Degree 120

**At the time of publication, ANA 394 was pending approval.*
***Fulfills the Graduation Composition and Communication requirement.*

Bachelor of Science with a major in PHILOSOPHY

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: courses with a PHI prefix are generally not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

PHI 350 Metaphysics and Epistemology 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)^* 0-14
II. Disciplinary Requirements
  a. Natural Science 3
  b. Social Science 3
  c. Humanities *(completed by Major Requirements)*
III. Laboratory or Field Work 1
IV. Electives 6

College Requirement hours: **13-27**

Premajor Requirements

PHI 260 History of Philosophy I: from Greek Beginnings to the Middle Ages 3
PHI 270 History of Philosophy II: from the Renaissance to the Present Era 3

Premajor hours: **6**

Major Requirements

Major Core Requirements

PHI 320 Symbolic Logic I 3

PHI 330 Ethics
or
*PHI 335 The Individual and Society 3

PHI 350 Metaphysics and Epistemology 3

Major Core hours: **9**

Other Course Work Required for the Major

From the Major Department:

Choose 15 hours of PHI 500+ level courses with at least one course from each group below 15

Group A: PHI 503, 504, 506, 509, 513, 514, 515, 516, 517

Group B: PHI 519, 530, 531, 535, 537, 540, 545, 592

Group C: PHI 520, 550, 560, 561, 562, 565, 570, 575

Choose 3 hours from any of the group courses listed above or the following: PHI 300, 305, 310, 317, 330, 332, 334, 335, 336, 337, 340, 343*, 361, 380, 395, 500 3

From Outside the Major Department

Choose 18 hours at the 200+ level; up to 4 hours may come from Philosophy courses 18

Other Major hours: **36**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 9

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

^French or German is highly recommended to complete the College foreign language requirements. Greek is recommended if the student plans to concentrate on ancient philosophy. Latin is recommended if the student plans to concentrate on medieval philosophy.

Minor in Philosophy

The minor in Philosophy requires a minimum of 18 hours of course work to include:

a. No more than two 100-level courses
b. At least one course in logic (PHI 120, PHI 320, or PHI 520)
c. At least one course in the history of philosophy (PHI 260, PHI 270, or any course from Group A of the undergraduate curriculum)
d. At least three courses (9 hours) at the 300 level or above, excluding PHI 320 and PHI 399.

PHYSICS AND ASTRONOMY

The Department of Physics and Astronomy helps many students acquire a general understanding and appreciation of physics and astronomy. In the liberal arts tradition, the undergraduate curriculum is complete and flexible enough to allow a graduate with a major in physics to pursue a variety of careers. Many of our graduates continue their studies with graduate work in physics or other areas.

For the student interested in combining the study of physics with studies in other areas, the department can assist in the planning of an individual curriculum which meets **both** the minimum requirements of the Physics program and the student's needs and interests. Such planning is of particular value to students intending to pursue careers in engineering, computer science, applied physics, medicine, radiation medicine, biophysics, law, meteorology, oceanography, geophysics, environmental sciences, management, or the teaching of physics and/or physical science at the junior and senior high school levels. By working closely with an advisor, the student with special interests can take advantage of opportunities to take several other courses from one or more departments outside physics, or double major in physics and another area. For a description of suggested curricula, visit our Web site at:
www.pa.uky.edu/undergrad/curricula.html

Bachelor of Arts with a major in PHYSICS

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for the Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

PHY 435 Intermediate Physics Laboratory 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science *(completed by Premajor Requirements)*
  b. Social Science 6
  c. Humanities 6
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: **18-32**

Premajor Requirements

*PHY 231/232/241/242 General University Physics and Laboratory 10
or with permission of the Director of Undergraduate Studies:
*PHY 211/213 General Physics ..... (10)

PHY 228 Optics, Relativity and Thermal Physics 3
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
*MA 113 Calculus I 4
MA 114 Calculus II 4

Premajor hours: **28**

Major Requirements

Major Core Requirements

PHY 306 Theoretical Methods of Physics 3
PHY 335 Data Analysis for Physicists 1
PHY 361 Principles of Modern Physics 3
Any 3-hour 300-level PHY course 3
Any 3-hour 400-level PHY course 3
PHY 435 Intermediate Physics Laboratory 3
MA 213 Calculus III 4

Major Core hours: **20**

Other Course Work Required for the Major

From Outside the Major Department

Choose 13-16 hours outside Physics at the 300+ level. Courses are generally chosen from biology, chemistry, computer science, education, engineering, mathematics, philosophy, or statistics. 200+ level courses used to satisfy College requirements can also be counted here 13-16

Other Major hours: **13-16**

Total Minimum Hours Required for Degree **121**

**Course used towards completion of a UK Core Requirement.*

Suggested Curriculum for B.A. in Physics

As you plan your physics studies, please note that upper division physics courses, PHY 3XX and all higher numbered courses, are offered once per year in the semester indicated on the suggested curricula. For example, PHY 306 and PHY 361 are offered in the spring semester only. This suggested curriculum minimally meets the requirements for the B.A. in Physics.

Freshman Year

First Semester **Hours**

MA 113 Calculus I 4
CIS/WRD 110 Composition and Communication I 3
UK Core 3
UK Core 3

Second Semester

MA 114 Calculus II 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
UK Core 3
UK Core 3

Sophomore Year

First Semester **Hours**

*MA 213 Calculus III 4
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
Foreign Language 4

*CS 115 Introduction to Computer Programming
or
Major Related Electives 3

Second Semester

*MA 214 Calculus IV
or
Major Related Electives 3

PHY 306 Theoretical Methods of Physics 3
PHY 228 Optics, Relativity and Thermal Physics 3
Foreign Language 4
Electives 3

Junior Year

First Semester **Hours**

CHE 105 General College Chemistry I 4
PHY 335 Data Analysis for Physicists 1
Foreign Language 3

*MA 322 Matrix Algebra and Its Applications
or
Major Related Electives 3

PHI 300+ 3
Electives 3

Second Semester

CHE 107 General College Chemistry II 3
PHY 361 Principles of Modern Physics 3
Foreign Language 3
**Social Sciences 300+ 3
Major Related Electives 3

Senior Year

First Semester **Hours**

PHY 3XX 3
PHY 4XX 3
**Social Sciences 300+ 3
Major Related Electives 3
Electives 3

Second Semester

PHY 435 Intermediate Physics Laboratory 3
PHY 4XX (suggested) 3
PHY 5XX (suggested) 3
Electives 5

**A total of 14 credit hours in math, computer science, chemistry, engineering or other areas related to physics but outside the department must be completed to satisfy the college requirement. A total of 42 hours in physics and related areas must be taken to satisfy the major requirement.*

***The Bachelor of Arts requires the completion of six hours in humanities and social sciences as a college requirement. It also requires the completion of 39 hours at or above the 300 level.*

Bachelor of Science with a major in PHYSICS

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

PHY 535 Advanced Physics Laboratory 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science *(completed by Premajor Requirements)*
  b. Social Science 3
  c. Humanities 3
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: **12-26**

Premajor Requirements

*PHY 231/232/241/242 General University Physics and Laboratory 10
or with permission of the Director of Undergraduate Studies:
*PHY 211/213 General Physics ..... (10)

PHY 228 Optics, Relativity and Thermal Physics 3
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
*MA 113 Calculus I 4
MA 114 Calculus II 4

Premajor hours: **28**

Major Requirements

Major Core Requirements

PHY 306 Theoretical Methods of Physics 3
PHY 335 Data Analysis for Physicists 1
PHY 361 Principles of Modern Physics 3
PHY 404G Mechanics 3
PHY 416G/417G Electricity and Magnetism 6
PHY 520 Introduction to Quantum Mechanics I 3
PHY 521 Introduction to Quantum Mechanics II 3
PHY 535 Advanced Physics Laboratory 3
MA 213 Calculus III 4
MA 214 Calculus IV 3

plus two different courses from the following:
AST/PHY 395 Independent Work in Astronomy/Physics 3
PHY 402G Electronic Instrumentation and Measurements 3
PHY 435 Intermediate Physics Laboratory 3
PHY 508 Computational Physics 3

Major Core hours: **38**

Other Course Work Required for the Major

From Outside the Major Department

Choose 6 hours outside Physics at the 200+ level. Courses are generally chosen from biology, chemistry, computer science, education, engineering, mathematics, philosophy, or statistics. 200+ level courses used to satisfy College requirements can also be counted here 6

Other Major hours: **6**

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Suggested Curriculum for B.S. in Physics

(**NOTE:** Students who have completed calculus or chemistry should visit our Web site at: **www.pa.uky.edu/undergrad/curricula.html** for suggested curriculum.)

As you plan your physics studies, please note that upper division physics courses, PHY 3XX and all higher numbered courses, are offered once per year in the semester indicated on the suggested curricula. For example, PHY 306 and PHY 361 are offered in the spring semester only. This suggested curriculum minimally meets the requirements for the B.S. in Physics.

Freshman Year

First Semester **Hours**

MA 113 Calculus I 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
CHE 105 General College Chemistry I 4
CIS/WRD 110 Composition and Communication I 3

Second Semester

MA 114 Calculus II 4
PHY 228 Optics, Relativity and Thermal Physics 3
CHE 107 General College Chemistry II 3
*CS 115 Introduction to Computer Programming
or Major Related Electives 3
CIS/WRD 111 Composition and Communication II 3

Sophomore Year

First Semester **Hours**

MA 213 Calculus III 4
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
PHY 335 Data Analysis for Physicists 1
Foreign Language 4

Second Semester

MA 214 Calculus IV 3
PHY 306 Theoretical Methods of Physics 3
PHY 361 Principles of Modern Physics 3
Foreign Language 4
UK Core 3

Junior Year

First Semester **Hours**

PHY 404G Mechanics 3
PHY 416G Electricity and Magnetism 3
UK Core 3
Foreign Language 3
*MA 322 Matrix Algebra and Its Applications
or Major Related Electives 3

Second Semester

PHY 417G Electricity and Magnetism 3
Foreign Language 3
UK Core 3
Major Related Electives 3
Elective 3

Senior Year

First Semester **Hours**

PHY 402G Electronic Instrumentation
and Measurements 3
PHY 520 Introduction to Quantum Mechanics I 3
PHY 522 Thermodynamics and
Statistical Physics (suggested) 3
PHI 300+ course 3
Elective 3

Second Semester

PHY 521 Introduction to Quantum Mechanics II 3
PHY 535 Advanced Physics Laboratory 3
Social Sciences 300+ 3
Elective 4

**A total of 14 credit hours in math, computer science, chemistry, engineering or other areas related to physics but outside the department must be completed to satisfy the college requirement. One-hundred-level freshman courses may not be counted for the Major Requirements except for CS 115 which may be counted.*

Minor in Physics

The minor in Physics requires 28 hours of course work to include:

PHY 231 General University Physics
and
PHY 241 General University Physics Laboratory
OR
PHY 211 General Physics 5

PHY 232 General University Physics
and
PHY 242 General University Physics Laboratory
OR
PHY 213 General Physics 5

MA 113 Calculus I
or
MA 137 Calculus I
With Life Science Applications 4

MA 114 Calculus II
or
MA 138 Calculus II
With Life Science Applications 4

PHY 228 Optics, Relativity and Thermal Physics 3
MA 213 Calculus III 4
PHY 361 Principles of Modern Physics 3

Astronomy Concentration

For students with an interest in astronomy, the Department offers the B.S. degree in physics with a concentration in astronomy. Among the Major Requirements, AST/PHY 591 Astrophysics I – Stars and AST/PHY 592, Astrophysics II – Galaxies and Interstellar Material are strongly recommended as courses within the area of concentration. AST 395, Independent Work in Astronomy, may be substituted for one of the laboratory courses of Requirement Three, subject to the work being done in astronomy and astrophysics. Students are encouraged, though not required, to enroll in AST 191, The Solar System, and AST 192, Stars, Galaxies and the Universe.

POLITICAL SCIENCE

The undergraduate program in Political Science allows students to pursue course work in four disciplinary fields:

• American Politics – define the American political system, including the high-demand subfield of judicial politics and legal studies; study of the institutions, behavioral patterns, and public policies that define the American political system;

• Comparative Politics – study of the institutions, policies, and mass behaviors observed in political systems outside the United States, usually explored through comparison within or across regions of the world;

• International Relations – study of the international system as a whole, as well as of the actors (such as nation-states, corporations, and international organizations) who participate in shaping diplomatic, military, and economic outcomes within that system;

and

• Theory/Methodology – study of the values, concepts, and analytical methods that shape how people evaluate political life.

Degree recipients take introductory course work in each of these four areas, then pursue advanced studies in one or more of the fields as determined by their interests and/or career goals.

In addition to conveying information about politics and government – necessary background for pursuing graduate work in political science and related fields – Political Science courses at UK are designed to provide students with a broad liberal arts education. Graduates leave the program having cultivated their analytical abilities and having exercised their written and spoken communication skills. Such disciplinary training leads to a wide variety of careers, many of which have no direct political or governmental connection, but is particularly helpful in preparing students for careers such as law, policy analysis, governmental administration, diplomatic service, journalism, lobbying, and other sorts of political activity.

Currently the department offers two degree: a Bachelor of Arts and a Bachelor of Science. Most majors choose to pursue the B.A. The primary difference is that B.A. students must complete a minimum of 39 hours at the 300+ level, a requirement that students can fulfill using courses already needed for the major. Earning the B.S. degree, on the other hand, requires completing a minimum of 60 hours in natural, physical, mathematical, and computer sciences. Little of that course work fulfills other degree requirements.

Bachelor of Arts with a major in POLITICAL SCIENCE

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PS 235 World Politics 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
PS 101 American Government 3

X. Global Dynamics
PS 210 Introduction to Comparative Politics 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

WRD 304 Writing in the Social Sciences 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science *(completed by Premajor Requirements)*
  c. Humanities *(choose 300+ level courses)* 6
III. Laboratory or Field Work *(completed by PS 372)*
IV. Electives 6

College Requirement hours: **18-32**

Premajor/Introductory Requirements

Field One – American Politics
PS 101 American Government 3

Field Two – Comparative Politics
PS 210 Introduction to Comparative Politics

Field Three – International Relations
*PS 235 World Politics 3

Field Four – Theory/Methodology
PS 240 Introduction to Political Theory
or
PS 372 Introduction to Political Analysis 3

Premajor/Intro hours: **12**

Major/Core Requirements

After being introduced to each undergraduate field, Political Science majors must take an additional 39 hours of course work that combines both (1) courses within the discipline and (2) courses covering topics related to the discipline but offered by other programs. These 39 hours, of which 24 must be at the 300+ level, are divided as follows.

Disciplinary Courses

Students must take 18 additional credit hours of political science course work, of which at least 15 hours must be at the 300+ level. Note that PS 399 may **not** be counted toward this requirement. Eligible courses span all four undergraduate fields:

Field One – American Politics

General American Politics Courses
PS 456G, 458, 470G, 471, 472G, 473G, 474G, 475G, 476G, 479, 480G, 484G, 489G, 557, 580

Courses on American Law and Courts
PS 360, 461G, 463G, 465G, 566

Field Two – Comparative Politics
PS 210, 410, 415G, 417G, 419G, 420G, 427G, 428G, 429G, 538

Field Three – International Relations
PS 430G, 431G, 433G, 436G, 437G, 439G, 538

Field Four – Theory/Methodology
PS 240 or 372, 441G, 442G, 545, 572

Note: PS 391, 395, 490, and 492 also meet this disciplinary requirement, although the fields will vary depending on the topic.

Other Courses

Choose 6 hours of PS courses (including 1-6 hours of PS 399) or approved courses from outside political science (see list below) 6

From Outside the Major Department

Choose 15 hours outside political science from the list below. You must take at least 6 hours from one department and 6 hours from another department. Special topics courses and other offerings related to the concentration may be substituted, subject to the approval of the Director of Undergraduate Studies 15

AAS 200, 420 *(also acceptable are AAS courses cross-listed with courses eligible to serve as Major Requirements)*
ACC 407
AEC 324, 471, 479, 510, 532
AIS 228, 330
AN 300
ANT – 220, 221, 324, 326, 327, 340, 375, 401, 433, 435, 532, 534
APP 200
BSC – *all 200+ level courses*
COM 249, 449, 453
ECO – *all 200+ level courses*
EDC 326, 346
EDL 401
EPE – *all 200+ level courses*
FAM 509, 544, 563
FIN 423
FR 350, 550
GEO – 222, 240, 260, *all 300+ level courses*
GER 264, 317, 319
GWS 200, 350
HIS – *all 200+ level courses*
HJS 324, 325
HON – *all 200+ level courses (except independent work)*
HSM 354
JOU 204, 531, 535
JPN 320, 321, 334, 451G, 461G
LAS 201
MAS 310, 319, 520
MGT 340, 341
MKT 310, 340, 450
NRE – *all 300+ level courses*
PHI – *all 200+ level courses*
PSY – *all 200+ level courses*
RUS 371, 372
SOC – *all 200+ level courses*
SPA 312, 314
ST 500
STA – *all 200+ level courses*
SW 222, 320, 430, 505, 523, 571
WRD 204

Major/Core hours: **39**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation.

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Bachelor of Science with a major in POLITICAL SCIENCE

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: courses with a PS prefix are not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PS 235 World Politics 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
PS 101 American Government 3

X. Global Dynamics
PS 210 Introduction to Comparative Politics 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

WRD 304 Writing in the Social Sciences 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 3
  b. Social Science *(completed by Premajor Requirements)*
  c. Humanities 3
III. Laboratory or Field Work *(completed by PS 372)*
IV. Electives 6

College Requirement hours: **12-26**

Premajor/Introductory Requirements

Field One – American Politics
PS 101 American Government 3

Field Two – Comparative Politics
PS 210 Introduction to Comparative Politics

Field Three – International Relations
*PS 235 World Politics 3

Field Four – Theory/Methodology
PS 240 Introduction to Political Theory
or
PS 372 Introduction to Political Analysis 3

Premajor/Intro hours: **12**

Major/Core Requirements

After being introduced to each undergraduate field, Political Science majors must take an additional 39 hours of course work that combines both (1) courses within the discipline and (2) courses covering topics related to the discipline but offered by other programs. These 39 hours, of which 24 must be at the 300+ level, are divided as follows.

Disciplinary Courses

Students must take 18 additional credit hours of political science course work, of which at least 15 hours must be at the 300+ level. Note that PS 399 may **not** be counted toward this requirement. Eligible courses span all four undergraduate fields:

Field One – American Politics

General American Politics Courses

PS 456G, 458, 470G, 471, 472G, 473G, 474G, 475G, 476G, 479, 480G, 484G, 489G, 557, 580

Courses on American Law and Courts

PS 360, 461G, 463G, 465G, 566

Field Two – Comparative Politics

PS 210, 410, 415G, 417G, 419G, 420G, 427G, 428G, 429G, 538

Field Three – International Relations

PS 430G, 431G, 433G, 436G, 437G, 439G, 538

Field Four – Theory/Methodology

PS 240 or 372, 441G, 442G, 545, 572

Note: PS 391, 395, 490, and 492 also meet this disciplinary requirement, although the fields will vary depending on the topic.

Other Courses

Choose 6 hours of PS courses (including 1-6 hours of PS 399) or approved courses from outside political science (see list below) 6

From Outside the Major Department

Choose 15 hours outside political science from the list below. You must take at least 6 hours from one department and 6 hours from another department. Special topics courses and other offerings related to the concentration may be substituted, subject to the approval of the Director of Undergraduate Studies 15

AAS 200, 420 *(also acceptable are AAS courses cross-listed with courses eligible to serve as Major Requirements)*
ACC 407
AEC 324, 471, 479, 510, 532
AIS 228, 330
AN 300
ANT – 220, 221, 324, 326, 327, 340, 375, 401, 433, 435, 532, 534
APP 200
BSC – *all 200+ level courses*
COM 249, 449, 453
ECO – *all 200+ level courses*
EDC 326, 346
EDL 401
EPE – *all 200+ level courses*
FAM 509, 544, 563
FIN 423
FR 350, 550
GEO – 222, 240, 260, *all 300+ level courses*
GER 264, 317, 319
GWS 200, 350
HIS – *all 200+ level courses*
HJS 324, 325
HON – *all 200+ level courses (except independent work)*
HSM 354
JOU 204, 531, 535
JPN 320, 321, 334, 451G, 461G
LAS 201
MAS 310, 319, 520
MGT 340, 341
MKT 310, 340, 450
NRE – *all 300+ level courses*
PHI – *all 200+ level courses*
PSY – *all 200+ level courses*
RUS 371, 372
SOC – *all 200+ level courses*
SPA 312, 314
ST 500
STA – *all 200+ level courses*
WRD 204

Major/Core hours: **39**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation.

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Minor in Political Science

The minor in Political Science requires a prerequisite course (PS 101) and 18 hours of course work at the 200 level or above to be distributed as follows:

1. 6 hours of 200 level courses, 3 hours of which must be either PS 210 or PS 235.
2. Four other courses, at least three of which must be at the 400 or 500 level.

PSYCHOLOGY

The undergraduate curriculum in psychology includes courses in the major content areas of psychology. The program provides course work emphasizing the fundamental concepts and techniques of this basic behavioral science. In addition to course work, the program provides for experience in conducting and analyzing laboratory and field research.

Bachelor of Arts with a major in PSYCHOLOGY

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology
or approved equivalent transfer course 3-4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
PSY 215 Experimental Psychology 4
PSY 216 Applications of Statistics in Psychology 4

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **35-36**

Graduation Composition and Communication Requirement (GCCR)

Select one of the following:
PSY 427 Cognitive Processes 4
PSY 430 Research in Personality 4
PSY 440 Research in Social Psychology 4
PSY 450 Learning 4
PSY 456 Behavioral Neuroscience 4
PSY 460 Processes of Psychological Development 4
PSY 552 Evolutionary Psychology 4

Graduation Composition and Communication Requirement hours (GCCR) **4**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science *(partially completed by PSY 312; and to complete this requirement, consider either PSY 456 as the Advanced Lecture/Lab or PSY 565 as the Capstone Requirement)* 3
  b. Social Science *(completed by Premajor and Major Requirements)*
  c. Humanities 6
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: **15-29**

Premajor Requirements

*PSY 100 Introduction to Psychology 4
or
^PSY 11-- 3

PSY 195 Orientation to Psychology 1
*PSY 215 Experimental Psychology 4

Premajor hours: **8-9**

Major Requirements

Major Core Requirements
*PSY 216 Applications of Statistics in Psychology 4

plus four of the following five courses:
PSY 223 Developmental Psychology 3
PSY 311 Learning and Cognition 3
†PSY 312 Brain and Behavior 3
PSY 313 Personality and Individual Differences 3
PSY 314 Social Psychology and Cultural Processes 3

Major Core hours: **16**

Other Course Work Required for the Major

From the Major Department:

Advanced Lecture/Lab 4
Choose from: PSY 427, 430, 440, 450, 456, 460, 552

Capstone Option 3-8
Choose from: PSY 495 and 496, 499, 500, 534, 535, 561, 562, 563, 564, 565, 566

Electives 0-5
Choose from: PSY 302, 331, 333, 395, 399, 459, 558

From Outside the Major Department
Choose 14 hours outside Psychology at the 300+ level. 200+ level courses used to satisfy College requirements can also be counted here 14

Other Major hours: **26**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 5

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

^This requirement is fulfilled for students who have completed a 3-credit introductory psychology course at an accredited college or university, or who have scored a 3 on the Advance Placement Psychology Test.

†Course used toward completion of the College Natural Science requirement.

Bachelor of Science with a major in PSYCHOLOGY

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: with the exception of PSY 215, PSY 216, PSY 312, PSY 456, and PSY 565, courses with a PSY prefix are *generally* not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology
or approved equivalent transfer course 3-4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
PSY 215 Experimental Psychology 4
PSY 216 Applications of Statistics
in Psychology 4

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **35-36**

Graduation Composition and Communication Requirement (GCCR)

Select one of the following:
PSY 427 Cognitive Processes 4
PSY 430 Research in Personality 4
PSY 440 Research in Social Psychology 4
PSY 450 Learning 4
PSY 456 Behavioral Neuroscience 4
PSY 460 Processes of Psychological Development 4
PSY 552 Evolutionary Psychology 4

Graduation Composition and Communication Requirement hours (GCCR) **4**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
a. Natural Science *(completed by PSY 312)*
b. Social Science *(completed by Premajor Requirement)*
c. Humanities 3
III. Laboratory or Field Work *(completed by Premajor Requirement)*
IV. Electives 6

College Requirement hours: **9-23**

Premajor Requirements

*PSY 100 Introduction to Psychology 4
or
^PSY 11-- 3

PSY 195 Orientation to Psychology 1
*†PSY 215 Experimental Psychology 4

Premajor hours: **8-9**

Major Requirements

Major Core Requirements
*†PSY 216 Applications of Statistics in Psychology 4

plus four of the following five courses:
PSY 223 Developmental Psychology 3
PSY 311 Learning and Cognition 3
†PSY 312 Brain and Behavior 3
PSY 313 Personality and Individual Differences 3
PSY 314 Social Psychology
and Cultural Processes 3

Major Core hours: **16**

Other Course Work Required for the Major

From the Major Department:

Advanced Lecture/Lab 4
Choose from: PSY 427, 430, 440, 450, †456, 460, 552

Capstone Option 3-8
Choose from: PSY 495 and 496, 499, 500, 534, 535, 561, 562, 563, 564, †565, 566

Electives 0-5
Choose from: PSY 302, 331, 333, 395, 399, 459, 558

From Outside the Major Department
Choose 14 hours outside Psychology at the 300+ level. 200+ level courses used to satisfy College requirements can also be counted here 14

Other Major hours: **26**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 5

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

^This requirement is fulfilled for students who have completed a 3-credit introductory psychology course at an accredited college or university, or who have scored a 3 on the Advance Placement Psychology Test.

†Course used toward completion of the College 60-hour requirement.

Minor in Psychology

The minor in Psychology requires a minimum of 19-20 hours of course work to include:

Prerequisite Courses

PSY 100 Introduction to Psychology
or equivalent 3-4
PSY 215 Experimental Psychology 4

Four of the following five courses:
PSY 223 Developmental Psychology 3
PSY 311 Learning and Cognition 3
PSY 312 Brain and Behavior 3
PSY 313 Personality and Individual Differences 3
PSY 314 Social Psychology and Cultural Processes 3

SOCIOLOGY

Sociology emphasizes the study of human behavior and basic social processes. The discipline provides excellent preparation for careers in a variety of occupations and professions including planning and community development, law, public relations and advertising, personnel administration, private business and government administration, health and human services, family relations, criminal justice fields, and others.

Students may major or minor in sociology. The department offers a Bachelor of Arts and a Bachelor of Science through the College of Arts and Sciences. Students may also complete a second major or minor in sociology even though they are enrolled in other colleges. In addition, students seeking certification in social studies education at the secondary level through the College of Education may also emphasize sociology in their programs.

Courses offered by the department cover a wide range of topics and issues. Areas such as social inequalities, work, organizations, economy, globalization, family, community, environment, crime, law and deviance comprise a large part of the curriculum. Students may also pursue special readings courses and experiential education placements or internships through the department.

Bachelor of Arts with a major in SOCIOLOGY

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

SOC 302 Sociological Research Methods 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 6
  b. Social Science *(completed by Premajor and Major Requirements)*
  c. Humanities 6
III. Laboratory or Field Work *(completed by Major Requirement)*
IV. Electives 6

College Requirement hours: **18-32**

Premajor Requirements

Any two sociology courses at the 100 or 200 level (including CLD 102) 6

Premajor hours: **6**

Major Core Requirements

SOC 302 Sociological Research Methods 3

SOC 303 Quantitative Sociological Analysis
or
PSY 216 Applications of Statistics in Psychology 3-4

SOC 304 Classical Sociological Theory 3

Major Core hours: **9-10**

Other Course Work Required for the Major

From the Major Department:
Choose 18 hours of 300+ level Sociology courses, at least 6 of which must be at the 400+ level 18

From Outside the Major Department
Choose 15 hours outside Sociology at the 300+ level. Maximum of 3 hours of 200+ level courses used to satisfy College requirements can also be counted here. 15

Other Major hours: **30**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 5

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Bachelor of Science with a major in SOCIOLOGY

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. Please note: courses with a SOC prefix are generally not accepted towards fulfilling this 60-hour requirement. Therefore, be sure to keep this requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

SOC 302 Sociological Research Methods 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language *(placement exam recommended)* 0-14
II. Disciplinary Requirements
  a. Natural Science 3
  b. Social Science *(completed by Premajor and Major Requirements)*
  c. Humanities 3
III. Laboratory or Field Work *(completed by Major Requirement)*
IV. Electives 6

College Requirement hours: **12-26**

Premajor Requirements

Any two sociology courses at the 100 or 200 level (including CLD 102) 6

Premajor hours: **6**

Major Core Requirements

SOC 302 Sociological Research Methods 3

SOC 303 Quantitative Sociological Analysis
or
PSY 216 Applications of Statistics in Psychology 3-4

SOC 304 Classical Sociological Theory 3

Major Core hours: **9-10**

Other Course Work Required for the Major

From the Major Department:
Choose 18 hours of 300+ level Sociology courses, at least 6 of which must be at the 400+ level 18

From Outside the Major Department
Choose 15 hours outside Sociology at the 300+ level. Maximum of 3 hours of 200+ level courses used to satisfy College requirements can also be counted here. 15

Other Major hours: **30**

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation 9

Total Minimum Hours Required for Degree **120**

**Course used towards completion of a UK Core Requirement.*

Minor in Criminology

The minor in Criminology requires 18 hours as follows:

Minor Prerequisite

SOC 235 Inequalities in Society 3

Minor Requirements

SOC 302 Sociological Research Methods

or one of the following courses:
PSY 215 Experimental Psychology
PS 372 Introduction to Political Analysis
ANT 302 Ethnographic Methods: Doing Anthropology
SW 450 Social Work Research

COM 365 Introduction to Communication Research Methods 3-4

plus:
SOC 339 Introduction to Criminology 3

Minor Electives

9 hours from the following courses, 3 which must be at the 400-level:
*SOC 350 Topics in Sociology (Subtitle required) 3
SOC 438 Cross-National Crime 3
*SOC 439 Topics in Crime, Law and Deviance (Subtitle required) 3

To complete the 9 hours, students may take one course from the following:
PS 360 Politics of Law and Courts 3
PS 415G Comparative Judicial Politics 3
PS 437G Dynamics of International Law 3
PS 463G Judicial Politics 3
PS 465G Constitutional Law 3
GWS 430 Gender, Power and Violence 3
PSY 331 The Psychology of Adjustment 3
PSY 333 Abnormal Psychology 3
PSY 534 Child Pathopsychology 3
SW 512 Social Work in the Criminal Justice System 3
SW 580 Topical Seminar in Social Work 1-4
SW 505 Child Welfare Services 2-3
SW 571 Social Work and the Law 3
COM 314 The Dark Side of Interpersonal Communication and Relationships 3

The subtitle for this course must directly relate to criminology.

Minor in Sociology

The minor in Sociology requires 21 hours of course work to include:

Prerequisites

SOC 101 Introduction to Sociology
or
CLD 102 The Dynamics of Rural Social Life 3
and
Any other 100- or 200-level sociology course 3

Preminor hours: **6**

Minor Requirements

Students complete an additional 15 hours in sociology, at least 3 of which must be at the 400 level or above and must include one of the following six-hour blocks:

SOC 302 **and** SOC 303 (or PSY 216)
or
SOC 304 **and** SOC 305
or
SOC 302 **and** SOC 304

STATISTICS

The Department of Statistics at the University of Kentucky is concerned with three essential functions: teaching, research, and consulting in statistics.

The department does not offer an undergraduate degree, but students may elect to include statistics as part of a topical major or to minor in statistics. The program in mathematical sciences also includes several statistics courses. The Master of Science and the Doctor of Philosophy degree are offered.

Research is being actively pursued in statistical theory and methods, both parametric and nonparametric, linear models, inference, stochastic processes, applied probability, and biostatistics.

Consultation on statistical analysis and interpretation of data is provided to research workers on and off the campus. Particular attention is paid to the consulting needs of graduate students.

Minor in Statistics

The minor in statistics is aimed specifically at social and life science students, as well as students in the traditional mathematical sciences. A minimum of 16 hours of course work is required to complete the minor, as follows:

Complete one of the following:
STA 291 Statistical Methods
STA 296 Statistical Methods and Motivations
STA 321 Basic Statistical Theory I
STA 525 Introductory Statistical Inference 3

Complete one of the following:
STA 281 Probability and Statistics Using Interactive Computer Techniques
STA 320 Introductory Probability
STA 524 Probability 3

plus
STA 570 Basic Statistical Analysis 4

Complete one additional STA course approved by the Director of Undergraduate Studies ..... 3 - 4

Complete one course from the student's area approved by the Director of Undergraduate Studies 3-4

Total Hours **16-18**

WRITING, RHETORIC, AND DIGITAL STUDIES

The major in Writing, Rhetoric, and Digital Studies focuses on the humanistic study of writing and rhetoric in its various genres, contexts (social, historical, political), and media (print and digital, textual and visual). Students in the program study rhetoric and composition theory, practice writing in various forms (including professional and technical writing), and consider the emerging dynamics of digital composition.

The major prepares students to enter publishing, business, industry, or non-profit organizations. Students focusing on writing in digital environments may find employment with multimedia firms or web design organizations. For those interested in graduate work, the major prepares students to enter English education, rhetoric and composition, professional writing, and law.

The major in Writing, Rhetoric, and Digital Studies is grounded in the foundational idea that writing and rhetoric are important not only for professional success, but also for the development of an informed, engaged citizenry.

Bachelor of Arts with a major in WRITING, RHETORIC, AND DIGITAL STUDIES

120 hours (minimum)

Any student earning a Bachelor of Arts (BA) degree must complete a minimum of 39 hours at the 300+ level. These hours are generally completed by the Major Requirements. However, keep this hour requirement in mind as you choose your course work for the requirements in the major. See the complete description of College requirements for a Bachelor of Arts degree on page 131.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

WRD 430 Advanced Workshop (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language 12
II. Disciplinary Requirements
a. Natural Science 6
b. Social Science 6
c. Humanities 3
III. Laboratory or Field Work .....
IV. Electives 3

College Requirement hours: .....

Major Requirements

Core Courses

WRD 300 Introduction to Writing, Rhetoric, and Digital Studies 3
WRD 430 Advanced Workshop (Subtitle required) 3

Core Courses hours: **6**

Other Course Work Required for the Major

From the Major Department

Three hours of WRD courses at the 200-level or above 3
Twelve hours of WRD courses at the 300-level (excluding WRD 300) 12
Twelve hours of WRD courses at the 400-500 level (excluding WRD 430) 12

From Outside the Major Department

Choose 6 hours from the following courses:
A-H 360 Visual Culture of Politics 3
A-S 200 Introduction to Digital Art, Space and Time 3
A-S 245 Introduction to Web Design 3
A-S 280 Introduction to Photographic Literacy 3
COM 249 Mass Media and Mass Culture 3
COM 281 Communication in Small Groups 3
COM 287 Persuasive Speaking 3
COM 311 Taking Control of Your Health: Patient-Provider Communication 3
COM 312 Learning Intercultural Communication Through Media and Film 3
COM 313 Interpersonal Communication in Close Relationships 3
COM 315 Understanding Workplace Communication in a Diverse U.S. Society 3
ENG 284 History of Film I 3
ENG 285 History of Film II 3
ENG 407 Intermediate Workshop in Imaginative Writing (Subtitle required) 3
ENG 440G Studies in British Literature (Subtitle required) 3
ENG 450G Studies in American Literature (Subtitle required) 3
ENG 460G Studies in African-American Literature (Subtitle required) 3
ENG 470G Comparative and Transnational Studies in Literature (Subtitle required) 3
ENG 480G Studies in Film (Subtitle required) 3
ENG 490G Studies in Literature and Gender (Subtitle required) 3
ENG 491G Studies in Theory (Subtitle required) 3
ENG 492G Cultural Studies (Subtitle required) 3
ENG 507 Advanced Workshop in Imaginative Writing (Subtitle required) 3
GWS 250 Social Movements 3
GWS 301 Crossroads (Subtitle required) 3
GWS 302 Gender Across the World (Subtitle required) 3
GWS 340 History of Feminist Thought to 1975 3
LIN 211 Introduction to the Study of Language 3
LIN 212 Introduction to Linguistics II 3
LIN 317 Language and Society (Subtitle required) 3
or courses approved by the DUS 3

Total Major hours: **39**

Electives

Free Electives 6

Elective hours: **6**
Total Minimum Hours Required for Degree **120**

Bachelor of Science with a major in WRITING, RHETORIC, AND DIGITAL STUDIES

120 hours (minimum)

Any student earning a Bachelor of Science (BS) degree must complete a minimum of 60 hours in natural, physical, mathematical, and computer science. See the complete description of College requirements for a Bachelor of Science degree, including a specific listing of courses applicable to the 60-hour requirement, on pages 131-132.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours: **30**

Graduation Composition and Communication Requirement (GCCR)

WRD 430 Advanced Workshop (Subtitle required) 3

Graduation Composition and Communication Requirement hours (GCCR) **3**

College Requirements

I. Foreign Language 12
II. Disciplinary Requirements
a. Natural Science 6
b. Social Science 6
c. Humanities 3
III. Laboratory or Field Work .....
IV. Electives 3

College Requirement hours: .....

Major Requirements

Core Courses

WRD 300 Introduction to Writing, Rhetoric, and Digital Studies 3
WRD 430 Advanced Workshop (Subtitle required) 3

Core Courses hours: **6**

Other Course Work Required for the Major

From the Major Department

Three hours of WRD courses at the 200-level or above 3
Twelve hours of WRD courses at the 300-level (excluding WRD 300) 12
Twelve hours of WRD courses at the 400-500 level (excluding WRD 430) 12

From Outside the Major Department

Choose 6 hours from the following courses:
A-H 360 Visual Culture of Politics 3
A-S 200 Introduction to Digital Art, Space and Time 3
A-S 245 Introduction to Web Design 3
A-S 280 Introduction to Photographic Literacy 3
COM 249 Mass Media and Mass Culture 3
COM 281 Communication in Small Groups 3
COM 287 Persuasive Speaking 3
COM 311 Taking Control of Your Health: Patient-Provider Communication 3
COM 312 Learning Intercultural Communication Through Media and Film 3
COM 313 Interpersonal Communication in Close Relationships 3
COM 315 Understanding Workplace Communication in a Diverse U.S. Society 3
ENG 284 History of Film I 3
ENG 285 History of Film II 3
ENG 407 Intermediate Workshop in Imaginative Writing (Subtitle required) 3
ENG 440G Studies in British Literature (Subtitle required) 3
ENG 450G Studies in American Literature (Subtitle required) 3
ENG 460G Studies in African-American Literature (Subtitle required) 3
ENG 470G Comparative and Transnational Studies in Literature (Subtitle required) 3
ENG 480G Studies in Film (Subtitle required) 3
ENG 490G Studies in Literature and Gender (Subtitle required) 3
ENG 491G Studies in Theory (Subtitle required) 3
ENG 492G Cultural Studies (Subtitle required) 3
ENG 507 Advanced Workshop in Imaginative Writing (Subtitle required) 3
GWS 250 Social Movements 3
GWS 301 Crossroads (Subtitle required) 3
GWS 302 Gender Across the World (Subtitle required) 3
GWS 340 History of Feminist Thought to 1975 3
LIN 211 Introduction to the Study of Language 3
LIN 212 Introduction to Linguistics II 3
LIN 317 Language and Society (Subtitle required) 3
or courses approved by the DUS 3

Total Major hours: **39**

Electives

Free Electives 6

Elective hours: **6**
Total Minimum Hours Required for Degree **120**

Minor in Writing, Rhetoric, and Digital Media

The minor in Writing, Rhetoric, and Digital Media requires 18 hours as follows:

Prerequisite

Complete the Composition and Communication Core requirement: **either** WRD/CIS 110 and WRD/CIS 111; **or** WRD/CIS 112.

Minor Requirements

WRD 300 Introduction to Writing, Rhetoric, and Digital Studies 3

plus 15 hours of additional WRD courses, 9 of which must be at the 300 and 400 level 15

Minor in Professional and Technical Writing

The minor in Professional and Technical Writing requires 18 hours of course work to include:

Minor Prerequisites

Students must fulfill the Composition and Communication Core requirement:

WRD/CIS 110 Composition and Communication I 3

WRD/CIS 111 Composition and Communication II

or

WRD/CIS 112 Accelerated Composition and Communication II (WRD) 3

Minor Requirements

WRD 204 Technical Writing 3
WRD 300 Introduction to Writing, Rhetoric, and Digital Studies 3
WRD 306 Introduction to Professions in Writing 3
WRD 406 Topics in Professional Writing (Subtitle required) 3

Minor Electives

Choose 6 hours from the following:

WRD 203 Business Writing 3
WRD 208 Multimedia Writing 3
WRD 301 Style for Writers 3
WRD 322 Rhetoric and Argument 3
WRD 405 Editing English Prose 3
WRD 408 Digital Composing 3

INTERDISCIPLINARY MINORS

African American Studies

The minor in African American Studies provides students with an opportunity to examine the contributions of established academic disciplines towards the understanding of African peoples, particularly those peoples in the New World. It also provides a framework for research and analysis of issues which focus on African American experiences in artistic, literary, historical, and sociopolitical environments. The minor requires 21 hours of study as follows:

1. AAS 200 Introduction to African-American Studies
2. AAS 400 Special Topics in African-American Studies
3. AAS 401 Independent Reading and Research in African-American Studies
4. a. At least 6 hours of course work in the humanities (as approved by the African American Studies Committee). Among these are:

AAS/ENG 264 Introduction to Black Writers
AAS/FR 263 African and Caribbean Literature and Culture of French Expression (Subtitle required)
FR 504 Topics in French Literature and Culture (if appropriate)
AAS/HIS 254 History of Colonial and Post-Colonial Africa
AAS/HIS 260 African American History to 1865
AAS/HIS 261 African American History 1865-Present
AAS/HIS 360 Race and Sports in America
HIS 585 The Age of Jim Crow, 1880-1930
AAS/MUS 300 History of Jazz

4. b. At least 6 hours in the social sciences (as approved by the African American Studies Committee). Among these are:

AAS/ANT 326 People and Cultures of Sub-Saharan Africa
AAS/EDC 550 Education in a Culturally Diverse Society
AAS/GEO 336 Geography of Sub-Saharan Africa
PS 417G Survey of Sub-Saharan Politics
PS 461G Civil Liberties
AAS/PS 471 Race, Ethnicity and Politics
AAS/SOC 235 Inequalities in Society
AAS/SOC 432 Race and Ethnic Relations
AAS/SOC 433 Topics in Social Inequalities (Subtitle required)

NOTE: Courses in English and history are strongly recommended.

For further information, email **aaas@uky.edu**; 112 Breckinridge Hall 0056, (859) 257-2284.

https://aaas.as.uky.edu/

American Studies

American studies draws together diverse disciplines to examine the historical and contemporary forms and issues of our national life. The program in American Studies takes as its field of study any peoples, cultural expressions and social institutions, however or whenever identified as "American." Program curricula link faculty, courses, and students across a range of humanities, arts, and social science departments.

The minor centers on two interdisciplinary seminars on selected topics in American studies. Students electing the minor are also encouraged to take a range of elective courses to complement their major. The minor in American Studies prepares students for further graduate or professional training, or for work in education, government, or business.

The minor requires 18 hours of study as follows:

1. IAS 301 Topics in American Culture
2. IAS 401 Perspectives in American Culture
3. Four additional courses (12 hours) from the following list of approved courses. No more than two courses (or 6 hours) may be taken in any one discipline:

Art History: A-H 342

Anthropology: ANT 221, ANT 342, ANT 470G, ANT 527, ANT 534

English: ENG 310, ENG 480G

Geography: GEO 320, GEO 321, GEO 322, GEO 490G

History: HIS 260, HIS 261, HIS 265, HIS 350, HIS 351, HIS 460, HIS 461, HIS 463, HIS 464, HIS 465, HIS 466, HIS 467, HIS 572, HIS 573, HIS 574, HIS 575, HIS 576, HIS 577, HIS 578, HIS 579, HIS 580, HIS 584, HIS 585, HIS 586

Linguistics: LIN 317

Music: MUS 206, MUS 222, MUS 300, MUS 301, MUS 506

Philosophy: PHI 514

Political Science: PS 430G, PS 456G, PS 458, PS 461G, PS 463G, PS 465G, PS 470G, PS 475G, PS 479, PS 484G, PS 545

Sociology: SOC 340, SOC 534

For further information, contact: Director Pearl James, **avdool2@uky.edu**; 1227 Patterson Office Tower 0027, (859) 257-6978.

http://american-studies.as.uky.edu/

Appalachian Studies

This minor offers the student with serious interests in Appalachian regional studies an opportunity to pursue a minor concentration to complement a major in one of the university's professional or liberal arts programs. This interdisciplinary program enables students to comprehend more fully the history, health, social structure, environment, and culture of the region – its people, its challenges, and its future.

The minor in Appalachian Studies requires 18 hours of course work to include the following:

1. APP 200 Introduction to Appalachian Studies
2. Choose 15 hours of Appalachian Studies courses. These courses must be chosen from the list below, or current courses listed on the Web site approved by the Director of Appalachian Studies:

APP 300 Topics in Appalachian Studies (Subtitle required)
APP 395 Independent Study
APP 399 Practicum
GEO 365 Special Topics in Regional Geography (Subtitle required) (if appropriate)
HIS 579 History of the New South
HIS 580 History of Appalachia
MUS 301 Appalachian Music
PS 456G Appalachian Politics
SOC 343 Political Sociology (if appropriate)
SOC 534 Sociology of Appalachia
SOC 735 Topical Seminar in Social Inequalities (if appropriate)

Note: Introduction to Appalachian Studies (APP 200) is strongly recommended. Individually arranged courses in independent study and experiential education may be counted toward the minor if approved by the Appalachian Studies Program Director. Special Topics courses offered by the various departments may also be counted, if appropriate.

For more information, contact: Director Ann Kingsolver, **ann.kingsolver@uky.edu**; 203 Appalachian Center, 624 Maxwelton Court, 0347, (859) 257-8262.

http://appalachiancenter.as.uky.edu/

For a current listing of courses and further information, visit:

http://appalachiancenter.as.uky.edu/appal-courses

Cognitive Science

The undergraduate minor in Cognitive Science is aimed to provide undergraduates with an introduction to cognitive science as a theory of the mind as an intelligent (information-processing) system. Our objectives are to ensure that each student (a) be able to articulate, at least in broad terms, some of the assumptions that have been thought to unify the various subfields within the domain of cognitive science; (b) explore more than one discipline's approach to matters pertaining to cognitive science; and (c) explore in some detail at least one of the five main disciplines contributing to cognitive science (biology, computer science, linguistics, philosophy, and psychology). CGS 500 (Cognitive Science in Theory and Practice) will be run with the aim in mind of getting students to satisfy (a); and distribution requirements aim to put students in a position to satisfy (b) and (c).

To receive an undergraduate minor in Cognitive Science, the student must successfully complete 18 credit hours to be distributed as follows:

1. CGS 500 Cognitive Science in Theory and Practice 3

2. 15 credits from among the following:

*ANT 332 Human Evolution
BIO 375 Behavioral Ecology and Sociobiology
BIO 535 Comparative Neurobiology and Behavior
BIO 550 Advanced Physiology
BIO 556 Communication Biology
COM 350 Language and Communication
CS 375 Logic and Theory of Computing (may not be combined with PHI 520)
CS 463G Introduction to Artificial Intelligence
*CS 521 Computational Sciences
CS 536 Situated Computing
CS 575 Models of Computation (may not be combined with PHI 520)
LIN 210 History of the English Language
LIN 211 Introduction to the Study of Language
LIN 212 Introduction to Linguistics II
LIN 509 Semantics and Pragmatics
LIN 512 Analysis of English Syntax
*LIN 513 Teaching English as a Second Language
LIN 515 Phonological Analysis
LIN 516 Grammatical Typology
LIN 517 Special Topics in Linguistics (Subtitle required)
LIN 519 Historical Linguistics
PHI 320 Symbolic Logic I
PHI 361 Biology and Society
PHI 520 Symbolic Logic II (may not be combined with CS 375, 575, or 675)
PHI 560 Philosophy of Scientific Method
PHI 565 Philosophy of Language
PHI 575 Philosophy of Mind
*PSY 223 Developmental Psychology
PSY 311 Learning and Cognition
PSY 312 Brain and Behavior
PSY 427 Cognitive Processes
PSY 456 Behavioral Neuroscience
PSY 552 Evolutionary Psychology
PSY 562 Advanced Topics in Cognitive Psychology (Subtitle required)
PSY 564 Advanced Topics in Learning (Subtitle required)
PSY 565 Advanced Topics in Neuroscience (Subtitle required)
*PSY 566 Advanced Topics in Social Psychology (Subtitle required)

Of the 15 credit hours of courses from this list, (1) at least 6 credit hours must be in the same core discipline, where core disciplines are biology, computer science, linguistics, philosophy, and psychology; and (2) no more than 6 credit hours from any single discipline will count towards satisfaction of the requirement.

**Only by approval of the Director of Cognitive Science. The main criterion for approval will be the extent to which the course, as taught during the semester for which the student seeks cognitive science credit, contains a sufficient amount of materials relevant to cognitive science. The Director will make this determination by consultation with relevant faculty from the department teaching the course (including the instructor of the course), in conjunction with the criteria for course inclusion outlined on the Cognitive Science Web page.*

For more information, contact: Director Lawrence Gottlob, **gottlob@uky.edu**; 207N Kastle Hall 0044, (859) 257-2280.

http://idp.as.uky.edu/cognitive-science

Environmental Studies

Environmental considerations permeate almost every facet of modern life, and concern for "the environment" is practically universal as we approach the twenty-first century. The minor in Environmental Studies is designed to provide students with the opportunity to become conversant in a range of environmental topics, whether as private citizens in their daily lives or as professional members of corporate, government, legal, medical, and educational circles.

The minor draws on topics and perspectives from the natural and physical sciences, the social sciences, and the humanities to underscore the interdisciplinary nature of environmental issues and problems. Students taking the minor are encouraged to integrate the program with their major study focus in order to gain a competitive advantage in grappling with environmental topics.

The minor in Environmental Studies requires 21 hours of course work including the following:

ENS 201 Environmental and Sustainability Studies I: Humanities and Social Sciences 3
ENS 202 Environmental and Sustainability Studies II Natural Science and Policy 3
PHI 336 Environmental Ethics 3
ENG 425 Environmental Writing 3

plus 3 credit hours from each of the ENS Areas of Expertise: Economics, Environment, Society 9

Economics
AEC 303, AEC 324, AEC,424, AEC 445G, AEC 479, AEC 483, AEC 532, AEC 545, ANT 225, ANT 311, ANT 322, ANT 338, ANT 340, ANT 375, ANT 470G, ANT 532, ANT 543, ECO 201, ECO 202, ECO 401, ECO 410, ECO 473G, ENS 395, ENS 400, FOR 280, FOR 325, GEO 231, GEO 235, GEO 255, GEO 260, GEO 321, GEO 442G, GEO 445, GEO 550, NRE 201, NRE 381, STA 291, STA 320

Environment
ANT 240, ANT 241, ANT 242, ANT 342, ANT 351, BIO 303, BIO 325, BIO 375, BIO 452G, CE 555, CHE 565, EES 220, EES 341, EES 360, EES 385, EGR 240, ENS 395, ENS 400, FOR 219, FOR 230, FOR 240, GEO 231, GEO 235, GEO 322, GEO 331, GEO 351, GEO 431, GEO 530, GEO 531, GEO 550, WRD 425

Society
ANT 221, ANT 225, ANT 245, ANT 303, ANT 311, ANT 326, ANT 340, ANT 342, ANT 375, ANT 470G, ANT 525, ANT 545, ANT 555, ARC 314, ARC 315, ENS 395, ENS 400, GEO 231, GEO 285, GEO 321, GEO 331, GEO 431, GEO 485G, HIS 240, LA 205, PHI 361, PS 391, SAG 201, SOC 302, SOC 360, SOC 363, SOC 380, SOC 420, SOC 517, SOC 534

Alternative elective courses may be approved by the Environmental Studies Program Director.

For further information, contact: Director David Atwood, **datwood@uky.edu**; 1457 Patterson Office Tower 0027, (859) 257-1994.

http://idp.as.uky.edu/idp-environmental-studies

Indian Culture

This minor is designed to allow students to develop a more profound understanding of Indian culture. The curriculum is strongly interdisciplinary, encompassing courses in linguistics, anthropology, English, geography, mathematics, philosophy, political science, and sociology.

Students completing the minor will possess: (1) a well-rounded, multidisciplinary understanding of the culture and geography of India and of contemporary Indian society and politics; and (2) a high degree of preparedness to pursue careers in business or teaching that require knowledge of Indian society and its traditions.

The minor in Indian Culture requires 18 hours of course work, as follows:

12 hours of courses on India from anthropology, English, geography, linguistics, mathematics, philosophy, political science, sociology, and independent studies in India. Students choose from the following courses:

ANT 327 Culture and Societies of India and South Asia 3
GEO 330 Geography of the Indian Subcontinent 3
GEO 365 Special Topics in Regional Geography (Subtitle required) 3
GEO 565 Topics in Geography 3
*GWS 302 Gender Across the World (Subtitle required) 3
LIN 395 Independent Work 3
MA 330 History of Mathematics 3
*MUS 330 Music in the World (Subtitle required) 3
PHI 343 Asian Philosophy 3
PS 420G Governments and Politics of South Asia 3
SOC 380 Globalization: A Cross-Cultural Perspective 3
TA 584 Asian Theatre 3

**The subtitle for this course must directly relate to the field of Indian culture.*

Students in the Indian Culture minor program will be encouraged to participate in a study program in India in the course of their undergraduate education.

For more information, contact: Professor Paul Karan, 817 Patterson Office Tower, (859) 257-6953; **ppkaran@uky.edu**

http://is.as.uky.edu/indian-studies-program-minor

Jewish Studies

The interdisciplinary minor in Jewish Studies provides students with the opportunity to become acquainted with the culture, language, literature, religion, history, and philosophy of the Jewish people from antiquity to the present. For more information, visit:
mcl.as.uky.edu/jewish-studies

The minor in Jewish Studies requires 18 hours of course work as follows:

1. **Required Courses**

HJS 324 Jewish Thought and Culture I: From Ancient Israel to the Middle Ages 3
HJS 325 Jewish Thought and Culture II: From the Expulsion from Spain to the Present 3

2. **Elective Courses**

HJS 101 Elementary Hebrew 4
HJS 102 Elementary Hebrew 4
HJS 201 Intermediate Hebrew 3
HJS 202 Intermediate Hebrew 3
HJS 326 The Jewish Experience in America 3
HJS 327 Women in Judaism 3
HJS 495 Independent Study in Judaic Studies 3
PHI 504 Islamic and Jewish Philosophy and the Classical Tradition 3
CLA 390 Backgrounds to and Early History of Christianity to 150 CE 3
HIS 330 A History of Western Religious Thought (I) ... 3
HIS 323 The Holocaust 3
HJS 425 Topics in Judaic Studies (Subtitle required) 3

And other courses with significant Judaic studies content, as approved by the Director, to a maximum of 6 credit hours.

For further information, contact: Director Janice Fernheimer, **jfernheimer@uky.edu**; 1457 Patterson Office Tower 0027, (859) 257-1994.
http://mcl.as.uky.edu/jewish-studies

Latin American, Caribbean, and Latino Studies

The minor in Latin American, Caribbean, and Latino Studies provides instruction and broad exposure to the society and culture of Latin America. The minor requires a minimum of 18 credit hours to be distributed as follows:

Preminor Requirements

1. LAS 201 Introduction to Latin America 3

2. plus one of the following courses:

HIS 206 History of Colonial Latin America, 1492 to 1810 3
HIS 207 History of Modern Latin America, 1810 to Present 3

Minor Requirements

A minimum of 12 credit hours distributed evenly over the following four subject areas:

1. Language Skills (3 hours beyond second-year Spanish)
2. Prehistory and History (3 hours)
3. Contemporary Latin American Societies (3 hours)
4. Literature and the Arts of the Americas (3 hours)

For more information, consult the Director of Latin American Studies.
http://lacls.as.uky.edu/

UNDERGRADUATE CERTIFICATES

The University of Kentucky grants the following undergraduate certificates in the College of Arts and Sciences:

- Appalachian Studies
- Peace Studies

Undergraduate Certificate in Appalachian Studies

Students in any college may earn the Undergraduate Certificate in Appalachian Studies. The certificate is interdisciplinary (requiring course work in at least two colleges) and combines critical analysis with experiential education in the Appalachian region. The course work and practicum are tailored for each student in consultation with the program director to make the interdisciplinary certificate relevant to the student's major, interests, and career plans.

A student planning a health science career might choose a practicum with the UK Center for Excellence in Rural Health in Hazard, Ky., for example, and a student interested in sustainable agriculture or elementary education might do a practicum with Green Forests Work, a reforestation and public education program in central Appalachia. The Appalachian Studies faculty spans ten colleges at UK and there are diverse courses available each semester to students enrolled in the certificate program.

The 12-hour certificate program focuses on understanding the Appalachian region, particularly Appalachian Kentucky, in historical, social/cultural, physical, and comparative context. All students must: **1)** complete APP 200, Introduction to Appalachian Studies (which also satisfies the UK Core requirement in U.S. citizenship); **2)** to satisfy an Appalachian engagement requirement (either through APP 399, the Appalachian Studies practicum course, or a relevant internship, service-learning course, or practicum in another program); and **3)** to complete a capstone project either through APP 399, the Appalachian Studies Practicum, or a course approved as the capstone experience by the Appalachian Studies Program Director.

Remaining courses may be chosen from the Appalachia-related course listings publicized on the Appalachian Studies Web site each term, or a student may propose additional courses with a rationale accepted by the Appalachian Studies Program Director. **Course work for the undergraduate certificate must be taken from within at least two colleges at UK.** This requirement is a significant offering of this certificate program, given the Appalachian Center and Appalachian Studies Program's service to the entire university community. The purpose of the requirement is to encourage students to explore curricular possibilities outside the college in which their major is administratively housed, in a program of study truly committed to interdisciplinary perspectives.

Appalachian Studies Curriculum

The Certificate in Appalachian Studies curricula are as follows:

- A minimum of 12 credits of course work taken for a letter grade.
- At least 12 credits must be 200 level or above, and a minimum of 6 credits must be at the 300-level or above.
- The student must complete a 3-credit breadth component. The breadth component requires that a student take courses in at least two colleges, with a minimum of three credits to be completed in a discipline other than the student's major.
- Student must earn a **C** or better in each required certificate course to receive the certificate.
- Certificates will only be awarded to students who successfully complete a degree, or have completed a four-year degree.
- No more than 9 credits taken for a certificate can be used to satisfy the requirements for the student's bachelor's degree, a minor, or another certificate, exclusive of free or unrestricted electives.

Examples of Programs of Study

Here are three examples of programs of study for students successfully completing the Appalachian Studies undergraduate certificate:

APP 200 Introduction to Appalachian Studies 3
APP 399 Practicum 1-6
JOU 485 Community Journalism 3
CLD 340 Community Interaction 3

This student could satisfy the engagement requirement through APP 399 at UK's Robinson Center for Appalachian Resource Sustainability in Breathitt County on youth agricultural entrepreneurship, and satisfy the capstone requirement through a paper for Community Interaction on participatory evaluation of a proposed economic development project in Appalachia.

APP 200 Introduction to Appalachian Studies 3
MUS 301 Appalachian Music 3
*ENG 450G Studies in American Literature (Subtitle required) 3
APP 399 Practicum 1-6

**ENG 450G subtitle must focus on some aspect of Appalachian literature.*

This student could satisfy the engagement requirement and the capstone experience together by creating and implementing a program on the multicultural history of the banjo for students at a 4-H camp in the Appalachian region.

APP 200 Introduction to Appalachian Studies 3
EES 385 Hydrology and Water Resources 3
FOR 460 Forest Hydrology and Watershed Management 4
APP 399 Practicum 1-6

This student could satisfy the engagement requirement by serving as an Appalachian Center intern for the KY Riverkeeper, helping to create a waterways trail, and satisfy the capstone experience requirement through drafting a management plan for a forest in the Appalachian region.

For more information, contact Professor Ann Kingsolver, Director, Appalachian Studies and Appalachian Center, (859) 257-4852; **https://appalachiancenter.as.uky.edu**

Undergraduate Certificate in Peace Studies

The purpose of the Peace Studies program is to develop students with increased interests and understanding of issues of peace and justice from individual to global levels; to provide them with basic skills in peaceful communication, nonviolent and transformative conflict resolution; and to help them develop peaceful and cooperative cultures. The Peace Studies program will empower students to understand and reduce conflict at multiple levels, and will provide them with conflict resolution skills that are increasingly valued by employers, graduate programs, and are much needed in our communities.

A Peace Studies certificate offers a valuable credential and an appealing focus for students in many disciplines. While UK offers a plethora of courses relevant to Peace Studies, this is the single program that brings these elements into a coherent peacemaking focus. Because Peace Studies is inherently interdisciplinary, it can create an important context that may be missed when courses are completed within the framework of a single discipline. Students in Peace Studies will be better prepared to take advantage of co-curricular opportunities at UK. Many avenues also exist for fruitful synergy between the Peace Studies program and a student's major and minor fields.

Program Requirements

The Peace Studies certificate is designed to be easily combined with a broad array of majors and minors across UK's colleges and departments, and will increase a student's credit hours needed for graduation only under rare circumstances. The Peace Studies program requires 12 credit hours. Six of the 12 required hours come from Peace Studies courses. These include the 'portal' course, PCE 201, which introduces students to Peace Studies, and the capstone course, PCE 410, which concludes the program.

Peace Studies Courses

*PCE 201 Introduction to Peace Studies 3
**PCE 410 Peace Studies Capstone Seminar 3

**Meets UK Core requirement for* Inquiry in the Social Sciences

***Meets UK Core requirement for* Citizenship-Global Dynamics

Peace Studies Electives

Peace Studies electives are selected from existing courses in the University catalog and reflect both different departments and colleges. They are grouped into four Focus Areas:

Focus Area I: Peacebuilding 0-6
Addresses systems and infrastructure needed to create more peaceful societies.

Focus Area II: Peacemaking 0-6
Addresses leadership skills, skills for resolving and transforming conflict.

Focus Area III: Promoting Understanding, Cooperation, and Development 0-6
Addresses cross cultural issues, international organizations, economic and social development.

Focus Area IV: Addressing Global and Regional Pressures 0-6
Addresses problems of population, scarcity, trade, sustainability, ecosystems, climate, and immigration.

Gatton College of Business and Economics

David Blackwell, Ph.D., is Dean of the Gatton College of Business & Economics; Scott Kelley, D.B.A, is Associate Dean for Undergraduate Affairs.

The College of Business and Economics was established at the University of Kentucky in 1925 as the College of Commerce. The name was changed to College of Business and Economics in 1966. The name was changed again in 1996 to the Gatton College of Business and Economics.

The objective of the instructional programs in the Gatton College of Business and Economics is to prepare the student for a lifelong career in business, government, or research and teaching. The programs are structured to provide each student an opportunity to acquire a background in the basic areas of the arts and sciences, to obtain a broad knowledge of business and economics, and to study in depth one or more fields of special interest.

Accreditation

The Gatton College of Business and Economics is a member of the AACSB – the Association to Advance Collegiate Schools of Business, which accredits undergraduate programs in accounting, business administration, and economics as well as master's programs in accounting and business administration. The programs of the college enjoy the Association's full accreditation.

Undergraduate Programs in Business and Economics

The University of Kentucky grants the following degrees in the Gatton College of Business and Economics:

- Bachelor of Business Administration
- Bachelor of Science in Accounting
- Bachelor of Science in Business and Economics

Students pursuing the Bachelor of Business Administration may select from these majors: Finance, Management, and Marketing.

Undergraduate Certificate in Business and Economics

The University of Kentucky grants the following undergraduate certificate in the Gatton College of Business and Economics:

- Global Scholars

Information and requirements for the Global Scholars certificate are listed on page 198.

ADMISSION POLICY

Admission to the University is sufficient for lower-division admission to the Gatton College of Business and Economics for students with less than a junior standing. However, lower-division admission to the college or any admission to the University does not guarantee upper-division admission to one of the degree programs in the Gatton College of Business and Economics. In general, admission depends upon the qualifications and preparation of the applicants, as well as the availability of the resources for maintaining quality instruction.

Upper-division admission into a degree program is necessary in order to be granted a baccalaureate degree from the Gatton College of Business and Economics. Students who have attained a 3.0 or higher cumulative grade-point average overall and in the premajor component required of all students in the Gatton College of Business and Economics and have completed 60 semester hours of college-level credit will be assured admission.

Annually the Gatton College of Business and Economics will review the admission requirements and determine the cumulative grade-point average (Annual Admission GPA), if any, that would be acceptable below the 3.0 standard. The Annual Admission GPA (both overall and in the premajor component) will be no lower than 2.5 (see "Appeal Process" below for special circumstances). This GPA will be made available in the Undergraduate Resource Center of the Gatton College of Business and Economics by **October 15** of each year. This GPA will be effective the following **May 1** for any student applying for upper-division admission to the Gatton College of Business and Economics, regardless of the time of his/her enrollment in the University.

To be considered for upper-division admission to any of the undergraduate degree programs offered by the Gatton College of Business and Economics, an applicant must fulfill the following requirements:

1. Enrollment in the University of Kentucky. (Students are considered for acceptance by the college only after acceptance by the University of Kentucky.);
2. Completion of 60 semester hours with a minimum cumulative grade-point average of 3.0 or the current Annual Admission GPA, whichever is lower;
3. Completion of the premajor component required of all students within the Gatton College of Business and Economics with a minimum grade-point average of 3.0 or the minimum current Annual Admission GPA, whichever is lower. (The courses meeting the premajor requirements are listed under "Graduation Requirements" below.);
4. Submission of an application form to the Gatton College of Business and Economics. The application is available on the Web at: **http://mygatton.uky.edu**

Applications from students outside the University of Kentucky seeking admission to the Gatton College of Business and Economics, whether for upper-division or lower-division status, must be received by the University Admissions Office no later than **April 15** (first summer session); **May 15** (second summer session); **August 1** (fall semester); and **December 1** (spring semester).

Students enrolled in other UK colleges on campus should apply for admission **prior to** the priority registration period. (The appropriate deadlines are listed in the University calendar for approved times to change major).

Lower-division students enrolled in the Gatton College of Business and Economics should apply for upper-division admission to the college during the semester they are completing the premajor course work. The application for upper-division admission should be made before the priority registration period for the upcoming semester.

Lower-division students in the college who are missing no more than two premajor courses will be permitted to complete these courses simultaneously with enrollment in restricted course work if they are otherwise eligible. Eligibility is determined by attainment of junior standing and the minimum cumulative and premajor grade-point standings. This privilege will be granted for one semester only.

Students not admitted to an upper-division program in the Gatton College of Business and Economics should be aware that others may be given preference for enrollment in the restricted

upper-division courses offered by the Gatton College of Business and Economics.

Enrollment in restricted Business and Economics courses numbered 300 or above will be limited to:

1. Upper-division Business and Economics students;
2. Lower-division Business and Economics students who are missing no more than two premajor courses and are otherwise eligible for upper-division status. (This privilege will be granted for one semester only.);
3. Non-Business and Economics students who are registered for specific programs requiring Business and Economics courses;
4. Other students or categories of students with specific permission of the department offering the course.

In the event of capacity limitations, enrollment preference would be made in the above order.

For applicants from non-English speaking countries, see the information on "International Students" in the *Undergraduate Admission* section of this Bulletin.

Appeal Process

Students with a GPA below the Annual Admission GPA and who have completed all premajor requirements may appeal for admission into the Gatton College of Business and Economics. If the Appeals Committee feels that there is persuasive evidence that personal, academic or professional circumstances have affected a student's grades and that the student shows promise for successful completion of a degree in the Gatton College of Business and Economics, acceptance may be granted. Materials, deadlines, and information necessary for the appeals process are available in the Undergraduate Resource Center.

Dean's List

Students who have a term grade-point average of 3.6 or greater will appear on the Dean's List.

Probation and Academic Suspension

The following rules apply to students in the Gatton College of Business and Economics.

1. No student with a cumulative GPA of less than 2.0 will be enrolled in the Gatton College of Business and Economics. Any student who fails to maintain a cumulative GPA of 2.0 will be suspended from the Gatton College of Business and Economics and will not be readmitted until this GPA is 2.0 or greater. No probationary notice will be given.
2. Any student enrolled in the Gatton College of Business and Economics who achieves a GPA of less than 2.0 in any semester will be placed on probation.
3. Any student on probation who fails to achieve a 2.0 semester GPA will be dropped from the Gatton College of Business and Economics and will not be readmitted until he or she has obtained a semester GPA of 2.0 or greater for one semester and the student's cumulative GPA is 2.0 or greater.
4. Students who are suspended twice from the Gatton College of Business and Economics will not be readmitted.

Scholarships

The Gatton College of Business and Economics awards scholarships to first year and returning students. A small number of scholarships are available to first year students based upon merit. Most upper-division scholarships require application in the spring. The application is available at: **http://mygatton.uky.edu**

DIVISIONS

VON ALLMEN SCHOOL OF ACCOUNTANCY

The faculty in the Von Allmen School of Accountancy is committed to providing the best possible educational experience for students. The faculty has both breadth and depth of training and experience in public accounting, industry, government and regulated industries, and previous classroom experience.

DEPARTMENT OF ECONOMICS

The Department of Economics provides theoretical and applied courses in widely diverse areas including urban problems, labor, monetary economics, international economics, comparative economic systems, and economic history.

DEPARTMENT OF FINANCE AND QUANTITATIVE METHODS

Finance

The Finance major offers a variety of courses, both to students who concentrate their studies in finance and to those who desire additional knowledge in various financial areas. Such areas include financial management, security analysis and portfolio management, capital market theory, banking and institutions, and real estate.

Analytics

NOTE: The Gatton College of Business and Economics has suspended admissions to the B.B.A. in Analytics for the 2015-2016 academic year.

This degree program focuses on Business Analytics, which involves an organization's integrated use of technological and quantitative methods to process data and gain insights in the course of making decisions. The objective of Business Analytics is to help an organization reach decisions leading to actions that yield strong performance and sustained competitiveness in the context of today's turbulent, fast-paced, global business environment. The major covers application areas such as information systems, operations, and supply chain management.

DEPARTMENT OF MANAGEMENT

The faculty in the Department of Management brings extensive academic and practical experience to the classroom. Course offerings cover an array of management areas such as human resources, organizational behavior, and strategic management policy.

DEPARTMENT OF MARKETING AND SUPPLY CHAIN

The faculty in the Department of Marketing and Supply Chain has extensive experience in industry and government and includes individuals with interests and training in all areas of marketing. Aspects of marketing such as research, retailing, promotion, personal selling and strategy are covered in marketing course work.

GRADUATION REQUIREMENTS

All students in the Gatton College of Business and Economics must fulfill the UK Core requirements as outlined in the *UK Core* section of this Bulletin, the premajor requirements, the college core requirements, and major requirements. Additionally, students must fulfill the College requirements listed below.

College Requirements

To graduate from the Gatton College of Business and Economics, a student must have a total of 120 credit hours (exclusive of lower division military science courses, physical education service courses, and performance-type courses) with a 2.0 grade-point standing. Students are required to earn at least 50 percent of their business credit hours required for the business degree at the University of Kentucky. A minimum GPA of 2.00 is required in all courses taken at the University of Kentucky used to satisfy the college core. Additionally, a minimum GPA of 2.00 is required in all courses taken at the University of Kentucky used to satisfy upper division departmental requirements.

Students must complete CIS 300, Strategic Business and Professional Communication (W). CIS 300 fulfills the Graduation Composition and Communication Requirement (GCCR).

Each student's undergraduate curriculum must include at least 60 earned credit hours of courses outside the Gatton College of Business and Economics. Up to nine semester hours of economics and up to six semester hours of statistics may be counted toward the number of earned credit hours outside the Gatton College of Business and Economics.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I
or
*CIS/WRD 112 Accelerated Composition and Communication II 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II
or
*CIS/WRD 112 Accelerated Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and its Applications
or
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

Subtotal: UK Core hours 28-31

**Students who have an AP English Composition score of 4 or 5, an ACT English score of 32 or higher, an SAT verbal score of 720 or higher, or have been accepted into the University's Honors Program may fulfill the Composition and Communication I and II requirement with CIS/WRD 112.*

Graduation Composition and Communication Requirement (GCCR)

CIS 300 Strategic Business and Professional Communication (W) 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements

	Hours

Students must complete 20-26 credit hours taken from the following courses:

*CIS/WRD 110 Composition and Communication I
and
*CIS/WRD 111 Composition and Communication II 6
or
*CIS/WRD 112 Accelerated Composition and Communication II 3

ACC 201 Financial Accounting I 3
ACC 202 Managerial Uses of Accounting Information 3
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3

*MA 123 Elementary Calculus and Its Applications **and**
MA 162 Finite Mathematics and Its Applications 7
or
MA 113 Calculus I 4

B&E 105 Technology for Business Solutions 1
Total 20-26

**CIS/WRD 110, CIS/WRD 111, CIS/WRD 112 and MA 123 may also be used toward partial fulfillment of UK Core requirements.*

Suggested Premajor Curriculum

Freshman Year

Fall Semester	Hours
CIS/WRD 110 Composition and Communication I	
or	
*CIS/WRD 112 Accelerated Composition and Communication II	3
MA 109 College Algebra	3
UK 101 Academic Orientation	1-2
UK Core	3
UK Core	3
UK Core	3
Total	**16-17**

Spring Semester	
CIS/WRD 111 Composition and Communication II	3
MA 123 Elementary Calculus and its Applications	4
UK Core	3
UK Core	3
UK Core	3
Total	**16**

Sophomore Year

Fall Semester	Hours
ECO 201 Principles in Economics I	3
ACC 201 Financial Accounting I	3
MA 162 Finite Mathematics and its Applications	3
MKT 300 Marketing Management	3
Elective	3
Total	**15**

Spring Semester	
ECO 202 Principles in Economics II	3
ACC 202 Managerial Uses of Accounting Information	3
MGT 301 Business Management	3
**STA 296 Statistical Methods and Motivations	3
B&E 105 Technology for Business Solutions	1
Elective	3
Total	**16**

***STA 296 fulfills the UK Core Statistical Inferential Reasoning requirement.*

College Core

	Hours

The college core, a total of 18 credit hours, consists of the following courses:

MKT 300 Marketing Management 3
FIN 300 Corporation Finance 3
MGT 301 Business Management 3
MGT 340 Ethical and Regulatory Environment 3
AN 300 Analyzing Business Operations 3
ECO 391 Economic and Business Statistics 3

Subtotal: College Core hours 18

Electives

Each of the degree programs affords the student considerable opportunity and freedom of choice to take elective courses. The number of electives will vary depending on the student and their major. Each student must meet the general minimum hours for graduation. Students pursuing a second degree must have a minimum of 144 hours. Military science (lower division), music performance, and KHP activity courses do not count for electives. A maximum of six hours of technical courses can be counted for electives. A total of four electives may be taken on a pass/fail basis if they are not being used for any other type of requirement, nor taught through the student's major department(s).

Policy on Experiential Education

Gatton College of Business and Economics' faculty work with the Graham Office of Career Management to provide students with the opportunity to intern in a business-related field. The College allows a student to apply toward graduation up to six credit hours (pass/fail option only) of EXP 396/internship credit earned at the University of Kentucky. The maximum credit hours each semester that can be applied toward graduation for EXP 396/internship credit is three. Credits earned for other internship courses throughout the University are included in the three hours per semester and the six hour maximum for graduation credit. For further information, visit: **www.gatton.uky.edu/career**

Advising

The Undergraduate Resource Center (144 Gatton College of Business and Economics Building) coordinates the academic advising of business students. The staff of the Undergraduate Resource Center can assist with general information, admission decisions, and the applicability of credit toward degree requirements.

Bachelor of Science in ACCOUNTING

UK Core Requirements

See "UK Core Requirements" on page 194.

Subtotal: UK Core hours 28-31

Graduation Communication and Composition Requirement (GCCR)

See "Graduation Communication and Composition Requirements" on page 195.

Subtotal: GCCR hours ..... 3 hours

Premajor Requirements

See "Premajor Requirements" on page 195.

Subtotal: Premajor hours 20-26

College Core

See "College Core" on page 195.

Subtotal: College Core hours 18

To graduate with a Bachelor of Science in Accounting, a student is required to have 27 or more credit hours taken from the School of Accountancy in the following courses:

Major Requirements

	Hours
ACC 301 Intermediate Accounting I	3
ACC 302 Intermediate Accounting II	3
ACC 324 Accounting Information Systems	3
ACC 403 Auditing	3
ACC 407 Concepts of Income Taxation	3
ACC 418 Cost Management	3
Upper-division Accounting Electives	6
MGT 499 Strategic Management	3
Subtotal: Major hours	**27**

Electives

See "Electives" on page 195. Students must complete at least 120 hours to graduate with a degree in Accounting.

TOTAL HOURS: 120

Suggested Upper-Division Accounting Curriculum

Junior Year

Fall Semester	Hours
ACC 301 Intermediate Accounting I	3
ACC 324 Accounting Information Systems	3
ECO 391 Economic and Business Statistics	3
AN 300 Analyzing Business Operations	3
CIS 300 Strategic Business and Professional Communication (W)	3
Total	**15**

Spring Semester	
ACC 302 Intermediate Accounting II	3
ACC 403 Auditing	3
FIN 300 Corporation Finance	3
Elective	3
Elective	3
Total	**15**

Senior Year

Fall Semester	Hours
ACC 418 Cost Management	3
ACC 407 Concepts of Income Taxation	3
MGT 340 Ethical and Regulatory Environment	3
Elective	3
Elective	3
Total	**15**

Spring Semester	
ACC 4–	3
ACC 4–	3
MGT 499 Strategic Management	3
Elective	3
Elective	3
Total	**15**

Note: If you plan to do an internship, please consult with your accounting faculty advisor regarding course work order.

B.B.A. with a major in ANALYTICS

NOTE: The Gatton College of Business and Economics has suspended admissions to the B.B.A. in Analytics for the 2015-2016 academic year.

B.B.A. with a major in MANAGEMENT

UK Core Requirements

See "UK Core Requirements" on page 195.

Subtotal: UK Core hours 28-31

Graduation Communication and Composition Requirement (GCCR)

See "Graduation Communication and Composition Requirements" on page 195.

Subtotal: GCCR hours ..... 3 hours

Premajor Requirements

See "Premajor Requirements" on page 195.

Subtotal: Premajor hours 20-26

College Core

See "College Core" on page 195.

Subtotal: College Core hours 18

To graduate with a Bachelor of Business Administration degree, a student is required to have at least 18 credit hours as follows:

	Hours
MGT 320 Survey of Human Resource Management	3
MGT 410 Analysis of Organizational Behavior	3
MGT 499 Strategic Management	3
plus three of the following:	
MGT 309 Introduction to International Business	3
MGT 341 Business Law I	3
MGT 390 Special Topics in Management (Subtitle required)	3
MGT 430 Services Marketing Management	3
MGT 450 Negotiations and Conflict Resolution	3
MGT 491 Small Business Management	3
MGT 492 Entrepreneurship and Venture Creation	3
Subtotal: Major hours	**18**

Electives

See "Electives" on page 195. Students must complete a minimum of 120 hours to graduate with a degree in Business Administration.

TOTAL HOURS: 120

Suggested Upper-Division Management Curriculum

Junior Year

Fall Semester	Hours
MGT 320 Survey of Human Resource Management	3
FIN 300 Corporation Finance	3
ECO 391 Economic and Business Statistics	3
CIS 300 Strategic Business and Professional Communication (W)	3
Elective	3
Total	**15**

Spring Semester	
MGT 340 Ethical and Regulatory Environment	3
MGT 3– or 4–	3
AN 300 Analyzing Business Operations	3
Elective	3
Elective	3
Total	**15**

Senior Year

Fall Semester	Hours
MGT 3– or 4–	3
MGT 410 Analysis of Organizational Behavior	3
Elective	3
Elective	3
Elective	3
Total	**15**

Spring Semester	
MGT 499 Strategic Management	3
MGT 3– or 4–	3
Elective	3
Elective	3
Elective	3
Total	**15**

B.B.A. with a major in MARKETING

UK Core Requirements

See "UK Core Requirements" on page 195.

Subtotal: UK Core hours 28-31

Graduation Communication and Composition Requirement (GCCR)

See "Graduation Communication and Composition Requirements" on page 195.

Subtotal: GCCR hours ..... 3 hours

Premajor Requirements

See "Premajor Requirements" on page 195.

Subtotal: Premajor hours 20-26

College Core

See "College Core" on page 195.

Subtotal: College Core hours 18

To graduate with a Bachelor of Business Administration degree, a student is required to have at least 18 credit hours as follows:

	Hours
MKT 310 Consumer Behavior	3
MKT 340 Introductory Marketing Research	3
MKT 450 Marketing Strategy and Planning	3
plus three of the following:	
MKT 303 Supply Chain Management	3
MKT 320 Retail and Distribution Management	3
MKT 330 Promotion Management	3
MKT 390 Special Topics in Marketing (Subtitle required)	1-3
MKT 410 Personal Selling	3
MKT 420 Data Mining	3
MKT 430 Services Marketing Management	3
MKT 435 International Marketing	3
MKT 445 Sports Marketing	3
Subtotal: Major hours	**18**

Electives

See "Electives" on page 195. Students must complete a minimum of 120 hours to graduate with a degree in Business Administration.

TOTAL HOURS: 120

Suggested Upper-Division Marketing Curriculum

Junior Year

Fall Semester	Hours
MKT 310 Consumer Behavior	3
FIN 300 Corporation Finance	3
ECO 391 Economic and Business Statistics	3
CIS 300 Strategic Business and Professional Communication (W)	3
Elective	3
Total	**15**

Spring Semester	
MKT 340 Introductory Marketing Research	3
MKT 3– or 4–	3
AN 300 Analyzing Business Operations	3
Elective	3
Elective	3
Total	**15**

Senior Year

Fall Semester	Hours
MKT 3– or 4–	3
MGT 340 Ethical and Regulatory Environment	3
Elective	3
Elective	3
Elective	3
Total	**15**

Spring Semester	
MKT 450 Marketing Strategy and Planning	3
MKT 3– or 4–	3
Elective	3
Elective	3
Elective	3
Total	**15**

B.B.A. with a major in FINANCE

UK Core Requirements

See "UK Core Requirements" on page 195.

Subtotal: UK Core hours 28-31

Graduation Communication and Composition Requirement (GCCR)

See "Graduation Communication and Composition Requirements" on page 195.

Subtotal: GCCR hours ..... 3 hours

Premajor Requirements

See "Premajor Requirements" on page 195.

Subtotal: Premajor hours 20-26

College Core

See "College Core" on page 195.

Subtotal: College Core hours 18

To graduate with a Bachelor of Business Administration degree, a student is required to have at least 21 credit hours as follows:

	Hours
ACC 301 Intermediate Accounting I	3
ACC 302 Intermediate Accounting II	3
FIN 405 Capital Investment and Financing Decisions	3
FIN 410 Investment Analysis	3

plus at least three additional finance courses at the 400 or 500 level.

Subtotal: Major hours 21

Electives

See "Electives" on page 195. Students must complete a minimum of 120 hours to graduate with a degree in Business Administration.

TOTAL HOURS: 120

Suggested Upper-Division Finance Curriculum

Junior Year

Fall Semester	Hours
ACC 301 Intermediate Accounting I	3
FIN 300 Corporation Finance	3
ECO 391 Economic and Business Statistics	3
CIS 300 Strategic Business and Professional Communication (W)	3
Elective	3
Total	**15**

Spring Semester	
ACC 302 Intermediate Accounting II	3
FIN 405 Capital Investment and Financing Decisions	3
FIN 410 Investment Analysis	3
Elective	3
Elective	3
Total	**15**

Senior Year

Fall Semester	Hours
FIN 4–	3
FIN 4–	3
MGT 340 Ethical and Regulatory Environment	3
Elective	3
Elective	3
Total	**15**

Spring Semester	
FIN 4–	3
AN 300 Analyzing Business Operations	3
Elective	3
Elective	3
Elective	3
Total	**15**

B.S.B.E. with a major in ECONOMICS

UK Core Requirements

See "UK Core Requirements" on page 195.

Subtotal: UK Core hours 28-31

Graduation Communication and Composition Requirement (GCCR)

See "Graduation Communication and Composition Requirements" on page 195.

Subtotal: GCCR hours ..... 3 hours

Premajor Requirements

See "Premajor Requirements" on page 195.

Subtotal: Premajor hours 20-26

College Core

See "College Core" on page 195.

Subtotal: College Core hours 18

To graduate with a Bachelor of Science in Business and Economics, a student is required to have 24 credit hours as follows:

	Hours
ECO 401 Intermediate Microeconomic Theory	3
ECO 402 Intermediate Macroeconomic Theory	3
ECO 499 Seminar in Economics (Subtitle required)	3
Upper-level elective in Gatton College	3
ECO electives	12

Subtotal: Major hours 24

Electives

See "Electives" on page 195. Students must complete a minimum of 120 hours to graduate with a B.S.B.E. degree.

TOTAL HOURS: 120

Suggested Upper-Division Economics Curriculum

Junior Year

Fall Semester	Hours
ECO 401 Intermediate Microeconomic Theory	3
FIN 300 Corporation Finance	3
ECO 391 Economic and Business Statistics	3
CIS 300 Strategic Business and Professional Communication (W)	3
Elective	1-4
Total	**13-16**

Spring Semester	
ECO 402 Intermediate Macroeconomic Theory	3
ECO 4–	3
AN 300 Analyzing Business Operations	3
Elective	3
Elective	3
Total	**15**

Senior Year

Fall Semester	Hours
ECO 4–	3
ECO 4–	3
MGT 340 Ethical and Regulatory Environment	3
Elective	3
Elective	3
Total	**15**

Spring Semester	
ECO 4–	3
ECO 499 Seminar in Economics (Subtitle required)	3
Upper Level Gatton Elective	3
Elective	3
Elective	3
Total	**15**

MINORS

NOTE: In addition to completing the minor requirements, students must complete at least six hours in each minor with courses that are not counted for any other academic program in the College.

Minor Residency Requirement

At least half of all upper division classes used to complete each minor must be earned from the Gatton College.

Minor in Economics

	Hours
ECO 201 Principles of Economics I	3
ECO 202 Principles of Economics II	3
ECO 401 Intermediate Microeconomic Theory	3
Three additional economics courses at the 300-level or above	9

Students must take at least 6 hours of upper-division classes from the Gatton College (50 percent of the upper-division requirement for a minor).

Minor in Business

NOTE: This minor is not available to students pursuing a major in the Gatton College of Business and Economics. **Students should note that some courses in the minor have CS 101 or B&E 105 as a prerequisite. Further, MA 113 (or MA 123) is a prerequisite for STA 296, a preminor requirement. STA 296 is a prerequisite for FIN 300, a minor requirement. Students who choose AN 300 must complete all the business premajor requirements.**

Students wishing to complete a minor in Business must complete the following:

Preminor Requirements **Hours**

ACC 201 Financial Accounting I 3
ACC 202 Managerial Uses of Accounting Information 3
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
STA 296 Statistical Methods and Motivations 3

Students must complete the preminor requirements prior to taking any course in the minor requirements.

Students must take at least 6 hours of upper-division classes from the Gatton College (50 percent of the upper-division requirement for a minor).

Minor Requirements **Hours**

AN 320 Business Computing Systems **or**
AN 300 Analyzing Business Operations 3

FIN 300 Corporation Finance 3
MGT 301 Business Management 3
MKT 300 Marketing Management 3

Minor in International Business

To earn the minor in International Business, complete the following:

Prerequisite

Complete the College premajor with a grade-point standing meeting the Annual Admission GPA, plus

FIN 300 Corporation Finance 3
MKT 300 Marketing Management 3

Course Component

Complete 15 hours of course work, including:

MGT 309 Introduction to International Business 3

ECO 370 The Global Economy
or
*AEC/ECO 471 International Trade 3

FIN 423 International Finance 3
MKT 435 International Marketing 3

**ECO 401 is a prerequisite for AEC/ECO 471.*

plus one of the following: a UK Core Global Citizenship course at the 200 level and above that is not used to satisfy UK Core requirements, at least 3 credit hours earned through an education abroad experience, or 6 hours of college-level foreign language.

Students must take at least 9 hours of upper-division classes from the Gatton College (50 percent of the upper-division requirement for a minor).

Undergraduate Certificate in Global Scholars

The Global Scholars Program is a four-year honors program for high-achieving, highly-motivated business students who have a passion for leadership and international business. Every Global Scholar will study abroad for at least one semester and complete a Minor in International Business.

The Program's mission is to develop perceptive business professionals well-equipped to confront challenges of a global environment through specialized curriculum and co-curricular activities designed to enhance any Gatton major. Through successful completion of the Program, students should accomplish the following goals:

- Develop an appreciation of a global business perspective
- Develop the ability to communicate and work effectively in diverse teams
- Gain knowledge and exposure to international business practices and environments
- Galvanize leadership and professional skills through scholastic rigor and community engagement

In pursuit of these goals, the Global Scholars Program values:

- Academic excellence
- Self-discovery and creativity
- Professionalism
- Teamwork
- Diversity of opinion, ethnicity, culture, and experience

For more information about the Global Scholars program, visit:
http://gatton.uky.edu/Undergraduates/Content.php?PageName=UGlobalScholars

Academic Curriculum

Global Scholars students cohorted classes are required. Global Scholars should schedule other course work and extracurricular activities around these required classes.

Freshman Year

Fall Semester **Hours**

UK 101 Academic Orientation 1-2
B&E 120 Leadership in the Global Marketplace 3

Spring Semester

B&E 122 The Challenge of Leadership 1
ECO 201 Principles of Economics I 3
ACC 201 Financial Accounting I 3

Sophomore Year

Fall Semester **Hours**

ACC 202 Managerial Uses of Accounting Information 3
ECO 202 Principles of Economics II 3
B&E 240 Inter-Cultural Business Communication 3

Spring Semester

B&E 327 Larger World Issues in Business 3

Education Abroad Semester

ISP 599 Study Abroad 1

Junior Year

Most Global Scholars study abroad during the junior year:
Business or Economics class taken abroad at the 200-level or above 3

Senior Year

Spring Semester **Hours**

MGT 499 Strategic Management 3

Total hours ..... **18†**

*†*The accounting and economics classes are not counted in the total because they are College-wide requirements.*

Additional hours are required for the International Business Minor:

MGT 309 Introduction to International Business 3
ECO 471 International Trade 3
FIN 423 International Finance 3
MKT 435 International Marketing 3

Total additional International Business Minor hours **12**

Academic Standards

Global Scholars students are held to higher standards. Students earning a 3.4 UK cumulative grade-point average (GPA) are in good academic standing within the Global Scholars Program. Students earning less than the expected 3.4 cumulative GPA are still in good academic standing if they meet the minimum standards outlined below:

GPA Requirements

- End of First Year: 3.0 cumulative UK GPA
- End of Second Year: 3.2 cumulative UK GPA
- End of Third Year through Graduation: 3.4 cumulative UK GPA

Students who earn less than a 3.0 term GPA during their first semester will automatically be placed on probation. Sophomores and Juniors can also be placed on probation if their term and/or cumulative GPA is below the minimum standard and are not demonstrating progress towards the 3.4 cumulative UK GPA.

Global Scholar students must also meet the general academic standards of Gatton College, e.g., a 2.8 premajor GPA is required for upper-division College course work. All standards of the University of Kentucky, such as academic honesty and integrity, must also be upheld. Should a student fail to meet any of these standards, this may warrant immediate expulsion from the Global Scholars Program. In some cases, the student in question may be eligible for Global Scholars Program probation.

GRADUATE PROGRAMS

The Gatton College of Business and Economics offers the following graduate degrees through the Graduate School at UK: (1) Master of Science in Accounting, (2) Master of Business Administration, (3) Ph. D. in Business Administration, (4) Master of Science in Economics, and (5) Ph.D. in Economics. Additional information may be obtained from the Associate Dean for Faculty, Research, and Administration, Gatton College of Business and Economics, and from *The Graduate School Bulletin.*

College of Communication and Information

H. Dan O'Hair, Ph.D., is Dean of the College of Communication and Information.

The College of Communication and Information consists of the Department of Communication, the Department of Integrated Strategic Communication, the School of Journalism and Telecommunications, and the School of Information Science. The Department of Communication educates its students in interpersonal, small group, mass, health and organizational communication, and communication theory and research. Graduates pursue a variety of career paths in areas such as corporate communication, health communication, personnel, education, media, and government. The Department of Integrated Strategic Communication prepares students for careers as professionals in the allied areas of advertising, public relations, and direct response communication. The journalism area within the School of Journalism and Telecommunications educates its students for professional careers in the media as writers, editors, and broadcasters. The media arts and studies area within the School of Journalism and Telecommunications educates its students in telecommunications technology, management, programming, research, audio-video production, and the societal consequences of electronic media. The School of Information Science provides students with the basic knowledge and skills required to function effectively in beginning professional positions in various types of libraries and information-providing agencies.

Accreditation

Majors in the School of Journalism and Telecommunications have national accreditation from the Accrediting Council on Education in Journalism and Mass Communications (ACEJMC).

Undergraduate Programs in Communication and Information

The University of Kentucky grants the following degrees in the College of Communication and Information:

- Bachelor of Arts
- Bachelor of Science

Students pursuing either the Bachelor of Arts or the Bachelor of Science select from these majors: communication, information communication technology, integrated strategic communication, journalism, and media arts and studies. Students may also select a minor in communication, a minor in information studies, a minor in journalism studies, and a minor in media arts and studies. Students may not double-major within the School of Journalism and Telecommunications; students majoring in integrated strategic communication or journalism may not minor in media arts and studies. Students majoring in integrated strategic communication or media arts and studies may not minor in journalism studies. University requirements for a double major stipulate that each major be in a separate department (see the *Graduation Requirements* section of this Bulletin). No student may take more than 48 hours within the School to complete a degree.

Undergraduate Certificates in Communication and Information

The University of Kentucky grants the following undergraduate certificates in the College of Communication and Information:

- Health Communication
- Innovation and Entrepreneurial Thinking

Information and requirements for the certificate are listed on page 206.

Scholarships and Financial Aid

The College of Communication and Information has several opportunities for students to obtain scholarship funding. The college awards four scholarships to incoming freshmen and two scholarships each to rising juniors and seniors each academic year. The School of Journalism and Telecommunications awards nearly $45,000 in aid from various scholarship funds annually. The Department of Communication also has funding available for students. Generally, the deadline for scholarship applications is early in the spring semester to award funding for the following academic year. For specific information on scholarships, contact the department office, or the Office of Student Services in 105 Grehan Building.

ADMISSION POLICY

Admission to the University is sufficient for admission to the College of Communication and Information as a **premajor** for students who have completed less than 45 semester hours. **An application must be filed with the college in order for a student to be considered for admission as a premajor or major.** However, admission as a premajor does not guarantee admission as a **major** in one of the degree programs in the College of Communication and Information. In general, admission as a major depends upon the qualifications and preparation of the applicant, as well as the availability of resources for maintaining quality instruction. Additionally, depending on the timing of admission into the major program, students may not have access to major classes until subsequent semesters.

Upper-division admission into a degree program is necessary in order to be granted a baccalaureate degree from the College of Communication and Information.

Transfer Students

The School of Journalism and Telecommunications is accredited by the Accrediting Council on Education in Journalism and Mass Communication (ACEJMC). Under ACEJMC guidelines, no more than 12 hours of journalism and mass communications courses from a student's previous institution(s) may be counted toward a degree in journalism, integrated strategic communication or media arts and studies at the University of Kentucky.

Admission to Degree Programs

In order to be admitted to any of the four undergraduate majors (communication, integrated strategic communication, journalism, and media arts and studies) offered by the College of Communication and Information, an applicant must fulfill the following requirements:

1. Enrollment in the University of Kentucky (Students are considered for acceptance by the college only after acceptance by the University.);
2. Completion of 30 semester hours of course work;
3. Minimum of 2.0 cumulative grade-point average;
4. Completion of premajor requirements of the program to which application is made;
5. Completion of UK Core areas I, II, III, IV, V, VI, VII and VIII;
6. Submission of an application form.

No student will be allowed to test out of any Journalism, Integrated Strategic Communication, or Telecommunication course. A student taking a similar course from another institution would still be allowed credit should the course meet criteria similar to the University of Kentucky course.

Students meeting these requirements will be designated as **majors** or as students with **upper-division standing** in the program to which admission is granted. Any student not meeting one or more of these requirements may be granted premajor status.

In the admission considerations, when personal, academic, professional, or intellectual circumstances tend to discount lower academic scores, admission may be granted if there is other persuasive evidence of both the capability and motivation to undertake successfully a program in the College of Communication and Information.

Annually, the College of Communication and Information faculty will review the minimum standards required for admission to the college. Any change in requirements will be implemented at the beginning of the academic year (fall semester) and will be in effect for the entire academic year. If the standards are to be changed, the Dean of the College of Communication and Information will submit the proposed change by February 1 to the University Senate Council for approval, with prior circulation to the University deans and directors.

Admissions Process

Applications from students outside the University of Kentucky seeking admission to the College of Communication and Information, whether for lower-division or upper-division status, must be received by the University of Kentucky Admissions Office no later than **April 1** (for summer sessions), **August 1** (for fall semester) and **December 1** (for spring semester).

Students enrolled in other UK colleges on campus may apply for admission during the first week of fall and spring semesters, or **prior to** the priority registration period. The appropriate deadlines are listed in the University calendar as approved times to change majors.

Each applicant bears the responsibility to see that the application contains all the requested materials.

Enrollment in Upper Division Courses

Enrollment in College of Communication and Information courses numbered 300-599 will be limited in order of priority to:

1. majors and minors in College of Communication and Information degree programs;
2. non-College of Communication and Information students who are registered for specific programs requiring College of Communication and Information courses;
3. other students or categories of students with the express permission of the department offering the course (departments may choose to declare certain courses as open enrollment courses).

GRADUATION REQUIREMENTS

To earn either the Bachelor of Arts or the Bachelor of Science degree in the College of Communication and Information, each student must (1) complete 120 hours of course work (excluding courses lower than the 100 level, courses with an **R** designation, physical education service courses, and/or EXP 396 credits) with a grade-point average of at least 2.0 and (2) complete at least 42 hours in upper division courses (300 or above). No more than 60 hours may be taken within the college.

Other requirements include UK Core, premajor requirements, field of concentration (24-27 hours of major work and 15-18 hours of cognate courses earned outside the college as defined by the units), and a minimum of six hours of free electives.

Bachelor of Arts Degree Requirements

Students who pursue the B.A. within the College of Communication and Information must fulfill the following requirements.

UK Core: Students must complete all areas of the UK Core program. (See *UK Core* section in this Bulletin for a detailed explanation of requirements.)

College B.A. Requirements

1. Language. Complete one of the following sequences:

Option A: Successful completion of the fourth college semester of one foreign language. (Note: This may be accomplished by scoring at this level on a placement test for previous work in the foreign language.)

Option B: Complete a set of two courses dealing with the nature and structure of language, language behavior, or comparative languages. This set shall be comprised of one course from Group I below, and one course from Group II. (Courses counted as meeting this option may not be counted in the major or field of concentration.)

Group I: LIN 211.

Group II: ENG/LIN 209, ENG 210, ENG/LIN 212, ENG/LIN 310, LIN 317, LIN 318, ANT/LIN 325, LIN 331, ENG/LIN 512, ANT/LIN 515, ANT/LIN 516, LIN 517, ANT/LIN 519.

2. Statistics: STA 210

Major Requirements

Students must complete the departmental requirements for one of the four majors (communication, integrated strategic communication, journalism, and media arts and studies).

Subtotal: College B.A. Hours 9-17

Bachelor of Science Degree Requirements

Students who pursue the B.S. within the College of Communication and Information must fulfill the following requirements:

UK Core: Students must complete all areas of the UK Core program. (See *UK Core* section in this Bulletin for a detailed explanation of requirements.)

College B.S. Requirements

1. Mathematics, statistics and computer science: Complete 9 credits in mathematics and/or computer sciences beyond the UK Core requirement. At least 3 hours must be in statistics.

2. Science Courses. Complete a minimum of 60 hours of science courses, with not more than 12 hours within the College of Communication and Information. These courses must be approved by an advisor in the College of Communication and Information and may be from the areas of mathematics, statistics, computer science, physical sciences, biological sciences, social and behavioral sciences, as well as from appropriate professional fields.

Subtotal: College B.S. Hours 60

Academic Advising

Premajor (freshman and sophomore) advising in the College of Communication and Information is under the jurisdiction of the Office of Student Services, 107 Grehan Building. Premajor advisors are Cathy Hunt, Director of Student Services, and a freshmen advisor. All can be reached at (859) 257-4839.

During advance registration periods, the college will advise premajors through individual advising sessions with college and department staff. Between advance registration periods, including registration at the beginning of each term, one faculty or staff member from each academic unit will be available to advise premajors.

When students are admitted to the upper-division of the college, they are assigned a faculty advisor from their major program.

B.S. or B.A. with a major in COMMUNICATION

The major in communication provides students with the knowledge and skills necessary to design, manage, and evaluate communication processes involving individuals, groups, and the public. Graduates develop strong oral, written, and interpersonal communication skills as well as an advanced ability to analyze and critique messages, behaviors, and media.

Majors typically plan their upper-division course work around four identified career paths: business and organizational communication, digital and mass communication, health care communication, and human communication. Students also can tailor their own unique program of study to meet specific needs. Careful planning with the student's advisor is necessary.

Communication majors are encouraged to participate in educational activities beyond regular course offerings. The department has an excellent internship program which offers the opportunity for work with employers in corporate, government, and public service agencies. In addition, students may elect to do independent study work with individual faculty on special topics or projects. All majors are encouraged to participate in a variety of student organizations providing extracurricular activities designed to enhance the academic experience and career opportunities. For

students who qualify, the department sponsors an Honors Society.

Degree Requirements

Each student completes the following:

College Requirements

See "College B.A. Requirements" or "College B.S. Requirements" on page 200.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

COM 252 Introduction to Interpersonal Communication
and
COM 351 Introduction to Communication Theory 6
OR
COM 252 Introduction to Interpersonal Communication
and
COM 326 Communication Strategies for Professional Excellence 6

Graduation Composition and Communication Requirement hours (GCCR) 6

Premajor Requirements (15 hours)

COM 101 Introduction to Communications 3
CIS/WRD 110 Composition and Communication I 3
CIS/WRD 111 Composition and Communication II 3
COM 252 Introduction to Interpersonal Communication 3
COM 249 Mass Media and Mass Culture 3

Subtotal: Premajor hours 15

Major Requirements (21 hours)

Students must complete 21 hours at the 325-level or above (per advising policy), of which at least 9 hours must be at the 400- and/or 500-level.

Cognate (15 hours)

Students must complete 15 hours in courses related to a Career Path at the 300-level or above, as approved by the student's academic advisor.

Open Electives (6 hours)

Students must complete 6 additional hours of their choice at the 300-level. These courses can be taken pass/fail.

Subtotal: Career Track Hours 36

Subtotal: Major Hours 42

TOTAL HOURS: 120

Suggested Career Paths

Business and Organizational Communication

Required:
COM 325 Introduction to Organizational Communication 3

COM 581 Teamwork and Leadership in Organizations
or
COM 425 Communication, Negotiation, and Conflict Management in Organizations 3

plus two of the following:
COM 525 Advanced Issues in Organizational Communication (Subtitle required) 3
COM 399 Internship in Communication 3
COM 535 Risk and Crisis Communication 3

plus 9 additional credits in upper division COM courses at the 325 level and above and 15 additional credits in COGNATE courses including the following:
CIS 300 Strategic Business and Professional Communication (W) 3
COM 315 Understanding Workplace Communication in a Diverse U.S. Society 3

Note: 9 or more credits of upper-division COM courses will continue to be required at the 400 or 500 level.

Cognate Area
Courses in sociology, marketing, management, journalism and telecommunications are often chosen for this cognate.

Digital and Mass Communication

Required:
COM 352 Interpersonal Communication and Social Media 3
COM 449 Social Processes and Effects of Mass Communication 3
COM 453 Digital and Mass Communication Media Literacy 3
COM 553 Critical Analysis of Communication and Persuasion in Popular Culture 3

plus 9 additional credits in upper division COM courses at the 325 level and above and 15 additional credits in COGNATE courses including the following:
COM 312 Learning Intercultural Communication Through Media and Film 3

Note: 9 or more credits of upper-division COM courses will continue to be required at the 400 or 500 level.

Cognate Area
Courses in sociology, political science, journalism and telecommunications, marketing and management are often chosen for this cognate.

Health Care Communication

Required:
COM 471 Introduction to Health Communication 3
COM 482 Studies in Persuasion 3
COM 571 Interpersonal Communication in Health Contexts 3
COM 572 Health Communication Campaigns and Communities 3

plus 9 additional credits in upper division COM courses at the 325 level and above and 15 additional credits in COGNATE courses including the following:
COM 311 Taking Control of Your Health: Patient-Provider Communication 3

Note: 9 or more credits of upper-division COM courses will continue to be required at the 400 or 500 level.

Cognate Area
Courses in sociology, psychology, behavioral science, philosophy, journalism and telecommunications, marketing and management are often chosen for this cognate.

Human Communication

Required:
Minimum 21 credits in upper-division COM courses, 9 of which must be at the 400 or 500 level. Minimum 15 credits at the 325 level and above in COGNATE.

Cognate Area
Courses in sociology, political science, journalism and telecommunications, marketing and management are often chosen for this cognate.

Minor in Communication

Any student wishing to minor in Communication must meet college selective admission requirements (45 credits completed, 24 credits in UK Core courses, COM 101 and have a 2.0 cumulative grade-point average). The student must file an application for the minor in the Department of Communication Office and have approval from the department chair for COM courses selected to complete the minor.

1. COM 101 Introduction to Communications 3
2. COM 287 Persuasive Speaking 3
3. Two courses (6 hours) from the following:
   COM 249 Mass Media and Mass Culture 3
   COM 252 Introduction to Interpersonal Communication 3
   COM 281 Communication in Small Groups 3
   COM 325 Introduction to Organizational Communication 3
4. Two courses (6 hours) from the following:
   COM 311 Taking Control of Your Health: Patient-Provider Communication 3
   COM 312 Learning Intercultural Communication Through Media and Film 3
   COM 313 Interpersonal Communication in Close Relationships 3
   COM 314 The Dark Side of Interpersonal Communication and Relationships 3
   COM 315 Understanding Workplace Communication in a Diverse U.S. Society 3

B.S. or B.A. with a major in
INTEGRATED STRATEGIC COMMUNICATION

The Integrated Strategic Communication major offers students professional preparation for careers in the allied areas of advertising, public relations, and direct response communication. Through course work, students develop conceptual command of these allied areas and also build expertise in one area through the *PATH* option they select. The major stresses a strategic approach to communication initiatives and is designed to build analytical and critical thinking skills as well as writing and presentation skills.

ISC graduates enjoy highly diverse career destinations. Agencies specializing in advertising, public relations, and direct response along with the media and communication technology industries, corporations, nonprofit organizations, and regulatory/consumer protection agencies need employees who have the skills developed by the ISC graduate.

ISC students are encouraged to expand their course work with activities unique to the major. Grehan Associates is a student-run full-service communications agency where students meet clients' advertising, public relations, and direct response needs. The American Advertising Federation and Public Relations Student Society of America chapters offer both leadership and networking opportunities. A dynamic, professionally-oriented internship program insures that students gain hands-on experience with communications, government, or nonprofit agencies or with corporations or the media. Students are also encouraged to work with *The Kentuckian*, the *Kernel*, WRFL and WUKY.

Degree Requirements

Each student completes the following:

College Requirements

See "College B.A. Requirements" or "College B.S. Requirements" on page 200.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

ISC 491 Integrated Strategic Communication Campaigns 3
plus
Approved ISC Portfolio

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

PSY 100 Introduction to Psychology 4
ISC 161 Introduction to Integrated Strategic Communication 3

ISC 261 Strategic Planning and Writing
or
JOU 204 Writing for the Mass Media 3

STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

Subtotal: Premajor hours 13

Major Requirements

ISC 321 Research Methods for the Integrated Strategic Communication Professional 3
ISC 543 Regulation of Strategic Communication 3
JAT 399 Internship (Subtitle required) 3

plus, complete one of the following two-course *PATHS*:

Creative Path
ISC 331 Advertising Creative Strategy and Execution I 3
ISC 431 Advertising Creative Strategy and Execution II 3

Public Relations Path
ISC 341 Strategic Public Relations 3
ISC 441 Case Studies in Public Relations 3

ISC Account Management Path
ISC 351 ISC Account Management 3
ISC 451 Integrated Strategic Media Management 3

Direct Response Path
ISC 361 Direct Response Targeting: Media and Database Management 3
ISC 461 Direct Response Message Strategies 3

Portfolio

Portfolio required for graduation.

Capstone Requirement

ISC 491 Integrated Strategic Communication Campaigns 3

Major Electives

9 hours of 300+ level undergraduate courses offered in the School of Journalism and Telecommunications. ISC majors are expected to work with their academic advisor to build a program of electives that supports and extends the courses in the Major *PATH*.

Minor

MKT 300 Marketing Management 3

A 300+ level course in the Department of Philosophy dealing with social or professional ethics, such as PHI 332.

Students must complete a minor offered through UK, with the exception of minors in Journalism Studies or Media Arts and Studies.

TOTAL HOURS: ..... minimum of 120

Note: Of a student's total course work for a bachelor's degree, 72 of the 120 hours required for graduation must be in courses other than professional media-based communications.

B.S. or B.A. with a major in
JOURNALISM

The journalism major prepares students for leadership roles in rapidly changing media by requiring a strong core of journalism courses within the rich context of a liberal arts education. Courses are designed to foster analytical and critical thinking skills and to teach students to communicate effectively with a mass audience.

Founded in 1914, the journalism program has full national accreditation by the Accrediting Council on Education in Journalism and Mass Communications. Alumni include Pulitzer Prize winners, Nieman fellows and nationally known journalists.

Journalism majors learn about media law, ethics and history, and about the media's role in an increasingly diverse society. The program emphasizes hands-on learning. Students select either a print or electronic emphasis in their professional skills courses. Majors choosing a print emphasis have the opportunity to write for a daily newspaper. Students who select the electronic track gain on-air experience at the university radio station and report, anchor, videotape and produce a newscast aired on a local cable channel.

Graduates are prepared for jobs as reporters and editors for print, broadcast and online media, and for positions as assignment editors, producers, managing editors, publishers and new media entrepreneurs. Courses are also offered for students interested in specialized careers such as sports reporting, business writing, arts criticism or graphic design.

All majors are encouraged to supplement their course work with media experience at the *Kentucky Kernel*, the independent daily student newspaper; the *Kentuckian*, the student yearbook; WUKY, the university's public radio station, or WRFL, the student-run radio station. In addition, students are expected to take advantage of the school's internship program.

Degree Requirements

Each student completes the following:

College Requirements

See "College B.A. Requirements" or "College B.S. Requirements" on page 200.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Preferred:
PS 235 World Politics 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 111 Introduction to Contemporary Mathematics
or
MA 123 Elementary Calculus and Its Applications
or
PHI 120 Introductory Logic 3-4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty:
An Introduction to Statistical Reasoning 3
or
for psychology minors:
PSY 215 Experimental Psychology
and
PSY 216 Applications of Statistics in Psychology 8

IX. Community, Culture and Citizenship in the USA
Preferred:
PS 101 American Government 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30-36

Graduation Composition and Communication Requirement (GCCR)

JOU 330 Web Publishing and Design 3
plus
Approved JOU Portfolio

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements Hours

JOU 101 Introduction to Journalism 3
JOU 204 Writing for the Mass Media 3
Any political science course 3

Subtotal: Premajor hours 9

Major Core Requirements

JOU 531 Media Law 3
JOU 532 Ethics of Journalism and Mass Communication 3
JOU 455 Mass Media and Diversity (Subtitle required) 3
JOU 330 Web Publishing and Design 3
JAT 399 Internship (Subtitle required) 3
JOU 498 Multimedia Storytelling 3

Advanced Reporting Course
Choose **one** of the following courses:
JOU 499 Advanced Writing for the Mass Media (Subtitle required) 3
JOU 485 Community Journalism 3

Conceptual Course
Choose **one** of the following courses:
JOU 535 History of Journalism 3
JOU 541 The First Amendment, Internet, and Society 3

Major Core hours 24

PATHS

One of the following paths:

Print/Multimedia Path
JOU 301 News Reporting 3
JOU 303 News Editing 3
plus **nine** hours of 300-level or above electives in the School 9

Print/Multimedia Path hours 15

Broadcast/Multimedia Path
JOU 302 Radio and TV News Reporting 3
JOU 304 Broadcast News Decision Making 3
JOU 404 Advanced TV News 3
plus **six** hours of 300-level or above electives in the School 6

Broadcast/Multimedia Path hours 15

Subtotal: Major hours 39

Required Minor

Students must complete a minor from any college at the University of Kentucky.

Portfolio

Portfolio required for graduation.

TOTAL HOURS: ..... minimum of 120

Note: Of a student's total course work for a bachelor's degree, 72 of the 120 hours required for graduation must be in courses other than professional media-based communications.

Minor in Journalism Studies

The minor in Journalism Studies requires a minimum of 18 hours of course work to include:

Minor Prerequisites

JOU 101 Introduction to Journalism 3
JOU 204 Writing for the Mass Media 3

Minor Requirements

JOU 455 Mass Media and Diversity (Subtitle required) 3
JOU 531 Media Law 3

Minor Electives

Select from the following for a total of 6 credits:
*JOU 415 Design and Layout (Subtitle required) 1
JOU 497 Special Topics in Journalism (Subtitle required) 3
JOU 532 Ethics of Journalism and Mass Communication 3
JOU 535 History of Journalism 3
JOU 541 The First Amendment, Internet, and Society 3

**May be repeated to a maximum of 3 credits under different subtitles.*

B.S. or B.A. with a major in MEDIA ARTS AND STUDIES

The media arts and studies major offers students a liberal arts program covering a range of issues related to electronic mass communication and electronic personal communication. In addition, students interested in message production or telecommunications management can opt to integrate selected professional or skills-based courses into their program of study.

Socio-cultural media courses address the historical, political and social aspects of telecommunications. Media industry courses examine organizational, economic, and/or technological dimensions of telecommunications systems and the interrelations among these factors. These courses may center on mass communication issues, interactive communication issues, or both.

Media production courses cover the traditional telecommunications areas of audio and video production and the more recent developments in multimedia and Web page design and production.

All media arts and studies majors will take advantage of the experiential learning opportunity provided by a formal internship. The School of Journalism and Telecommunications has an excellent internship program which offers the opportunity to work with a wide variety of employers, including companies oriented to the provision of voice, data, and/or video products and services. In addition, students may pursue special interests in media arts and studies through independent study with any of the media arts and studies professors.

Degree Requirements

Each student completes the following:

College Requirements

See "College B.A. Requirements" or "College B.S. Requirements" on page 200.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty:
An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

MAS 300 Mass Media Research Methods 3
JAT 399 Internship (Subtitle required) 1-3

Graduation Composition and Communication Requirement hours (GCCR) 4-6

Premajor Requirements **Hours**

MAS 101 Introduction to Media and Culture 3
MAS 201 Communication Technologies and Society 3
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

Subtotal: Premajor hours 9

Major Requirements

MAS 300 Media Studies Research Methods 3
MAS 310 Media Policy and Regulation 3
JAT 399 Internship (Subtitle required) 3

plus 21 hours, with a minimum of 6 hours focusing on the social impact of telecommunications, from the following:

Social-Cultural Media Courses (minimum of 6 hours)

MAS 319 World Media Systems 3
MAS 420 Electronic Media Criticism 3
MAS 520 Social Effects of the Mass Media 3
MAS 525 Theory of Multimedia 3
MAS 530 Proseminar in Telecommunications 3
MAS 555 The Internet and Social Change 3
MAS 590 Special Topics in Social-Cultural Media Studies (Subtitle required) 3
JAT 395 Independent Study 1-3

Media Industry Courses (minimum of 3 hours)

MAS 355 Communication and Information Systems in Organizations 3
MAS 404 Media Organizations 3
MAS 482 Electronic Media Sales Management 3
MAS 490 Special Topics in Media Industry Studies (Subtitle required) 3
MAS 535 Telecommunications Network Management 3

Media Production Courses

MAS 312 Video Production I 3
MAS 322 Multimedia I 3
MAS 390 Special Topics in Media Production (Subtitle required) 3
MAS 412 Video Production II 3
MAS 422 Multimedia II 3
MAS 432 Audio Production 3

Cognate Area: All majors must fulfill the field of concentration or cognate area requirement by taking a minimum of 12 hours outside the major at or above the 300 level in courses related to their media arts and studies interest.

Subtotal: Major hours 42

TOTAL HOURS: ..... minimum of 120

Note: Of a student's total course work for a bachelor's degree, 72 of the 120 hours required for graduation must be in courses other than professional media-based communications.

Minor in Media Arts and Studies

Any student wishing to minor in media arts and studies should file an application with the School of Journalism and Telecommunications after meeting the following requirements:

Complete either MAS 101 or MAS 201

Complete 45 hours of university course work with a cumulative grade-point average of 2.0

Students cannot register for upper-level media arts and studies courses until they have met the above requirements and have been accepted into the media arts and studies minor program. After a student has been accepted as a minor, he or she will be assigned a faculty advisor.

The minor in Media Arts and Studies requires a minimum of 21 hours course work to include:

1. MAS 101 Introduction to Media and Culture 3
   MAS 201 Communication Technologies and Society 3
2. 15 credits of additional course work with MAS prefix; six of the credits must be from among social-cultural media studies group of courses.

Note: *Students should recognize that most upper-division media arts and studies courses have specific prerequisite courses that must be taken and plan their programs accordingly.*

M.S. in LIBRARY SCIENCE

The School of Information Science began in 1933 as the Department of Library Science within the College of Arts and Sciences. Sixty years later, in 1993, the College of Library and Information Science merged with the College of Communications to form the College of Communications and Information Studies. The college consists of the School of Information Science, the Department of Communication, the Department of Integrated Strategic Communication, and the School of Journalism and Telecommunications. The school offers one of approximately 50 master's programs in library and information science in the United States and Canada that are accredited by the American Library Association.

The School of Information Science provides students with the basic knowledge and skills required to function effectively in beginning professional positions in various types of libraries and information-providing agencies. It contributes to the advancement of both the theory and practice of librarianship through systematic and continuing research and publication and provides continuing public service to individuals, libraries, professional organizations and related institutions to the end of promoting effective and efficient information services.

The School of Information Science maintains flexibility and openness to change through the participation of faculty, students, and administration in the decision-making process. The student body of about 220 has its own organization, LISSO, the Library and Information Science Student Organization, which represents students in school deliberations. Students may sit on committees and share in the development of the school. The student organization participates in orientation programs, publishes a blog, and sponsors social activities throughout the year. The diversity of the students, in terms of geography and interests and backgrounds, helps to create an atmosphere in which change and improvement in the program can take place.

The libraries of the University, William T. Young, M.I. King and the branch libraries, constitute the major "laboratory" facility for library and information science students. They are supplemented by other libraries in the area including those at the Lexington Theological Seminary, the Veterans Administration Medical Center, the Lexington Public Library, several nearby public libraries and the State Department for Libraries and Archives in Frankfort.

Accreditation

The master's program in library and information science is accredited by the American Library Association.

Graduate Program in Library and Information Science

The University of Kentucky grants the following degree in the School of Information Science:

- Master of Science in Library Science

ADMISSION REQUIREMENTS AND PROCEDURES FOR GRADUATE STUDY

For complete information on the M.S.L.S. degree program and admissions procedures, consult *The Graduate School Bulletin* and the School of Information Science Bulletin. The former can be found at **www.rgs.uky.edu/gs/** and the latter can be found at: **http://cis.uky.edu/lis/**

Admission

The admissions philosophy of the school is to admit students who are capable of satisfactory academic performance and who show promise of being able to function as competent and effective librarians and information managers. A basic requirement for admission is an undergraduate degree in any discipline (from an accredited institution) with a grade-point average of at least 3.0 on a 4.00 scale. In addition the applicant should present Graduate Record Examination scores, (a) on the General Test taken before October 1, 2002, of 450 or higher on the verbal section *and* of 400 or higher on the quantitative section *or* on the analytical section; (b) on the General Test taken on or after October 1, 2002, of 450 or higher on the verbal section *and* of 400 or higher on the quantitative section *or* 4.0 on the analytical writing section.

While these admission standards are important, the school does try to remain flexible to account for individual developmental differences and strengths.

There are no specific library science prerequisites for admission into the School of Information Science. Students are urged not to take a minor in library science as undergraduates but to concentrate on other subject area majors and minors and obtain a broad liberal arts background. Electives in computer science are often very helpful.

Application must be made both to the School of Information Science and The Graduate School. For information about applying to The Graduate School, go to: **www.gradschool.uky.edu/ProspectiveStudents/prospective.html**. For information about applying to the School of Information Science, go to: **http://cis.uky.edu/lis/**. An applicant to the school must submit all materials by the deadlines **set by the school**, which are included with the information at Admissions. Applicants may enter the program in the spring, fall or summer. Send questions or inquiries to: **ukslis@uky.edu**.

Previous students must apply for readmission if they were not enrolled during the semester prior to that for which admittance is sought.

Financial Aid

Financial aid and scholarship information specific to library and information science is limited to graduate students and is too detailed and changes too often to warrant inclusion in this Bulletin. Information is available on the school's Web site.

Advising

Upon admission to the master's program, students are assigned a faculty advisor. Advisor assignments are based, when possible, on student interest and preference.

UNDERGRADUATE PROGRAMS

B.A. or B.S. with a major in
INFORMATION COMMUNICATION TECHNOLOGY

The Information Communication Technology (ICT) program is designed to educate students to assume leadership roles where the application of information technology (IT) is concerned, with the ultimate goal of connecting people, organizations, and communities to enhance their ability to succeed. The program focuses on providing students with the knowledge and skills needed to effectively apply, use, and manage technology when solving problems specifically related to information and communication. It provides a human and organizational focus on technology – teaching students how to be effective users of technology, as opposed to teaching students how to program in C++.

In general, the ICT program focuses on the intersection of technology, the people who use that technology, the policies and regulations governing or affecting use of that technology, and the community or environment in which that technology is used, in order to facilitate communicating information in meaningful ways.

Degree Requirements

Each student completes the following:

College Requirements

See "College B.A. Requirements" or "College B.S. Requirements" on page 200.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

Subtotal: UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

ICT 300 ICT in Society 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Microsoft Competency Certifications

ICT undergraduate students will be required to complete Microsoft Competency Certifications for Word, Access, Excel, and PowerPoint via third party testing centers. These certifications must be completed prior to declaring the major.

Major Requirements

ICT 200 Information Literacy and Critical Thinking 3
ICT 201 General Information Sources 3
ICT 202 Technology for Information Services 3
ICT 205 Issues in Information and Communication Technology Policy 3
ICT 300 ICT in Society 3
ICT 301 Introduction to Databases 3
JOU 330 Web Publishing and Design 3
*ISC 497 Special Topics in ISC (Subtitle required) 3
ICT 596 Internship in ICT 3

Subtotal: Major hours 27

EMPHASIS AREAS

One of the following areas:

Area A – Commercialization

ISC 161 Introduction to Integrated Strategic Communication 3
ISC 361 Direct Response Targeting: Media and Database Management 3

choose two courses from the following:
IS 402 Competitive Intelligence 3
ICT 406 e-Commerce Regulation 3
JOU 430 Media Management and Entrepreneurship 3
MAS 322 Multimedia I 3
MAS 422 Multimedia II 3

Subtotal: Area A hours 12

Area B – Technology Management

ICT 202 Technologies for Information Services 3
ICT 303 Systems Analysis 3

choose two courses from the following:
ICT 351 Technology Security 3
ICT 550 Security Informatics 3
*ICT 560 Information, Information Technology and Strategy 3
JOU 330 Web Publishing and Design 3
MAS 355 Communication and Information Systems in Organizations 3
MAS 404 Media Organizations 3
MAS 535 Telecommunications Network Management 3

Subtotal: Area B hours 12

TOTAL HOURS: ..... minimum of 120

**Course awaiting formal approval.*

Minor in Information Studies

The minor in Information Studies requires 18 hours of course work to include:

IS 200 Information Literacy and Critical Thinking 3
IS 201 General Information Sources 3
IS 202 Technologies for Information Services 3

Minor Electives

Choose three courses in conjunction with your advisor:
MAS 322 Multimedia I 3
MAS 355 Communication and Information Systems in Organizations 3
MAS 535 Telecommunications Network Management . 3
MAS 555 The Internet and Social Change 3
IS 303 Systems Analysis 3
IS 402 Competitive Intelligence 3
IS 404 Health Informatics 3

GRADUATE PROGRAMS

The College of Communication and Information offers the following graduate degrees: (1) Master of Arts in Communication, (2) Ph.D. in Communication, and (3) Master of Science in Library Science. Additional information may be obtained from the Associate Dean for Graduate Studies for the College of Communication and Information and from *The Graduate School Bulletin*.

UNDERGRADUATE CERTIFICATES

The University of Kentucky grants the following undergraduate certificates in the College of Communication and Information:

- Health Communication
- Innovation and Entrepreneurial Thinking

Undergraduate Certificate in Health Communication

The Health Communication Undergraduate Certificate is a joint program of the Department of Communication, the College of Public Health, and the Department of Kinesiology and Health Promotion for undergraduate students.

The certificate is designed to give students an enhanced education in communication skills critical to health-related professions, beyond what would normally be received from the UK Core. Upon completion of the certificate students will be able to determine how communication impacts the major contributors for disease prevention and control as well as how to identify and analyze communication strategies that are most effective for health promotion and wellness.

The Certificate in Health Communication is feasibly combined with a broad array of majors across UK's colleges including the College of Public Health, the College of Education, the College of Arts and Sciences, but particularly the College of Communication and Information and the College of Health Sciences.

Health Communication Certificate Standards

In order to remain in good standing in the program, students must have a 2.0 overall GPA at the end of their first year, and a 2.0 in certificate classes to graduate from the certificate. Students are also required to take three core classes as requirements for the certificate program, as well as program electives.

- Courses taken within three years prior to admission to the certificate can be used in the certificate.
- Certificates will only be awarded to students who successfully complete a Bachelor's degree, or have completed a four-year degree.
- The certificate requires 15 hours and a minimum of 12 credits of course work in the certificate must be taken for a letter grade.
- The certificate requires 9 core hours of credit (2 communication core and 1 public health core) courses be completed.
- No more than 9 credits taken for a certificate can be used to satisfy the requirements for the student's major or minor, or another certificate, exclusive of free or unrestricted electives.
- The Director approves the individual certificate curriculum for each student and informs the Registrar when the certificate is complete and may be awarded.
- The awarded certificate is to be posted on the student's official transcript.

Health Communication Curriculum

Certificate Core Classes

Communication Core

COM 311 Taking Control of Your Health: Patient-Provider Communication 3
COM 471 Introduction to Health Communication 3

Public Health Core

Students must take at least one course from the following courses outside of Communication:

CPH 202 Public Health Through Popular Film 3
CPH 440 Foundations of Health Behavior 3

Electives

In addition to meeting the Communication and Public Health Core requirements, students must take two additional electives from:

COM 287 Persuasive Speaking 3
COM 482 Studies in Persuasion 3
COM 454 Honors Seminar in Communication (Subtitle required) 3
*COM 525 Advanced Issues in Organizational Communication (Subtitle required) 3
COM 535 Risk and Crisis Communication 3
COM 571 Interpersonal Communication in Health Contexts 3
COM 572 Health Communication Campaigns and Communities 3
CJT/LIS 539 Introduction to Medical Informatics 3
CPH 202 Public Health Through Popular Film 3
CPH 310 Disease Detectives: Epidemiology in Action 3
CPH 440 Foundations of Health Behavior 3
KHP 230 Human Health and Wellness 3

Total required hours: 15

**When offered with the subtitle* Communication in Healthcare Organizations.

For more information, contact Faculty Director Dr. Donald Helme at **don.helme@uky.edu**

Undergraduate Certificate in Innovation and Entrepreneurial Thinking

The certificate program in Innovation and Entrepreneurial Thinking is designed to provide a coherent, integrated approach to helping ambitious undergraduate students develop and document the skills needed to become a successful innovator and entrepreneurial thinker. The certificate is multi-disciplinary but is hosted by the College of Communication and Information and includes four courses (12 credit hours) completed over a one- to two-year period. Courses include a mix of topics such as communication and leadership, two elective courses on innovation and entrepreneurial thinking from participating colleges, and a required capstone course (EXP 455) involving a project with the iNET entrepreneur-in-residence.

The undergraduate certificate also provides robust learning and teaching opportunities that will lead to enhanced employment and enterprise creation opportunities for University of Kentucky students. Additional outcomes include campus-wide college and department collaboration as well as potential revenue generation.

Innovation and Entrepreneurial Thinking Curriculum

The Certificate of Innovation and Entrepreneurial Thinking curricula are as follows:

- A minimum of 12 credits of course work taken for a letter grade.
- At least 12 credits must be 200 level or above, and a minimum of 6 credits must be at the 300-level or above.
- No more than 9 credits taken for a certificate can be used to satisfy the requirements for the student's bachelor's degree, a minor, or another certificate, exclusive of free or unrestricted electives.
- Certificates will only be awarded to students who successfully complete a degree, or have completed a four-year degree.
- The student must complete a three-credit breadth component. The breadth component requires that a student take courses in at least two disciplines, with a minimum of three credits to be completed in a second discipline.
- Student must earn a **C** or better in each required certificate course to receive the certificate.

Certificate Core Classes

Required:

COM 381 Communication, Leadership, and Entrepreneurship 3
EXP 455 Capstone Experience in Innovation and Entrepreneurship 3

plus two 200-level or above elective courses (6 hours) that focus on an innovation and entrepreneurial thinking with the approval of the iNET Academic Certificate Director. Current electives include:

AAD 310 Marketing for the Arts 3
*COM 591 Special Topics in Communication (Subtitle required) 3
*EDU 300 Special Course 3
JOU 430 Media Management and Entrepreneurship 3

**When offered under a subtitle relevant to Innovation and Entrepreneurial Thinking.*

College of Dentistry

Sharon P. Turner, D.D.S., J.D., is Dean of the College of Dentistry

The College of Dentistry offers the Doctor of Dental Medicine (D.M.D.) degree and six post-doctoral programs. The mission of the College of Dentistry is to improve oral health and general health through teaching, research, and service. The mission is supported by collaborative engagement and by networking with community and academic partners to promote oral health literacy and reduce health disparities within Kentucky and beyond.

The College educates health professionals to become active citizen leaders who are conscious of their personal and professional responsibilities in a global society. The College values diversity within its community, which includes diversity of thought and experience, in order to promote a humanistic approach to education, patient care, and community service. The College of Dentistry and all of its programs are accredited by the Commission on Dental Accreditation of the American Dental Association.

For further information on the D.M.D. and post-doctoral programs, refer to the *College of Dentistry Bulletin* at:
www.mc.uky.edu/dentistry

Admission – Doctor of Dental Medicine (D.M.D.)

The College of Dentistry seeks to enroll individuals whose academic preparation, personal qualities, and other qualifications suggest that they will experience success in the curriculum and afterwards in the dental profession. Currently, the College admits 40 Kentucky residents and 25 non residents into its four-year curriculum leading to the Doctor of Dental Medicine (D.M.D.) degree.

The University of Kentucky College of Dentistry will consider for admission any applicant who demonstrates the ability to perform or learn to perform the skills listed in the College's Technical Standards policy. The College's Academic Performance Committee will monitor each student's demonstration of such knowledge and skills; specific standards are included in the *College Bulletin* and *Student Handbook*. Applicants are not required to disclose the nature of their disability(ies) to the Admissions Committee; however, any applicant with questions is strongly encouraged to discuss the technical standards with the Office of Admissions before the interview. Upon the request of an applicant or a student, reasonable accommodations will be provided. The ability to meet the following standards is a requirement for admission to the University of Kentucky College of Dentistry.

Predental Preparation

Prospective applicants are encouraged to contact the Office of Admissions and Student Affairs early in their undergraduate careers for guidance on admission requirements. The College desires applicants who have the requisite academic preparation to meet the challenges of a rigorous curriculum. In addition to earning a bachelor's degree, these individuals should complete courses in both science and non-science subject areas to increase their likelihood of success in the dental program. Although many applicants each year major in the biological and natural sciences, students who pursue studies in other majors also are invited to apply for admission. The criteria considered by the Admissions Committee includes the quality of the applicant's pre-professional preparation, Dental Admission Test (DAT) scores, knowledge of and exposure to the dental profession, letters of recommendation, a commitment to service and other relevant factors. Timing is always an important element in the application process. The College will work with students to advise them on ways to become competitive applicants. For more information, call (859) 323-6071.

Application Process

The University of Kentucky College of Dentistry is a member of AADSAS (American Association of Dental Schools Application Service). Candidates for admission are encouraged to apply early to receive the strongest consideration. The AADSAS electronic application becomes available in early June. To apply:

AADSAS
1400 K Street, NW
Suite 1100
Washington, DC 20005
Phone: (202) 289-7201 or (800) 353-2237
email: csraadsas@adea.org

The College uses a "rolling admissions system" whereby applicants are interviewed beginning late August, the first offers of admission are made on **December 1**, and the Admissions Committee continues to interview applicants until the class is filled. The membership of the entering first-year class is usually confirmed by early February. Candidates who apply early in the admissions cycle are at a distinct advantage over those who wait much later to submit their AADSAS application and other credentials. The Office of Admissions and Student Affairs can provide applicants information and sound advice to insure that they complete the process in a timely way.

Letters of Evaluation

Three letters of evaluation must be included in each candidate's admission credentials from individuals who are able to provide information regarding the applicant's potential for success in the dental curriculum. Two letters should come from faculty members and/or preprofessional advisors. The third letter should come from a dental practitioner that the candidate has shadowed. A preprofessional committee evaluation of a candidate may be substituted for the three letters. Applicants must forward the letters to AADSAS when they submit their packets; hardcopy letters of evaluation sent to the Office of Admissions and Student Affairs will not be connected to the application.

Dental Admission Test

Every applicant must take the Dental Admission Test (DAT). The DAT scores are considered, along with a candidate's academic record and other criteria, in the admissions decision. The exam is offered nationwide by computer through Prometric Testing Centers. The DAT results should not be more than three years old and the highest set of scores will be used. Information on the DAT is available by contacting the American Dental Association at:

www.ada.org
(312) 440-2689
Dental Admission Testing Program
American Dental Association
211 East Chicago Ave.
Chicago, IL 60611-2678

Direct questions regarding admission or arranging a visit to the college to:

Office of Admissions
and Student Affairs
College of Dentistry
M-134 Chandler Medical Center
University of Kentucky
Lexington, KY 40536-0297
(859) 323-6071
www.mc.uky.edu/dentistry
email: leslie.leroy@uky.edu

College of Design

Ann Whiteside-Dickson, M.S., is Interim Dean of the College of Design. David Biagi, M.Arch., is Director of the School of Architecture. Patrick Lee Lucas, Ph.D., is Director of the School of Interiors: Planning/Strategy/Design. Allison Carll-White, Ph.D., is Department Chair, Historic Preservation.

The College of Design strives to be a leading force in the world of design, dedicated to building a spirited and collegial environment where excellence is celebrated.

This is accomplished by creating a community in which students are encouraged to exchange ideas and explore the interdisciplinary connections that exist between the various practices of design. Through this approach, the college educates, trains and prepares students for leading roles in an innovation-driven economy.

The college also serves as a hub for promoting ground-breaking research. By partnering with manufacturers, energy providers, and researchers, the college is not only increasing the intellectual capital of Kentucky, but also applying design thought to global challenges.

Degree Programs in Design

The University of Kentucky grants the following degrees in the College of Design:

- Bachelor of Arts in Architecture
- Bachelor of Arts in Interior Design
- Master of Architecture
- Master of Arts in Interior Design
- Master of Historic Preservation

SCHOOL OF ARCHITECTURE

The School of Architecture at the University of Kentucky has achieved a national reputation for excellence through the commitment of its faculty and the spirit, talent and dedication of its students. The School of Architecture's Master of Architecture degree is fully accredited by the National Architectural Accrediting Board (NAAB).

The architecture studio is the foundation of the program. Studios provide a social and curricular framework for the architecture student. Representational skills such as drawing, model making, and computer modeling are practiced rigorously as essential skills for design. In addition to the design studio, students study building technology; materials and structural systems; digital fabrication techniques; the history, theory, and criticism of architecture; and the ethical and professional principles of a successful architecture practice.

Students also learn contemporary processes such as prototyping to solve problems, and innovate new solutions. Prototypes, three-dimensional physical models, are created with digital design and fabrication tools and technologies such as CNC milling, 3-D printing, and laser-cutting. Prototypes can be created quickly allowing students to propose solutions; examine results; redefine problems; and propose new solutions. In the School of Architecture, prototyping has come to define a new model of design research in which the focus is not so much on the creation of a final design but rather on the creation of design knowledge itself.

The four-year Bachelor's degree in architecture qualifies students for careers in architectural offices, building construction, development and public agencies. To become a licensed architect in Kentucky and other states, the graduate must complete a two-year Master of Architecture program. Both degree programs are offered at the University of Kentucky.

Accreditation

In the United States, most state registration boards require a degree from an accredited professional degree program as a prerequisite for licensure. The National Architectural Accrediting Board (NAAB), which is the sole agency authorized to accredit U.S. professional degree programs in architecture, recognizes three types of degrees: the Bachelor of Architecture, Master of Architecture, and Doctor of Architecture. A program may be granted a 6-year, 3-year, or 2-year term of accreditation, depending on the extent of its conformance with established educational standards.

Doctor of Architecture and Master of Architecture degree programs may consist of a pre-professional undergraduate degree and a professional graduate degree that, when earned sequentially, constitute an accredited professional education. However, the pre-professional degree is not, by itself, recognized as an accredited degree.

The University of Kentucky School of Architecture offers the following NAAB accredited degree program:

- Master of Architecture (pre-professional degree + 48 graduate credits)

Preprofessional Degree

- Bachelor of Arts in Architecture (120 undergraduate credits)

APPLICATION DEADLINES FOR COLLEGE OF DESIGN

School of Architecture

Incoming Freshmen and Transfer Students – February 15

Transfer Students from NAAB Architecture Programs – April 1

Graduate Students – January 15

School of Interiors

Planning / Strategy / Design

Incoming Freshmen – February 15

Transfer Students – March 1

Transfer Students from CIDA Interiors Programs – May 1

Graduate Students – March 15

Admissions Procedures

Admission into the School of Architecture Bachelor of Arts in Architecture program is regulated through a selective admission procedure. The most significant part of the admission procedure consists of the Architecture Admission Requirement, which is designed to identify an applicant's innate ability in regard to spatial perception, visual memory, creativity, and logic.

Candidates not currently enrolled at the University of Kentucky must file a University application with the Office of Undergraduate Admission.

Candidates must also apply for admission to the School of Architecture by **February 15**. Applications may be obtained from: **www.uky.edu/design/architecture_admissions**

Freshman candidates are required to file a University application, with necessary supporting documents, with the Office of Undergraduate Admission and University Registrar by **February 15** for Fall Semester admission.

Candidates will be admitted in order of priority on the basis of the following criteria:

1. A potential for general academic achievement as indicated by the high school grade-point average and national college admission test scores (ACT or SAT).

As a rule, freshmen applying to the School of Architecture must meet the minimum academic standards required for all freshmen applicants for admission to the University. However, if the Architecture Admission Committee finds clear indications of probable success in architecture from its review of the further evidence pertaining to a candidate who does not meet these minimum criteria, an exception may be made to this rule. Any such exception would require formal recommendation of the School of Architecture Admission Committee and approval of the Associate Dean for Administration.

For fall admission, applicants must register for and take the ACT or the SAT on or before the December test date.

2. The probability of success in a professional program in architecture as predicted by "The Architecture Admission Requirement."
3. Comparative measures of aptitude and motivation derived by the Admission Committee from supplementary portfolio (e.g., a home project assignment) and, in cases of uncertainty and circumstances permitting, personal interview.

The portfolio requirement will be sent out upon completion of a School of Architecture application, in the first week of November.

The Architecture Admission Portfolio is due on or before **February 1**.

Transfer candidates from educational programs other than those in architecture will be required to observe the same application deadlines and portfolio submission procedures (when applicable) as those set out above for freshmen. **Please note that this deadline is earlier than that for general admission of transfer students to the University**.

Candidates will be considered in order of priority on the basis of the following criteria:

1. The indication of general academic performance as reflected by the cumulative collegiate grade-point average, and the indications of specific interests and aptitudes as reflected by grades in certain critical disciplines (e.g., art history, art studio, foreign languages, freehand drawing, history of ideas, mathematics, philosophy, social history).

   As a rule, the minimum academic standard acceptable to the Admission Committee will be a cumulative grade-point average of 2.0 on a 4.0 scale, or an average of **C** in all previous college work. However, if the Architecture Admission Committee finds clear indications of probable success in architecture from its review of the further evidence pertaining to a candidate who does not meet these minimum criteria, an exception may be made to this rule. Any such exception would require formal recommendation of the School of Architecture Admission Committee and approval of the Director of Admissions.
2. The probability of success in a professional program in architecture as predicted by "The Architecture Admission Portfolio." Any applicant who is successful on "The Architecture Admission Portfolio" but who has a university grade-point average of less than 2.0 will not be accepted to begin work in the School of Architecture. However, a one-year deferment of admission may be granted pending grade improvement to at least 2.0. This requirement may be waived by the School of Architecture Program Director under extraordinary circumstances.
3. Other indications of their aptitude and motivation as may be available (e.g., a portfolio of work, references, experiences in building construction or related fields).
4. Comparative measures of their aptitude and motivation derived by the Architecture Admission Committee from supplementary tests (e.g., a home project assignment) and, in certain cases of indecision, and circumstances permitting, personal interviews. Students who have been admitted to and have completed some professional courses within the School of Architecture and have withdrawn from the university for a period of three years or more, or who have not taken professional courses within the School of Architecture but remain in the university for a period of two years or more, may not reenter the program without the consent of the Dean of the College of Design, which would be given only under extraordinary circumstances.

Transfer candidates from N.A.A.B. accredited degree programs in architecture are required to file application with the Office of Undergraduate Admission and University Registrar by April 1 for Fall Semester admission. **Please note that this deadline is earlier than those for application to the University in general**.

Candidates will be considered in order of priority on the basis of the following criteria:

1. The indication of general academic success and success in a professional program in architecture as reflected by the cumulative collegiate grade-point average, and indications of specific aptitude and skill development as reflected by grades in architecture or environmental design courses.

   As a rule, the minimum academic standard acceptable to the Admission Committee will be a cumulative grade-point average of 2.0 on a 4.0 scale, or a **C** average in all previous college work. However, if the Architecture Admission Committee finds clear indications of probable success in architecture from its review of the further evidence pertaining to a candidate who does not meet these minimum criteria, an exception may be made to this rule. Any such exception would require formal recommendation of the School of Architecture Admission Committee and approval of the Director of the School of Architecture.
2. The probability of success in a professional program in architecture as predicted by a review of their portfolio of work in architecture. The portfolio should be brought or mailed, *together with return postage and mailing labels directly to:*

   School of Architecture
   Admission Committee
   College of Design
   117 Pence Hall
   University of Kentucky
   Lexington, KY 40506-0041
3. A review of at least three letters of reference addressed to the Admission Committee from referees such as previous other teachers, architectural practitioners or related professionals for whom the candidate may have worked.

   The candidate's portfolio and letters of reference should be received by the committee by **April 1** for Fall Semester admission.
4. In cases of uncertainty, and circumstances permitting, personal interview. Based on the above criteria, the Admissions Committee will determine entering placement in the program. This placement may be at a level lower than the applicant had achieved at his or her previous institution.

Master of Architecture Candidates

Master of Architecture candidates from the University of Kentucky and other NAAB accredited degree programs are required to file a University application with the Graduate School with supporting documents by **January 15**. In addition, a School of Architecture application is due on the same date.

Candidates will be admitted in order of priority on the basis of the following criteria:

1. A potential for academic achievement as indicated by college GPA and national college admission test score (GRE);
2. A portfolio of undergraduate work; and,
3. Three letters of reference.

Scholarships

The College of Design offers merit-based scholarships to undergraduate students. There is no application required to be eligible for scholarships,

all students are automatically considered. Thanks to the generosity of our alumni and friends, over seventy five thousand dollars in scholarships are awarded to our students each year.

All graduate applicants are automatically considered for merit-based scholarships. Approximately two hundred thousand dollars in merit-based scholarships, awards, and stipends are awarded to College of Design graduate students every year. Scholarships and awards can range from $9,000 to full tuition. Because financial resources are limited, applicants are encouraged to seek out other sources of funding. To learn more about graduate scholarships, visit the Graduate School Web site: **www.research.uky.edu/gs/StudentFunding/fellowships.html**

Advising

Advising in the School of Architecture is conducted through meetings with Student Services staff. The Student Services staff has knowledge of the College's programs and is ready to help students navigate and build their educational plans.

CURRICULUM

The University's UK Core requirements complement the architecture course work. This program comprises liberal arts and science courses required of all students at the University of Kentucky.

The School of Architecture in the College of Design administers the program curriculum, and the University of Kentucky Board of Trustees grants degrees. The curriculum consists of 48 credits for the graduate degree for a total of 168 credits in six years.

The curriculum conforms to the following outline:

	Hours
I. Undergraduate UK Core requirements	30
II. Core program requirements	78
III. Undergraduate elective courses	12
IV. Graduate core program requirements	33
V. Advanced elective courses	6
VI. Master's Project	9
TOTAL	168

The above distribution of credit assumes that the UK Core requirements in mathematics and a foreign language have already been met prior to admission to the program, an assumption supported by historical student data. It also assumes that the Humanities section is to be met by approved core program courses in the History and Theory of Architecture (ARC 212 and ARC 213).

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity	
Choose one course from approved list	3
II. Intellectual Inquiry in the Humanities	
ARC 314 History and Theory III: 20th Century and Contemporary Architecture	3
III. Intellectual Inquiry in the Social Sciences	
Choose one course from approved list	3
IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences	
ARC 333 Environmental Controls II	3
V. Composition and Communication I	
CIS/WRD 110 Composition and Communication I	3
VI. Composition and Communication II	
CIS/WRD 111 Composition and Communication II	3
VII. Quantitative Foundations	
Choose one course from approved list	3
VIII. Statistical Inferential Reasoning	
Choose one course from approved list	3
IX. Community, Culture and Citizenship in the USA	
Choose one course from approved list	3
X. Global Dynamics	
ARC 315 World Architecture and Urbanism	3
UK Core Hours	**30**

Graduation Composition and Communication Requirement (GCCR)

ARC 252 Design Studio II	6
ARC 314 History and Theory III: 20th Century and Contemporary Architecture	3
Graduation Composition and Communication Requirement hours (GCCR)	**9**

BACHELOR OF ARTS IN ARCHITECTURE
(Four-Year Program)

YEAR ONE

	Hours
ARC 101 Drawing I: Observational Freehand Drawing	3
ARC 111 Introduction to History and Theory	3
ARC 151 Design Studio I	6
CIS/WRD 110 Composition and Communication I	3
CIS/WRD 111 Composition and Communication II	3
UK Core	12
TOTAL	30

YEAR TWO

	Hours
ARC 203 Digital Media Within Architecture	3
ARC 212 History and Theory I: 15th-17th Centuries	3
ARC 213 History and Theory II: 18th-19th Centuries	3
ARC 231 Structural and Material Concepts	3
ARC 252 Design Studio II	6
ARC 253 Design Studio III	6
PHY 151 Introduction to Physics	3
UK Core	3
TOTAL	30

YEAR THREE

	Hours
ARC 314 History and Theory III: 20th Century and Contemporary Architecture	3
ARC 315 World Architecture and Urbanism	3
ARC 332 Environmental Controls I	3
ARC 333 Environmental Controls II	3
ARC 354 Design Studio IV	6
ARC 355 Design Studio V	6
UK Core	6
TOTAL	30

YEAR FOUR

	Hours
ARC 434 Structural Design and Analysis I	3
ARC 435 Materials and Methods of Construction	3
ARC 456 Design Studio VI	6
ARC 511-515 History and Theory Seminar (only one required)	3
UK Core	3
Electives	12
TOTAL	30

Off-campus studio is strongly recommended in the fourth year.

Four-Year Total Hours

UK Core	30
Architecture Core requirements	78
Electives	12
Total Undergraduate	**120**

MASTER OF ARCHITECTURE
(Two-Year Program)

YEAR ONE

Fall Semester	Hours
ARC 533 Structural Design and Analysis II	3
ARC 641 Professional Practice	3
ARC 658 Design Studio VIII	6

Spring Semester	
ARC 511-515 History and Theory Seminar (only one required)	3
ARC 659 Design Studio IX	6
Elective	3
TOTAL	24

YEAR TWO

Fall Semester	Hours
ARC 750 Design Studio X (Comprehensive Project)	6
ARC 631 Building Systems Integration	3
ARC 642 Professional Internship	3

Spring Semester	
ARC Master's Project in Chosen Concentration (ARC 709, 719, 729, 759, 769 etc.)	9
Elective	3
TOTAL	24

**The curriculum for each graduate concentration is listed on the Web in Appendix B at: http://architecture.uky.edu/curriculumproposalfinal/a/WebPages/Table_of_Contents.html. A complete list of undergraduate and graduate courses follows on page 12 and ff.*

Two-Year Total Hours

Architecture Core requirements	33
Master's Project	9
Electives in Chosen Concentration	6
Total Graduate	**48**

For more information about the School of Architecture's Master of Architecture degree, consult the UK Graduate School *Bulletin*, or the College of Design Web site at: **www.uky.edu/design/index.php/info/category/architecture/**

SCHOOL OF INTERIORS

Planning / Strategy / Design

The School of Interiors is the premier program in the state of Kentucky for the planning, strategy development, and design of interior environments. Graduates of the program practice across the United States and have been recognized at the highest level of the profession.

Through studio, classroom and real-world assignments, design students specializing in the design of interior space learn to solve complex organizational problems associated with work, place, experience, and performance. These professional skills prepare students to handle the aesthetic and technical aspects of projects, communicate with clients, and manage business and logistical requirements.

Students are also provided the opportunity to interact with regional, national and international design professionals through shadowing, study abroad, lectures by noted speakers, and field experiences.

Graduates from the School of Interiors begin their careers in a variety of settings including interior design firms, architecture firms, corporations, and public institutions. Students may also pursue graduate post-professional education to cultivate an interior environment design specialization.

Accreditation

The School of Interiors is a professional degree program accredited by the Council for Interior Design Accreditation (CIDA). This accreditation ensures professional training for entry into the practice of interior design and the educational foundation that will allow for professional testing (NCIDQ), certification, or licensure at the individual state level.

BACHELOR OF ARTS IN INTERIOR DESIGN

In addition to UK Core requirements, students in the School of Interiors must complete the following:

- 81 credit hours of major requirements
- 18 credit hours of professional support electives
- 3 hours of free electives
- electives required to meet minimum credit hour standard for graduation.

UNDERGRADUATE ADMISSION PROCEDURES

Admission into the Major

Students who want to major in the planning, strategy development, and design of interior space must first be admitted into the School of Interiors.

Freshman Candidates

1. File a University application with the Office of Undergraduate Admission and the University Registrar by **February 15** for fall admission in the year which the student wants to begin the program. For fall admission, applicants must register for and take the ACT or SAT on or before the December test date.
2. Apply for admission to the School of Interiors. The *Major Admission Application Form* and requirements are available on the college Web site at: **www.uky.edu/design/index.php/info/category/admissions/**
3. Submit an exercise as required by the *Major Admission Application Form*. The submission will require applicants to express in both written and visual format the rationale for their interest in the Interior Design.
4. The *Major Admission Application Form* with the design exercise must be received in the year the student wants to begin the program.

Application should be sent to:

Major Admissions
Student Services
College of Design
School of Interiors
117 Pence Hall
University of Kentucky
Lexington, KY 40506-0041

Transfer Students without Design Credit

Transfer candidates from educational programs other than interiors will be required to observe the same application process and deadlines as outlined for freshmen. **Please note that the deadline is earlier than that for general admission of transfer students to the University.**

Major Admission Selection Process

Candidates will be admitted to the major in order of priority based on demonstrated potential for academic achievement at the freshman level as indicated by high school grade-point average, ACT/SAT scores, and their response to the required secondary application. Additional consideration will be given to the student's demonstrated participation in extracurricular, service, or work activities that show evidence for potential development of characteristics that will assist them in succeeding in the profession. Acceptance will be on a comparative and competitive basis. Notification of acceptance in the major will permit registration into the freshman studio, ID 121, fall semester of the same year.

Transfer Students with Design Credit

Students who have university credit in design course work from an accredited professional program (CIDA, NAAB, etc.) who wish to transfer into the School of Interiors must make application for admission to the major. The application process includes:

1. File a University application with the Office of Undergraduate Admission and the University Registrar to be received by **March 1** for fall admission. Request an official transcript of college course work to be received by University of Kentucky Admissions by **April 1**. **Please note that this deadline is earlier than those for application to the University in general.**
2. Submit a portfolio of student work completed in the university from which they are transferring. If the applicant wants the portfolio returned, the portfolio should be submitted with return packaging and mailing labels provided. The School will return the portfolio by C.O.D.
3. The *Admission Application Form*, portfolio, and transcript should be in one package, submitted no later than **May 1** for fall term admission in the same year, and delivered to:

Transfer Admissions
Student Services
College of Design
School of Interiors
117 Pence Hall
University of Kentucky
Lexington, KY 40506-0041

Transfer Admission Selection Process

Admission into the School of Interiors will be dependent upon the applicant's qualifications and preparation, the indication of general overall academic success (GPA), success in the Major requirements, and probability of success in a professional program as predicted by a review of the work submitted in the portfolio of student work. Since the number of students admitted will be limited, applicants will be examined on a comparative and competitive basis. Candidates will be admitted in order of priority. Admission for a specific semester will not be deferred.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
ID 161 History and Theory
of Interior Environments I 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from the following:
PSY 100 Introduction to Psychology
SOC 101 Introduction to Sociology 3-4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from the following:
ANT 230 Introduction to Biological Anthropology
BIO 102 Human Ecology
EES 110 Endangered Planet:
An Introduction to Environmental Geology
EES 120 Sustainable Planet:
The Geology of Natural Resources
GEO 130 Earth's Physical Environment 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
PHI 335 The Individual and Society 3

X. Global Dynamics
Choose one course from the following:
ANT 160 Cultural Diversity in the Modern World
ANT 225 Culture, Environment and Global Issues
GEO 255 Geography of the Global Economy
SOC 180 Societies in Global Perspective 3

UK Core Hours 30-31

Graduation Composition and Communication Requirement (GCCR)

ID 234 Environmental Theory 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Major Requirements

ID 101 Introduction to Interiors:
Planning/Strategy/Design 1
ID 102 Introduction to Interiors:
Planning/Strategy/Design 1
ID 121 Interiors Foundation Studio 5
ID 122 Interiors Foundation Studio II 5
ID 162 History and Theory
of Interior Environments II 3
ID 221 Interiors Studio I 5
ID 222 Interiors Studio II 5
ARC 111 Introduction to History and Theory 3
ID 234 Environmental Theory 3
ID 263 Introduction to Digital Media 3
ID 264 Color Theory and Interior Space 3
ID 275 Interior Construction Systems 3
ID 321 Interiors Studio III (taken twice) 10
ID 346 Professional Practice Preparation 3
ID 364 Interior Environmental Control Systems 3
ID 365 Interior Finish Materials 3
ID 366 Lighting Design and Theory 3
ID 375 Interior Material and Construction: Detailing 3
ID 421 Interiors Studio V 5
ID 466 Interiors Professional Practice 3
Art History Course 3
ID 422 Interiors Senior Thesis 5

Subtotal: Major hours: 81

Professional Support Electives

Understanding people, their environments, key cultural issues, and design strategies from different disciplines represent a diversity of approaches for education for students in the School of Interiors. Alongside studio courses, lecture and lab courses, and the UK Core, these professional support electives indicate a pathway toward breadth in a student's education.

During the course of study, each student will enroll in 18 credit hours from the following four categories:

1. workplace related topics
2. global and cultural issues
3. sustainability, environmental and wellness concerns
4. multi-disciplinary design strategies

A student must achieve a total of 18 credit hours of professional support electives.

A student must take at least one course in each category.

A student may take multiple courses in a single category to help build expertise in a given area of study or to focus credits toward an academic minor.

A student may petition the Director of the School of Interiors in writing to have any course that does not appear on the list of approved courses as part of professional support electives.

Courses taken to fulfill UK Core requirements may not be used to fulfill professional support requirements.

Subtotal: Professional Support Electives: ... 18

Total Minimum Hours Required for Degree 132

Interior Design Undergraduate Program Overview

Semester 1 — Hours

ID 121 Interiors Foundation Studio 5
ID 101 Introduction to Interiors:
Planning/Strategy/Design 1
ID 161 History and Theory
of Interior Environments I 3
CIS/WRD 110 Composition and Communication I 3
UK Core – Arts and Creativity 3
TOTAL 15

Semester 2 — Hours

ID 122 Interiors Foundation Studio II 5
ID 102 Introduction to Interiors:
Planning/Strategy/Design 1
ID 162 History and Theory
of Interior Environments II 3
UK Core – Natural/Physical/Math Sciences 3
UK Core – Global Dynamics 3
TOTAL 15

Semester 3 — Hours

ID 221 Interiors Studio I 5
ARC 111 Introduction to History and Theory 3
CIS/WRD 111 Composition and Communication II 3
UK Core – Social Sciences 3
ID 263 Introduction to Digital Media 3
TOTAL 17

Semester 4 — Hours

ID 222 Interiors Studio II 5
ID 275 Interior Construction Systems 3
ID 234 Environmental Theory 3
ID 264 Color Theory and Interior Space 3
UK Core – Quantitative Foundations 3
TOTAL 17

Semester 5 — Hours

ID 321 Interiors Studio III 5
ID 365 Interior Finish Materials 3
ID 364 Interior Environmental Control Systems 3
Professional Support 3
ID 346 Professional Practice Preparation 3
TOTAL 17

Semester 6 — Hours

ID 321 Interiors Studio III 5
ID 375 Interior Material
and Construction: Detailing 3
ID 366 Lighting Design and Theory 3
Professional Support 3
Professional Support 3
TOTAL 17

Semester 7 — Hours

ID 421 Interiors Studio V 5
Professional Support 3
Professional Support 3
Art History Course 3
UK Core – U.S. Citizenship 3
TOTAL 17

Semester 8 — Hours

ID 422 Interiors Senior Thesis 5
ID 466 Interiors Professional Practice 3
Professional Support 3
UK Core – Statistical/Inferential
Reasoning 3
Elective 3
TOTAL 17

Total Credit 132

College of Education

Mary John O'Hair, Ed.D., is Dean of the College of Education.

Professional education programs at the University of Kentucky are guided by the theme, *Research and Reflection for Learning and Leading*. The vision of the unit is to become one of the nation's best public professional education units with emphasis on research, reflection, learning, and leading in service to the Commonwealth, the nation, and the world.

The professional education unit "endeavors to expand the knowledge of teaching and learning processes across a broad educational spectrum. The unit fosters a culture of reflective practice and inquiry within a diverse community of students, faculty, and staff. As part of a research-extensive university, the unit advances knowledge through research. As part of a land-grant institution, the unit prepares professionals for a variety of roles in educational settings and community agencies and provides leadership in the improvement of the education, health, and well-being of citizens in the Commonwealth, the nation, and the world."

Ninety-eight percent of unit faculty members have attained the highest degrees possible in their fields. The unit provides candidates with access to state-of-the-art technology. Each building is equipped with computer laboratories and "smart" classrooms to keep candidates and faculty in pace with the latest technological advances in education. In addition to preparing excellent teachers and school leaders, graduates have gone on to excel in numerous other professional fields.

Educator Preparation at UK

The educator preparation unit of the University of Kentucky includes programs in the colleges of Arts and Sciences, Agriculture, Food and Environment, Arts and Sciences, Communication and Information, Education, Fine Arts, Health Sciences, and Social Work that prepare professionals for careers in public education. The dean of the College of Education is the chief educator preparation officer for the UK educator preparation unit.

The theme of the educator preparation unit is *Research and Reflection for Learning and Leading*. The vision of the unit is to become one of the nation's best public professional education units with emphasis on research, reflection, learning and leading.

The mission for the UK educator preparation unit is as follows: the Educator Preparation Unit at the University of Kentucky endeavors to expand the knowledge of teaching and learning processes across a broad educational spectrum. The unit fosters a culture of reflective practice and inquiry within a diverse community of students, faculty, and staff. As part of a research-extensive university, the unit prepares professionals for a variety of roles in educational settings and community agencies and provides leadership in the improvement of the education, health, and well-being of citizens in the Commonwealth, the nation, and the world.

Accreditation

The Professional Education Unit for the University of Kentucky is accredited by the National Council for Accreditation of Teacher Education (NCATE), and all professional educator programs are approved by the Kentucky Education Professional Standards Board (EPSB).

Relationship with the Kentucky EPSB

All University of Kentucky educator preparation programs, initial or advanced, have been approved by the Kentucky Education Professional Standards Board (EPSB), in accordance with Kentucky statutes and regulations. In addition to overseeing all educator preparation programs approved for operation in Kentucky, the EPSB also issues, renews and revokes all Kentucky educator licenses (certificates). Kentucky educator certification regulations are updated in an ongoing basis. For the most up-to-date information about educator certification, refer to the EPSB Web site at: **www.kyepsb.net/**

Financial Aid/Scholarships

The College of Education awards scholarships to both undergraduate and graduate students. Information and application forms are available in 166 Taylor Education Building. The deadline for scholarship applications is **February 15**. Graduate students should also contact the Director of Graduate Studies in their department for information about any targeted scholarship funds. The College of Education also administers the Kentucky Minority Educator Recruitment and Retention scholarship program (MERR) for the Kentucky Department of Education. Minority students applying for MERR funds must be Kentucky residents. MERR forms are available in 166 Taylor Education Building. Kentucky residents who are enrolled in a teacher certification program may also apply for funds from the Kentucky Higher Education Assistance Authority Teacher Scholarship program (KHEAA). Students applying for funds through the KHEAA teacher scholarship program must include a completed FAFSA need analysis data form with their applications. Funds are awarded first to students fully admitted to a teacher education program, in order of the greatest financial need. Both KHEAA and MERR teacher scholarship awards are forgivable on a semester by semester basis when the candidate teaches in Kentucky public schools. Award recipients who do not teach in Kentucky public schools must pay back the awards, with interest.

Undergraduate Programs in Education

The University of Kentucky grants the following degrees in the College of Education:

- Bachelor of Arts in Education
- Bachelor of Science in Education

Students pursuing one of the following majors earn a Bachelor of Arts in Education degree: early elementary education, middle level education, secondary education, or special education (learning and behavior disorders). Students selecting a major in secondary education must specialize in one of the following: English or social studies.

Students pursuing health promotion, kinesiology (teacher certification or exercise science), special education (interdisciplinary early childhood education and moderate and severe disabilities) and STEM education earn the Bachelor of Science in Education degree.

Persons holding a bachelor's degree from a regionally accredited institution, with a minimum overall GPA of at least 2.75, or a 3.0 in their last 30 hours of the degree, may pursue initial educator preparation at the undergraduate level by following any of the certification programs described in this Bulletin. If these persons also wish to earn a UK bachelor's degree, all UK degree requirements must be met. All educator preparation students at the University of Kentucky are expected to meet the requirements for "Admission, Retention and Completion from Teacher Education Programs" as described below.

Undergraduate Certificate in Education

The University of Kentucky grants the following undergraduate certificate in the College of Education:

- Leadership Studies

Information and requirements for the certificate are listed on page 237.

Graduate Programs in Education

Graduate Degrees and Certificates

The University of Kentucky offers the following graduate degrees for education:

- Master of Arts in Education
- Master of Science (Kinesiology and Health Promotion)
- Master of Science in Education
- Master of Science in Education (Interdisciplinary Early Childhood Education)
- Doctor of Education (Ed.D.)
- Doctor of Philosophy (Ph.D.)
- Interdisciplinary Doctor of Philosophy (Ph.D. in Education Sciences)
- Rank II (32 hour) and Rank I (30 hour) Programs in Professional Education

Graduate Programs Leading to Advanced Educator Licensure

The University of Kentucky offers graduate programs leading to advanced educator licensure in Literacy, Computer Science in Instructional Systems Design, Library Science, School Psychology, and School Leadership. Approved Teacher Leader programs at the master's level are also available in Special Education, Interdisciplinary Early Childhood Education, and Educational Leadership.

UK Graduate Certificates

The University of Kentucky offers graduate certificates in Assistive and Rehabilitation Counseling, Rehabilitation Counseling, International Higher Education, School Technology and Leadership, and Distance Education.

Graduate Programs Leading to Initial Educator Licensure

The following graduate level initial educator certification programs are available at the University of Kentucky: 1) graduate alternative certification program leading to certification in moderate/severe disabilities, grades P-12; 2) graduate level alternative certification program leading to initial certification in World Languages: Chinese, Japanese, French, German, Russian, Spanish, 3) master of arts in education with initial certification in secondary education, grades 8-12, English, mathematics, science (biology, chemistry, earth science, or physics), social studies; 4) Master of Science in Career and Technical education with initial certification, grades 5-12 (option in agriculture education); 5) master of science in communication disorders with initial certification, grades P-12; 6) certification program in school psychology, grades P-12; and 7) master of arts in teaching world languages (with options in Chinese, Japanese, French, German, Latin, Russian, and Spanish), grades P-12:, 8), graduate program leading to initial certification in Learning and Behavior Disorders; 9) graduate program leading to initial certification in Interdisciplinary Early Childhood Education; and 10) Master of Science in Library Science leading to certification as a School Media Librarian.

For more information about programs, please visit the College of Education Web site at:
http://education.uky.edu/

Graduate Alternative Certification Programs Leading to Initial Educator Licensure

Graduate Alternative Certification Programs leading to initial educator licensure are offered in the area of Moderate and Severe Disabilities P-12. Students who wish to enroll in a Graduate Alternative Certification Program must be employed in one of the participating school districts, and must meet the College of Education Admission, Retention and Completion standards, and the standards of the UK Graduate School. Graduate Alternative Certification Programs are three-year programs, including the Kentucky Teacher Internship Program. Additional alternative certification programs are under development and may become available at any time. Contact the Office of the Associate Dean for Academic and Student Services for more information.

Special Facilities and Services

The **Education Library** provides a wide range of education materials, with over 400 journals and 100,000 books, plus children's literature and Kentucky state-approved textbook collections. In addition, major education databases are available through the library's Web site at:
http://libraries.uky.edu/educ

The College's newly-formed **Kentucky P20 Innovation Lab: A Partnership for Next Generation Learning** gives students the chance to be part of transforming education to energize and empower today's students, who were born into a digital age. The Innovation Lab charges college students to play an active role in creating pathways that will lead to a love of learning for generations to come.

The **Center for Educator Preparation Information Systems** provides database and information system support for the College of Education. In addition, persons associated with the center engage in projects to make information systems technology more accessible to educator preparation programs nationally and in the Commonwealth.

The **Instructional Technology Center** provides media services to students, faculty, and programs of the College of Education. Services include computer classrooms, computer hardware and software support, presentation technology, circulation of nonprint teaching materials and audiovisual equipment; a materials preparation laboratory; graphic, photographic, and recorded media; and facilities for working with films and electronic media. The staff is available to assist with a wide range of technology-related activities.

The mission of the **Office of Student Engagement, Equity and Diversity** is to enhance the academic experience of College of Education students through the development and management of co-curricular activities. The office partners with different units within the College of Education with the following goals: maintain a supportive and inclusive environment for College of Education students from the time of their enrollment through graduation; intellectually connect and engage students with all aspects of the College's programs and initiatives, the Lexington community, and beyond; create a vibrant community of discipline-specific student organizations that can provide all students with mentoring and support in their pursuit of professional careers and certificates; develop multiple paths for students to follow in pursuing personal, educational, leadership and professional growth; and provide opportunities for all students to participate in, experience and embrace diversity. All programs and activities supported by the Office of Student Engagement, Equity and Diversity are geared towards success of all students, regardless of race, nationality, gender, sexual orientation, geographical location, religion, and disability.

The mission of the **Institute for Educational Research** is to support faculty in identifying significant education and policy issues; encouraging individual, collaborative and interdisciplinary inquiry; locating external funding sources; preparing grant proposals and providing post-award management services.

The **Office of Higher Education Research and Development** conducts research on questions on higher education that are important to Kentucky. Research results are shared with the Council on Postsecondary Education and other institutions in Kentucky.

The **Biodynamics Laboratory** is a multidisciplinary facility housed in the Center for Biomedical Engineering. Faculty and students from Kinesiology and Health Promotion, Biomedical Engineering, Sports Medicine, Athletic Training, Minimally Invasive Surgery, and other related fields use high-speed videography, electromyography, and force measures to understand human movement.

The **Pediatrics Exercise Physiology (PEP) Laboratory** is one of only a handful of facilities in the world designed specifically to serve the needs of pediatrics patients. The PEP-Lab will provide a state of the art facility and resources for testing, physical training, and analysis of pediatric populations for research and clinical investigations.

The UK **Body Composition Core Laboratory (BCCL)** is a human-based laboratory facility specifically designed to provide state-of-the-art body composition analysis for research and clinical investigations.

The **Collaborative Center for Literacy Development** (CCLD), 120 Quinton Court, Suite 200, was established by the Kentucky General Assembly in 1998 to make available training in literacy for educators and to promote literacy development. The Center focuses on six require-

ments laid out in Senate Bill 186, to: provide professional development and coaching for classroom teachers to implement reliable research-based reading models; establish a demonstration and training site for early literacy at each of Kentucky's public universities; collaborate with public and private post-secondary institutions to provide quality pre-service and professional development in early reading instruction; assist districts located in areas with low reading skills to assess and address identified literacy needs; identify models of reading instruction supported by research; and develop and implement a clearinghouse for information about reading models. The CCLD works to improve achievement for students pre-school through adulthood.

The **School Psychology Clinic**, 641 Maxwelton Court, (859) 257-1381, provides diagnostic assessment, intervention and consultative services to assist children, adolescents, college students, and adult learners with psychological and educational concerns. The clinic is also organized to provide supervised training for graduate students in school psychology at the University of Kentucky. Referrals and requests for services are accepted from parents, teachers, counselors, and others, as well as from school systems, community agencies and organizations.

The **Counseling Psychology Services Clinic**, 251 Dickey Hall, (859) 257-4159, is operated by the Department of Educational, School, and Counseling Psychology. The CPS Clinic provides individual, couples, family, parent-child, and group counseling. Diverse populations are welcomed; personal, career, and interpersonal issues can be addressed. The CPS Clinic serves as a training facility for advanced-level masters and doctoral students who are supervised by licensed psychologists. Fees for the CPS Clinic operate on a sliding scale to allow the greatest number of individuals in Lexington and the surrounding counties to be served.

General Information

Students who wish to be recommended for any state educator licensure (certification) must meet the requirements of the Kentucky Education Professional Standards Board, and the University of Kentucky Senate.

Students desiring to be recommended for initial certificates in a major must be admitted to the Teacher Education Program associated with that major. The number of students admitted to any UK teacher education program each year depends upon the availability of resources for maintaining quality instruction.

Admission to a teacher education program is highly selective and may be competitive. Meeting minimum requirements for application does not guarantee admission.

Students will be recommended for degrees only upon completion of approved degree programs. Students who have not been admitted to a teacher education program will not be permitted to enroll in courses requiring Teacher Education Program admittance.

ADMISSION, RETENTION AND COMPLETION FROM TEACHER EDUCATION PROGRAMS

Changes in Rules Governing Admission to Teacher Education Programs

Starting in fall 2012, the rules for admission to all teacher education programs in Kentucky have changed. All candidates for admission to any initial teacher education program are required to show an overall GPA of at least 2.75, or a 3.0 GPA in the last 30 hours taken (semester inclusive). Also, all candidates for admission to any initial teacher education program will need to demonstrate successful completion of the PRAXIS I (PPST) exams in reading, writing, and mathematics. Graduate students may substitute passing scores on the GRE for admission to teacher education.

A student must be admitted, retained in, and successfully complete a state-approved teacher education program in order to receive a teaching certificate. The components of an approved teacher preparation program include: 1) an earned bachelor's degree from a regionally accredited institution of higher education, 2) completion of approved teaching subject matter field(s), 3) successful completion of state mandated testing, 4) completion of a teacher preparation program, including student teaching, 5) and verification by program faculty that all applicable standards have been met.

The College of Education Certification Program Faculties, the College of Education Director of Academic Services and Teacher Certification, and the University Registrar are charged with the responsibility to monitor a student's progress through the teacher preparation program, and to recommend to the Kentucky Education Professional Standards Board (EPSB) that a successful candidate be awarded a state teaching license (certificate).

SECTION 1: Overview

A student must be admitted, retained in, and successfully exit from a state-approved educator preparation program in order to receive a teaching certificate. The components of an approved teacher preparation program include:

1. an earned bachelor's degree from a regionally accredited institution of higher education,
2. completion of approved teaching subject matter field(s), e.g., approved majors, major equivalencies, minors, or support areas, as specified by the candidate's chosen program faculty,
3. completion of an educator preparation program, including the final clinical experience, e.g., student teaching,
4. and verification by program faculty that all applicable standards sets have been met.

The College of Education Educator Preparation Program Faculties, the College of Education Director of Academic Services and Teacher Certification, and the University Registrar are charged with the responsibility to monitor a student's progress through the educator preparation program, and to recommend to the Kentucky Education Professional Standards Board (EPSB) that a successful candidate be awarded a state teaching certificate.

SECTION 2: Continuous Assessment

1. A candidate's progress through all educator preparation programs is continuously monitored, assessed, and reviewed. In addition to typical evaluation processes that occur as part of their coursework and clinical experience placements, candidates will be assessed a minimum of three times during their program by representatives of their respective program faculty.
2. The candidate assessments will occur upon entry into the educator preparation program, at a midpoint in the program (no later than the semester prior to the final clinical experience, e.g., student teaching), and as candidates exit the program following the final clinical experience, e.g., student teaching. Assessments will include, but are not limited to: (a) appropriate scores on approved standardized tests, (b) review of grades via inspection of transcript, (c) personal and professional skills assessed during interviews with program faculty, throughout coursework, and during clinical experiences, (d) artifacts submitted by the candidate that demonstrate their ability to attain of standards, (e) continued adherence to the KY Professional Code of Ethics, and (f) documentation of the following skills: critical thinking, communication, creativity, and collaboration.
3. **Professional Growth Plan (PGP)**: Following admission to an educator preparation program, if problems have been identified at any assessment point, program faculty will prepare a professional growth plan for the candidate which addresses the problems, identifies the scheme to implement the professional growth plan, and provides feedback and direction to the candidate.

Section 2A: First Continuous Assessment Point – Admission to Educator Preparation Programs

1. A candidate's progress through all educator preparation programs is continuously monitored, assessed, and reviewed. The first continuous assessment point is admission to educator preparation (TEP). In addition to the general requirements for admission to educator preparation (TEP)

listed below, candidates should carefully review the specific requirements of their individual programs.

2. Candidates for admission to educator preparation (TEP) must have completed at least 30 semester hours, or, if pursuing state teacher certification as a certification-only student or a graduate student, must have earned a bachelor's degree from a regionally accredited institution of higher education.
3. Candidates for admission to educator preparation (TEP) must demonstrate academic achievement by earning a minimum overall GPA of 2.75, or a GPA of at least 3.0 in the final semesters which include the last 30 hours of coursework. Candidates seeking admission to a graduate-level educator preparation program must also satisfy UK Graduate School admission standards. The UK Graduate School requires an overall UG GPA of 2.75 as a minimum for unconditional admission to graduate programs. And, if the candidate has completed any graduate course work, a minimum graduate GPA of 3.0 is required. Candidates intending to use the "GPA of at least 3.0 on the final 30 hours option" should consult with their program's Director of Graduate Studies for additional information. The UG GPA is taken directly from the transcript showing award of the undergraduate degree.
4. Candidates for admission to educator preparation (TEP) must certify their knowledge of the Kentucky Professional Code of Ethics and must sign a state mandated character and fitness review.
5. Candidates for admission to educator preparation (TEP) must demonstrate aptitude for teaching by presenting three letters of recommendation from individuals who can attest to the candidate's potential success in teaching.
6. Candidates for admission to educator preparation (TEP) must demonstrate that they have reviewed and understand dispositions for teaching. At UK, these dispositions are encoded in the *UK Functional Skills and Dispositions Standards Set*. The UK Functional Skills and Dispositions are listed below:
    a. The candidate communicates appropriately and effectively
    b. The candidate demonstrates constructive attitudes
    c. The candidate demonstrates ability to conceptualize key subject matter ideas and relationships
    d. The candidate interacts appropriately and effectively with diverse groups of colleagues, administrators, students, and parents in educational settings.
    e. The candidate demonstrates a commitment to professional ethics and behavior.
7. Candidates must present artifacts that demonstrate their ability to meet standards. In addition to items specified by the candidate's program faculty, the candidate must provide documentation of the following skills:
    a. Critical Thinking,
    b. Communication,
    c. Creativity, and
    d. Collaboration.
8. For those programs requiring educator preparation-related courses as a prerequisite for admission to educator preparation (TEP), candidates must complete these courses with a grade of **C** or better.
9. Candidates must undergo a formal interview with their educator preparation program faculty in which they will have the opportunity to discuss the artifacts that demonstrate their ability to meet standards, and engage in a dialog concerning their qualifications for admission to educator preparation (TEP).

Section 2B: Testing Requirements for Admission to Educator Preparation Programs (TEP)

1. All candidates for admission to a teacher education program at UK must demonstrate successful completion of the following pre-professional skills assessments of basic knowledge administered by the Educational Testing Service with the corresponding minimum scores:
    a. The Praxis® Core Academic Skills for Educators: Mathematics test, with a minimum score of 150
    b. The Praxis® Core Academic Skills for Educators: Reading test, with a minimum score of 156
    c. The Praxis® Core Academic Skills for Educators: Writing test, with a minimum score of 162
2. Candidates for admission to a graduate level initial teacher education program (TEP) may demonstrate basic skills in the following manner.
    a. Completion of the Praxis® Core Academic Skills for Educators tests: as in 1) a-c; or
    b. Successful completion of the Graduate Record Exam (GRE) with the following corresponding scores:
        i) Required minimum GRE scores for tests taken prior to August 1, 2011
            (1) Verbal with a minimum score of 450
            (2) Quantitative with a minimum score of 490
            (3) Analytical Writing with a minimum score of 4.0
        ii) Required minimum GRE scores for tests taken on or after August 1, 2011
            (1) Verbal with a minimum score of 150
            (2) Quantitative with a minimum score of 143
            (3) Analytical Writing with a minimum score of 4.0
3. **Recency Requirements for Testing:** Candidates using the GRE must present GRE scores that are no older than five years. Candidates using the Praxis® Core Academic Skills for Educators (CORE) must present scores no older than 10 years. These recency requirements, adopted by the Kentucky Education Professional Standards Board correspond to the rules of the Educational Testing Service.

Section 2C: Second Assessment Point – Retention of Candidates in Educator Preparation Programs

1. The progress of candidates who have been admitted to an educator preparation program is continuously monitored. A retention review may be conducted at any time by the educator preparation program faculty, but is required no later than the semester prior to the final clinical experience, e.g., student teaching. In addition to the general requirements for the retention review listed below, candidates should continue to carefully review the specific requirements of their individual programs.
2. If at the time of admission to educator preparation (TEP), a professional growth plan was prepared for the candidate, progress on implementing the professional growth plan will be reviewed, and the plan will be updated as necessary.
3. Some of the items which are monitored in the retention review are:
    a. Whether a candidate continues to earn grades of **C** or better in professional education classes;
    b. Whether a candidate continues to maintain a 2.75 minimum GPA overall, or a minimum 3.0 GPA in the final semesters, including the last 30 hours;

c. Whether a candidate has demonstrated improved competence with the skills of communication, critical thinking, creativity, and collaboration;

d. Whether a candidate has demonstrated improved competence with the College of Education Functional Skills and Dispositions;

e. Whether a candidate continues to demonstrate adherence to the EPSB Professional Code of Ethics;

f. Whether adequate progress is being made toward meeting all required standards sets; and

g. Whether adequate progress is being made toward completing subject matter coursework requirements for the candidate's chosen educator preparation program. If a review of the candidate's subject matter coursework identifies any problem areas, a professional growth plan will be developed to address the problems. Or, if the candidate already has a professional growth plan, it will be amended to include attention to subject matter coursework problems. (*See Section 2, item 3*)

4. Continued progress through the educator preparation program will be contingent on the results of the midpoint retention review. Following a retention review, candidates may be continued in good standing in the program, cautioned about identified problems which have been included in the professional growth plan, placed on probation in the program, or dropped from the program.

   a. If a candidate is placed on probation in the educator preparation program following a retention review, the time and conditions of the next review will be identified and communicated to the candidate by the Director of Academic Services and Teacher Certification.

   b. If a candidate is dropped from the educator preparation program following a retention review, the Director of Academic Services and Teacher Certification will notify the candidate of this action. Candidates who have been dropped from an educator preparation program following a retention review may take no further professional education coursework in the program. (*See Section 7,* Appeals *for additional information*)

5. **Admission to the Final Clinical Experience, e.g., Student Teaching.** Admission to the final clinical experience, e.g., student teaching, requires a successful retention review and recommendation by the program faculty that the candidate be allowed to student teach.

6. **State Mandated Examinations for Teacher Certification.** The Kentucky Education Professional Standards Board (EPSB) requires that all applicants for a state teaching certificate present passing scores on the appropriate required PRAXIS 2 examinations. Although taking and passing the Kentucky mandated PRAXIS 2 examinations is not a requirement for completion of an educator preparation program at UK, candidates are encouraged to complete the required state-mandated examinations prior to beginning student teaching so that the process of applying for and receiving a state teaching certificate can proceed in a timely manner. Candidates are encouraged to consult with their program faculties for advice on taking the required PRAXIS 2 examinations.

Section 2D: Third Assessment Point – Completion of Educator Preparation Programs

1. The progress of candidates who have been admitted to an educator preparation program is continuously monitored. Each program faculty will conduct a completion review of all candidates, typically at the end of the final clinical experience, e.g., student teaching.

2. All candidates for completion of an educator preparation program must continue to meet all standards for admission and retention at the time of program completion, including GPA requirements.

3. Candidates must have completed the subject matter requirements for his/her chosen educator preparation program.

4. Candidates must have successfully completed all professional education requirements for his or her program, including successful performance in the final clinical experience, e.g., student teaching.

5. At program completion, all candidates must present final evidence for review (typically this includes required and optional artifacts that demonstrate attainment of standards) in the format designated by the candidate's program faculty.

6. The program faculty must certify that a review of the final evidence and other pertinent documents has demonstrated that the candidate has met all of the required standards as a prerequisite to recommending the candidate for a state teaching certificate.

SECTION 3. GPA Rules for Educator Preparation Programs That Lead to a State Teaching Certificate

Section 3A: GPA Rules for Admission to an Undergraduate Educator Preparation Program

Admission to an undergraduate educator preparation program shall require the following: A cumulative grade-point average of 2.75 on a 4.0 scale or a grade-point average of at least 3.00 on a 4.0 scale in the final semesters that include the last thirty (30) hours of credit completed. These will be taken directly from the most recent original transcripts supplied by the candidate.

Section 3B: GPA Rules for Admission to a Graduate Level Educator Preparation Program

Admission to a graduate level educator preparation program shall require the following: A bachelor's degree or advanced degree awarded by a regionally accredited college or university with a cumulative grade-point average of 2.75 on a 4.0 scale.

OR a grade-point average of at least 3.00 on a 4.0 scale in the final semesters that include the last thirty (30) hours of either undergraduate or graduate credit completed. This information will be taken directly from the most recent original transcript(s) supplied by the candidate. Candidates intending to use this "3.0 minimum GPA in the final semesters that include the last 30 hours of coursework" option should consult with their program faculty chair and the departmental Director of Graduate Studies concerning the use of this option for gaining admission to the UK Graduate School.

Section 3C: Rules for Using of the "Final Semesters That Include the Last 30 Hours of Credit" Option

If the candidate uses the "final semesters that include the last 30 hours of credit" option, the following procedure shall be used to calculate the last 30 hour GPA. The completed quality hours and quality points for each of the final terms that include the last 30 hours of credit shall be identified. The last 30 hours GPA shall be calculated using the statistics from the entire terms encompassing the last 30 hours. This means that in some instances, the number of hours used to calculate the last 30 hours GPA will be greater than 30.

Section 3D: GPA Rules for Retention and Completion

Candidates must maintain a minimum overall GPA of at least 2.75 for retention in the program. Candidates who used the "final semesters that

include the last 30 hours of credit" rule for admission to the program may continue to calculate whether a 3.0 minimum GPA is being maintained at the time of the retention review (normally the two semesters prior to student teaching). Candidates who do not meet this requirement may not student teach.

Candidates must maintain a minimum overall GPA of at least 2.75 for completion of an educator preparation program. Candidates who used the "final semesters that include the last 30 hours of credit" rule for admission to the program may continue to calculate whether a 3.0 minimum GPA is being maintained at the time of the final completion review. Candidates who do not meet this requirement will not be considered to have completed the program, and may not be recommended for a state teaching certificate.

Section 3E: The Rule of "No Grade Less Than C in Professional Education Courses"

Candidates may have no grade less than C in any course defined in the program as being a part of the professional education component. Any professional education grades less than C must be retaken prior to the final clinical experience, e.g., student teaching.

Section 3F: Special GPA Rule Requiring a 2.75 GPA in Program Sub Areas

Some programs require that candidates earn and maintain a 2.75 GPA in the majors, minors, support areas, and professional education course sequences as specified in the program curriculum description as approved by the UK Senate. The application of this rule means that candidates must demonstrate these 2.75 GPAs at the time of admission, retention, and completion of the program.

Programs that the use of this special GPA rule are as follows:

All STEM educator preparation programs, e.g., Mathematics Education, Science Education (all areas) and Computer Science Education.

SECTION 4: Standards and Standards Sets in UK Educator Preparation Programs

Section 4A: All UK Educator Preparation Programs Are Standards-based

All UK educator preparation programs are standards-based, requiring candidates to meet these standards before completing the program. Candidates are assessed on these standards at the three continuous assessment points: admission to educator preparation (TEP), prior to final practicum experiences e.g., student teaching, and at the program completion.

Section 4B: There Are Three UK Required Core Standards Sets

There are three core standards sets required for completion of all UK educator preparation programs. They are:

- Interdisciplinary Early Childhood Education Standards (IECE), or Kentucky Teacher Standards (whichever is appropriate for the candidate's program.)
- College of Education Functional Skills and Dispositions
- College of Education Technology Standards

Section 4C: Discipline (Subject) Specific Standards Also Required

In addition to these three core standards sets, each candidate must demonstrate mastery of the subject specific standards set(s) associated with their individual program.

SECTION 5: Policies on Clinical Experiences, Including the Final Clinical Experience, e.g., Student Teaching

Section 5A: General Policy on Intensive Clinical Experiences

The University of Kentucky College of Education is committed to preparing candidates for the teaching profession who are effective, reflective leaders and decision makers. To that end, and in order to meet state teacher certification regulations and national accreditation requirements, educator preparation candidates complete an array of carefully planned clinical experiences. These experiences are systematically integrated into the educator preparation program curriculum. In order to ensure high quality experiences, the College has established a network of clinical sites where candidates complete clinical placements. These sites are part of the university's extended campus known as the university clinical/field network. Sites are selected at the program level (i.e., by the program faculty that governs the curriculum for the particular educator preparation program). Selection decisions are made using specific criteria that are directly linked to program goals, accreditation standards, and certification requirements. All candidates are expected to complete their intensive clinical experiences, e.g., practica and the final clinical experience, e.g., student teaching in these approved clinical sites.

Section 5B: General Rules for the Final Clinical Experience, e.g., Student Teaching

A student may enroll in student teaching in one of the educator preparation programs provided he or she has:

1. been admitted to and retained in an educator preparation program;
2. maintained a grade-point standing of at least 2.75 overall or a minimum 3.0 GPA in the final terms that include the last 30 hours of coursework;
3. completed all professional education courses except the final clinical experience, e.g., student teaching;
4. completed a minimum of 75 percent of the required subject matter courses;
5. applied and been accepted for the final clinical experience, e.g., student teaching two semesters prior to the one in which student teaching is to be done;
6. completed the required national and state criminal background check with no criminal background identified;
7. been accepted by the school system and supervising teacher where he or she plans to do the final clinical experience, e.g., student teaching;
8. scheduled no more than 3 hours of college work to be carried during the final clinical experience, e.g., student teaching with no classes scheduled to interfere with the student teaching assignment; and
9. presented evidence of having had a specified physical examination.

SECTION 6: Code of Ethics and Character and Fitness Reviews

All students seeking admission to, retention in, or completion of a UK educator preparation program must complete a state mandated character and fitness review. In addition, students with records of misconduct beyond simple traffic violations must provide complete documentation of this misconduct, utilizing written procedures available in the office of Academic Services and Teacher Certification. Records of misconduct will be available for use by program faculties in making decisions about admission, retention, and completion of the program. Students must also complete any state-mandated background checks, which may include a national check of FBI records. By Kentucky statute, persons with records of serious legal misconduct are ineligible for student teaching, state teacher certification, or employment in the public schools. Students are responsible for completing all required background check procedures in a timely manner so that decisions about their movement through the program may be made.

SECTION 7: Appeals

1. The progress of all candidates in educator preparation programs is continuously reviewed and assessed at least three times: at the points of admission, retention, and completion of program. Candidates who are denied admission to an educator preparation program, not retained in the program, or denied completion of the program may appeal the decision of the program faculty. There are two grounds on which a candidate may appeal an unfavorable continuous assessment review: 1) a candidate may appeal if s/he has clear evidence that his/her rights to equal opportunity or due process were violated during the re-

view process (i.e., evidence of discrimination on the basis of race, gender, sexual orientation, age, etc.) or 2) a candidate may appeal if there is new and substantial evidence pertaining to his/her review that was not available for Program Faculty consideration at the time the candidate applied and/or was reviewed (test scores were late or missing; transcripts were inaccurate, etc.). These are the only two grounds on which an appeal may be filed.

2. Any candidate considering an appeal of a program faculty decision at any of the required Continuous Assessment Review points is encouraged to first meet with the program faculty chair to discuss the program faculty's decision and to review grounds for the appeal.
3. If an appeal is to be made, candidates must request reconsideration of the program faculty's decision within 15 business days of the date on the letter notifying the candidate of an unfavorable continuous assessment review. The request for reconsideration must clearly state the grounds on which the appeal is made and demonstrate that one of the two conditions for appeal applies. Written requests should be presented to the program faculty chair, who will call a meeting of the program faculty to review the original decision. The program faculty chair will notify the Director of Academic Services and Teacher Certification of the faculty's decision, and the Director will notify the candidate in writing.
4. If the program faculty does not alter its initial decision, the candidate may use the same procedures and appeal to the Appeals Sub-committee of the Program Faculty Chairs Committee. Candidates wishing to appeal to the Program Faculty Chairs Appeals Sub-committee must present their request for sub-committee review to the Associate Dean for Academic and Student Services. The Associate Dean will assemble the necessary materials, call the sub-committee together to hear the appeal, and inform the candidate of the committee's decision. The program faculty chairperson for the applicant's program may not serve as a member of the Appeals Sub-committee that hears the case. The Associate Dean will notify the Director of Academic Services and Teacher Certification of the decision of the appeals sub-committee so that student records may be updated. For purposes of admission, retention, or completion of educator preparation programs, the decision of the Appeals Sub-committee of the Program Faculty Chairs Committee is final.
5. This policy addresses all faculty continuous assessment reviews of a candidate's progress through an educator preparation program, including admission to the program, retention reviews of progress through the program, and the final review for completion of the program.

Interdisciplinary Early Childhood Education Birth to Primary Standards (IECE)

1. Designs/plans instruction
2. Creates/maintains environments
3. Implements instruction
4. Assesses and communicates learning results
5. Reflects/evaluates professional practices
6. Collaborates with colleagues/families/others
7. Engages in professional development
8. Supports families
9. Demonstrates implementation of technology

Kentucky Teacher Standards (KTS)

1. The teacher demonstrates a current and sufficient academic knowledge of certified content areas to develop student knowledge and performance in those areas.
2. The teacher designs/plans instruction that develops student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.
3. The teacher creates a learning climate that supports the development of student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.
4. The teacher introduces/implements/manages instruction that develops student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.
5. The teacher assesses learning and communicates results to students and others with respect to student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.
6. The teacher uses technology to support instruction; access and manipulate data; enhance professional growth and productivity; communicate and collaborate with colleagues, parents, and the community; and conduct research.
7. The teacher reflects on and evaluates specific teaching/learning situations and/or programs.
8. The teacher collaborates with colleagues, parents, and other agencies to design, implement, and support learning programs that develop student abilities to use communication skills, apply core concepts, become self-sufficient individuals, become responsible team members, think and solve problems, and integrate knowledge.
9. The teacher evaluates his/her overall performance with respect to modeling and teaching Kentucky's learning goals, refines the skills and processes necessary, and implements a professional development plan.
10. The teacher provides professional leadership within the school, community, and education profession to improve student learning and well-being.

College of Education Skills and Dispositions

1. Communicates appropriately and effectively
2. Demonstrates constructive attitudes
3. Demonstrates ability to conceptualize key subject matter ideas and relationships
4. Interacts appropriately and effectively with diverse groups of colleagues, administrators, students, and parents in educational settings
5. Demonstrates a commitment to professional ethics and behavior

College of Education Technology Standards

1. Integrates media and technology into instruction
2. Utilizes multiple technology applications to support student learning
3. Selects appropriate technology to enhance instruction
4. Integrates student use of technology into instruction
5. Addresses special learning needs through technology
6. Promotes ethical and legal use of technology disciplines

Applying for Kentucky Educator Licenses

The University of Kentucky offers programs for most initial and advanced professional educator licenses (certificates) issued by the Kentucky Education Professional Standards Board (EPSB). EPSB license requirements are subject to change by the EPSB at any time.

UK candidates for Kentucky professional educator licenses must submit all required application materials to Academic Services and Teacher Certification, 166 Taylor Education Building, Lexington, KY 40506-0001. Recommendations to the EPSB that an educator license be issued are based upon a final audit of all program completion requirements.

GRADUATION REQUIREMENTS

To graduate from the College of Education, a student must: 1) complete all specific program requirements as listed in this Bulletin; and 2) meet all requirements of the College of Education admission/retention/completion policy.

Because most students are pursuing both a UK degree and a state educator license (certificate), it is extremely important that advisors are consulted frequently to be sure that the best selection of courses is made to meet both requirements.

Undergraduate Advising

Undergraduate advising is coordinated through Academic Services and Teacher Certification, 166 Taylor Education Building.

DEPARTMENTS IN THE COLLEGE OF EDUCATION

Curriculum and Instruction

The Department of Curriculum and Instruction offers both undergraduate and graduate programs. Undergraduate programs prepare teachers for elementary, middle school, and secondary levels. Graduate programs include: advanced degrees in teaching at elementary, middle, and secondary levels; preparation for teaching at the college/university level; and preparation for instructional design roles in business and industry.

Educational, School, and Counseling Psychology

The Department of Educational, School, and Counseling Psychology offers course work leading to provisional and standard certification and licensure in the Commonwealth of Kentucky, by the Education Professional Standards Board and the Kentucky Board of Psychology, respectively. The UK counseling and school psychology doctoral programs are fully accredited by the American Psychological Association (APA), and the doctoral and specialist degree programs in school psychology are approved by the National Association of School Psychologists (NASP) and the National Council for the Accreditation of Teacher Education (NCATE).

Educational Leadership Studies

The Department of Educational Leadership Studies seeks to improve the quality of educational organizations through improved training and competence of leaders. The department is particularly mindful of its obligation to supply the needs of Kentucky for high quality leaders across a range of P20 organizations. Programs are offered at the Masters, Education Specialist, and Doctoral levels to meet a wide range of educational leadership needs as well as to meet specific requirements for a graduate certificate in school technology leadership, teacher leader endorsement, and certification for principals, supervisors of instruction, and superintendents of schools.

Educational Policy Studies and Evaluation

The Department of Educational Policy Studies and Evaluation provides a unique opportunity for students who wish to develop the knowledge, judgment, and research skill required to address educational issues with flexibility and imagination. Students are offered the resources of historical, sociological, philosophical, and comparative analysis; knowledge of current educational issues; expertise in evaluation research; and the opportunity to learn skills necessary to evaluate the significance of studies that bear on policy. The department offers advanced degrees only.

Kinesiology and Health Promotion

The Department of Kinesiology and Health Promotion (KHP) offers undergraduate courses and degree programs in physical and health promotion education or exercise science. Students are encouraged to take one 1-credit physical education class each semester during the first two years of college.

The KHP Life Fitness program offers beginning instruction in both individual and team activities. In this program students have the opportunity to learn individual and team sports skills and/or improve their level of fitness. Currently 32 different courses are offered each year and over 1,200 students participate in the program. The classes are taught by members of the KHP Department and Department Graduate Teaching Assistants who possess expertise in the areas of health and physical education. Individual skill instruction is available in weight training, conditioning and fitness, golf, racquet sports, gymnastics, swimming, scuba diving, aerobic running and swimming, and dancing. Instruction in such team activities as basketball, soccer, volleyball, and softball is also available. In addition, intermediate and advanced courses in many of the activities are offered.

The kinesiology program is designed for students interested in teaching as well those interested in the application of knowledge and skills in kinesiology and health promotion in commercial settings. Students desiring teacher certification will complete one or more of the programs in kinesiology and health promotion described in this Bulletin. The department also offers a non-teacher certification kinesiology program in exercise science that many students pursue to prepare them for graduate programs within the medical and health field such as Physical or Occupational Therapy, Medical or Physician Assistant, Pharmacy, and also Dentistry.

The purpose of health promotion is to promote quality of life for all people. This area of study is interdisciplinary, extending into biology, psychology, sociology, and medicine. Health promotion generally focuses on the whole individual, including social and emotional dimensions, not just the physical. The primary focus of course work in health promotion is on teacher certification. Opportunities for health educators exist in community agencies, adult fitness programs, and health education programs in industry and business. The department offers a minor in health promotion that does not lead to teacher certification.

Early Childhood, Special Education, and Rehabilitation Counseling

The Department of Early Childhood, Special Education, and Rehabilitation Counseling offers three different initial certification programs at the undergraduate level: (1) interdisciplinary early childhood education; (2) learning and behavior disorders; and (3) moderate/severe disabilities.

The department offers graduate level programs leading to initial educator certification in learning and behavior disorders, moderate/severe disabilities, and interdisciplinary early childhood education. Students may also pursue the masters degree in rehabilitation counseling, and graduate advanced preparation in a variety of special education topics.

STEM Education

The Department of Science, Technology, Engineering, and Mathematics (STEM) Education offers undergraduate degrees in Secondary Mathematics Education and Secondary Science Education. The department also offers a Masters of Science degree in STEM Education. Our mission is to engage in scholarship, teaching, and service that is innovative and contributes to improving the quality of P20 science, technology, engineering, and mathematics education in the Commonwealth, the nation, and the world.

DEGREE PROGRAMS IN THE COLLEGE OF EDUCATION

B.A. in Education with a major in
EARLY ELEMENTARY EDUCATION

Requirements for Program

The Early Elementary Education Program is aligned with the New Teacher Standards of the Kentucky Education Professional Standards Board, and the national standards for elementary education approved by the National Council for the Accreditation of Teacher Education.

The model for the early elementary education program presumes a collaborative relationship between school and university personnel focused on ensuring a high level of individual attention to the mentoring and socialization of teacher candidates. The faculty recognizes that this is a labor-intensive process, requiring sustained time and effort by all parties. Work in early elementary education must be guided by two principles: first, a commitment to continuous improvement based on reflection, evaluation, and on-going research; second, a commitment to peer collaboration as a source of professional growth for teacher candidates as well as school and university faculty.

To receive the B.A. degree in Early Elementary Education, students must: (1) complete the UK Core requirements; (2) complete the program related studies courses; and (3) complete the professional education component.

Continuous Assessment

1. Admission to the program is based on a selective admission process that generally occurs after students have completed at least 45 hours of university course work. All students are expected to meet the standards and rules for Admission, Retention and Completion from the Teacher Education Program as set forth in the section "Admission, Retention and Completion from Teacher Education Programs".
2. **Assessment at the Point of Entry to the Early Elementary Education Program**. At the point of entry students must present an admission portfolio which includes the following: a) a "best piece" sample of writing which demonstrates ability to research a topic in some depth; b) evidence of multicultural/cross-cultural experience with written reflection on the experience; c) evidence of having completed 30 hours of community service with early elementary age children, including a written reflection on the experience; and, d) a written autobiography. Also at the time of entry, students will be required to complete an on-demand writing task.
3. **On-Going Assessment**: **Assessment During the Professional Introduction Semester**. Assessment of progress in the Professional Introduction semester includes assessment strategies specific to individual courses, but also includes an overall "Professional Introduction Portfolio." This portfolio is intended to be an extension of the admissions portfolio, adding the following exhibits: a) philosophy of education statement (this will be modified as candidates move through the program); b) "best piece" samples from course work that show evidence of content knowledge, pedagogical content knowledge, and effective practice (given the students' level of experience); and c) evidence of competence in instructional applications of technology and systems of information management.
4. **Assessment of Progress in the Professional Block**. This includes assessment strategies specific to individual methods courses that confirm content as well as pedagogical knowledge. It also includes some additional assessments. At the beginning of the semester, students' Professional Introduction Portfolios are reviewed and placement needs are discussed. Once the semester begins, students are observed throughout the semester by their supervisor and are assessed using an observation form which directly reflects the New Teacher Standards. Students also submit videotapes of themselves teaching and an analysis of these as well as other lessons they have taught. The supervisors provide feedback on these lessons as well. The faculty also reviews students' Professional Development Plans. Each student develops a Professional Development Plan (PDP) in cooperation with UK faculty and school-based faculty. The PDP includes reflections on the student's strengths and areas that need further work. This document serves as a planning tool for student teaching. Students also continue the development of their teaching portfolio, adding information that demonstrates competence on tasks related to the New Teacher Standards for each Professional Block course.
5. **Assessment During the Student Teaching Semester**. Students are assessed in a variety of ways during this semester. Student assignments include: observations reports, developing a thematic unit, critiquing their own teaching using videotapes, completing two solo weeks, and further developing their teaching portfolios.

Statement on Student Teaching

Students in the early elementary education program complete 16-18 weeks of student teaching, concentrating on the ages in grades P-5. (See the section on "Student Teaching" above for additional information on student teaching.)

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 111 Introduction to Contemporary Mathematics 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

EPE 301 Education in American Culture 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Program Related Studies (47 hours)

A-E 200 Workshop in Design Education for Elementary Teachers 3
MUS 266 Teaching Music in Elementary Grades 3
MA 201 Mathematics for Elementary Teachers 3
MA 202 Mathematics for Elementary Teachers 3
PSY 100 Introduction to Psychology 4
EES 160 Geology for Teachers 3
PHY 160 Physics and Astronomy for Teachers 3
BIO 103 Basic Ideas of Biology 3
BIO 111 General Biology Laboratory 1

HIS 104 A History of Europe through the Mid-Seventeenth Century
and
HIS 105 A History of Europe from the Mid-Seventeenth Century to the Present
OR
HIS 108 History of the United States Through 1876
and
HIS 109 History of the United States Since 1877 6

Choose one of the following courses:
HIS 580, PS 456G, APP 200, GEO 322, HIS 240 3

LIS 510 Children's Literature and Related Materials 3

Select two courses from the following:
†MA 310, MA 241, EDC 334, ENG 207, LIN 211, ENG 230, ENG 260, ENG 280, ENG 290, WRD 205 6

Free Elective 3

Professional Education Requirements (48 hours)

EDP 202 Human Development and Learning 3
EPE 301 Education in American Culture 3
*KHP 380 Health Education in the Elementary School 2
*KHP 382 Physical Education for Elementary School Teachers 2
*EDC 329 Teaching Reading and Language Arts 3
*EDP 303 Teaching Exceptional Learners in the Elementary Classroom 2
*EDC 323 Classroom Management and Discipline 3
*EDC 322 Elementary Practicum 3
*EDC 326 Teaching Social Studies in the Elementary School 3
*SEM 328 Teaching Science in the Elementary School 3
*SEM 337 Teaching Mathematics in Elementary Schools 3
*EDC 339 Designing a Reading and Language Arts Program for the Elementary School 3
*EDC 317 Introduction to Instructional Media 1
**EDS 447 Strategies for Including Students with Disabilities in the Elementary Classroom 2
*EDC 433 Student Teaching in the Elementary School 12

†Course not recommended for ELED majors.

**These courses require admission to the Teacher Education Program.*

***EDS 447 is no longer offered; EDS 547 (3 hours) is acceptable as a substitute course.*

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120

B.S. in Education with a major in HEALTH PROMOTION (Teacher Certification Program)

Requirements for Program

The Department of Kinesiology and Health Promotion offers undergraduate courses and degree programs in kinesiology (physical education) and health education. These programs support the UK educator preparation unit's theme of Research and Reflection for Learning and Leading. The process of reflective decision-making is imbedded in the departmental philosophy that students learn best through experiencing. The Health Promotion Program is guided by the standards of the American Association of Health Education (AAHE) and the Kentucky New Teacher Standards.

The health promotion program ensures an understanding of and knowledge about the structure of the health promotion discipline through the content and methodology courses in sexuality education, drug education, human health and wellness, nutrition, and program planning in health education. The purpose of health promotion is to promote quality of life for all people. This area of study is interdisciplinary, extending into biology, psychology, sociology, and medicine. Health promotion generally focuses on the whole individual, including social and emotional dimensions, not just the physical.

The B.S. in Health Promotion requires completion of the following: (1) the UK Core requirements; (2) specified course work in Program Related Studies and Professional Education; (3) the health promotion major; and 4) completion of a university-approved minor. Students wishing to pursue certification both in health and kinesiology must follow the kinesiology program description.

Continuous Assessment

1. All students in the health promotion program are expected to meet the standards and rules for Admission, Retention, and Exit from Teacher Education Programs as set forth in the section "Admission, Retention and Completion from Teacher Education Programs".
2. The health promotion program stimulates higher performance goals for high-performing students by offering several modes of performance. Examples are: (a) skills in performing physical activities; (b) skills in writing and oral presentations in theory courses; (c) computer technological skills in some courses; and (d) leadership skills demonstrated by high-performing students who serve as class leaders, peer tutors, and/or assistant instructors.
3. After admittance to the program, students not only must maintain a 2.75 GPA, they must continue to exhibit desirable professional characteristics to remain in the program. Students who demonstrate a lack of commitment, effort, professional behavior, knowledge, or teaching skills may be removed from the program until these characteristics are demonstrated.

Statement on Student Teaching

Students who are majoring in Health Promotion will enroll in:

KHP 371 Student Teaching in Health Education 12

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
SOC 101 Introduction to Sociology 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
BIO 103 Basic Ideas of Biology 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

After attaining sophomore status, students must complete the Graduation Composition and Communication Requirement. Please see your academic advisor for courses that meet this requirement.

Program Related Studies Course Sequence (22 hours)

	Hours
PSY 100 Introduction to Psychology	4
SOC 101 Introduction to Sociology	3
BIO 103 Basic Ideas of Biology	3
PGY 206 Elementary Physiology	3
ANA 209 Principles of Human Anatomy	3
KHP 240 Nutrition and Physical Fitness	3
DHN 101 Human Nutrition and Wellness	3

Professional Education Course Sequence (28 hours)

	Hours
EDP 202 Human Development and Learning	3
EDP 203 Teaching Exceptional Learners in Regular Classrooms	3
EPE 301 Education in American Culture	3
*EDC 317 Introduction to Instructional Media	1
*KHP 371 Student Teaching in Health Education	12
*KHP 430 Methods of Teaching Health Education	3
KHP 577 Practicum in Kinesiology and Health Promotion	3

**These courses require admission to the Teacher Education Program.*

Majors and Minors (48-51 hours)

Plan 1
Health Promotion major (30 hours) and one or more university approved minors (18-21 hours). **Note:** University-approved minors outside of the College of Education must be planned with an advisor in the appropriate college if the student wishes to have the minor appear on his/her transcript.

Students wishing to pursue certification in both Health Promotion and Kinesiology must follow the Kinesiology major program description.

Major in Health Promotion (30 hours)

	Hours
KHP 190 First Aid and Emergency Care	2
KHP 220 Sexuality Education	2
KHP 222 Drug Education	2
KHP 230 Human Health and Wellness	3
KHP 270 Introduction to Health Education and Health Promotion	3
KHP 310 Applied Health Education Practice	3
KHP 330 Planning and Implementing Health Education Programs	3
KHP 420G Physiology of Exercise	3
KHP 445 Introduction to Tests and Measurements	3
KHP 590 Advanced Health Concepts	3
DHN 101 Human Nutrition and Wellness	3

Other health related elective courses than the above list may be selected with permission of the Health Promotion faculty or KHP advising staff and must be relevant to the student's professional preparation program.

Minor in Health Promotion (24 hours) (not for teacher certification)

KHP 190 First Aid and Emergency Care	2
KHP 220 Sexuality Education	2
KHP 222 Drug Education	2
KHP 230 Human Health and Wellness	3
KHP 270 Introduction to Health Education and Health Promotion	3
KHP 330 Planning and Implementing School Health Education Programs	3
KHP 445 Introduction to Tests and Measurements **or** STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning	3
DHN 101 Human Nutrition and Wellness	3

Choose at least three hours from the following electives:

KHP 310 Applied Health Education Practice	3
KHP 590 Advanced Health Concepts	3
BSC 331 Behavioral Factors in Health and Disease	3
FAM 352 Issues in Family Sciences	3
HSM 250 Introductory Epidemiology	3

Other health related elective courses than the above list may be selected with permission of the Health Promotion faculty or KHP advising staff and must be relevant to the student's professional preparation program.

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120-129

B.S. in Education with a major in INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION

Requirements for Program

Early Childhood Education is an interdisciplinary program which will prepare educators to work with children birth through age five, in public pre-primary classes and non-public institutions including day care, private preschool, and private kindergarten. The program is approved by the Kentucky Education Professional Standards Board to prepare graduates to seek a state teaching certificate in Interdisciplinary Early Childhood Education.

The faculty of the Interdisciplinary Early Childhood Education program are associated with the Department of Early Childhood, Special Education, and Rehabilitation Counseling. The faculty believe that teaching young children involves viewing children holistically, using structured behavioral approaches. They recognize that viewing children holistically requires considering all of the various settings of children's environment (e.g., home, school, and neighborhood) as well as the reciprocal relationship between any two of the following variables: the immediate context the child is active in, the individual child, and all aspects of the child's environment (including people). In the Interdisciplinary Early Childhood Education program, students will learn to apply behavioral principles for purposes of developing curricula, assessing child behavior, planning, implementing, and monitoring interventions, and assisting families. The program is guided by the standards of the National Association for the Education of Young Children, and the Division of Early Childhood of the Council For Exceptional Children.

To receive the B.S. degree in Education with a major in Interdisciplinary Early Childhood Education, students must: (1) complete the UK Core requirements; (2) complete the premajor requirements; and (3) complete requirements for the Interdisciplinary Early Childhood Education major, including required student teaching experiences and other practica. To be state-certified, candidates must also successfully complete all state-mandated testing requirements.

Continuous Assessment

1. All students in the interdisciplinary early childhood education program are expected to meet the standards and rules for Admission, Retention, and Exit from Teacher Education Programs as set forth in the section "Admission, Retention and Completion from Teacher Education Programs".
2. **Assessment at the Point of Entry to the IECE Program**. The admission process provides the first point for formal assessment of the competencies outlined in the Initial Certification Program Folio for the program. Students who apply for admission must (a) meet the requirements for admission to the Teacher Education Program, and (b) be able to articulate their philosophy of teaching and document their experiences with young children in an initial portfolio and an entrance interview.
3. **On-going Assessment**. Once a student is admitted to the program, he/she meets with an advisor to plan the remainder of the program. Prior to the student teaching semester, the student must present a portfolio that documents his/her progress toward meeting program competencies.
4. **Completion Assessment**. At the exit assessment, students must document that they have met all program competencies through a final review of their portfolio and the successful completion of student teaching in an appropriate school placement for young children with and without disabilities.

Statement on Student Teaching

Student teaching in the Interdisciplinary Early Childhood Education program is 16-18 weeks. Students will enroll in:

IEC 411 Student Teaching in Interdisciplinary Early Childhood Education 12

Degree Requirements

Students in Interdisciplinary Early Childhood Education must complete the following:

1. Complete the UK Core requirements.
2. Complete all degree requirements.
3. Complete the required curriculum in the major program.
4. All students majoring in Interdisciplinary Early Childhood Education must apply and be admitted to the professional Teacher Education Program in order to complete the program.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

EDS 530 Moderate and Severe Disabilities 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

BIO 102 Human Ecology 3
BIO 103 Basic Ideas of Biology 3
BIO 111 General Biology Laboratory 1

HIS 104 A History of Europe through the Mid-Seventeenth Century
and
HIS 105 A History of Europe from the Mid-Seventeenth Century to the Present
OR
HIS 108 History of the United States Through 1876
and
HIS 109 History of the United States Since 1877 6

PSY 100 Introduction to Psychology 4
SOC 101 Introduction to Sociology 3
IEC 120 Introduction to Early Childhood Education 3

Subtotal: Premajor hours 23

All students in Interdisciplinary Early Childhood Education must apply, and be admitted to, and be retained in a Teacher Education Program (TEP), and complete a state approved university teacher training program in Early Childhood Education to be able to apply for certification. Students who are interested in certification in Early Childhood Education need to meet with a certification officer in the College of Education **prior** to completing 60 semester hours to discuss state certification and TEP requirements. A minimum 2.75 cumulative GPA is required to be eligible to apply for admission to TEP. TEP applications will be reviewed for students who have completed, or will complete during the semester in which they apply, 60 semester hours, including EDP 202, EDS 375, IEC 255, and IEC 256 with a grade of **C** or better.

Major Requirements — Hours

IEC 255 Child Development 3
IEC 256 Guidance Strategies for Working with Young Children 3
IEC 557 Infant Development 3

EPE 301 Education in American Culture
or
FAM 544 Cultural Diversity in American Children and Families
or
Cultural Diversity Course 3

IEC 260 Curriculum Planning in Interdisciplinary Early Childhood Education 4
IEC 546 Transdisciplinary Services for Young Children 3
IEC 552 Administration and Supervision in Interdisciplinary Early Childhood Education Programs 3
EDP 202 Human Development and Learning 3
EDS 375 Introduction to Education of Exceptional Children 3
EDS 513 Legal Issues in Special Education 3

EDS 516 Principles of Behavior Management and Instruction 3
EDS 522 Children and Families 3
EDS 530 Moderate and Severe Disabilities 3

Courses taken after admission to Teacher Education Program:

EDC 317 Introduction to Instructional Media 1
IEC 507 Assessment of Young Children 3
IEC 508 Advanced Curriculum Planning in Interdisciplinary Early Childhood Education 3
IEC 509 Intervention Planning for Children With Special Needs 3
IEC 510 Practicum in Interdisciplinary Early Childhood Education 3
IEC 512 Language and Literacy for Young Children 3
IEC 411 Student Teaching in Interdisciplinary Early Childhood Education 12

Subtotal: Major hours 68

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120

B.S. in Education with a major in KINESIOLOGY

(Teacher Certification Program)

Requirements for Program

The Department of Kinesiology and Health Promotion offers undergraduate courses and degree programs in kinesiology (physical education) and health promotion. These programs support the UK educator preparation unit's theme of Research and Reflection for Learning and Leading. The process of reflective decision-making is imbedded in the departmental philosophy that students learn best through experiencing. The kinesiology program is guided by the standards of the National Association for Sport and Physical Education (NASPE), and the Kentucky New Teacher Standards.

The kinesiology program ensures an understanding of and knowledge about the structure of physical education through the content courses of anatomy, physiology, kinesiology, exercise physiology, and nutrition. Application of this knowledge is demonstrated in physical education to ensure discipline knowledge for teaching.

The B.S. in Kinesiology requires completion of: (1) the UK Core requirements; (2) specified course work in Program Related Studies and Professional Education; and (3) one of the kinesiology plans. All kinesiology students are encouraged to complete Plan 1, which includes majors in kinesiology and health promotion, so that on graduating they will be qualified to pursue state teaching certification in physical education and health, grades P-12. In addition, students who choose to major in either kinesiology or health promotion **only**, must pick up a university-approved minor, and are only certified to teach in the single discipline selected.

Continuous Assessment

1. All students in the kinesiology program are expected to meet the standards and rules for Admission, Retention, and Exit from Teacher Education Programs as set forth in the section "Admission, Retention and Completion from Teacher Education Programs".
2. The kinesiology program stimulates higher performance goals for high-performing students by offering several modes of performance. Examples are: (a) skills in performing physical activities; (b) skills in writing and oral presentations in theory courses; (c) computer technological skills in some courses; and (d) leadership skills demonstrated by high-performing students who serve as class leaders, peer tutors, and/or assistant instructors.
3. After admittance to the program, students not only must maintain a 2.75 cumulative GPA, they must continue to exhibit desirable professional characteristics to remain in the program. Students who demonstrate a lack of commitment, effort, professional behavior, knowledge, or teaching skills may be removed from the program until these characteristics are demonstrated.

Statement on Student Teaching

Students who are majoring **only** in kinesiology will enroll in:

KHP 369 Student Teaching in Physical Education 12

Students who are completing a major in both kinesiology and health promotion will enroll in:

KHP 369 Student Teaching in Physical Education 6
and
KHP 371 Student Teaching in Health Education 6

In this situation, student teaching time will be divided between the high school, middle school, and elementary grades, with student teaching supervision occurring cooperatively between the kinesiology and health promotion faculty.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Suggested:
SOC 101 Introduction to Sociology 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Suggested:
BIO 103 Basic Ideas of Biology 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

KHP 300 Psychology and Sociology of Physical Education and Sport 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Program Related Studies Sequence (22 hours)

Hours

BIO 103 Basic Ideas of Biology 3
PSY 100 Introduction to Psychology 4
SOC 101 Introduction to Sociology 3
ANA 209 Principles of Human Anatomy 3
PGY 206 Elementary Physiology 3
KHP 240 Nutrition and Physical Fitness 3
DHN 101 Human Nutrition and Wellness 3

Professional Education Course Sequence (32 hours)

Hours

EDP 202 Human Development and Learning 3
EDP 203 Teaching Exceptional Learners in Regular Classrooms 3
KHP 263 Curriculum Design and Developmental Sports Skills in the Elementary School 3
*EDC 317 Introduction to Instructional Media 1
*KHP 344 Physical Education in the Secondary School 3
*KHP 360 Physical Education in the Elementary School 3
*KHP 361 Field Experiences 1
*KHP 369 Student Teaching in Physical Education 6-12
*KHP 371 Student Teaching in Health Education 6
(if double-majoring in kinesiology and health promotion)
*KHP 430 Methods of Teaching Health Education 3

**These courses require admission to the Teacher Education Program.*

Majors and Minors (50-63 hours)

Plan 1

Kinesiology major (32-33 hours) and Health Promotion major (30 hours)

Plan 2

Kinesiology major (32-33 hours) and one or more university approved minors (18-21 hours). **Note:** University-approved minors outside of the College of Education must be planned with an advisor in the appropriate college if the student wishes to have the minor appear on his/her transcript.

Major in Kinesiology (30 hours)

Performance Area Courses (9 hours)

	Hours
KHP 156 Educational Gymnastics	1
KHP 157 Track and Field	1
KHP 210 Introduction to Fitness (Subtitle required)	2
KHP 250 Team Sports (Subtitle required)	2
KHP 260 Individual Sports (Subtitle required)	2
KHP 162 Outdoor Education Through Activities	1

Content Area Courses (21 hours)

	Hours
KHP 200 The History and Philosophy of Physical Education and Sport	3
KHP 300 Psychology and Sociology of Physical Education and Sport	3
KHP 390 Dance Activities for Schools	2
KHP 415 Biomechanics of Human Movement	4
KHP 420G Physiology of Exercise	3
KHP 445 Introduction to Tests and Measurements	3
KHP 579 Adapted Physical Education	3

Major in Health Promotion (30 hours)

	Hours
KHP 190 First Aid and Emergency Care	2
KHP 220 Sexuality Education	2
KHP 222 Drug Education	2
KHP 230 Human Health and Wellness	3
KHP 270 Introduction to Health Education and Health Promotion	3
KHP 310 Applied Health Education Practice	3
KHP 330 Planning and Implementing Health Education Programs	3
KHP 445 Introduction to Tests and Measurements	3
KHP 590 Advanced Health Concepts	3
Choose at least 6 hours from the following courses:	
KHP 240 Nutrition and Physical Fitness	3
KHP 395 Independent Study in Kinesiology and Health Promotion	3
*KHP 509 Workshop in Health and Safety	1-3
BSC 331 Behavioral Factors in Health and Disease	3
FAM 352 Issues in Family Sciences	3
HSM 250 Introductory Epidemiology	3
CPH 201 Introduction to Public Health	3

**May be repeated under different topic names for up to 3 credit hours.*

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120

B.S. in Education with a major in KINESIOLOGY (Non-Teacher Certification Program in Exercise Science)

Requirements for Program

The Department of Kinesiology and Health Promotion offers undergraduate courses and degree programs in kinesiology and health education. The kinesiology program (exercise science option) leads to employment opportunities in the athletics, sports and fitness industries, as well as professional programs in health fields such as Physical Therapy, Physicians Assistant, Occupational Therapy, Medicine, Dentistry, and Pharmacy. The kinesiology program is guided by the standards of the National Association for Sport and Physical Education (NASPE).

The B.S. in Kinesiology requires completion of: (1) the UK Core requirements; (2) specified course work in program related studies, professional kinesiology requirements, education course requirements; (3) practicum internship hours; and (4) specified course work in exercise science.

Continuous Assessment

1. The kinesiology program stimulates higher performance goals for high-performing students by offering several modes of performance: (a) skills in performing physical activities; (b) skills in writing and oral presentations in theory courses; (c) computer technological skills in some courses; and (d) leadership skills by high-performing students are often used in classes through class leaders, peer tutors, and/or assistant instructors.
2. Students must maintain a 2.0 GPA for retention in and exit from the program with a bachelor's degree. Students who demonstrate a lack of commitment, effort, professional behavior, knowledge, or disciplinary skills, or who have not maintained the necessary GPA overall and in the major courses may be removed from the program and the college.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
BIO 103 Basic Ideas of Biology 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 31

Graduation Composition and Communication Requirement (GCCR)

KHP 300 Psychology and Sociology of Physical Education and Sport 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Program Related Course Requirements (20 hours)

ANA 209 Principles of Human Anatomy 3
PGY 206 Elementary Physiology 3
DHN 101 Human Nutrition and Wellness 3
PSY 100 Introduction to Psychology 4

BIO 103 Basic Ideas of Biology
or
BIO 148 Introductory Biology I 3

PSY 223 Developmental Psychology 3
KHP 120 Service Course (Weight Training) 1

Professional Kinesiology Requirements (35 hours)

KHP 190 First Aid and Emergency Care 2
KHP 200 The History and Philosophy of Physical Education and Sport 3
KHP 210 Introduction to Fitness (Subtitle required) 2
KHP 230 Human Health and Wellness 3
KHP 240 Nutrition and Physical Fitness 3
KHP 300 Psychology and Sociology of Physical Education and Sport 3
KHP 350 Strength and Conditioning for Sports 3
KHP 415 Biomechanics of Human Movement 4
KHP 420G Physiology of Exercise 3
KHP 445 Introduction to Tests and Measurements 3
KHP 450 Introduction to Exercise Testing and Prescription 3
KHP 573 Management of Sport 3

Exercise Science Courses (23-24 hours plus electives)

CHE 104 Introductory General Chemistry
or
CHE 105 General College Chemistry I 3-4

CHE 107 General College Chemistry II
or
CHE 108 Introduction to Inorganic, Organic and Biochemistry without Laboratory 3

KHP 577 Practicum in Kinesiology and Health Promotion 6
KHP 340 Athletic Training 2
PGY 412G Principles of Human Physiology Lectures 4
PHY 211 General Physics 5

Electives to total 120 credit hours chosen from the following courses:

ABT 360, BIO 148, BIO 152, BIO 153, BIO 155, BIO 208, BIO 209, BSC 331, CHE 230, CHE 231, CLA 131, CPH 201, CPH 365 (subtitle required: Society and Aging), CS 115, KHP 157, KHP 250, KHP 260, KHP 319, PHI 305, PHY 213, and SOC 350 (Subtitle required: Health and Med in Social Context).

TOTAL HOURS 120

B.A. in Education with a major in LEARNING AND BEHAVIOR DISORDERS (LBD)

Requirements for Program

The learning and behavior disorders (LBD) program supports the UK educator preparation unit's theme of Research and Reflection for Learning and Leading. Special education teachers are prepared to assess, plan, and teach based on what they learn from their students and to conduct continuous self-reflection in order to improve their teaching. The standards and competencies on which the LBD program is based are those prescribed by The Council for Exceptional Children and The Kentucky New Teacher Standards.

The B.A. program in Learning and Behavior Disorders, P-12, prepares students to teach individuals with disabilities (including learning disabilities, emotional/behavioral disorders, mild mental disabilities, other health impaired, and physical disabilities) in primary through twelfth grades. Advising early in the B.A. program is essential in order to complete the requirements in a timely fashion.

Continuous Assessment

1. All students in the LBD program are expected to meet the standards and rules for Admission, Retention and Completion from the Teacher Education Program (TEP) as set forth in the section "Admission, Retention and Completion from Teacher Education Programs".
2. **Assessment at the Point of Entry to the LBD Program**. The admission process provides the first point for formal assessment of the competencies outlined in the LBD program. Students applying for admission must: (a) meet the requirements for TEP admission; (b) have successfully completed a special education survey course (EDS 375) and practicum (EDS 357); (c) be able to articulate, orally and in writing, their philosophy of teaching and their experiences with persons with disabilities; and (d) prepare an acceptable extemporaneous writing sample. Entry level assessments will be conducted by program faculty representatives through analysis of TEP application materials, portfolio entries, and an entrance interview.
3. **On-going Assessment**. Once a student is admitted to the TEP, he/she meets with an advisor from the LBD program faculty to plan the remainder of the program. Prior to the student-teaching semester, the student must present a portfolio that documents his/her progress toward meeting program competencies in the courses completed up to that point. Mid-point assessments will be conducted by program faculty representatives through analysis of transcripts, and portfolio entries, as well as performance in practica courses.
4. **Completion Assessment**. At the exit assessment, students must document that they have met all program competencies. Exit assessments will be conducted by program faculty representatives through a formal analysis of transcripts, student portfolios, and student teaching evaluations. In addition, to be eligible for a Kentucky teaching certificate, each student must earn passing scores on the required PRAXIS exams.

Statement on Student Teaching

Student teaching in the LBD program is 16-18 weeks in LBD classrooms. Students split this time evenly between an elementary school placement and a secondary (middle school or high school) placement.

Special Education/LBD Certification (P-12)

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

EDS 529 Educational Programming for Students with Mild Disabilities 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Preprofessional Requirements (28 hours)

EDP 202 Human Development and Learning 3
EPE 301 Education in American Culture 3
EDS 357 Initial Practicum in Special Education 1
EDS 375 Introduction to Education of Exceptional Children 3
FAM 357 Adolescent Development
or
EDS 522 Children and Families 3
EDS 513 Legal Issues in Special Education 3
EDS 514 Instructional Technology in Special Education 3
EDS 516 Principles of Behavior Management and Instruction 3
EDS 517 Assistive Technology in Special Education 3
EDS 547 Collaboration and Inclusion in School and Community Settings 3

Program Related Studies (30 hours)

KHP 190 First Aid and Emergency Care 2
*FAM 554 Working With Parents 3
EES 160 Geology for Teachers 3
PHY 160 Physics and Astronomy for Teachers 3
MA 201 Mathematics for Elementary Teachers 3
MA 202 Mathematics for Elementary Teachers 3
PSY 100 Introduction to Psychology 4

plus 9 additional social science hours. 6 of the 9 hours must be taken in one of the following disciplines: ANT, ECO, FAM, GEO, PS, PSY, or SOC.

**FAM 554 is now major-restricted; EDS 570 is acceptable as a substitute course.*

Professional Education Requirements (33 hours)

LIS 510 Children's Literature and Related Materials
or
LIS 514 Literature and Related Media for Young Adults
or
IEC 512 Language and Literacy for Young Children 3
EDC 329 Teaching Reading and Language Arts 3
SEM 337 Teaching Mathematics in Elementary Schools 3
EDC 339 Designing a Reading and Language Arts Program for the Elementary School 3
EDS 528 Educational Assessment for Students with Mild Disabilities 3
EDS 529 Educational Programming for Students with Mild Disabilities 3
EDS 589 Field Experiences: Mild Disabilities 3
EDS 459 Student Teaching in Special Education 12

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120

B.A. in Education with a major in MIDDLE LEVEL EDUCATION

Program Description

The Middle Level Teacher Education Program supports the UK educator preparation unit's theme of Research and Reflection for Learning and Leading. The program emphasizes the development of professionally trained specialists in teaching early adolescents. As such, the program models team teaching and collaborative learning. Active learning experiences are emphasized, as are real-world connections. Throughout the program, students are encouraged to consider their present position and make plans for improvement. Students are urged to gather data continuously

and to use this data in planning effective instruction. Students are required to provide questions for reflection when writing lessons they do not teach and to provide reflective summaries as part of lesson plans which are delivered to students. Students are provided time and resources to revise and improve curricular materials they develop within the program. Students assess their own progress through the program's curriculum, preparing them for the continuous self-assessment required of practicing professionals.

To receive the B.A. degree in Middle Level Education, students must: (1) complete the UK Core requirements; (2) complete all required program-related studies and the professional education course sequence; and (3) complete the content area requirements in each of two areas of specialization. Available content specialization areas are: English and Communication, Mathematics, Science, and Social Studies.

Continuous Assessment

1. All middle level education students are expected to meet the standards and rules for Admission, Retention and Completion from Teacher Education Programs as set forth in the section "Admission, Retention and Completion from Teacher Education Programs".
2. **Assessment at the Point of Entry to the Middle School Program**. The admission process provides the first point for formal assessment of the competencies outlined by the standards documents which guide the middle level education program. Basic skills standards must be met and students must be making satisfactory progress towards professional and content area proficiency in order for students to win admission
3. **On-going Assessment.** Once a student is admitted to the program, he/she meets with an advisor to plan the remainder of the program. The focus of this initial advising session is to begin a professional development plan which ensures that all standards will be met by program completion.
4. **Completion Assessment.** At the completion assessment, students must show competency in all relevant standard areas. This is done through a final review of the eligibility portfolio, review of information provided by the cooperating teacher and university supervisor, and documentation of remediation of any weaknesses noted at the formal review in the methods semester.

Statement on Student Teaching

Middle level certification requires students to be certifiable in two academic subject areas, which requires two student teaching placements spread across the final two semesters: 6 hours in the second-to-last semester, and 9 hours in the final semester. Students seeking Middle Level certification will register for:

EDC 549 Student Teaching in the Middle School 15

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Recommended:
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 31

Graduation Composition and Communication Requirement (GCCR)

EPE 301 Education in American Culture 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Program Related Studies (4 hours)

PSY 100 Introduction to Psychology 4

Professional Education Courses (40 hours)

The National Middle School Association (NMSA) describes six broad areas of competence for middle grades teachers. These are: (1) early adolescent development, (2) middle grades curriculum, (3) middle grades instruction, (4) middle grades school organization, (5) families and community relations, and (6) middle grades teaching roles. With the support of a liberal arts foundation provided by the UK Core requirements and the content area knowledge provided by the requirements detailed above, the professional education requirements of the program endeavor to provide a firm foundation in each of these six areas.

*EDP 202 Human Development and Learning 3
*EDP 203 Teaching Exceptional Learners in Regular Classrooms 3
*EPE 301 Education in American Culture 3

All of the following courses require admission to the Teacher Education Program:
EDC 327 Reading in the Content Areas 3
EDC 330 Writing in the Content Areas 3
EDC 341 The Early Adolescent Learner and Methods in Middle Level Education 3
EDC 343 Methods and Management in Middle Level Education 3
*SEM 345 Methods of Teaching Middle Level Mathematics 3
*EDC 346 Methods of Teaching Middle Level Social Studies 3
*EDC 347 Methods of Teaching Middle Level English Language Arts 3
*SEM 348 Methods of Teaching Middle Level Science 3
*SEM 445 Applications of Teaching Middle Level Mathematics 3
*EDC 446 Applications of Teaching Middle Level Social Studies 3
*EDC 537 Advanced Applications of Teaching Writing 3
*SEM 448 Applications of Teaching Middle Level Science 3
EDC 520 Assessment and Accountability in Middle Level Education 3
EDC 549 Middle Level Student Teaching 3-15

**A total of four courses – two in each of the two selected content areas – must be completed from this group.*

Content Area Courses (18-27 hours)

Students wishing to become certified in middle level (grades 5-9) must select two of the following content areas of specialization. Course requirements, particularly in the areas of English and Communication and Mathematics, have been prioritized to reflect prerequisite knowledge. Students should plan course work in these areas with the assistance of an advisor.

English and Communication (24 hours)

EDC/ENG 509 Composition for Teachers 3
ENG 230 Introduction to Literature 3
ENG 330 Text and Context (Subtitle required) 3
ENG 251 Survey of American Literature I 3
ENG 252 Survey of American Literature II 3
LIS 514 Literature and Related Media for Young Adults 3
LIN 211 Introduction to the Study of Language 3
LIN 317 Language and Society (Subtitle required) 3

Mathematics (25 hours)

The requirements for students choosing mathematics as a content area of specialization are based on standards developed by the National Council of Teachers of Mathematics, KERA *Goals and Academic Expectations*, and the *Core Content for Assessment*. The NCTM standards for middle grades include four common threads (reasoning, communication, problem solving, and connections) as well as content area standards of number, computation and estimation, probability, statistics, algebra, geometry, and measurement. Kentucky's *Goals and Academic Expectations* and the *Core Content for Assessment* focus mathematics instruction on seven core areas: number, mathematical procedures, mathematical structure, measurement, space and dimensionality, change, and data.

Required
MA 201 Mathematics for Elementary Teachers 3
MA 202 Mathematics for Elementary Teachers 3
MA 308 Mathematical Problem Solving For Middle School Teachers 3
MA 241 Geometry for Middle School Teachers 3
MA 162 Finite Mathematics and Its Applications 3
STA 291 Statistical Methods 3
MA 113 Calculus I 4
MA 261 Introduction to Number Theory 3

Science (27 hours)

The content area preparation required for students in the middle school education program is based on the standards adopted by the National Science Teacher's Association as well as Kentucky's *Core Content for Science Assessment* and the *New Teacher Standards*. It is important that science teachers have strong content preparation in the sciences. This is needed to communicate modes of scientific inquiry, select appropriate learning experiences, guide students in their early scientific efforts, and help students apply scientific knowledge and skills in their daily lives.

CHE 101 Molecular Science for Citizens 3
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1
EES 160 Geology for Teachers 3
EES 150 Earthquakes and Volcanoes 3
PHY 160 Physics and Astronomy for Teachers 3

PHY 120 How Things Work
or
PHY 130 Physics of Energy 3

BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
BIO 155 Laboratory for Introductory Biology I 1

Social Studies (24 hours)

The middle level social studies content area teacher preparation program is guided by two principles: first, a commitment to continuous improvement based on reflection, evaluation, and on-going research; second, a commitment to peer collaboration as a source of professional growth. The program is guided by the National Council for Social Studies document, *Expectations of Excellence*, and the Kentucky *New Teacher Standards*.

HIS 104 A History of Europe Through the Mid-Seventeenth Century 3
HIS 105 A History of Europe From the Mid-Seventeenth Century to the Present 3
HIS 108 History of the United States Through 1876 3
ECO 201 Principles of Economics I 3

GEO 172 Human Geography
or
GEO 160 Lands and Peoples of the Non-Western World 3

ANT 160 Cultural Diversity in the Modern World
or
ANT 220 Introduction to Cultural Anthropology 3

HIS 229 The Ancient Near East and Greece to the Death of Alexander the Great
or
HIS 230 The Hellenistic World and Rome to the Death of Constantine 3

plus one of the following:
HIS 206 History of Colonial Latin America, 1492 to 1810 3
HIS 208 History of the Atlantic World 3
HIS 260 African American History to 1865 3
HIS 265 History of Women in America 3
HIS 404 U.S. Women's History to 1900 3
HIS 405 U.S. Women's History Since 1900 3

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120

B.S. in Education with major in MODERATE/SEVERE DISABILITIES

Requirements for Program

The moderate and severe disabilities (MSD) program supports the UK educator preparation unit's theme of Research and Reflection for Learning and Leading. Special education teachers are prepared to assess, plan, and teach based on what they learn from their students and to conduct continuous self-reflection in order to improve their teaching. The standards and competencies on which the MSD program is based are those prescribed by The Council for Exceptional Children and The Kentucky New Teacher Standards.

The B.S. in Education program in Moderate/Severe Disabilities (MSD) requires completion of: (1) the UK Core requirements; (2) specified course work in Related Studies and Professional Education; and (3) specified course work in the special education and MSD area of specialization. Students graduating from the certification program the program obtain a single Kentucky teacher certificate in MSD (grades P-12). Graduates are qualified to teach in classes for students with functional mental disabilities (grades P-12). It is possible to complete this certificate program in four years. In addition to the undergraduate program, an initial certificate in MSD (grades P-12) is offered at the graduate level (See the University of Kentucky *Graduate School Bulletin*).

Continuous Assessment

1. All students in the MSD program are expected to meet the standards and rules for Admission, Retention and Completion from Teacher Education Programs as set forth in the section "Admission, Retention and Completion from Teacher Education Programs".
2. **Assessment at the Point of Entry to the MSD Program**. The admission process provides the first point for formal assessment of the competencies outlined in the Initial Certification Program Folio for the program. Students who apply for admission must: (a) meet the requirement for admission to the Teacher Education Program; (b) have successfully completed a special education survey course and practicum (EDS 375 and EDS 357 respectively); and (c) be able to articulate their philosophy of teaching and document their experiences with persons with disabilities in an initial portfolio and an entrance interview.
3. **On-going Assessment**. Once a student is admitted to the program, he/she meets with an advisor to plan the remainder of the program. Prior to the student teaching semester, the student must present a portfolio that documents his/her progress toward meeting program competencies in the courses completed.
4. **Completion Assessment**. At the completion assessment, students must document that they have met all program competencies through a final review of their portfolio and the successful completion of student teaching in a public school placement for students with MSD.

Statement on Student Teaching

Student teaching in the MSD program is 16-18 weeks and consists of eight to nine weeks in an elementary placement and eight to nine weeks in a middle or secondary placement for students with MSD.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Any approved MA course 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

EDS 530 Moderate and Severe Disabilities 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Program Related Studies (22 hours)

PSY 100 Introduction to Psychology 4
MA 201 Mathematics for Elementary Teachers 3
MA 202 Mathematics for Elementary Teachers 3
*Biological science course 3
*Physical science course 3
WRD 204 Technical Writing 3

LIS 510 Children's Literature and Related Materials
or
IEC 512 Language and Literacy for Young Children 3

**Choose the biological and physical science courses with the aid of your advisor.*

Professional Education Courses (13-14 hours)

MUS 266 Teaching Music in Elementary Grades 3
or
A-E 200 Workshop in Design Education for Elementary Teachers 3
or
KHP 390 Dance Activities for Schools 2

All of the following courses require admission to the Teacher Education Program.
EDC 329 Teaching Reading and Language Arts 3
EDC 339 Designing a Reading and Language Arts Program for the Elementary School 3
SEM 337 Teaching Mathematics in the Elementary Schools 3
KHP 382 Physical Education for Elementary School Teachers 2

Area of Specialization: Special Education Requirements (47 hours)

Special Education Core Requirements

EDS 357 Initial Practicum in Special Education 1
EDS 375 Introduction to Education of Exceptional Children 3
EDS 513 Legal Issues in Special Education 3
EDS 514 Instructional Technology in Special Education 3
EDS 516 Principles of Behavior Management and Instruction 3
EDS 517 Assistive Technology in Special Education 3
EDS 522 Children and Families 3

Moderate/Severe Disabilities Areas Requirements

All of the following courses require admission to the Teacher Education Program.
EDS 530 Moderate and Severe Disabilities 3
EDS 547 Collaboration and Inclusion in School and Community Settings 3
EDS 548 Curriculum Design for Students with Moderate and Severe Disabilities 3
EDS 549 Methods for Students with Moderate and Severe Disabilities 4
EDS 550 Student Teaching: Moderate and Severe Disabilities 12

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120

B.A. in Education with a major in SECONDARY EDUCATION
Option: English Education

Requirements for Program

This B.A. includes completion of an approved plan in the academic specialty teaching of English. **No teacher certification is awarded with the B.A.** Students desiring to go on to Master's with Initial Certification must apply to the Graduate School and apply to the Secondary English Program Faculty in the spring of their senior year.

To receive the B.A. degree, students must: (1) complete the UK Core requirements; (2) complete the requirements for secondary English education; (3) major course work, support area, and related studies; and (4) complete 100 hours of fieldwork with adolescents through the **required** three hour course:

EDC 362 Field Experiences in Secondary Education 3

In 1996, the National Council of Teachers of English and the International Reading Association published *Standards for the English Language Arts*. This document identified six English language arts: reading, writing, speaking, listening, viewing, and visually representing. In addition, it presented an expanded definition of literacy, which reflects the ways technology and society have changed and will continue to change the ways in which we use language to communicate and to think. In order to prepare students for the literacy demands of today and tomorrow, English language arts education will need to address many different types and uses of language, including those that have traditionally been given limited attention in the curriculum. One such example is spoken language. Being literate in contemporary society means being active, critical, and creative users not only of print and spoken language but also of the visual language of film, television, photography and other media. Therefore, the content model should reflect the study of language and literacy through speech, theater, writing, and media. The English education program prepares its pre-service teachers with such a model so that their students will succeed as effective language learners and users, equipped with the skills they need to become critically literate citizens, workers, members of society, and lifelong learners.

Continuous Assessment

1. Because certification occurs through the Masters in Education including certification (MIC), students should be aware that they will need to be formally admitted to the MIC program. Admission/Retention/Completion regulations for all teacher certification programs are specified in the section "Admission, Retention and Completion from Teacher Education Programs".
2. Oral and written communication skills of applicants for the MIC program in English Education will be assessed at the time of the interview, and through the entrance portfolio.
3. At the time of application to the English Education program at the Master's degree level, applicants are evaluated according to the following criteria: grade-point average, quality of work in the subject content area, Graduate Record Examination scores, graded and on-site writing tasks, verbal communication, quality of references, commitment to teaching, social awareness, educational experiences with diverse learners 14-18 years old, and multicultural experiences.

Statement on Student Teaching

There is no student teaching required for completion of the Secondary English Education major. Student teaching occurs as part of the Masters in Education with initial certification.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

EPE 301 Education in American Culture 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Program Related Studies (15 hours)

EDC 362 Field Experiences in Secondary Education 3
EDC/LIN 513 Teaching English as a Second Language 3
EDC 544 Use and Integration of Instructional Media
or
EDC 547 Technology in Instruction Practice
or
EDC 548 Instructional Technology Leadership 3
EPE 301 Education in American Culture 3
EDS 375 Introduction to Education of Exceptional Children
or
EDP 203 Teaching Exceptional Learners in Regular Classrooms 3

English Major for Secondary Education (42 hours)

Courses with two asterisks (**) are highly recommended.

Prerequisites (6 hours)
Required:
ENG 230 Introduction to Literature 3

plus one of the following:
ENG 233 Literature and Identities 3
**ENG 260 Introduction to Black Writers 3
**ENG 290 Introduction to Women's Literature 3
**ENG 460G Studies in African-American Literature (Subtitle required) 3

**ENG 510 Studies in English for Teachers (Subtitle required) 3

Literary Criticism Component (3 hours)
ENG 330 Text and Context: (Subtitle required) 3

Literature Component (18 hours)
Required:
ENG 241 Survey of British Literature I 3
ENG 242 Survey of British Literature II 3
ENG 251 Survey of American Literature I 3
ENG 252 Survey of American Literature II 3
ENG 480G Studies in Film (Subtitle required) 3

plus one of the following:
ENG 440G Studies in British Literature: (Subtitle required) 3
ENG 450G Studies in American Literature: (Subtitle required) 3
**ENG 460G Studies in African-American Literature (Subtitle required) 3
ENG 470G Comparative and Transnational Studies in Literature: (Subtitle required) 3
**ENG 490G Studies in Literature and Gender: (Subtitle required) 3
ENG 570 Selected Topics for Advanced Studies in Literature (Subtitle required) 3

Writing Component (9 hours)
ENG 401 Special Topics in Writing (Subtitle required) [two sections, different subtitles] 6
EDC/ENG 509 Composition for Teachers 3

Language Study Component (6 hours)
one of the following:
ENG 301 Style for Writers 3
ENG 310 American English 3

Support Area (18 hours)

A minimum of three hours credit is required in each of the four areas: journalism, theatre, speech and fine arts, which English teachers will be qualified to teach in Kentucky. In one of the areas, to be selected with the aid of an advisor, a minimum of 9 hours is required.

The following courses are recommended; courses with two asterisks (**) are highly recommended:

Journalism
**JOU 101 Introduction to Journalism 3
JOU 204 Writing for the Mass Media 3
**JOU 303 News Editing 3
**JOU 330 Web Publishing and Design 3
JOU 387 Photojournalism I 3
JOU 455 Mass Media and Diversity (Subtitle required) 3
**JOU 460 Journalism in Secondary Education 3

Theatre
**TA 126 Acting I: Fundamentals of Acting 3
**TA 150 Creativity and the Art of Design and Production 3
TA 267 Lighting and Sound Technology 3
**TA 330 Theatre Directing I 3
TA 365 Costume Design 3
TA 367 Lighting Design 3
TA 374 Scene Design 3
TA 385 World Theatre I 3
TA 386 World Theatre II 3

Communications
**COM 181 Basic Public Speaking 3
COM 249 Mass Media and Culture 3
COM 252 Introduction to Interpersonal Communication 3
**COM 281 Communication in Small Groups 3
**COM 287 Persuasive Speaking 3
**COM 482 Studies in Persuasion 3
**COM 584 Teaching of Communication 3

Fine Arts
**A-H 105 World Art Before 1400 3
**A-H 106 Renaissance to Modern Art 3
A-H 323 Medieval (Subtitle required) 3
**A-H 334 Reframing Renaissance Art 3
**A-H 341 20th Century (Subtitle required) 3
A-H 343 History of Photography 3
A-H 350 Contemporary Art and Visual Studies (Subtitle required) 3
A-S 380 Black & White Darkroom Photography 3
A-S 381 Advanced Black & White Darkroom Photography 3

Electives

With the aid of your advisor, choose from the following courses to bring the total number of earned hours up to 120.

A-H 105 World Art Before 1400 3
A-H 106 Renaissance to Modern Art 3
AAS 550 Education in a Culturally Diverse Society 3
ANT 160 Cultural Diversity in the Modern World 3
ANT 220 Introduction to Cultural Anthropology 3
ANT 324 Contemporary Latin American Cultures 3
ANT 326 People and Cultures of Sub-Saharan Africa 3
ANT 401 Gender Roles in Cross-Cultural Perspective 3
ANT 534 Sociology of Appalachia 3
APP 200 Introduction to Appalachian Studies 3
APP 300 Topics in Appalachian Studies (Subtitle required) 3
COM 101 Introduction to Communications 3
GWS 200 Sex and Power 3
GWS 300 Topics in Gender and Women's Studies (Subtitle required) 3
GWS 350 Introduction to Feminist Theorizing 3
HIS 105 A History of Europe from the Mid-Seventeenth Century to the Present 3
HIS 109 History of the United States Since 1877 3
HIS 203 History of the British People Since the Restoration 3
SPA 371 Latin American Cinema (Subtitle required) 3
TOTAL HOURS 120

B.A. in Education with a major in SECONDARY EDUCATION Option: Science Education (Biology, Physics, Chemistry, or Earth Science)

NOTE: This major is no longer taking students. Earth Science, Physics and Chemistry will be pursued as options (along with Computer Science and Mathematics) within the STEM Education major.

Requirements for Program

This B.A. includes completion of an approved plan in the academic specialty teaching of Secondary Physical Science or Biological Science. **No teacher certification is awarded with the B.A.** Students desiring to go on to Masters with initial certification must apply to The Graduate School and apply to the Secondary Science Program Faculty in the spring of their senior year.

To receive the B.A. degree, students must: (1) complete the UK Core requirements, and Program Related Studies; (2) complete one of the Secondary Science Education plans; and (3) complete 100 hours of fieldwork with adolescents through the **required** 3 hour course:

EDC 362 Field Experiences in Secondary Education 3

The Secondary Science Education program addresses the content area requirements of Kentucky's *New Teacher Standards*, National Research Council's *National Science Education Standards*, and the National Science Teachers Association *Guidelines*. The program encourages the understanding and development of major concepts within a specialty area as well as an understanding of the interconnectedness of the sciences. Students are encouraged to apply mathematics to investigations of science, including analyses of data. It is intended that students relate the concepts of science to contemporary, historical, technological and societal issues. As future science teachers, students will need to locate resources, design and conduct inquiry-based and open-ended investigations, interpret findings, communicate results and make judgments based upon evidence. Specifically, the program encourages the teaching of science through a problem-solving, inquiry-based approach.

Continuous Assessment

1. Because certification occurs through the Masters in Education including certification (MIC), students should be aware that they will need to be formally admitted to the MIC program. Admission/Retention/Exit regulations for all teacher certification programs are specified in the section "Admission, Retention and Completion from Teacher Education Programs".
2. Oral and written communication skills of applicants for the MIC program in secondary science education will be assessed at the time of the interview, and through the entrance portfolio.
3. Admission to the Masters in Education with certification is competitive. At the time of application to the science education program, applicants will be evaluated on the basis of GPA, GRE scores, graded and on-site writing tasks, verbal communication, quality of references, commitment to teaching, social awareness, educational experiences with diverse learners, 14-18 year olds, and multicultural experiences, and quality of work in the sciences.

Statement on Student Teaching

There is no student teaching required for completion of the secondary science education major. Student teaching occurs as part of the Masters in Education with initial certification.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I
or
MA 137 Calculus I with
Life Science Applications 4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty:
An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 31

Program Related Studies (6 hours)

EDC 362 Field Experiences in Secondary Education 3
CS 101 Introduction to Computing I 3

Majors and Minors (54-72 hours)

Plans for Majors, Minors, and Supporting Subjects

Candidates may choose to be certified in one of two science areas, 1) biological science, or 2) physical science. Biological science candidates must have a biological science major for secondary education and follow one of the biological science plans. Physical science candidates must have a chemistry major for secondary education, earth science major for secondary education, physical science major for secondary education, or physics major for secondary education and follow one of the physical science plans.

Plans for Biological Science Candidates

Plan 1
Major (33 hours in biological science) plus: (A) a supporting **non-certifiable** minor of (21 hours) in mathematics, OR (B) a supporting **non-certifiable** minor in one of the other sciences. The science fields from which the minor may be chosen include chemistry, earth science, and physics.

Plan 2
Major (33 hours in biological science) with two 12-hour supporting subjects. The 12-hour blocks of support-subjects may be chosen from two of the following fields: chemistry, earth science, physics, or mathematics.

Plan 3
Major (33 hours in biological science) and four supporting subjects. Students selecting Plan 3 will complete a major in biology and take a total of 24 semester hours from chemistry, earth science, physics, and mathematics, with a minimum of three semester hours in each field.

Plans for Physical Science Candidates

Plan 1
Major (33 hours in either chemistry, earth science, or physics) plus: (A) a supporting **non-certifiable** minor of (21 hours) in mathematics, OR (B) a supporting minor in one of the other sciences. The science fields from which the minor may be chosen include biology (non-certifiable), chemistry, earth science, and physics, and mathematics (non-certifiable).

Plan 2
Major (33 hours in either chemistry, earth science, or physics) with two 12-hour supporting subjects. The 12-hour blocks of support-subjects may be chosen from two of the following fields: biology, chemistry, earth science, physics, or mathematics. Courses from the major may not be applied to the support-subjects requirement.

Plan 3
Major (33 hours in either chemistry, earth science, or physics) and four supporting subjects. Students selecting Plan 3 will complete a total of 24 semester hours from biology, chemistry, earth science, physics, and mathematics, with a minimum of three semester hours in each field. Courses from the major may not be applied to the support-subjects requirement.

Plan 4
Students will complete a physical science for secondary education major. The physical science major consists of 21 hour minors in chemistry, earth science, and physics. Minors from each field must be included in the physical science major.

Major Requirements

All majors for secondary science education require a minimum of 33 hours.

Biological Science Major for Secondary Education (33 hours)

Required Support Courses
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany
General Chemistry I 1
CHE 113 Laboratory to Accompany
General Chemistry II 2
PHY 211/213 General Physics 10
or
PHY 231/232 General University Physics
and
PHY 241/242 General University
Physics Laboratory 10
EES 220 Principles of Physical Geology 4
MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I
or
MA 132 Calculus for the Life Sciences 3-4

Recommended Support Courses
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1
BCH 401G Fundamentals of Biochemistry 3

Required for Major
BIO 150 Principles of Biology I 3
BIO 151 Principles of Biology Laboratory I 2
BIO 152 Principles of Biology II 3
BIO 153 Principles of Biology Laboratory II 2
BIO 325 Ecology 4
BIO 304 Principles of Genetics
or
ABT 360 Genetics 3-4

Upper Level Botany Course
BIO 351 Plant Kingdom
or
BIO 430G Plant Physiology 4

Upper Level Zoology Course
BIO 350 Animal Physiology
(highly recommended) 4
BIO electives (chosen with aid of advisor)

Recommended for Major
BIO 315 Introduction to Cell Biology 4

Chemistry Major for Secondary Education (33 hours)

Required Support Courses
MA 113 Calculus I 4
MA 114 Calculus II 4
PHY 211/213 General Physics 10
or
PHY 231/232 General University Physics
and
PHY 241/242 General University
Physics Laboratory 10
EES 220 Principles of Physical Geology 4
BIO 150 Principles of Biology I 3
BIO 151 Principles of Biology Laboratory I 2

Recommended Support Courses
AST 191 The Solar System 3
MA 213 Calculus III 4

Required for Major
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany
General Chemistry I 1
CHE 113 Laboratory to Accompany
General Chemistry II 2
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1
CHE 226 Analytical Chemistry 3-4
BCH 401G Fundamentals of Biochemistry 3
CHE 440G Introductory Physical Chemistry 4

Recommended Courses in Major
Additional courses selected with aid of advisor.

Earth Science Major for Secondary Education (33 hours)*

Required Support Courses
MA 123 Elementary Calculus and Its Applications
or
MA 113 Calculus I 4
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany
General Chemistry I 1
CHE 113 Laboratory to Accompany
General Chemistry II 2
PHY 211/213 General Physics 10
or
PHY 231/232 General University Physics
and
PHY 241/242 General University
Physics Laboratory 10

BIO 150 Principles of Biology I 3
BIO 151 Principles of Biology Laboratory I 2

Required for Major

AST 191 The Solar System 3

GEO 130 Earth's Physical Environment
or
GEO 230 Weather and Climate 3

EES 220 Principles of Physical Geology 4
EES 230 Fundamentals of Geology I 3
EES 235 Fundamentals of Geology II 3

EES 360 Mineralogy
or
EES 401G Invertebrate Paleobiology and Evolution 3-4

Recommended for Major

The following list contains courses that are normally applied to the major.

AST 192 Stars, Galaxies and the Universe 3
EES 360 Mineralogy (if not taken above) 4
EES 401G Invertebrate Paleobiology and Evolution (if not taken above) 3
EES 341 Landforms 3
PLS 366 Fundamentals of Soil Science 4
Oceanography course (if transferred from another university) 3
Earth Science electives to be selected with the aid of advisor.

**Note: Students should note that earth science is generally taught in Kentucky at the eighth grade level. In many states it is taught at the ninth grade level; therefore, secondary OR middle school certification could be required. You must decide the level of certification that fits your needs. If you plan to teach in Kentucky, you may want to follow either of the following options: 1) obtain science certification through the middle school program or 2) obtain earth science certification through the secondary education program. Currently, the Kentucky Department of Education is allowing secondary science teachers to teach science in the 7th and 8th grades without having middle school certification. The option for secondary certification provides more extensive content preparation in earth science.*

Physics Major for Secondary Education (33 hours)

Required Support Courses

CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2
MA 113 Calculus I 4
MA 114 Calculus II 4
EES 220 Principles of Physical Geology 4
BIO 150 Principles of Biology I 3
BIO 151 Principles of Biology Laboratory I 2

Recommended Support Courses

MA 213 Calculus III 4
*MA 214 Calculus IV 3

**Note mathematics requirements for upper-level physics courses.*

Required for Major

PHY 231/232 General University Physics 5
PHY 241/242 General University Physics Laboratory 5
PHY 361 Principles of Modern Physics 3
PHY electives (chosen with aid of advisor)

Recommended for Major

AST 191 The Solar System
or
*PHY 151 Introduction to Physics 3

AST 192 Stars, Galaxies and the Universe
or
*PHY 152 Introduction to Physics 3

Note: A maximum of 9 hours of astronomy may be counted toward the 33 hour physics requirement. A student may **not count both the AST 191, 192 **and** PHY 151, 152 sequences toward the physics major for secondary education. If PHY 151 and PHY 152 are applied to the major, they must be completed prior to taking the PHY 231, 241, 232, 242 sequence.*

MINOR REQUIREMENTS

A minor in one of the sciences or mathematics is required for Plans 1 of the biological science and physical science certification areas. See plans for details. Students are not certified to teach in a minor area. However, physical science for secondary education majors are certified to teach chemistry, earth science, and physics. All minors for secondary education require a minimum of 21 hours.

Biological Science Minor for Secondary Education (21 hours)

Required Support Courses

CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2

Required for Minor

BIO 150 Principles of Biology I 3
BIO 151 Principles of Biology Laboratory I 2
BIO 152 Principles of Biology II 3
BIO 153 Principles of Biology Laboratory II 2
BIO 325 Ecology 4

BIO 304 Principles of Genetics
or
ABT 360 Genetics 3-4

Recommended for Minor

Additional courses selected with aid of advisor.

Chemistry Minor for Secondary Education

Required for Minor

CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2

Recommended for Minor

CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1

CHE 226 Analytical Chemistry 3-4
or
BCH 401G Fundamentals of Biochemistry 3

Additional courses selected with aid of advisor.

Earth Science Minor for Secondary Education*

Required for Minor

AST 191 The Solar System 3

GEO 130 Earth's Physical Environment
or
GEO 230 Weather and Climate 3

EES 220 Principles of Physical Geology 4
EES 230 Fundamentals of Geology I 3
EES 235 Fundamentals of Geology II 3

EES 360 Mineralogy
or
EES 401G Invertebrate Paleobiology and Evolution 3-4

Recommended for Minor

The following list contains courses that are normally applied to the minor.

AST 192 Stars, Galaxies and the Universe 3
EES 360 Mineralogy (if not taken above) 4
EES 401G Invertebrate Paleobiology and Evolution (if not taken above) 3
EES 341 Landforms 3
PLS 366 Fundamentals of Soil Science 4
Oceanography course (if transferred from another university) 3

Mathematics Minor for Secondary Education

Required for Minor

MA 113 Calculus I 4
MA 114 Calculus II 4
MA 213 Calculus III 4

Recommended for Minor

Additional courses chosen with aid of advisor. In most cases courses will be selected from the following list.

MA 341 Topics in Geometry 3
MA 310 Mathematical Problem Solving for Teachers 3
MA 261 Introduction to Number Theory 3
MA 320 Introductory Probability 3
MA 322 Matrix Algebra and Its Applications 3
MA 330 History of Mathematics 3
MA 214 Calculus IV 3

Physics Minor for Secondary Education

Required Support Course

MA 113 Calculus I 4

Recommended Support Courses

CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2
MA 114 Calculus II 4

Note mathematics requirements for taking upper-level physics courses.

Required for Minor

PHY 211/213 General Physics 10
or
PHY 231/232 General University Physics
and
PHY 241/242 General University Physics Laboratory 10

PHY 361 Principles of Modern Physics 3

Recommended for Minor

AST 191 The Solar System
or
*PHY 151 Introduction to Physics 3

AST 192 Stars, Galaxies and the Universe
or
*PHY 152 Introduction to Physics 3

Note: A maximum of 6 hours of astronomy may be counted toward the 21 hour physics requirement. A student may **not count both the AST 191, 192 **and** PHY 151, 152 sequences toward the minor. If PHY 151 and PHY 152 are applied to the major, they must be completed prior to taking the PHY 231, 241, 232, 242 sequence.*

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120

B.A. in Education with a major in SECONDARY EDUCATION
Option: Social Studies Education

Requirements for Program

This B.A. includes completion of an approved plan in the academic specialty teaching social studies. **No teacher certification is awarded with the B.A.** Students desiring to go on to Master's with Initial Certification must apply to the Graduate School and apply to the Secondary Social Studies Education Program Faculty in the spring of their senior year.

To receive the B.A. degree, students must: (1) complete the UK Core requirements; (2) complete one of the secondary social studies education plans; and (3) complete 100 hours of fieldwork with adolescents through the **required** 3 hour course:

EDC 362 Field Experiences in Secondary Education 3

Following completion of the secondary social studies major, students will demonstrate the following: (1) a reflective understanding of American society, its past and contemporary situation, and its place in the larger world; (2) an ability to apply social science concepts and use inquiry and interpretive skills; (3) a historical perspective; (4) a multicultural and global perspective; and (5) an ability to learn from participation in the community (from local to global) affairs and service. Students should consider experiences such as study abroad and internships in government and social agencies, as well as course work, in preparation for social studies teaching.

Continuous Assessment

1. Because certification occurs through the Masters in Education including certification (MIC), students should be aware that they will need to be formally admitted to the MIC program. Admission/Retention/Completion regulations for all teacher certification programs are specified in the section "Admission, Retention and Completion from Teacher Education Programs".
2. Oral and written communication skills of applicants for the MIC program in social studies education will be assessed at the time of the interview, and through the entrance portfolio.
3. Admission to the Masters in Education with initial certification is competitive; completion of the Bachelors in Secondary Social Studies Education does not guarantee admission to the Masters in Education with certification program.
    a. Students are reminded that they will be teaching about the whole world; somewhere in the 66 hours they should have at least one course about each world region.
    b. Students also need to be prepared to teach U.S. history from an interdisciplinary perspective and a multicultural perspective.
    c. Students need breadth **and** depth. Students are strongly urged to take nine hours in two of the subjects in their support area.

Statement on Student Teaching

There is no student teaching required for completion of the secondary social studies education major. Student teaching occurs as part of the Masters in Education with certification.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

EPE 301 Education in American Culture 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Program Related Studies (3 hours)

EDC 362 Field Experiences in Secondary Education 3

Majors and Minors (66-72 hours)

Students must complete Plan 1 or 2 in history and social sciences for secondary education.

Plan 1
Major in history (36 hours) with a minor (19-21 hours) in anthropology, economics, geography, political science, psychology, or sociology, and a support area (15 hours) which includes one course from each of the social sciences not chosen as minor.

Plan 2
Major (at least 30 hours) in anthropology, economics, geography, political science, psychology, or sociology, with a minor (21 hours) in history and a support area (15 hours) which includes one course from each of the social sciences not chosen as major.

History Major for Secondary Education (36 hours)

Required (18 hours)
HIS 104 A History of Europe Through the Mid-Seventeenth Century 3
HIS 105 A History of Europe From the Mid-Seventeenth Century to the Present 3
HIS 108 History of the United States Through 1876 3
HIS 109 History of the United States Since 1877 3
HIS 301 History Workshop: Introduction to the Study of History 3
HIS 499 Senior Seminar for History Majors (Subtitle required) 3

Twelve of the other 18 credits must be history courses numbered 300 to 599. There must be some chronological diversity, with at least 6 hours of U.S. history above the 100 level and at least 9 hours in history of other regions of the world, which will give the student the broad background necessary to teach World Civilization 18

History Minor for Secondary Education (21 hours)

Required (12 hours)
HIS 104 A History of Europe Through the Mid-Seventeenth Century 3
HIS 105 A History of Europe From the Mid-Seventeenth Century to the Present 3
HIS 108 History of the United States Through 1876 3
HIS 109 History of the United States Since 1877 3

Plus 9 hours which will give students a broad preparation for teaching U.S. History and World Civilization. At least 6 hours should be at the 300 level or above 9

Anthropology Major for Secondary Education (33 hours)

Required (6 hours)
ANT 220 Introduction to Cultural Anthropology 3
ANT 230 Introduction Biological Anthropology 3

Anthropological Theory (9 hours)
ANT 301 History of Anthropological Theory 3
ANT 433 Social Organization 3
One of the following: ANT 338, 429, 430G, 450, 525, 526, 532 3

Research Methodology (3 hours)
ANT 302 Ethnographic Methods: Doing Anthropology 3

Option 1 – Regional Specialization (6 hours)
Two courses from the same culture area, one ethnology and one culture history.
Ethnology courses are: ANT 221, 324, 428G, 431G, 534.
Culture history courses are: ANT 241, 242, 320, 322, 342, 555.

Option 2 – Cross-Cultural Comparison (6 hours)
Two ethnology courses, each representing a contrasting area.
Ethnology courses are: ANT 221, 428G, 431G, 534.

Subdisciplinary Breadth (6 hours)
One course in archaeology and one in physical anthropology.

Senior Tutorial Seminar
ANT 582 Senior Integrative Seminar 3

Anthropology Minor for Secondary Education (21 hours)

Required (6 hours)
ANT 220 Introduction to Cultural Anthropology 3
ANT 230 Introduction to Biological Anthropology 3

Select one course from each of the four areas and one elective (15 hours)

1. Archaeology
ANT 240 Introduction to Archaeology 3
ANT 242 Origins of New World Civilization 3
ANT 320 Andean Civilization 3
ANT 322 Ancient Mexican Civilizations 3

2. Area Studies
ANT 221 Native People of North America 3
ANT 324 Contemporary Latin American Cultures 3
ANT 326 People and Cultures of Sub-Saharan Africa 3
ANT 327 Culture and Societies of India and South Asia 3
ANT 428G Contemporary Cultures and Societies in Southeast Asia 3

3. Physical Anthropology
ANT 332 Human Evolution 3
ANT 333 Contemporary Human Variation 3

4. Social and Cultural Anthropology
ANT 301 History of Anthropological Theory 3
ANT 338 Economic Anthropology 3
ANT 401 Gender Roles in Cross-Cultural Perspective 3
ANT 433 Social Organization 3
ANT 525 Applied Anthropology 3
ANT 526 Psychological Anthropology 3
ANT 532 Anthropology of the State 3

Economics Major for Secondary Education (30 hours)

Required (12 hours)
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3
ECO 401 Intermediate Microeconomic Theory 3
ECO 402 Intermediate Macroeconomic Theory 3

For breadth, select five from the following list and, for depth, ECO 499, Seminar in Economics (Subtitle required) for 3 credits (18 hours)
ECO 412 Monetary Economics 3
ECO 463 Analysis of Business Conditions 3
ECO 465G Comparative Economic Systems 3
ECO 467 American Economic History 3
ECO 471 International Trade 3
ECO 473G Economic Development 3
ECO 477 Labor Economics 3
ECO 479 Public Economics 3
ECO 499 Seminar in Economics (Subtitle required) 3

Economics Minor for Secondary Education (21 hours)

Required (6 hours)
ECO 201 Principles of Economics I 3
ECO 202 Principles of Economics II 3

Select for breadth any five of the courses listed for the major, excluding ECO 401 and 402 (15 hours)

Geography Major for Secondary Education (36 hours)

GEO 130 Earth's Physical Environment 3
GEO 172 Human Geography 3

GEO 152 Regional Geography of the World
or
GEO 160 Lands and Peoples of the Non-Western World 3

GEO 300 Geographic Research 3
GEO 305 Elements of Cartography 3
GEO 310 Quantitative Techniques in Geography 3

For breadth take at least one regional course and one thematic course in geography numbered at the 300 level or above (6 hours)

Core Requirements
Select a minimum of 12 hours of courses within geography numbered at the 200 level or above (12 hours)

Geography Minor for Secondary Education (21 hours)

GEO 130 Earth's Physical Environment 3
GEO 172 Human Geography 3

GEO 152 Regional Geography of the World
or
GEO 160 Lands and Peoples of the Non-Western World 3

GEO 300 Geographic Research
or
GEO 305 Elements of Cartography
or
GEO 310 Quantitative Techniques in Geography 3

Nine additional hours in geography at the 200 level or above (9 hours)

Political Science Major for Secondary Education (30 hours)

Required
PS 101 American Government 3

Select two (6 hours)
PS 210 Introduction to Comparative Politics 3
PS 235 World Politics 3
PS 240 Introduction to Political Theory 3
PS 372 Introduction to Political Analysis 3

Plus a minimum of 21 additional semester hours, of which at least 15 must be at the 300 level or above. In order to expose the student to the various subfields of political science, the combination of courses selected must include at least one course in each of the subfields 1, 2, and 3 below, as well as one course in another subfield (21 hours)

1. Theory and Methodology
PS 240 Introduction to Political Theory 3
PS 372 Introduction to Political Analysis 3
PS 441G Early Political Theory 3
PS 442G Modern Political Theory 3
PS 545 American Political Thought 3

2. Comparative Government
PS 210 Introduction to Comparative Politics 3
PS 411G Comparative Government–Parliamentary Democracies I 3
PS 412G Comparative Government–Parliamentary Democracies II 3
PS 417G Survey of Sub-Saharan Politics 3
PS 419G The Governments and Politics of Eastern Asia 3
PS 427G East European Politics 3
PS 428G Latin American Government and Politics 3
PS 429G Government and Politics in Russia and the Post-Soviet States 3

3. International Relations
PS 235 World Politics 3
PS 431G National Security Policy 3
PS 433G Politics of International Economic Relations 3
PS 436G International Organization 3
PS 437G Dynamics of International Law 3
PS 439G Special Topics in International Relations (Subtitle required) 3
PS 538 Conflict and Cooperation in Latin American Relations 3

4. Political Process
PS 470G American Political Parties 3
PS 472G Political Campaigns and Elections 3
PS 473G Public Opinion 3
PS 474G Political Psychology 3
PS 475G Politics and the Mass Media 3
PS 476G Legislative Process 3
PS 479 Women and Politics 3
PS 480G Government and the Economy 3
PS 484G The American Presidency 3
PS 571 Interest Groups 3

5. Public Administration
PS 489G The Analysis of Public Policy 3
PS 580 The Budgetary Process 3

6. Public Law and Judicial Behavior
PS 461G Civil Liberties 3
PS 463G Judicial Politics 3
PS 465G Constitutional Law 3

7. State and Local Government
PS 456G Appalachian Politics 3
PS 458 American State and Local Government 3
PS 557 Kentucky Government and Politics 3

Note: The subfield designation for PS 391, PS 395, and PS 492 varies with the topic covered. Check with the department for current offerings relevant to social studies.

Political Science Minor for Secondary Education (21 hours)

Required
PS 101 American Government 3

Select two (6 hours)
PS 210 Introduction to Comparative Politics 3
PS 235 World Politics 3
PS 240 Introduction to Political Theory 3
PS 372 Introduction to Political Analysis 3

Twelve additional hours, of which at least 9 must be at the 300 level or above.

Breadth requirement: same as for major; select one course each from subfields listed for the major (12 hours)

Psychology Major for Secondary Education (30 hours)

Required (13 hours)
PSY 100 Introduction to Psychology 4
PSY 313 Personality and Individual Differences 3
PSY 314 Social Psychology and Cultural Processes 3
PSY 333 Abnormal Psychology 3

Select one (3 hours)
PSY 331 The Psychology of Adjustment 3
PSY 448 Applied Social Psychology 3
PSY 449 Interpersonal Processes 3

Select one (4 hours)
PSY 215 Experimental Psychology 4
PSY 430 Research in Personality 4
PSY 440 Research in Social Psychology 4
PSY 460 Processes of Psychological Development 4

The remaining hours are elective (10 hours)

Psychology Minor for Secondary Education (19-20 hours)

The required courses are the same as for the major (13 hours)

Select one (3 hours)
PSY 331 The Psychology of Adjustment 3
PSY 448 Applied Social Psychology 3
PSY 449 Interpersonal Processes 3

Select one (3-4 hours)
PSY 215 Experimental Psychology 4
PSY 311 Learning and Cognition 3
PSY 312 Brain and Behavior 3
PSY 430 Research in Personality 4
PSY 440 Research in Social Psychology 4
PSY 460 Processes of Psychological Development 4

Sociology Major for Secondary Education (30 hours)

Required (6 hours)
SOC 101 Introduction to Sociology 3
One additional SOC course chosen in consultation with your academic advisor 3

Select one (6 hours)
SOC 302 Sociological Research Methods
and
SOC 303 Quantitative Sociological Analysis 6
OR
SOC 304 Classical Sociological Theory
and
SOC 305 Contemporary Sociological Theory 6

Electives 18

At least 6 of the remaining 18 hours must be at the 300 level or higher.

Sociology Minor for Secondary Education (21 hours)

Required (6 hours)
SOC 101 Introduction to Sociology 3
One additional SOC course chosen in consultation with your academic advisor 3

Select one (6 hours)
SOC 302 Sociological Research Methods
and
SOC 303 Quantitative Sociological Analysis 6
OR
SOC 304 Classical Sociological Theory
and
SOC 305 Contemporary Sociological Theory 6

Electives 9

At least 6 of the 9 hours must be at the 300 level or higher.

Electives

Electives for 120 total credit hours chosen with the help of an advisor.

TOTAL HOURS 120

B.S. in Education with a major in STEM EDUCATION

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

Gen Ed courses may overlap with content major requirements. May not overlap with content support courses.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I
or
MA 137 Calculus I With Life Science Applications 4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
EPE 301 Education in American Culture 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 32

Graduation Composition and Communication Requirement (GCCR)

EPE 301 Education in American Culture 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Required STEM Education Core

	Hours
*^SEM 110 Introduction to STEM Education	2
*^EDP 202 Human Development and Learning	3
*EDS 516 Principles of Behavior Management and Instruction	3
*SEM 421 STEM Methods I	3
*SEM 422 STEM Methods II	3
*SEM 423 Assessment in STEM Education	2
*SEM 435 STEM Student Teaching in the Secondary School	10
*^EPE 301 Education in American Culture	3

**Requires field experience hours.*

^Required for TEP Application.

Required STEM Core hours 29

Specialization STEM Content Course Work

Choose your content area below. This will serve as your secondary major. All content courses require a **C** or better and at least a 2.75 GPA.

Chemistry Major

Premajor Requirements	Hours
†^MA 113 Calculus I	4
^MA 114 Calculus II	4
†^CHE 105 General College Chemistry I	4
†^CHE 111 Laboratory to Accompany General Chemistry I	1
^CHE 107 General College Chemistry II	3
^CHE 113 Laboratory to Accompany General Chemistry II	2

Major Requirements
CHE 226 Analytical Chemistry 3
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1
CHE 440G Introductory Physical Chemistry 4
CHE 441 Physical Chemistry Laboratory 2
CHE 372 Communication in Chemistry I 1
CHE 472 Communication in Chemistry II 1

Additional Major Requirements
PHY 211 General Physics 5
PHY 213 General Physics 5

Chemistry Electives
Minimum of 5 hours of upper-division electives 5

Outside Electives
Minimum of 10 hours of 300-500 level courses with a prefix of: ANA, BCH, BIO, CME, CS, EES, MA, MI, MSE, PAT, PGY, PHA, PHR, PHY, PM, RM, or STA. Credit will not be given for both BCH 401G and CHE 550 or CHE 552 10

Chemistry Premajor and Major hours 62

†Eligible to meet a UK Core requirement.

^Required for TEP Application.

Computer Science Major

Leads to Initial Rank III Mathematics (grades 8-12) and endorsement in Computer Science (grades 8-12):

Premajor Requirements	Hours
†^MA 113 Calculus I	4
^MA 114 Calculus II	4
^CS 100 The Computer Science Profession	1
^CS 115 Introduction to Computer Programming	3
^CS 215 Introduction to Program Design, Abstraction, and Problem Solving Techniques	4
CS 216 Introduction to Software Engineering	3
^CS 275 Discrete Mathematics	4
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1

Major Requirements
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
MA 213 Calculus III 4
EE 280 Design of Logic Circuits 3
STA 281 Probability and Statistics Using Interactive Computer Techniques 3
CS 315 Algorithm Design and Analysis 3
CS/MA 321 Introduction to Numerical Methods 3
CS/EE 380 Microcomputer Organization 3

Computer Science Electives

Complete 15 hours of electives, with at least one course from each group below:

at least one of the following courses (3 hours):
CS 316 Web Programming 3
CS 335 Graphics and Multimedia 3
CS 405G Introduction to Database Systems 3

at least one of the following courses (3 hours):
CS 470G Introduction to Operating Systems 3
CS 471G Networking and Distributed Operating Systems 3
CS 441G Compilers for Algorithmic Languages 3
CS 450G Fundamentals of Programming Languages 3

at least one of the following courses (3 hours):
CS 375 Logic and Theory of Computing 3
CS 321 Introduction to Numerical Methods 3
CS 463G Introduction to Artificial Intelligence 3

Additional course needed to gain certification in in Mathematics (grades 8-12):
MA 341 Topics in Geometry 3

Computer Science Premajor and Major hours 67-70

†Eligible to meet a UK Core requirement.

^Required for TEP Application.

Computer Science Endorsement Only (add on to any content major)

Leads to endorsement in Computer Science (grades 8-12):
†MA 113 Calculus I 4
MA 114 Calculus II 4
CS 100 The Computer Science Profession 1
CS 115 Introduction to Computer Programming 3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving Techniques 4
CS 216 Introduction to Software Engineering 3
CS 275 Discrete Mathematics 4
EE 280 Design of Logic Circuits 3
CS 315 Algorithm Design and Analysis 3
CS/EE 380 Microcomputer Organization 3

Computer Science Electives

Complete 15 hours of electives, with at least one course from each group below:

at least one of the following courses (3 hours):
CS 316 Web Programming 3
CS 335 Graphics and Multimedia 3
CS 405G Introduction to Database Systems 3

at least one of the following courses (3 hours):
CS 470G Introduction to Operating Systems 3
CS 471G Networking and Distributed Operating Systems 3
CS 441G Compilers for Algorithmic Languages 3
CS 450G Fundamentals of Programming Languages 3

at least one of the following courses (3 hours):
CS 375 Logic and Theory of Computing 3
CS 321 Introduction to Numerical Methods 3
CS 463G Introduction to Artificial Intelligence 3

Computer Science Endorsement hours 46

†Eligible to meet a UK Core requirement.

Earth Science Major

Hours

†^MA 113 Calculus I 4
^MA 114 Calculus II 4
MA 213 Calculus III 4
†^CHE 105 General College Chemistry I 4
†^CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany General Chemistry II 2
†^PHY 231 General University Physics 4
†^PHY 241 General University Physics Laboratory 1
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
GEO 230 Weather and Climate 3
AST 192 Stars, Galaxies and the Universe 3
†GEO 130 Earth's Physical Environment 3
EES 230 Fundamentals of Geology I 3
EES 235 Fundamentals of Geology II 3
EES 360 Mineralogy 4
EES 401G Invertebrate Paleobiology and Evolution 3

Earth Science Major hours 54

†Eligible to meet a UK Core requirement.

^Required for TEP Application.

Mathematics Major

Mathematics Core Courses

CS 115 Introduction to Computer Programming 3
†^MA 113 Calculus I 4
^MA 114 Calculus II 4
MA 213 Calculus III 4
^MA 261 Introduction to Number Theory 3
MA 322 Matrix Algebra and Its Applications 3

Mathematics Sequence

Choose one. May substitute a different sequence with prior faculty approval (6 hours minimum):
MA 351 Elementary Topology I 3
and
MA 352 Elementary Topology Algebra II 3
OR
MA 361 Elementary Modern Algebra I 3
and
MA 362 Elementary Modern Algebra II 3
OR
MA 471G Advanced Calculus I 3
and
MA 472G Advanced Calculus II 3

Required Mathematics Electives

Courses at the 300 level or above with exception of MA 241; 12 hours minimum:
MA 310 Mathematical Problem Solving for Teachers ... 3
MA/STA 320 Introductory Probability 3
MA 330 History of Mathematics 3
MA 341 Topics in Geometry 3

Optional Courses

MA 214 Calculus IV (recommended for AP Calculus) 3
MA 471G Advanced Calculus I (recommended for MA/MS in Mathematics) 3

Mathematics Major hours 39

†Eligible to meet a UK Core requirement.

^Required for TEP Application.

Physics Major

†^CHE 105 General College Chemistry I 4
†^CHE 107 General College Chemistry II 3
^PHY 231 General University Physics 4
PHY 232 General University Physics 4
PHY 228 Optics, Relativity and Thermal Physics 3
PHY 306 Theoretical Methods of Physics 3
PHY 335 Data Analysis for Physicists 1
PHY 361 Principles of Modern Physics 3
PHY 401G Special Topics in Physics and Astronomy for Elementary, Middle School and High School Teachers 3
PHY 460G Hands-On Physics for Middle School and High School Teachers (taken twice for a total of 4 hours) 4
AST 310 Topics in Astronomy and Astrophysics (Subtitle required) 3
†^MA 113 Calculus I 4
^MA 114 Calculus II 4
MA 213 Calculus III 4

Physics Major hours 47

†Eligible to meet a UK Core requirement.

^Required for TEP Application.

Free Elective

Select 3 hours of your choice. You may not double count these courses with your major content course requirements or UK Core requirements or your STEM content support courses. All courses should be approved by advisor prior to taking.

STEM Content Support Courses

Take up to 120 hours required for graduation. Select from each area of interest – **you must choose at least 3 hours from Engineering unless you are a computer science major**. You may not double count these courses with your major content course requirements or UK Core requirements. **This list is not inclusive**. All courses should be approved by advisor prior to taking. SEM 575 is required for mathematics and computer science majors. It is highly encouraged for other majors.

Mathematics/Statistics

FIN 350 Personal Investing and Financial Planning 3
STA 291 Statistical Methods 3
STA 281 Probability and Statistics Using Interactive Computer Techniques 3
STA 292 Descriptive Statistics 1
MA 501/502 Seminar in Selected Topics 3
OR/STA 524 Probability 3
EDC/EDP/EPE 522 Psychological and Educational Tests and Measurements 3
SEM 575 See Blue Mathematics Clinic (required for Math Certification) 3

Engineering

**ME 599 Topics in Mechanical Engineering (Subtitle required) 3
EGR 101 Introduction to Engineering 4
**EGR 199 Topics in Engineering: Title to Be Assigned 3
**EGR 199 Topics in Engineering: Title to Be Assigned 3

Technology

CS 115 Introduction to Computer Programming 3
MAS 201 Communication Technologies and Society 3
INF 401G Informatics Fundamentals 3
EDC 543 Digital Game Based Learning and Instruction 3
EDC 544 Use and Integration of Instructional Media 3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving 4
CS 221 First Course in Computer Science for Engineers 2
CS 316 Web Programming 3

Science

CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1
BIO 150 Principles of Biology I 3
BIO 151 Principles of Biology Laboratory I 2
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
EES 220 Principles of Physical Geology 4

***The subtitle for this course must directly relate to STEM content. Check with your advisor for verification **prior** to taking the course.*

Minimum 120 credit hours required for graduation and Rank III certification.

TOTAL HOURS 120

Undergraduate Certificate in Leadership Studies

The Undergraduate Certificate in Leadership Studies will allow students to demonstrate their preparedness to lead, live, and work in an interconnected and interdependent global community. Students will improve their understanding of leadership and develop the skills needed to lead in their particular field through a series of courses designed to provide a rich leadership focus.

The modern workplace demands employees who understand the foundations of leadership, can navigate organizational change, value community leadership and relationships, and who embrace ethics, diversity, and an international understanding. Students who participate in this Undergraduate Certificate in Leadership Studies will master these skills and benefit from an additional degree credential, that alongside with their major(s) and/or minor(s) demonstrates their dedication to and experiences with leadership.

The structure of the Undergraduate Certificate in Leadership Studies offers a coherently planned academic core for students who otherwise might take very few courses that have an explicit focus on leadership. The core of the Certificate consists of four distinct pillars that are complimentary to a variety or existing undergraduate programs and are reflected throughout the content of course work in the following ways:

- Understanding core concepts about leadership
- Fostering team and organizational leadership
- Embracing community leadership
- Focusing on intercultural communication skills

Leadership Studies Program of Study

The program consists of 18 credits of undergraduate study in leadership. Students will take one course from each of the four pillars and two additional elective leadership courses.

Leadership Foundations (3 credits)
CLD/EDL 402 Principles of Leadership 3
CLD 230 Intrapersonal Leadership 3

Organizational Change (3 credits)
EDL 571 Design Thinking in Education 3
CLD 530 Fundamentals of Organizational Leadership 3

Community Leadership and Relationships (3 credits)
CLD 430 Leading in Communities: Vision, Action, and Change 3
CLD/EDL 404 Contemporary Leadership Applications 3
CLD 260 Community Portraits 3
CLD 330 Interpersonal Skills for Tomorrow's Leaders 3

Ethics, Diversity, and International Understanding (3 credits)
CLD 470 Topics in Leadership (Subtitle required) 3
CLD/EDL 403 Leadership and Communication 3
Any university-approved study abroad experience

Electives (6 credits)
Any course in the above pillars not already counted

Any approved study abroad experience (can only count 3 credits for certificate)

Approved courses include but are not limited to:
AMS 301 Leadership and Management I 3
AMS 341 Leadership and Management II 3
AMS 395 Independent Study in Leadership 1-2
COM 252 Introduction to Interpersonal Communication 3
COM 281 Communication in Small Groups 3
COM 325 Introduction to Organizational Communication 3
MGT 410 Analysis of Organizational Behavior 3
MGT 320 Survey of Human Resource Management 3
*UK 100 University Course (Title to be assigned) 1-3

**To be taken only when subtitle is Emerging Leadership Institute.*

Other Vital Elements
At least 12 credit hours must be taken for a letter grade

At least 12 credits at 200-level or above and a minimum of 6 credit hours at 300-level or above

Students must earn a **C** or better in each required certificate course

At least one course needs to be taken in the sister discipline (EDL or CLD)

No more than 9 credits in the certificate are used to satisfy requirements for the student's bachelor's degree, minor, or another certificate (exclusive of free or unrestricted electives)

For questions regarding this program, contact Program Director Dr. Jayson W. Richardson at **jayson.richardson@uky.edu**, or (859) 379-9097.

DEGREE PROGRAMS OUTSIDE THE COLLEGE OF EDUCATION

B.A. with a major in
ART EDUCATION

The requirements for K-12 Art Education are listed in the *Fine Arts* section of this Bulletin.

COMMUNICATION SCIENCES AND DISORDERS

The undergraduate and graduate programs in communication sciences and disorders are now part of the Division of Communication Sciences and Disorders in the College of Health Sciences. Prospective students should refer to the *Health Sciences* section of this Bulletin.

B.M.M.E. with a major in
MUSIC EDUCATION

The requirements for K-12 Music Education are listed in the *Fine Arts* section of this Bulletin.

College of Engineering

John Y. Walz, Ph.D., is Dean of the College of Engineering; Kimberly Ward Anderson, Ph.D., is Associate Dean for Administration and Academic Affairs; David A. Puleo, Ph.D., is Associate Dean for Research and Graduate Studies; Kamyar Mahboub, Ph.D., P.E., is Associate Dean for Outreach and External Partnerships.

The College of Engineering offers programs leading to undergraduate and graduate degrees in computer science and/or the following engineering disciplines – biosystems, chemical, civil, computer, electrical, materials, mechanical, and mining. Graduate training in biomedical engineering is also offered through the College of Engineering. The College also offers a highly multidisciplinary master of science in manufacturing systems engineering to address the growing need for enhancing manufacturing productivity and quality.

Creative accomplishment in the career of an engineer or computer scientist depends upon an education that stresses major ideas and fundamental concepts of engineering rather than specific technologies. The academic programs in engineering provide a sound background in the mathematical, physical and engineering sciences blended with the social sciences and humanities to ensure both a thorough education in engineering and a liberal education. Such an approach provides the best preparation for the engineer or computer scientist who must envisage and develop the technologies of the future and deal with scientific advances at present unknown.

The various curricula in the College of Engineering are broad, so that no student is limited to a narrow field of specialized knowledge but receives sufficient technical depth to provide a sound preparation for a professional career.

The first engineering degree from the University of Kentucky was granted in 1890. Since that time over 21,000 degrees have been awarded in the various fields of engineering. Among the alumni of the College of Engineering are those who have distinguished themselves in the major fields of industry, government and education.

Concern for the individual is a most important feature of education in the College of Engineering. Close faculty-student relationships are necessarily a meaningful part of the educational process. The faculty, in addition to their duties related to instruction and research, serve as advisors to the student in the preparation of the academic program best matched to the student's needs and intellectual capabilities.

Accreditation and Program Assessment

The undergraduate program in Computer Science is accredited by the Computing Accreditation Commission of ABET, **www.abet.org**

The undergraduate programs in Biosystems Engineering, Chemical Engineering, Civil Engineering, Computer Engineering, Electrical Engineering, Materials Engineering, Mechanical Engineering and Mining Engineering are accredited by the Engineering Accreditation Commission of ABET, **www.abet.org**

In addition, the University of Kentucky is accredited by the Southern Association of Colleges and Schools (SACS), and therefore all degree programs and certificates including those in the College of Engineering are governed by the rules associated with that accrediting body. All programs are assessed periodically based on achievement of their self-proclaimed student learning outcomes and the results are used in the improvement of those programs and certificates.

Undergraduate Certificate in Engineering

The University of Kentucky grants the following undergraduate certificate in the College of Engineering:

- Power and Energy

Information and requirements for this certificate are listed after the Bachelor of Science in Electrical Engineering.

Undergraduate Programs in Engineering

The University of Kentucky grants the following degrees in the College of Engineering:

- Bachelor of Science in Biosystems Engineering
- Bachelor of Science in Chemical Engineering
- Bachelor of Science in Civil Engineering
- Bachelor of Science in Computer Engineering
- Bachelor of Science in Computer Science
- Bachelor of Science in Electrical Engineering
- Bachelor of Science in Materials Engineering
- Bachelor of Science in Mechanical Engineering
- Bachelor of Science in Mining Engineering

While these are the official degrees granted at the bachelor's level in the college, the prospective student is encouraged to study the wide variety of options available through technical electives, some of which are listed following the degree requirements of each department. Technical electives are included in each curriculum to allow the student to apply the fundamentals of a particular discipline to an area of special interest during the senior year.

Students in any department interested in biomedical engineering may make special arrangements to include a limited amount of such studies in the undergraduate program. The Department of Biosystems and Agricultural Engineering and the Department of Biomedical Engineering have approved an optional program in pre-biomedical engineering. Biomedical engineering is primarily the application of engineering principles to the solution of medical problems.

The Department of Chemical and Materials Engineering has approved an optional program in pre-medicine for chemical engineering majors. Students majoring in chemical engineering may arrange through their advisor to take courses that will satisfy the requirements for this program.

In response to industry requests, the College of Engineering and the Gatton College of Business and Economics have joined to offer a coordinated Bachelor of Science in Engineering and Masters of Business Administration. The MBA will be taken during a student's fifth year of study beginning in the summer and finishing the following spring semester. In addition, students in the program will be required to complete a study abroad program designed specifically for the engineering/business student. This program will be conducted immediately upon completion of the MBA course requirements and the majority of costs will be paid by the program. Students earning a 3.25 or better GPA and having completed their junior year will be identified and will receive a letter asking them to apply for the program. Admission is highly competitive and is limited based upon the financial resources available. Selection is based on past academic performance, communication skills, and commitment to the program.

For engineering students interested in manufacturing, the University offers a dual-degree program. This program allows students pursuing a B.S. in Electrical Engineering or Mechanical Engineering to concurrently enroll in the M.S. in Manufacturing Systems Engineering. The BSEE/MSMSE or BSME/MSMSE dual-degree programs can be completed in five years. Students in

the program are strongly encouraged to be Co-op students or to do industry internships to supplement their course work with industry experience. During their junior year, students should apply to the Graduate School for admittance into the dual-degree program.

Graduate programs in the engineering fields of study are listed in *The Graduate School* section of this Bulletin.

ADMISSION POLICY

The minimum entry requirement for admission into the College of Engineering is:

- ACT math score of 23 or higher, or the SAT equivalent.

Additionally, students must meet the minimum Kentucky statewide academic readiness requirements for Reading and Writing to be admitted to the College of Engineering:

- Reading: Students must have an ACT Reading subscore of 20 or above (or SAT subscore of 470 or above in Critical Reading);
- English/Writing: Students must have an ACT English subscore of 18 or above (or SAT of 430 or above in Writing).

Four alternative admission routes include:

1. 3 or above on the Calculus AB portion of the Advanced Placement Exam;
2. Eligibility to enter MA 110 based on the UK Math Department Placement Exam;
3. Completion of *or* the equivalent of MA 110 with a grade of **C** or higher;
4. Completion of *or* the equivalent of MA 109 and MA 112 with a grade of **C** or higher.

International Students

Freshmen:

International freshman applicants must have both the minimum ACT/SAT scores, and must obtain a Test of English as a Foreign Language (TOEFL) score of 100 or above with no subscore under 20; *or* an International English Language Testing System (IELTS) score of 7.5 with no subscore under 6.0.

Transfer:

In addition to the alternative routes listed above, international transfer applicants must obtain a Test of English as a Foreign Language (TOEFL) score of 71 or above; an International English Language Testing System (IELTS) score of 6.0; or completion of the first and second English composition classes (e.g., ENG 101 and 102) from another US college, i.e., institution upon review. Students who successfully complete UK's English as a Second Language (ESL) program must retake the TOEFL and earn a minimum score of 71, or the IELTS and earn a score of 6.0.

Newly admitted pre-engineering or pre-computer science students are allowed to choose an open major for one semester (12 credit minimum) called Undeclared Engineering. All students must select a program before the end of their first semester, preferably when they register for classes for their second semester.

Application must be made for admission to a specific pre-engineering program. However, subsequent transfer between programs will be permitted and may be accomplished by applying and satisfying the appropriate specified criteria.

All undergraduate degree programs are divided into pre-engineering and engineering. Pre-engineering is broadly defined as the first two years of a program, while engineering is broadly defined as the last two years of the program. Every student must be admitted to engineering standing in a specific program prior to graduation.

Engineering Standing Admission

Admission to engineering standing in a degree program is necessary in order to be granted a baccalaureate degree in engineering or computer science. Specific departmental requirements for admission to engineering standing are noted below. The same criteria are applied to transfer students with the equivalence of courses determined by the Director of Undergraduate Studies. A student must apply to the specific department for admission to engineering standing. **Note:** The cumulative grade-point average includes all listed college-level work taken at the University of Kentucky or elsewhere.

Students can request qualification for engineering standing after completing the required set of standing courses in the first three semesters of the published curriculum in their chosen program. Each program can specify its engineering standing requirements, but no program may specify a GPA higher than 2.50 for engineering standing.

Requirements by a program for engineering standing may include many items, such as courses counted in the first three semesters, repeat options allowed, number of applications for engineering standing allowed, restrictions on taking upper-level courses, minimum course grades, etc. A student should refer to the UK *Bulletin* and the undergraduate advisor in their program of choice to identify the specific requirements.

Biosystems Engineering: Completion of a minimum of 35 semester hours acceptable towards the degree in biosystems engineering with a minimum cumulative grade-point average of 2.50. Completion of CIS/WRD 110, MA 113, MA 114, MA 213, CHE 105 and PHY 231 with a minimum cumulative GPA of 2.5 in these courses. University repeat options may be utilized as appropriate. Students who do not meet these GPA requirements may request consideration based upon departmental review if both of these GPA values are 2.25 or greater.

Chemical Engineering: Completion of CHE 105, CHE 107, CHE 111, CHE 113, MA 113, MA 114, MA 213, PHY 231, PHY 241, CIS/WRD 110 with a minimum cumulative grade-point average of 2.50 in these courses. Completion of CME 200 with a grade of **C** or better. University repeat options may be applied as appropriate.

Civil Engineering: Completion of CE 106, CE 120, CE 211, CHE 105, CHE 107, EM 221, WRD 110, MA 113, MA 114, MA 213, PHY 231, PHY 241 with a minimum cumulative grade-point average (GPA) of 2.50 in these classes and a **C** or better in each of them as well as 45 or more semester credit hours. University repeat options may be utilized. Students who do not meet this GPA requirement may request consideration based upon departmental review if this core GPA is 2.25 or greater. Students are limited to two applications for engineering standing.

Computer Engineering: Completion of a minimum of 35 semester hours acceptable towards the degree in engineering with a minimum cumulative grade-point average of 2.50. Completion of MA 113, MA 114, MA 213, PHY 231, CHE 105, and CIS/WRD 110 with a minimum cumulative GPA of 2.50 in these courses. Completion of EE 211, EE 280, CS 115 and CS 215 with a minimum cumulative GPA of 2.50 in these courses. University repeat options may be utilized as appropriate. In addition, the Electrical and Computer Engineering Department will not permit a third admission into any of these courses. Students who do not meet these GPA requirements may request consideration based upon departmental review if the first two GPAs are 2.25 or greater and they receive a **C** or better in EE 211, EE 280, CS 115 and CS 215.

Computer Science: Completion of the following courses with a grade-point average of at least 2.50: CS 100, CS 115, CS 215, CS 275, CIS/WRD 110, MA 113, MA 114, PHY 231, PHY 241.

Electrical Engineering: Completion of a minimum of 35 semester hours acceptable towards the degree in engineering with a minimum cumulative grade-point average of 2.50. Completion of MA 113, MA 114, MA 213, PHY 231, CHE 105, and CIS/WRD 110 with a minimum cumulative GPA of 2.50 in these courses. Completion of EE 211 and EE 280 with passing grades. University repeat options may be utilized as appropriate. In addition, the Electrical and Computer Engineering Department will not permit a third admission into any of these courses. Students who do not meet these GPA requirements may request consideration based upon departmental review if the first two GPAs are 2.25 or greater and they receive a **C** or better in both EE 211 and EE 280.

Materials Engineering: Completion of CHE 105, CHE 107, CHE 111, CHE 113, MA 113, MA 114, MA 213, PHY 231, PHY 241, CIS/WRD 110 with a minimum cumulative grade-point average of 2.50 in these courses. Completion of MSE 201 with a grade of **C** or better. University repeat options may be applied as appropriate.

Mechanical Engineering: Mechanical Engineering students must have completed at least 35 semester credit hours applicable to the degree program with a minimum cumulative GPA of

2.50. In addition, completion of ME 101, CIS/WRD 110 and CIS/WRD 111 (or transfer equivalent courses), CHE 105, MA 113, MA 114, MA 213, PHY 231 and PHY 241 with a minimum cumulative GPA of 2.50 in these courses.

A student may exercise one of his/her official University repeat options to improve this grade-point average. Written request, for exception to the allowed number of repeats, should be submitted to the Director of Undergraduate Studies. In no case will there be an exception made to the minimum acceptable grade-point averages listed above. Transfer students who have received more than 35 hours transfer credit in the degree program will be considered without the inclusion of ME 101.

Mining Engineering: Completion of a minimum of 36 semester hours acceptable towards the degree in mining engineering with a minimum cumulative grade-point average of 2.50. Completion of CIS/WRD 110, MA 113, MA 114, MA 213, CHE 105 and PHY 231 with a minimum cumulative GPA of 2.50 in these courses. University repeat options may be utilized as appropriate. Students who do not meet these GPA requirements may request consideration based upon departmental review if both of these GPA values are 2.25 or greater.

COMBINED DEGREE PROGRAM

The College of Engineering has transfer agreements with several institutions throughout the state. Some of these institutions offer a "3/2" year dual degree program. Other academic institutions choose to offer this option to their students without benefit of a formal agreement. These programs enable students to enroll in a pre-engineering curriculum for the first three years at their respective schools and then transfer to the College of Engineering for the final two years. Upon completion, they receive two degrees, one from the school at which they originally enrolled and the other a Bachelor of Science in the appropriate field of engineering from the University of Kentucky.

COOPERATIVE EDUCATION PROGRAM

The nationally recognized engineering co-op program provides students the opportunity to gain practical work experience before graduation. By alternating semesters of academic study with semesters of paid, full-time career-related employment, participants gain a full year of engineering work experience. Students who wish to participate in the Cooperative Education program in the College of Engineering should contact the Engineering Career Development Office or its co-op coordinator.

To be eligible for this program, students should have a minimum grade-point average of 2.50. In addition, students should be making sufficient progress in their curriculum prior to the first work tour, which should begin after the sophomore year has been completed. Students will remain on a full-time, continuing student status while they are at work by registering for a one hour, pass/fail course. The grade, assigned by the co-op coordinator, is based on both a work report written by the student and an evaluation completed by the immediate supervisor. In some states, co-op experience counts towards the practical experience requirement to sit for the Professional Engineer Exam.

The Cooperative Education program contributes significantly to the student's academic motivation, career preparation, and success with job offers upon graduation. About a quarter of our graduates obtain co-op experience before graduation, and about 100 employers nationwide participate in the UK Engineering Co-op Program.

CONTINUING EDUCATION AND EXTENSION

The College of Engineering recognizes the rapid changes occurring in modern engineering technology. Students in engineering are made aware of the need to continue their studies after graduation. One of the ways to keep abreast of advances in engineering is for graduates and other engineering practitioners to participate in continuing education programs now available through the engineering colleges throughout the country.

The responsibilities of the Technology Exchange Program within the Kentucky Transportation Center, the Lean Manufacturing Program within the Institute of Research for Technology Development at the University of Kentucky and the staff of the former Office for Informational Services and Technical Liaison (OISTL), now administratively housed in the Department of Mining Engineering, are to:

1. create and manage appropriate intensive noncredit technical courses of interest to and needed by practicing engineers;
2. develop appropriate video-based courses and materials to be of interest to practicing engineers. Such activity includes taping, live satellite uplinking, and two-way video/audio of engineering-related courses and activities, Web-based instruction; and,
3. provide assistance in extension activities with other college and University units to be of assistance to engineers throughout the state.

SCHOLARSHIPS

The College of Engineering awards merit-based scholarships to incoming freshman and transfer students as well as to students already enrolled in the College. Freshman scholarship applications are due January 15; transfer scholarship applications are due April 15 for students incoming in the fall, and November 15 for students incoming in the spring; and continuing student applications are due April 15. Awards are made for the upcoming academic year; no new awards are made for the spring semester for freshmen and continuing students.

For further information, visit **www.engr.uky.edu/scholarships**

ENGINEERING DEAN'S LIST

Students enrolled in the College of Engineering can make the Engineering Dean's List for a fall or spring semester by meeting the following requirements during the semester:

- 3.6 or better semester GPA;
- 12 or more credit hours;
- no **E**, **I** or **F** grades;
- no grades out; and
- no more than 3 hours pass/fail.

MINIMUM REQUIREMENTS FOR GRADUATION

NOTE: The following graduation requirements apply to engineering programs only. Separate graduation requirements currently apply to the Computer Science program as described in the corresponding section.

To be awarded a Bachelor of Science degree in any field of engineering, a student must:

1. complete the University and College requirements relating to writing and the UK Core.
2. complete a minimum of 128 hours, exclusive of those earned in freshman college algebra and freshman college trigonometry, with a cumulative standing of not less than 2.0 on a 4.0 scale. In all departments the course requirements exceed this 128 hour minimum.
3. be admitted to engineering standing in an engineering program for at least the final semester, and complete the requirements of that program.
4. complete a minimum of 24 credit hours of departmental courses at or above the 300 level.
5. complete all departmental courses and technical electives with a cumulative standing of 2.0 or higher.
6. complete any additional departmental graduation requirements that may be listed below.

Additional Departmental Graduation Requirements

In the B.S. program in Civil Engineering, the student must earn a **C** or better in each CE prefix course, except that a maximum of one **D** is permitted in a CE prefix course numbered 400 or higher. In addition, a **C** or better must be earned in EM 221 and EM 302.

In the Mining Engineering Department, the student must have earned a grade of **C** or better in the following courses that are valuable for safe

operation of mines: MNG 341, Mine Ventilation; MNG 551, Rock Mechanics; MNG 591, Mine Design Project I; and MNG 592, Mine Design Project II.

Second Bachelor's Degree Requirements

A student who has earned a bachelor's degree in the College of Engineering may earn a second bachelor's degree by meeting the following three conditions on the work applicable to the second degree:

1. The student must have been admitted to engineering standing in the program leading to the second degree at least for the final semester, or equivalent terms, prior to the completion of the degree requirements, and must be enrolled as a student in that degree program during the final semester or term.
2. The student must complete a minimum of 15 credit hours of departmentally approved courses at or above the 300 level.
3. To earn a second degree, a student must complete all degree requirements in that program.

ACADEMIC ADVISING

Sophomores, juniors, and seniors are advised jointly by faculty and professional staff in the department of the student's major. Professional staff provide academic advising and support services to entering freshman students through the Freshman Advising Center.

It is the students' responsibility to satisfy University and College requirements with consultation from their advisor.

PROBATION AND ACADEMIC SUSPENSION

Students should refer to the *Academic Requirements* section of this Bulletin for information concerning the College of Engineering's probation and academic suspension rules.

Minor in Biomedical Engineering

NOTE: At the time of publication, the minor in Biomedical Engineering had been approved by the Senate and was awaiting approval by the UK Board of Trustees.

The minor in Biomedical Engineering requires: a) a minimum of 18 hours of course work; b) a GPA of 2.5 in these courses; and c) no grade lower than a C in any BME course. At the discretion of the BME department chair (or designee), a limited number of equivalent course substitutions (i.e., 6 credit hours) may count toward the requirements for this minor. At least 12 credits must have the BME prefix.

Required Course

BME 301 Fundamentals of Biomedical Engineering 3

Elective Courses

*Select five from among the following:

BME 395 Independent Research in Biomedical Engineering 1-6
BME 405 Introduction to Biomedical Signal Processing 3
BME 472 Human Biomechanics 3
BME 485 Fundamentals of Biofluid Mechanics 3
BME 488 Introduction to Biomaterials 3
BME 508 Cell Mechanics and Mechanobiology 3
BME 515 Modeling of Physiological Systems 3
BME 530 Biomedical Instrumentation 3
BME 540 Mechanical Modeling of Human Motion 3
BME 579 Neural Engineering: Merging Engineering with Neuroscience 3
BME 580 Introduction to Biomedical Imaging 3
BME 481G Topics in Biomedical Engineering 3
BME 599 Topics in Biomedical Engineering (Subtitle required) 3

**Up to 6 credit hours of independent research (e.g., BME 395) or special topics courses (e.g., BME 481G or BME 599) may count as electives.*

BACHELOR OF SCIENCE IN BIOSYSTEMS ENGINEERING

Biosystems engineering provides an essential link between the biological sciences and the engineering profession. This linkage is essential for the development of production and processing systems involving biological materials that preserve our natural resource base. Students have the latitude to develop an area of specialization relating to bioenvironmental engineering, food and bioprocessing, machine systems, or controlled environment engineering. The curriculum is also ideal preparation for those students wanting to pursue a graduate or professional degree in biomedical engineering or veterinary medicine through pre-biomedical engineering and pre-veterinary medicine options.

Engineers completing this program of study find employment in industries related to the production and processing of biological products. Opportunities include placement with manufacturers, consulting firms, or state and federal regulatory agencies. Biosystems engineers may work in the areas of biomedical/biotechnology engineering; environmental engineering; agricultural equipment; heating, ventilation and refrigeration equipment; food processing industries; livestock equipment and housing or greenhouse structures; and bioenergy.

The program educational objectives of the biosystems engineering program are based on the intellectual and professional development of our students. Graduates of the biosystems engineering program are expected within a few years of graduation to have:

- Established themselves as practicing professionals or engaged in advanced study in agricultural, biological, or environmental engineering or related area.
- Demonstrated their ability to work successfully as a responsible professional and function effectively on a professional team.

Degree Requirements

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
BAE 402 Biosystems Engineering Design I 2
BAE 403 Biosystems Engineering Design II 2

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
BAE 202 Statistical Inferences for Biosystems Engineering 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 34

Graduation Composition and Communication Requirement (GCCR)

WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

CIS/WRD 110 Composition and Communication I 3
CIS/WRD 111 Composition and Communication II 3
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
MA 113 Calculus I 4
MA 114 Calculus II 4
MA 213 Calculus III 4
MA 214 Calculus IV 3
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
CS 221 First Course in Computer Science for Engineers 2
EM 221 Statics 3

Subtotal: Premajor hours 43

Major Requirements — Hours

BAE 102 Introduction to Biosystems Engineering 1
BAE 103 Energy in Biological Systems 2
BAE 201 Economic Analysis for Biosystems 2
BAE 202 Statistical Inferences for Biosystems Engineering 3
BAE 305 DC Circuits and Microelectronics 3
BAE 400 Senior Seminar 1
BAE 402 Biosystems Engineering Design I 2

BAE 403 Biosystems Engineering Design II 2
BIO 148 Introductory Biology I 3
BIO 152 Principles of Biology II 3
CE 106 Computer Graphics and Communication 3
CE 341 Introduction to Fluid Mechanics 4
EE 305 Electrical Circuits and Electronics 3
EM 302 Mechanics of Deformable Solids 3
EM 313 Dynamics 3
ME 220 Engineering Thermodynamics 3
ME 325 Elements of Heat Transfer 3
ME 340 Introduction of Mechanical Systems 3

Subtotal: Major hours 47

Electives

Biological Science Elective 3
Supporting Elective 3

Core Electives (choose 3 of the following 4 courses)
BAE 417 Design of Machine Systems 3
BAE 427 Structures and Environment Engineering 3
BAE 437 Land and Water Resources Engineering 3
BAE 447 Bioprocess Engineering Fundamentals 3

Technical Electives (chosen by the student and leading to a concentration in one area of study) 12

Subtotal: Electives 27

TOTAL HOURS 129

Curriculum

The following curriculum meets the requirements for a B.S. in biosystems engineering, provided the student satisfies the graduation requirements listed earlier.

Freshman Year

First Semester **Hours**
BAE 102 Introduction to Biosystems Engineering 1
CHE 105 General College Chemistry I 4
CIS/WRD 110 Composition and Communication I 3
MA 113 Calculus I 4
UK Core 3

Second Semester
BAE 103 Energy in Biological Systems 2
CHE 107 General College Chemistry II 3
MA 114 Calculus II 4
CE 106 Computer Graphics and Communication 3
CIS/WRD 111 Composition and Communication II 3

Sophomore Year

First Semester **Hours**
BAE 201 Economic Analysis for Biosystems 2
BIO 148 Introductory Biology I 3
MA 213 Calculus III 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
CS 221 First Course in Computer Science for Engineers 2

Second Semester
BAE 202 Statistical Inferences for Biosystems Engineering 3
MA 214 Calculus IV 3
ME 220 Engineering Thermodynamics I 3
EM 221 Statics 3
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1

Junior Year

First Semester **Hours**
CE 341 Introduction to Fluid Mechanics 4
EE 305 Electrical Circuits and Electronics 3
EM 302 Mechanics of Deformable Solids 3
BIO 152 Principles of Biology II 3
Technical Elective** 3

Second Semester
ME 325 Elements of Heat Transfer 3
BAE 305 DC Circuits and Microelectronics 3
EM 313 Dynamics 3
Biological Science Elective 3
Core* or Technical Elective** 3
UK Core 3

Senior Year

First Semester **Hours**
BAE 402 Biosystems Engineering Design I 2
BAE 400 Senior Seminar 1
Core* or Technical Electives** 9
UK Core 3

Second Semester
BAE 403 Biosystems Engineering Design II 2
ME 340 Introduction to Mechanical Systems 3
Core* or Technical Electives** 6
Supporting Elective† 3
UK Core 3

**A minimum of 9 hours are required from the biosystems engineering core courses: BAE 417 Design of Machine Systems, BAE 427 Structures and Environment Engineering, BAE 437 Land and Water Resources Engineering, and BAE 447 Bioprocess Engineering Fundamentals.*

***A minimum of 12 hours are to be taken in addition to the 9 core hours selected by the student. The technical electives allow the student an opportunity to concentrate or gain depth in one or more of the various specialty areas of biosystems engineering. The technical electives must be selected from the courses listed below and approved by the student's academic advisor. Other courses may be considered, each on its individual merit.*

***Approved technical electives:** BAE 435G, 438G, 450, 503, 504, 505, 506, 515, 517, 532, 536, 537, 538, 541, 549, 580, 599; BCH 401G; BME 301, 481G, 488, 501, 530, 599; CE 211, 351, 451, 461G, 471G, 525, 551; CHE 230, 236; CME 599; EE 402G; FSC 434G, 530, 536, 538; ME 321, 344, 440, 501, 503, 513, 532; PGY 412G; NRE 556; GEO 451G; EES 530, 585; EGR 599.*

†Supporting electives are any University course excluding more elementary versions of required courses such as pre-calculus math or PHY 211.

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

A foundation in mathematics, chemistry, and physics is required for the study of chemical engineering. Fundamental principles related to the transformation of matter and energy are developed in subjects including thermodynamics, fluid flow, separations, heat and mass transfer, reactor design, and chemical process design. Undergraduate electives are available in biopharmaceutical engineering, energy and fuels, environmental engineering, and materials engineering and nanotechnology. A program is also available to fulfill pre-medical requirements simultaneously with requirements for the B.S. in chemical engineering.

The educational objectives of the chemical engineering undergraduate program are as follows:

- Produce graduates who are successful in chemical engineering practice and/or academic pursuits.
- Produce graduates who function independently and in teams to carry out in-depth solution strategies to chemical engineering problems.
- Produce graduates who continue to advance in their careers and participate in professional development activities.

Degree Requirements

The following curriculum meets requirements for the B.S. in chemical engineering, provided the student satisfies the graduation requirements listed earlier.

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
CME 455 Chemical Engineering Process Design I 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements

Premajor Requirements **Hours**
CIS/WRD 110 Composition and Communication I 3
CIS/WRD 111 Composition and Communication II 3
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2
CME 200 Process Principles 3
MA 113 Calculus I 4
MA 114 Calculus II 4
MA 213 Calculus III 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

Subtotal: Premajor Requirements: 36

Major Requirements	Hours
CME 101 Introduction to Chemical Engineering	1
CHE 230 Organic Chemistry I	3
CHE 231 Organic Chemistry Laboratory I	1
CHE 232 Organic Chemistry II	3
CHE 446G Physical Chemistry for Engineers	3
MA 214 Calculus IV	3
PHY 232 General University Physics	4
MSE 201 Materials Science	3
CME 220 Computational Tools in Chemical Engineering	3
CME 320 Engineering Thermodynamics	4
CME 415 Separation Processes	3
CME 006 The Engineering Profession (3 semesters)	0
CME 330 Fluid Mechanics	3
CME 470 Professionalism, Ethics and Safety	2
CME 420 Process Modeling in Chemical Engineering	3
CME 425 Heat and Mass Transfer	4
CME 432 Chemical Engineering Laboratory I	2
CME 433 Chemical Engineering Laboratory II	3
CME 455 Chemical Engineering Process Design I	3
CME 550 Chemical Reactor Design	3
CME 456 Chemical Engineering Process Design II	4
CME 462 Process Control	3
Subtotal: Major hours	**61**

In addition to the premajor and major requirements, students must complete the following:

Chemical Engineering Electives	Hours

Total of 6 credit hours must be chosen. Courses recommended are listed below. Other courses may be considered, each on its individual merit. CME 395 (Research) may count for one elective, but not both.

CME 395 Special Problems in Chemical Engineering	3
CME 404G Polymeric Materials	3
CME 505 Analysis of Chemical Engineering Problems	3
CME 515 Air Pollution Control	3
CME 542 Electric Power Generation Technologies	3
CME 554 Chemical and Physical Processing of Polymer Systems	3
CME 556 Introduction to Composite Materials	3
CME 580 Design of Rate and Equilibrium Processes for Water Pollution Control	3
CME 599 Topics in Chemical Engineering	3

Technical Electives

Select one (must be a 3 or more credit hour course) from the following:

CME 395, 404G, 505, 515, 542, 554, 556, 580, 599; CHE 226, 510 and above; CS 321 and above; MA 321, 322, 416G, 432G, 433G, 471G, 481G; PHY any above 241; STA 381 and higher; BCH 401G; MSE 301, 401G, 402G, 403G; any BIO 148 and above; any Engineering course above that required, e.g. above ME 330.

Chemistry Elective (must total 3 credits)

CHE 226, 250, 510 and above (if not taken as technical elective). Students may also use CHE 395 with departmental approval.

Bio or Materials Elective (must total 3 credits)

BIO 148 and above; MSE 301 and above (if not taken as technical elective).

Supportive Elective

The supportive elective can be any course that carries college credit and is not a more elementary version of a required course. The student completing 3 co-op tours (EGR 399) may count the co-op experience toward the supportive elective.

Subtotal: Electives:	**18**
TOTAL HOURS	**133**

Curriculum

Freshman Year

First Semester	Hours
CME 101 Introduction to Chemical Engineering	1
CHE 105 General College Chemistry I	4
CHE 111 Laboratory to Accompany General Chemistry I	1
CIS/WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
UK Core	3

Second Semester	
MSE 201 Materials Science	3
CHE 107 General College Chemistry II	3
CHE 113 Laboratory to Accompany General Chemistry II	2
MA 114 Calculus II	4
CIS/WRD 111 Composition and Communication II	3

Sophomore Year

First Semester	Hours
CME 200 Process Principles	3
MA 213 Calculus III	4
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1
CHE 230 Organic Chemistry I	3
CHE 231 Organic Chemistry Laboratory I	1

Second Semester	
CME 320 Engineering Thermodynamics	4
CHE 232 Organic Chemistry II	3
CME 220 Computational Tools in Chemical Engineering	3
MA 214 Calculus IV	3
PHY 232 General University Physics	4

Junior Year

First Semester	Hours
CME 415 Separation Processes	3
CHE 446G Physical Chemistry for Engineers	3
CME 330 Fluid Mechanics	3
WRD 204 Technical Writing	3
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning	3
Technical Elective	3

Second Semester	
CME 006 The Engineering Profession (Junior and Senior)	0
CME 420 Process Modeling in Chemical Engineering	3
CME 425 Heat and Mass Transfer	4
CME 432 Chemical Engineering Laboratory I	2
Chemistry Elective	3
Supportive Elective	3
UK Core	3

Senior Year

First Semester	Hours
CME 006 The Engineering Profession (Junior and Senior)	0
CME 470 Professionalism, Ethics and Safety	2
CME 433 Chemical Engineering Laboratory II	3
CME 455 Chemical Engineering Process Design I	3
CME 550 Chemical Reactor Design	3
CME Elective	3
UK Core	3

Second Semester	
CME 006 The Engineering Profession (Junior and Senior)	0
CME 456 Chemical Engineering Process Design II	4
CME 462 Process Control	3
CME Elective	3
Bio Elective or Materials Elective	3
UK Core	3

BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING – PADUCAH

In addition to the program on the Lexington campus, students can pursue a B.S. degree in chemical engineering through the College's Extended Campus Program in Paducah, Kentucky. The Paducah program uses the same curriculum as the main campus, but provides the opportunity for students to complete all B.S. degree requirements without having to relocate to Lexington.

Consistent with our Vision and Mission statements, the chemical engineering program at the University of Kentucky, including the Extended Campus in Paducah, strives to meet the following specific educational objectives:

- prepare our graduates to successfully pursue careers in engineering practice and/or academia;
- provide a broad education as a foundation for life-long learning; and
- equip our graduates with the ability to carry out problem-solving strategies in engineering.

The Paducah chemical engineering program collaborates with West Kentucky Community and Technical College to provide the foundational math and science courses, as well as the general studies course requirements. Murray State University faculty members teach upper-level non-engineering courses on the Paducah campus. On-site UK chemical engineering faculty members and jointly-appointed Murray engineering faculty members teach the upper-division engineering courses. Program admission, course registration, student advising and other student services all can be completed at the Paducah site.

Degree Requirements

The curriculum requirements for the B.S. degree in chemical engineering in Paducah are identical to those on the Lexington campus. Refer to those degree requirements for the Paducah degree program. Not all electives listed for the Lexington program will be available in Paducah. The student must satisfy the College graduation requirements listed earlier.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

The student of civil engineering has a broad field of study to provide a strong foundation for entry into the profession or graduate school. Major areas include construction engineering and project management, environmental engineering, geotechnical engineering, materials engineering, structural engineering, transportation engineering, and water resources engineering. Consistent with the Vision and Mission statements, civil engineering graduates from the University of Kentucky will be prepared to:

- Use their technical, teamwork, and communication skills along with leadership principles to pursue civil engineering careers in areas such as structural, transportation, geotechnical, materials, environmental, construction, and water resources engineering, and/or other fields.
- Pursue graduate degrees in civil engineering and other fields.
- Function ethically in their professional civil engineering roles.
- Pursue professional licensure.
- Engage in life-long learning through independent study and by participating in professional conferences, workshops, seminars, or continuing education.

Degree Requirements

The following curriculum meets the requirements for a B.S. in civil engineering, provided the student satisfies the graduation requirements listed earlier.

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

V. Composition and Communication I
WRD 110 Composition and Communication I 3

VI. Composition and Communication II
WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
STA 381 Engineering Statistics – A Conceptual Approach or CE approved equivalent 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements

	Hours
CE 106 Computer Graphics and Communication	3
CE 120 Introduction to Civil Engineering	1
CE 211 Surveying	4
CHE 105 General College Chemistry I	4
CHE 107 General College Chemistry II	3
EM 221 Statics	3
WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
MA 114 Calculus II	4
MA 213 Calculus III	4
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1
Subtotal: Premajor hours	**38**

Major Requirements

	Hours
CE 303 Introduction to Construction Engineering	3
CE 331 Transportation Engineering	3
CE 341 Introduction to Fluid Mechanics	4
CE 351 Introduction to Environmental Engineering	3
CE 381 Civil Engineering Materials I	3
CE 382 Structural Analysis	3
CE 401 Seminar	1
CE 429 Civil Engineering Systems Design	3
CE 461G Water Resources Engineering	4
CE 471G Soil Mechanics	4
CS 221 First Course in Computer Science for Engineers	2
EM 302 Mechanics of Deformable Solids	3
MNG 303 Deformable Solids Laboratory	1
EES 220 Principles of Physical Geology	4
MA 214 Calculus IV	3
PHY 232 General University Physics	4
PHY 242 General University Physics Laboratory	1
STA 381 Engineering Statistics – A Conceptual Approach	3
Subtotal: Major hours	**52**

Electives

	Hours
CE Technical Design Electives	6
Engineering Science Elective	3
Structures Elective	3
CE Technical Elective	3
Supportive Elective	3
Math or Science Elective	3
UK Core Electives	15
Supportive/Free Elective	3
Subtotal: Electives	**39**
TOTAL HOURS:	**132**

Curriculum

Freshman Year

First Semester

	Hours
CE 120 Introduction to Civil Engineering	1
WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
UK Core – Arts and Creativity	3
UK Core – Social Sciences	3

Second Semester

	Hours
CE 106 Computer Graphics and Communication	3
CHE 105 General College Chemistry I	4
MA 114 Calculus II	4
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1

Sophomore Year

First Semester

	Hours
CE 211 Surveying	4
CHE 107 General College Chemistry II	3
EM 221 Statics	3
WRD 111 Composition and Communication II	3
MA 213 Calculus III	4

Second Semester

	Hours
EES 220 Principles of Physical Geology	4
EM 302 Mechanics of Deformable Solids	3
MNG 303 Deformable Solids Laboratory	1
MA 214 Calculus IV	3
PHY 232 General University Physics	4
PHY 242 General University Physics Laboratory	1

Junior Year

First Semester

	Hours
WRD 204 Technical Writing*	3
CE 303 Introduction to Construction Engineering	3
CE 341 Introduction to Fluid Mechanics	4
CE 381 Civil Engineering Materials I**	3
STA 381 Engineering Statistics – A Conceptual Approach	3
CS 221 First Course in Computer Science for Engineers	2

Second Semester

	Hours
CE 331 Transportation Engineering**	3
CE 351 Introduction to Environmental Engineering	3
CE 382 Structural Analysis	3
Engineering Science Elective [1]	3
Math Elective or Science Elective [2]	3
UK Core – Humanities	3

Senior Year

First Semester

	Hours
CE 461G Water Resources Engineering**	4
CE 471G Soil Mechanics**	4
CE 48X Structures Elective [3]	3
CE Technical Design Elective [4]	3
UK Core – Citizenship - US	3

Second Semester

	Hours
CE 401 Seminar**	1
CE 429 Civil Engineering Systems Design**	3
CE Technical Design Elective [4]	3
CE Technical Elective [5]	3
Supportive Elective [6]	3
UK Core – Global Dynamics	3

**Graduation Composition and Communication Requirement (GCCR) course.*

***CE communication throughout the curriculum component.*

[1] To be chosen from ME 220 or EM 313.

[2] Math or Science Elective Options: MA 321, MA 322, MA 416G, MA 432G, BIO 208, CHE 230, CHE 236, EE 305, GEO 409, EES 550, EES 585, MNG 551, or the other half of the Engineering Science Elective in [1]. NOTE: MA 322 is required for a math minor.

[3] To be selected from: CE 482 or CE 486G.

[4] Students are required to select two design electives from different areas. Choose from: CE 508, CE 531 or CE 533, CE 534, CE 549, CE 551, CE 579, CE 589. ***Design elective courses are typically taught once a year.***

[5] CE Technical Elective is chosen from any of the courses at the 300-level or above that carry a CE prefix and in which a student is qualified to enroll, exclusive of required courses. ***Engineering elective courses are typically taught once a year.***

[6] Supportive elective is to be chosen from any University course, excluding a more elementary version of a required course, such as precalculus mathematics or PHY 211. However, each CE area has at least one recommendation for the supportive elective. Please review the Optional Concentration section in the Civil Engineering Undergraduate Handbook. The supportive elective can be taken pass-fail.

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Joint-Degree Program Offered by Western Kentucky University (WKU) and the University of Kentucky (UK)

As part of the "Strategy for Statewide Engineering Education in Kentucky," adopted July 17, 2000 by all the chief executive officers of Kentucky universities and endorsed by the Kentucky Council on Postsecondary Education (CPE), the vision was expressed that "access to undergraduate engineering education will expand primarily through the creation of joint programs managed by multiple postsecondary institutions." In response, WKU and UK now jointly offer an ABET-accredited baccalaureate degree in civil engineering on the WKU campus in Bowling Green, Kentucky. By CPE definition, a joint-degree program is "a program that is mutually sponsored by two or more institutions leading to a single credential or degree, which is conferred by both or all participating institutions. All institutions share responsibility for all aspects of the program's delivery and quality."

The joint civil engineering program is one of only three such joint-degree programs in Kentucky; the others include a joint-degree program between WKU and UK in mechanical engineering, between WKU and the University of Louisville (UL) in electrical engineering.

The WKU/UK joint programs emphasize a project-oriented educational approach. Courses are provided by both WKU and UK faculty. Students are required to complete a minimum of 15 credit hours of engineering course work taught by UK engineering faculty. At present, the UK contribution is provided primarily by distance delivery via interactive television. The curriculum of the joint civil engineering program is under the direction of a joint program faculty, with equal representation from each participating institution. The curriculum for entering students requires 137 credit hours, with the General Studies component based on the requirements of WKU. Students who complete the program will receive a B.S. degree conferred jointly by WKU and UK. Under the terms of the agreements between the degree-awarding institutions, WKU provides basic administrative support for students in the joint-degree program, including admission services, registration, and student financial aid. In addition, academic advising, laboratory and equipment support, and library and media resources are supplied by WKU.

The civil engineering curriculum approved within UK is listed below. The joint program faculty are responsible for on-going review of the curricular requirements.

Degree Requirements

Freshman Year

Fall Semester	Hours
ENGR 175 Univ Experience – ENGR	1
CE 176 CE Freshman Design	1
AMS 163 Architectural Drafting	3
MATH 136 Calculus I	4
GEOL 111/113 The Earth and Lab	3/1
Category E World Cultures Elective	3
Total	16

Spring Semester	
CE 160/161 Surveying I and Lab	3/1
MATH 137 Calculus II	4
PHYS 255/256 Physics I and Lab	4/1
ENG 100 Freshman English	3
COMM 161 or 145 Public Speaking	3
Total	19

Sophomore Year

Fall Semester	Hours
CE 303/304 Construction Mgt and Lab	3/1
EM 221 or 222 Statics	3
MATH 237 Multivariable Calculus	4
CHEM 120/121 College Chemistry I and Lab	3/2
Category F Health and Wellness Elect	1
Total	17

Spring Semester	
EM 302 or 303 Mechanics of Deform Solids	3
CE 310 Strength of Materials Lab	1
MATH 331 Differential Equations	3
PHYS 265/266 Physics II and Lab	4/1
Category A-II Foreign Language (102)	3
ENG 200 Intro to Literature	3
Total	18

Junior Year

Fall Semester	Hours
CE 382 or 373 Structural Analysis	3
CE 410/411 Soil Mechanics and Lab	3/1
CE 342 Fluid Thermal Science	4
CE 370/371 Materials of Constr and Lab	2/1
STAT 301 Probability and Statistics	3
Category F Health and Wellness Elect	1
Total	18

Spring Semester	
CE 316 Equipment and Methods	3
CE 331 UK - Transportation Engineering	3
ENG 300 Junior English	3
CE 412 Foundation Engineering	3
CE 384 Reinforced Concrete Design [1]	3
CE Technical Elective [2]	3
Total	18

Senior Year

Fall Semester	Hours
CE 351 or 352 Intro Environmental Eng	3
CE Technical Elective [2]	3
CE 400 Senior Design Seminar	1
ECON 202 Economics (Micro)	3
HIST 119 or 120 Western Civilization	3
Category B-II Humanities Elective	3
Total	16

Spring Semester	
CE 461 Hydrology	3
CE Technical Elective [2]	3
CE 498 Senior Project	3
Category B-II Humanities Elective	3
Category C Social and Behavior Sc Elect	3
Total	15
TOTAL HOURS	**137**

[1] Instead of CE 384 Reinforced Concrete Design, students may take CE 482 Elementary Structural Design or CE 483 UK-Elementary Structural Design if offered.

[2] A two (2) course sequence in four different civil engineering areas is required. The curriculum already includes a two (2) course sequence in structures, geotechnical engineering, and construction. Therefore, each student must select one of their technical electives to cover an additional area such as surveying, materials, environmental engineering, hydrology, or transportation.

BACHELOR OF SCIENCE IN COMPUTER ENGINEERING

Program Educational Objectives

Computer engineering involves modeling, design, implementation, testing, evaluation and integration of computer hardware and software to create computing systems. Computer engineers use both hardware concepts from electrical engineering and system software concepts from computer science. Graduates will be well prepared to work in areas such as digital logic design, computer organization/architecture and design, algorithm design and analysis, embedded systems, compilers, and operating systems. Elective options in the curriculum offer preparation in software engineering, databases, dependable systems, networking and communications, VLSI, graphics, image processing, visualization, artificial intelligence, and control systems. The program is offered through a partnership between the Department of Electrical and Computer Engineering and the Department of Computer Science.

The program educational objectives related to expectations of program graduates include the following:

- Graduates of the program employed in industry will demonstrate, within five years after graduation, professional advancements, such as technical accomplishments, supervisory responsibilities, or other recognitions of their contributions.
- Graduates of the program who continue their formal education will, within five years after graduation, receive advanced degrees, complete specialized training, or receive professional certifications.
- Graduates of the program will appreciate the preparation received in the program as it relates to their careers and their roles in society.

Degree Requirements

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity

EE 101 Creativity and Design in Electrical and Computer Engineering 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
STA 381 Engineering Statistics – A Conceptual Approach 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

EE 490 Electrical Engineering Capstone Design I 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

CIS/WRD 110 Composition and Communication I 3
CS 115 Introduction to Computer Programming 3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving Techniques 4
EE 211 Circuits I 4
EE 280 Design of Logic Circuits 3
MA 113 Calculus I 4
MA 114 Calculus II 4
MA 213 Calculus III 4
PHY 231 General University Physics 4

Subtotal: Premajor hours 33

Major Requirements — Hours

EE 101 Creativity and Design in Electrical and Computer Engineering 3
CHE 105 General College Chemistry I 4
CS 216 Introduction to Software Engineering Techniques 3
CS 275 Discrete Mathematics 4
PHY 241 General University Physics Laboratory 1
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
MA 214 Calculus IV 3
EE 221 Circuits II 3
EE 222 Electrical Engineering Laboratory I 2
EE 281 Logical Design Laboratory 2
EE/CS 380 Microcomputer Organization 3
EE 383 Introduction to Embedded Systems 3
CS 315 Algorithm Design and Analysis 3
CS 441G Compilers for Algorithmic Languages** 3
CS 470G Introduction to Operating Systems 3
EE 480/CS 480G Advanced Computer Architecture** 3
EE 421G Signals and Systems 3
EE 461G Introduction to Electronics 3
STA 381 Engineering Statistics – A Conceptual Approach 3
EE 490 Electrical Engineering Capstone Design I**
or
CS 499 Senior Design Project† 3
EE 491 Electrical Engineering Capstone Design II** 3

Subtotal: Major hours 63-66

Electives

Supportive Elective* 6
EE/CS Technical Electives†† 12

Subtotal: Electives 18

Total Minimum hours for Program 129

Curriculum

Freshman Year

First Semester — **Hours**
MA 113 Calculus I 4
EE 101 Creativity and Design in Electrical and Computer Engineering *(fulfills the UK Core Arts & Creativity requirement)* 3
CIS/WRD 110 Composition and Communication I 3
CHE 105 General College Chemistry I 4
CS 115 Introduction to Computer Programming 3

Second Semester
EE 280 Design of Logic Circuits 3
MA 114 Calculus II 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
CIS/WRD 111 Composition and Communication II 3
UK Core – Humanities 3

Sophomore Year

First Semester — **Hours**
CS 215 Introduction to Program Design, Abstraction, and Problem Solving Techniques 4
MA 213 Calculus III 4
EE 211 Circuits I 4
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
EE 281 Logical Design Laboratory 2

Second Semester
MA 214 Calculus IV 3
CS 275 Discrete Mathematics 4
CS 216 Introduction to Software Engineering Techniques 3
EE/CS 380 Microcomputer Organization 3
UK Core – Social Sciences 3

Junior Year

First Semester — **Hours**
EE 221 Circuits II 3
EE 222 Electrical Engineering Laboratory I 2
CS 315 Algorithm Design and Analysis 3
EE 383 Introduction to Embedded Systems 3
UK Core – Citizenship - USA 3
STA 381 Engineering Statistics – A Conceptual Approach 3

Second Semester
EE 461G Introduction to Electronics 3
CS 470G Introduction to Operating Systems 3
EE 480/CS 480G Advanced Computer Architecture** 3
EE/CS Technical Elective†† 3
EE 421G Signals and Systems 3

Senior Year

First Semester — **Hours**
CS 441G Compilers for Algorithmic Languages 3
EE 490 Electrical Engineering Capstone Design I**,† 3
EE/CS Technical Elective†† 3
Supportive Elective* 3
Technical Elective† 3

Second Semester
EE 491 Electrical Engineering Capstone Design II**,† 3
EE/CS Technical Electives†† 6
Supportive Elective* 3
UK Core – Global Dynamics 3

**Supportive elective is to be chosen from any University courses, excluding more elementary versions of required courses, such as precalculus mathematics, MA 308, MA 310 or PHY 211.*

***EE 480/CS 480G is only taught in the spring semester. EE 490 is only taught in the fall semester. EE 491 is only taught in the spring semester.*

†Technical elective may be selected from upper-division engineering, mathematics, statistics, computer science, physics, or other technically-related fields excluding more elementary version of required courses. To be selected in consultation with academic advisor, if taken. CS 499 fulfills senior design and the GCCR. A technical elective course must be taken to fulfill the technical elective requirement if CS 499 is taken. EE 490 and EE 491 fulfill the technical elective, senior design and the GCCR.

††EE/CS technical electives are senior level courses in either the computer science or electrical engineering disciplines. These include 400-level CS courses and 500-level CS and EE courses with emphasis in the computer engineering area and excluding EE 595. To be selected in consultation with academic advisor.

Recommended EE/CS Technical Electives:
CS 405G Introduction to Database Systems
CS 415G Combinatorics and Graph Theory
CS 416G Introduction to Optimization
CS 422 Numerical Solutions of Equations
CS 450G Fundamentals of Programming Languages
CS 463G Introduction to Artificial Intelligence
CS 471G Networking and Distributed Operating Systems
CS 485G Topics in Computer Science (Subtitle required)
EE 512 Digital Communication Systems
EE 560 Semiconductor Device Design
EE 564 Digital Electronic Circuits
EE 572 Digital Control of Dynamic Systems
EE 582 Hardware Description Languages and Programmable Logic
EE 584 Introduction of VLSI Design and Testing
EE 585 Fault Tolerant Computing
EE 586 Communication and Switching Networks
EE 587 Microcomputer Systems Design
EE 599 Topics in Electrical Engineering (Subtitle required)

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

The computer science program prepares students to identify computational problems in all areas of modern life, to design, implement, and analyze algorithmic solutions, and to build software for a variety of applications. Through required, elective and special topics courses students are exposed to the foundations and current practices of computing and algorithms, software engineering, programming languages, operating systems, graphics and multimedia, scientific computing and numerical analysis, databases, artificial intelligence and networks. The program's educational objective is to equip graduates to succeed in their chosen career path. Specifically, within three to five years after graduation:

- Those employed in industry or entrepreneurial endeavors will demonstrate professional advancement through expanded leadership responsibility, significant technical accomplishment, or other recognition of their contributions.

- Those who continue their formal education will achieve an advanced degree or other technical certification.

In addition, graduates will appreciate the preparation received in the program as it relates to their chosen careers, to their role as educated citizens in a global society, and to continued learning.

For more information, please visit the department Web site at: **www.cs.uky.edu**

Degree Requirements

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

CS 499 Senior Design Project 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements

Hours
CS 100 The Computer Science Profession 1
CS 115 Introduction to Computer Programming 3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving Techniques 4
CS 216 Introduction to Software Engineering Techniques 3
CS 275 Discrete Mathematics 4
CIS/WRD 110 Composition and Communication I 3
MA 113 Calculus I 4
MA 114 Calculus II 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

Subtotal: Premajor hours 31

Major Requirements

Hours
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
Additional Science Electives 6
MA 213 Calculus III 4
EE 280 Design of Logic Circuits 3
STA 281 Probability and Statistics Using Interactive Computer Techniques 3
CS 315 Algorithm Design and Analysis 3
CS/MA 321 Introduction to Numerical Methods 3
CS 375 Logic and Theory of Computing 3
CS/EE 380 Microcomputer Organization 3
CS 470G Introduction to Operating Systems 3
CS 499 Senior Design Project 3

Subtotal: Major hours 39

Computer Science Electives

Hours
Choose three from the following list:
CS 335 Graphics and Multimedia 3
CS 405G Introduction to Database Systems 3
CS 441G Compilers for Algorithmic Languages 3
CS 450G Fundamentals of Programming Languages 3
CS 463G Introduction to Artificial Intelligence 3
Any other CS class at the 300-level or above 3

Subtotal: CS Electives 9

Technical Electives

Choose 12 credit hours of the following:

MA 214 Calculus IV or any 300-level or higher classes selected from computer science, electrical engineering, mathematics, or the College or Business and Economics

Subtotal: Technical Electives 12

Electives (Non-Technical and Free Electives)

Two courses must be in areas other than computer science, science, engineering, or mathematics. Any remaining electives should be selected to meet the minimum total of 128 hours required for graduation

Subtotal: Electives ..... minimum of 6

TOTAL HOURS 128

Curriculum

Freshman Year

First Semester

Hours
CS 100 The Computer Science Profession 1
CS 115 Introduction to Computer Programming 3
CIS/WRD 110 Composition and Communication I 3
MA 113 Calculus I 4
UK Core [U] 3

Second Semester

CS 215 Introduction to Program Design, Abstraction, and Problem Solving Techniques 4
Natural Science Elective [N] 3
MA 114 Calculus II 4
UK Core – Statistical/Inferential Reasoning [U] 3

Sophomore Year

First Semester

Hours
CS 216 Introduction to Software Engineering Techniques 3
EE 280 Design of Logic Circuits 3
MA 213 Calculus III 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
CIS/WRD 111 Composition and Communication II 3

Second Semester

CS 275 Discrete Mathematics 4
CS/EE 380 Microcomputer Organization 3
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
STA 281 Probability and Statistics Using Interactive Computer Techniques 3
UK Core [U] 3

Junior Year

First Semester

Hours
CS 315 Algorithm Design and Analysis 3
CS/MA 321 Introduction to Numerical Methods 3
UK Core [U] 3
Elective [E] 3
Elective [E] 3

Second Semester

CS 375 Logic and Theory of Computing 3
Computer Science Elective [C] 3
Technical Elective [T] 3
UK Core [U] 3
Natural Science Elective [N] 3
Elective [E] 3

Senior Year

First Semester

Hours
CS 470G Introduction to Operating Systems 3
Computer Science Elective [C] 3
Technical Elective [T] 3
UK Core [U] 3
Elective [E] 4

Second Semester

CS 499 Senior Design Project 3
Computer Science Elective [C] 3
Technical Electives [T] 6
Elective [E] 3

[U] – Select to satisfy the UK Core areas Arts and Creativity, Humanities, Social Sciences, Citizenship, Global Dynamics).

[N] – Any natural science course excluding more elementary versions of completed required courses.

[C] – Computer Science Elective – include 300-level and above computer science courses with two to be selected from: CS 335, CS 405G, CS 441G, CS 450G and CS 463G. Students are encouraged to take advantage of special topics courses, cooperative education, independent studies and undergraduate research.

[T] Technical Elective – include any 300-level and above courses in computer science, electrical engineering, mathematics and business and economics. MA 214 is also an acceptable technical elective. Cooperative education credit may be used to satisfy this requirement.

[E] Elective – including one Free Elective and Non-Technical Elective. At least two of the electives (6 credits) cannot be in computer science, mathematics, science or engineering. Note: At least 128 credit hours; a foreign language requirement.

Minor in Computer Science

The minor in Computer Science requires a minimum of 20 hours of course work in CS, to include:

CS 115 (3), CS 215 (4), CS 216 (3), CS 275 (4), CS 315 (3), or equivalent, plus 3 additional hours of upper-division courses (300 or higher) in computer science. A GPA of at least 2.5 across these courses is required. At least 10 of the credit hours required to complete the minor must be earned at the University of Kentucky.

BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

The electrical engineering undergraduate degree program seeks to produce graduates who are trained in the theory and practice of electrical and computer engineering and are well prepared to handle the professional and leadership challenges of their careers. The program allows students to specialize in high performance and embedded computing, microelectronics and nanotechnology, power and energy, signal processing and communications, high frequency circuits and fields, and control systems, among others.

The following objectives relate to expectations for program graduates while in the early stages of their careers. The EE program objectives are:

- Graduates of the electrical engineering program employed in industry will demonstrate, within five years after graduation, professional advancements, such as technical accomplishments, supervisory responsibilities, or other recognitions of their contributions.
- Graduates of the electrical engineering program who continue their formal education will, within five years after graduation, receive advanced degrees in electrical engineering or other fields, complete specialized training, or receive professional certifications.
- Graduates of the electrical engineering program will appreciate the preparation received in the program as it relates to their careers and their roles in society.

The electrical engineering undergraduate program has identified **curriculum tracks** as recommended groups of courses for undergraduate students interested in a particular area of electrical engineering. Each track consists of a list of three recommended electives (typically EE Technical Electives) and possibly a recommended lab elective. A student will be considered to have completed a track if these course requirements have been satisfied with a grade of **C** or better.

Students are not required to participate in a track. Tracks are intended for students as a guide of classes to take in a particular area. Student transcripts will not explicitly mention completion of a track. However, any student completing a track will receive an official recognition of this completion from the department.

The current set of tracks are:

Electric Power and Energy

EE Technical Electives EE 537 and EE 538, and one of the following: EE 518, EE 531, or EE 539. Also, EE 416G as a Lab Elective.

Signals and Systems

Any three of the following EE Technical Electives: EE 511, EE 512, EE 513, EE 521, EE 571, EE 572, EE 586. Also, EE 422G as a Lab Elective.

Digital Systems

EE Technical Electives EE 582 and EE 584, and one of the following: EE 585, EE 586, EE 587, EE 589. Also, EE 281 as a Lab Elective.

High Frequency Circuits and Fields

EE Technical Electives EE 521 and EE 522, and one of the following additional: EE 523, EE 525, EE 527.

Degree Requirements

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
EE 101 Creativity and Design in Electrical and Computer Engineering 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

EE 490 Electrical Engineering Capstone Design I 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

CIS/WRD 110 Composition and Communication I 3
CHE 105 General College Chemistry I 4
MA 113 Calculus I 4
MA 114 Calculus II 4
MA 213 Calculus III 4
PHY 231 General University Physics 4
EE 211 Circuits I 4
EE 280 Design of Logic Circuits 3

Subtotal: Premajor hours 30

Major Requirements — Hours

CS 115 Introduction to Computer Programming 3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving 4
EE 101 Creativity and Design in Electrical and Computer Engineering† 3
EE 221 Circuits II 3
EE 222 Electrical Engineering Laboratory I 2
EE 360 Introduction to Semiconductor Devices 3
EE 380 Microcomputer Organization 3
EE 415G Electromechanics 3
EE 421G Signals and Systems 3
EE 461G Introduction to Electronics 3
EE 468G Introduction to Engineering Electromagnetics 4
EE 490 Electrical Engineering Capstone Design I†† 3
EE 491 Electrical Engineering Capstone Design II†† 3
CIS/WRD 111 Composition and Communication II 3
MA 214 Calculus IV 3
MA 320 Introductory Probability 3
PHY 232 General University Physics 4
PHY 241 General University Physics Laboratory 1
PHY 242 General University Physics Laboratory 1

Choose **three** of the following lab courses:
EE 281 Logical Design Laboratory 2
EE 416G Energy Conversion Laboratory 2
EE 462G Electronic Circuits Laboratory 2
EE 422G Signals and Systems Laboratory 2

Subtotal: Major hours 61

Electives — Hours

Engineering/Science Electives [E] 6
EE Technical Electives** 12
Math/Statistics Elective [M] 3
Supportive Elective* 3
Technical Elective [T] 3

Subtotal: Electives 27

TOTAL HOURS: 134

Curriculum

Freshman Year

First Semester — Hours

EE 101 Creativity and Design in Electrical and Computer Engineering† 3
MA 113 Calculus I 4
CS 115 Introduction to Computer Programming 3
CIS/WRD 110 Composition and Communication I 3
UK Core – Humanities 3

Second Semester

MA 114 Calculus II 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
CHE 105 General College Chemistry I 4
EE 280 Design of Logic Circuits 3
UK Core – Social Sciences 3

Sophomore Year

First Semester — Hours

MA 213 Calculus III 4
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
EE 211 Circuits I 4
CIS/WRD 111 Composition and Communication II 3

Second Semester

MA 214 Calculus IV 3
EE 221 Circuits II 3
EE 222 Electrical Engineering Laboratory I 2
EE 360 Introduction to Semiconductor Devices 3
CS 215 Introduction to Program Design, Abstraction, and Problem Solving 4
UK Core – Citizenship - USA 3

Junior Year

First Semester **Hours**

EE 415G Electromechanics 3
EE 421G Signals and Systems 3
Elective EE Laboratory [L] 2
EE 380 Microcomputer Organization 3
EE 461G Introduction to Electronics 3
MA 320 Introductory Probability 3

Second Semester

EE 468G Introduction to Engineering Electromagnetics 4
Elective EE Laboratory [L] 2
Engineering/Science Elective [E] 3
Technical Elective [T] 3
UK Core – Statistical/Inferential Reasoning 3

Senior Year

First Semester **Hours**

EE 490 Electrical Engineering Capstone Design I†† 3
EE Technical Electives** 6
Elective EE Laboratory [L] 2
Math/Statistics Elective [M] 3
UK Core – Global Dynamics 3

Second Semester

EE 491 Electrical Engineering Capstone Design II†† 3
EE Technical Electives** 6
Supportive Elective* 3
Engineering/Science Elective [E] 3

**Supportive elective* *is to be chosen from any University courses, excluding more elementary versions of required courses, such as precalculus mathematics or PHY 211.*

*[M] **Math/Statistics Elective:** Any upper-division (300-level or higher) math or statistics course excluding MA 308 and MA 310 (3 credit hours total).*

*[E] **Engineering/Science Electives:** Any engineering, physics, computer science, or math course at the 200-level or higher, other than an electrical engineering course and excluding MA 308, MA 310, and more elementary versions of required courses (6 credit hours total). Cooperative education credit may not be used to satisfy this requirement.*

*[T] **Technical elective** may be selected from upper-division (300-level or higher) engineering, mathematics, statistics, computer science, physics, or other technically-related fields excluding MA 308, MA 310, EE 305, and more elementary versions of required courses, to be selected in consultation with the academic advisor (3 credit hours total). Cooperative education credit may not be used to satisfy this requirement.*

*[L] **Electrical Engineering Laboratory Elective:** EE 281, EE 462G, EE 422G, EE 416G (6 credit hours total).*

†EE 101 is a 3-hour course that will satisfy the UK Core I. – Intellectual Inquiry in Arts and Creativity requirement.

††EE 490 is only taught in the fall semester. EE 491 is only taught in the spring semester.

***EE Technical Electives** (must be 500-level courses). Courses recommended as electrical engineering technical electives are listed below (each course is 3 credit hours):*

EE 511 Introduction to Communication Systems
EE 512 Digital Communication Systems
EE 513 Audio Signals and Systems
EE 517 Advanced Electromechanics
EE 518 Electric Drives
EE 521 Introduction to Wireless Communications
EE 522 Antenna Design
EE 523 Microwave Circuit Design
EE 525 Numerical Methods and Electromagnetics
EE 527 Electromagnetic Compatibility
EE 531 Alternative and Renewable Energy Systems
EE 535 Power Systems: Generation, Operation and Control
EE 536 Power System Fault Analysis and Protection
EE 537 Electric Power Systems I
EE 538 Electric Power Systems II
EE 539 Power Distribution Systems
EE 560 Semiconductor Device Design
EE 561 Electric and Magnetic Properties of Materials
EE 562 Analog Electronic Circuits
EE 564 Digital Electronic Circuits
EE 565 Circuit Design With Analog Integrated Circuits
EE 567 Introduction to Lasers and Masers
EE 568 Fiber Optics
EE 569 Electronic Packaging Systems and Manufacturing Processes
EE 571 Feedback Control Design
EE 572 Digital Control of Dynamic Systems
EE 581 Advanced Logical Design
EE 582 Hardware Description Languages and Programmable Logic
EE 584 Introduction of VLSI Testing and Design
EE 585 Fault Tolerant Computing
EE 586 Communication and Switching Networks
EE 587 Microcomputer Systems Design
EE 589 Advanced VLSI
EE 599 Topics in Electrical Engineering (Subtitle required)

Undergraduate Certificate in Power and Energy

Requirements for the Undergraduate Certificate in Power and Energy

The purpose of the Power and Energy Undergraduate Certificate is to provide students with a formalized recognition of an emphasis in power and energy as part of their undergraduate degree program. The certificate consists of a series of foundational courses, supplemented with a broad array of elective courses related to power and energy. The elective courses cover a wide variety of areas, including fundamentals, conventional and emerging technologies, smart grid systems, distributed generation, power system protection, energy storage, solar power, biofuels, and others. This certificate is an important part of the new Power and Energy Institute of Kentucky (PEIK), created through a recent grant from the US Department of Energy.

Structure

The Director of the Power and Energy Undergraduate Certificate is responsible for admitting students into the certificate, approving each student's curriculum for completing the certificate, and notifying the Registrar when certificate requirements have been completed. Students completing the certificate will receive a paper certificate and the certification will also be posted on the student's official transcript. The certification will not appear on the student's diploma.

Entrance Requirements

To be accepted into the University of Kentucky Power and Energy Undergraduate Certificate, the student must be pursuing an undergraduate degree and have completed at least 24 credits with a UK cumulative GPA of at least 2.50. A transfer student can be accepted into the certificate if he/she has completed at least 24 credits with a weighted cumulative GPA from all other institutions of at least 2.50.

Exit Requirements

- The student must complete a minimum of 15 credits of course work in the certificate curriculum taken for a letter grade. Courses taken prior to admission into the certificate can be applied to the certificate.
- A minimum of 9 credits must be at, or above, the 300-level.
- The student must earn a **C** or better in each course used to satisfy the certificate.
- The student must complete a 3-credit breadth component. The breadth component requires that a student take courses in at least two disciplines, with a minimum of 3 credits completed in the second discipline.
- The certificate will be awarded to students who complete the certificate curriculum and also complete an undergraduate degree.
- No more than 9 credits of the Power and Energy Undergraduate Certificate can be used as required courses in the student's major, minor, or other certificate. Courses used to satisfy the certificate can be used as electives (including technical electives) in a student's degree program.
- Courses applied to the Power and Energy Undergraduate Certificate cannot also be applied to the Power and Energy Graduate Certificate.
- The Power and Energy Undergraduate Certificate Director must approve the certificate curriculum for each student.

Power and Energy Undergraduate Certificate Curriculum

The structure of the certificate curriculum is shown below:

Required Course (3 credits)

EGR 240 Global Energy Issues 3

Core Elective (3 credits)

Choose one of the following courses:

EGR 540 Power Economics and Public Policy 3
EGR 542 Electric Power Generation Technologies 3
EGR 546 Electric Power System Fundamentals 3

Power and Energy Electives (9 credits)

Choose three courses from the approved list of Power and Energy Electives. The selected courses must be approved by the Director of the Power and Energy Undergraduate Certificate to ensure that the selections maintain a thematic consistency and fulfill the certificate breadth requirement. A partial list of approved power and energy courses is provided below. Additional courses will be added as they are approved for the power and energy certificate curriculum.

BAE 503 Fundamentals of Biorenewable Resource Engineering 3
BAE 504 Biofuels Production and Properties 3
CE 351 Introduction to Environmental Engineering 3
CME 200 Process Principles 3
CME 320 Engineering Thermodynamics 4
CME 515 Air Pollution Control 3
EE 415G Electromechanics 3
EE 416G Energy Conversion Laboratory 2
EE 518 Electric Drives 3
EE 531 Alternative and Renewable Energy Systems 3

EE 535 Power Systems: Generation, Operation and Control 3
EE 536 Power System Fault Analysis and Protection 3
EE 537 Electric Power Systems I 3
EE 538 Electric Power Systems II 3
EE 539 Power Distribution Systems 3
EGR 540 Power Economics and Public Policy 3
EGR 542 Electric Power Generation Technologies 3
EGR 546 Electric Power System Fundamentals 3
ME 321 Engineering Thermodynamics II 3
ME 530 Gas Dynamics 3
ME 548 Aerodynamics of Turbomachinery 3
ME 549 Power Generation 3
ME 563 Basic Combustion Phenomena 3
MNG 511 Mine Power System Design 3
MNG 575 Coal Preparation Design 3

BACHELOR OF SCIENCE IN MATERIALS ENGINEERING

The materials engineer is responsible for the selection, preparation and application of existing materials and for the development of new and improved materials. Materials engineers study the relationships between atomic and/or molecular constitution, microstructure and physical properties including mechanical, thermal, electrical, and optical behavior. Classes of materials include metals, ceramics, polymers, and electronic materials.

The educational objectives of the materials engineering undergraduate program are as follows:

- Produce graduates with an understanding of materials science and engineering who can function independently as professionals in the practice of engineering or as successful members of related graduate and professional programs.
- Produce graduates who can use their materials science and engineering education to continue their careers with steady advancement and professional development.

Degree Requirements

The following curriculum meets requirements for the B.S. in Materials Engineering, provided the student satisfies the graduation requirements listed earlier. Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

MSE 407 Materials Laboratory I 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

CIS/WRD 110 Composition and Communication I 3
CIS/WRD 111 Composition and Communication II 3
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
CHE 111 Laboratory to Accompany General Chemistry I 1
CHE 113 Laboratory to Accompany General Chemistry II 2
MA 113 Calculus I 4
MA 114 Calculus II 4
MA 213 Calculus III 4
MSE 201 Materials Science 3
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

Subtotal: Premajor hours 36

Major Requirements — Hours

MSE 101 Materials Engineering 1
CS 221 First Course in Computer Science for Engineers 2
CME 200 Process Principles 3
MSE 202 Materials Science Laboratory 1
CHE 236 Survey of Organic Chemistry 3
EM 221 Statics 3
MA 214 Calculus IV 3
PHY 232 General University Physics 4
MSE 301 Materials Science II 3
MSE 351 Materials Thermodynamics 3
EM 302 Mechanics of Deformable Solids 3
EE 305 Electrical Circuits and Electronics 3
PHY 361 Principles of Modern Physics 3
MSE 401G Metal and Alloys 3
MSE 402G Electronic Materials and Processing 3
MSE 403G Ceramic Engineering and Processing 3
MSE 404G Polymeric Materials 3
MSE 407 Materials Laboratory I 3
MSE 408 Materials Laboratory II 3
MSE 436 Material Failure Analysis 3
MSE 480 Materials Design 3
MSE 535 Mechanical Properties of Materials 3
MSE 538 Metals Processing 3
MSE 585 Materials Characterization Techniques 3

Subtotal: Major hours 68

Technical Electives — Hours

Total of 6 credit hours must be chosen. Technical electives are to be selected from a technical discipline, with approval from the Director of Undergraduate Studies. At least 3 credit hours must come from a course with an MSE prefix. MSE 395 (Research) may count for one elective, but not both. Recommended technical electives include but are not limited to:

MSE 395 Independent Work in Materials Engineering 3
MSE 506 Mechanics of Composite Materials 3
MSE 531 Powder Metallurgy 3
MSE/CME 554 Chemical and Physical Processing of Polymer Systems 3
MSE 556 Introduction to Composite Materials 3
MSE 569 Electronic Packaging Systems and Manufacturing Processes 3
MSE 599 Topics in Materials Science and Engineering (Subtitle required) 3
CHE 580 Topics in Chemistry 3
CME 542 Electric Power Generation Technologies 3
CME 599 Topics in Chemical Engineering 3
MA 322 Matrix Algebra and Its Applications 3
MA 422 Numerical Solutions of Equations 3
MA 432G Methods of Applied Mathematics I 3
ME/MFS 503 Lean Manufacturing Principles and Practices 3

Subtotal: Technical Electives 6

Supportive Elective (must total 3 credits)

The supportive elective can be any course that carries college credit and is not a more elementary version of a required course. The student completing 3 co-op tours (EGR 399) may count the co-op experience toward the supportive elective.

Subtotal: Supportive Elective 3

TOTAL HOURS: 131

Curriculum

Freshman Year

First Semester — Hours

MSE 101 Materials Engineering 1
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1
CIS/WRD 110 Composition and Communication I 3
MA 113 Calculus I 4
UK Core 3

Second Semester

CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany General Chemistry II 2
MA 114 Calculus II 4
CS 221 First Course in Computer Science for Engineers 2
CIS/WRD 111 Composition and Communication II 3
UK Core 3

Sophomore Year

First Semester — Hours

MSE 201 Materials Science 3
CHE 236 Survey of Organic Chemistry 3
MA 213 Calculus III 4
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
MSE 202 Materials Science Laboratory 1

Second Semester

MSE 301 Materials Science II 3
MSE 351 Materials Thermodynamics 3
MA 214 Calculus IV 3
PHY 232 General University Physics 4
EM 221 Statics 3

Junior Year

First Semester — Hours

MSE 401G Metal and Alloys 3
MSE 404G Polymeric Materials 3
CME 200 Process Principles 3
EM 302 Mechanics of Deformable Solids 3

STA 210 Making Sense of Uncertainty:
An Introduction to Statistical Reasoning 3

Second Semester

MSE 403G Ceramic Engineering and Processing 3
MSE 402G Electronic Materials and Processing 3
PHY 361 Principles of Modern Physics 3
MSE 535 Mechanical Properties of Materials 3
MSE 407 Materials Laboratory I 3
UK Core 3

Senior Year

First Semester **Hours**

MSE 585 Materials Characterization Techniques 3
MSE 436 Material Failure Analysis 3
EE 305 Electrical Circuits and Electronics 3
MSE 408 Materials Laboratory II 3
Technical Elective** 3
UK Core 3

Second Semester

MSE 480 Materials Design 3
MSE 538 Metals Processing 3
Technical Elective** 3
Supportive Elective* 3
UK Core 3

**Supportive elective is any university course, excluding more elementary versions of required courses, such as precalculus mathematics or PHY 211.*

***Choose from the list of Technical Electives above.*

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

The training of the mechanical engineer is the broadest among the several fields of engineering. The mechanical engineer uses the techniques of mathematics combined with a specialized knowledge of the thermal and energy sciences, solid and fluid mechanics, and the properties of materials. This information is supplemented by an understanding of manufacturing processes, the design and control of systems, and the economics of the technological community.

Our graduates will be able to apply knowledge of mathematics, science and mechanical engineering to the solution of problems, particularly in the areas of thermodynamics and energy systems; heat transfer; fluid mechanics; mechanical systems and controls; mechanical design; finite element methods and computer-aided graphics; manufacturing; instrumentation; and experimental method.

Consistent with the Vision and Mission statements of the University of Kentucky and the College of Engineering, the undergraduate program in mechanical engineering will prepare our graduates for successful practice or academic pursuits in mechanical engineering. We expect our graduates to attain the following Program Educational Objectives within a few years of graduation:

1. Our graduates will practice mechanical engineering in a variety of fields as professionals and/or be recruited to graduate and professional schools in their career paths.
2. Our graduates will communicate effectively, work in diverse teams, address the challenges of a global society, and exhibit leadership, ethics, and creativity in their work places.
3. Our graduates will value continuing education and professional growth by supporting or participating in professional societies, licensure programs, short courses, or other professional development activities.

Degree Requirements

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
ME 411 ME Capstone Design I 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

Recommended:
STA 210 Making Sense of Uncertainty:
An Introduction to Statistical Reasoning
or
STA 381 Engineering Statistics – A Conceptual Approach

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

WRD 204 Technical Writing 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements Hours

CIS/WRD 110 Composition and Communication I 3
CIS/WRD 111 Composition and Communication II 3
CHE 105 General College Chemistry I 4
CHE 107 General College Chemistry II 3
MA 113 Calculus I 4
MA 114 Calculus II 4
MA 213 Calculus III 4
MA 214 Calculus IV 3
PHY 231 General University Physics 4
PHY 232 General University Physics 4
PHY 241 General University Physics Laboratory 1
PHY 242 General University Physics Laboratory 1

Subtotal: Premajor hours: 38

Major Requirements Hours

ME 101 Introduction to Mechanical Engineering 3
ME 151 Manufacturing Engineering 3
ME 205 Computer Aided Engineering Graphics 3
ME 220 Engineering Thermodynamics I 3
CS 221 First Course in Computer Science for Engineers 2
EM 221 Statics 3
EM 302 Mechanics of Deformable Solids 3
EM 313 Dynamics 3
EE 305 Electrical Circuits and Electronics 3
ME 310 Engineering Experimentation I 3
ME 311 Engineering Experimentation II 3
ME 321 Engineering Thermodynamics II 3
ME 325 Elements of Heat Transfer 3
ME 330 Fluid Mechanics 3
ME 340 Introduction to Mechanical Systems 3
ME 344 Mechanical Design 3
ME 411 ME Capstone Design I 3
ME 412 ME Capstone Design II 3
ME 440 Design of Control Systems 3
ME 501 Mechanical Design with Finite Element Methods 3

Subtotal: Major hours 59

In addition to the premajor and major requirements, students must complete the following:

Technical Electives Hours

Choose 9 hours from the following:
ME 380 Topics in Mechanical Engineering (Variable Topics) 3
ME 395 Independent Work in Mechanical Engineering 1-3
ME/MFS 503 Lean Manufacturing Principles and Practices 3
ME/MFS 505 Modeling of Manufacturing Processes and Machines 3
ME/MSE 506 Mechanics of Composite Materials 3
ME/MFS 507 Design for Manufacturing 3
ME 510 Vibro-Acoustic Design in Mechanical Systems 3
ME/MFS 512 Manufacturing Systems 3
ME 513 Mechanical Vibrations 3
ME 514 Computational Techniques in Mechanical System Analysis 3
ME 515 Rotordynamics of Turbomachinery 3
ME 527 Applied Mathematics in the Natural Sciences I 3
ME 530 Gas Dynamics 3
ME 531 Fluid Dynamics I 3
ME 532 Advanced Strength of Materials 3
ME 548 Aerodynamics of Turbomachinery 3
ME 549 Power Generation 3
ME/MSE 556 Introduction to Composite Materials 3
ME 560 Engineering Optics 3
ME 563 Basic Combustion Phenomena 3
ME 565 Scale Modeling in Engineering 3
ME/BAE 580 Heating, Ventilating and Air-Conditioning 3
ME 599 Topics in Mechanical Engineering (Subtitle required) 3
MFS 599 Topics in Manufacturing Systems Engineering (Subtitle required) 3
EGR 599 Topics in Engineering 3
MSE 201 Materials Science 3
BAE 502 Modeling of Biological Systems 3
BME 501 Foundations of Biomedical Engineering 3
BME 530 Biomedical Instrumentation 3

Subtotal: Technical Electives: 9

Mathematics Elective **Hours**

Choose one course from the following:

MA 320 Introductory Probability 3
MA 321 Introduction to Numerical Methods 3
MA 322 Matrix Algebra and Its Applications 3
MA 416G Introduction to Optimization 3
MA 432G Methods of Applied Mathematics I 3
MA 433G Introduction to Complex Variables 3
MA 481G Differential Equations 3
STA 381 Engineering Statistics – A Conceptual Approach 3

Subtotal: Mathematics Elective 3

Supportive Elective **Hours**

The supportive elective can be any course that carries college credit and is not a more elementary version of a required course. For example, college algebra would not be satisfactory because it is more elementary than the required calculus courses. The student completing 3 co-op tours (EGR 399) may count the co-op experience toward the supportive elective.

Subtotal: Supportive Elective 3

TOTAL HOURS: 130

Curriculum

Freshman Year

First Semester **Hours**

ME 101 Introduction to Mechanical Engineering 3
CHE 105 General College Chemistry I 4
MA 113 Calculus I 4
CIS/WRD 110 Composition and Communication I 3
UK Core* 3

Second Semester

ME 151 Manufacturing Engineering 3
CHE 107 General College Chemistry II 3
MA 114 Calculus II 4
CIS/WRD 111 Composition and Communication II 3
UK Core* 3

Sophomore Year

First Semester **Hours**

PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1
MA 213 Calculus III 4
CS 221 First Course in Computer Science for Engineers 2
ME 205 Computer Aided Engineering Graphics 3
EM 221 Statics 3

Second Semester

ME 220 Engineering Thermodynamics I 3
PHY 232 General University Physics 4
PHY 242 General University Physics Laboratory 1
MA 214 Calculus IV 3
EM 313 Dynamics 3
UK Core* 3

Junior Year

First Semester **Hours**

EM 302 Mechanics of Deformable Solids 3
EE 305 Electrical Circuits and Electronics 3
ME 330 Fluid Mechanics 3
ME 340 Introduction to Mechanical Systems 3
Graduation Composition and Communication Requirement (GCCR) 3

Second Semester

ME 310 Engineering Experimentation I 3
ME 321 Engineering Thermodynamics II 3
ME 325 Elements of Heat Transfer 3
ME 344 Mechanical Design 3
Mathematics Elective 3

Senior Year

First Semester **Hours**

ME 411 ME Capstone Design I 3
ME 311 Engineering Experimentation II 3
ME 440 Design of Control Systems 3
ME 501 Mechanical Design with Finite Element Methods 3
Technical Elective† 3

Second Semester

ME 412 ME Capstone Design II 3
Technical Electives† 6
Supportive Elective 3
UK Core* 3
UK Core* 3

**To be selected from UK Core courses in consultation with the academic advisor.*

†Technical Electives – from approved list in the UK Bulletin.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING – PADUCAH

In addition to the program on the Lexington campus, students can pursue a B.S. degree in mechanical engineering through the College's Extended Campus Program in Paducah, Kentucky. The Paducah program uses the same curriculum as the main campus, but provides the opportunity for students to complete all B.S. degree requirements without having to relocate to Lexington.

Consistent with the Vision and Mission statements of the University of Kentucky, the mechanical engineering program at the UK Extended Campus in Paducah strives to meet the following educational objectives:

The mechanical engineering program will prepare our students for successful practice or academic pursuits in mechanical engineering.

1. Our graduates will practice mechanical engineering in a variety of fields as professionals and/or be recruited to graduate and professional schools in their career paths.
2. Our graduates will communicate effectively, work in diverse teams, address the challenges of a global society, and exhibit leadership, ethics, and creativity in their work places.
3. Our graduates will value continuing education and professional growth by supporting or participating in professional societies, licensure programs, short courses, or other professional development activities.

The Paducah mechanical engineering program collaborates with West Kentucky Community and Technical College to provide the basic math and science courses, as well as the general studies course requirements. Murray State University faculty members teach upper-level non-engineering courses on the Paducah campus. On-site UK mechanical engineering faculty members and jointly-appointed Murray engineering faculty members teach the upper-division engineering courses. Program admission, course registration, student advising and other student services all can be completed at the Paducah site.

Degree Requirements

The curriculum requirements for the B.S. degree in mechanical engineering in Paducah are identical to those on the Lexington campus. Refer to those degree requirements for the Paducah degree program. Not all the technical electives listed for the Lexington program will be available in Paducah. The student must satisfy the College graduation requirements listed earlier.

BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING

Joint-Degree Program Offered by Western Kentucky University (WKU) and the University of Kentucky (UK)

As part of the "Strategy for Statewide Engineering Education in Kentucky," adopted July 17, 2000 by all the chief executive officers of Kentucky universities and endorsed by the Kentucky Council on Postsecondary Education (CPE), the vision was expressed that "access to undergraduate engineering education will expand primarily through the creation of joint programs managed by multiple postsecondary institutions." In response, WKU and UK now jointly offer an ABET-accredited baccalaureate degree in mechanical engineering on the WKU campus in Bowling Green, Kentucky. By CPE definition, a joint-degree program is "a program that is mutually sponsored by two or more institutions leading to a single credential or degree, which is conferred by both or all participating institutions. All institutions share responsibility for all aspects of the program's delivery and quality."

The joint mechanical engineering program is one of only four such joint-degree programs in Kentucky; the others include a joint-degree program between WKU and UK in civil engineering, between WKU and the University of Louisville (UL) in electrical engineering, and between Murray State University and UL in electrical and telecommunications engineering.

The WKU/UK joint programs emphasize a project-oriented educational approach. Courses are provided by both WKU and UK faculty. Students are required to complete a minimum of 16 credit hours of engineering course work taught by UK engineering faculty. At present, the UK contribution is provided primarily by distance delivery via interactive television. The curriculum of the joint mechanical engineering program is under the direction of a joint program faculty, with equal representation from each participating institution. The curriculum for entering students requires 127.5 credit hours, with the General Studies

component based on the requirements of WKU. Students who complete the program will receive a B.S. degree conferred jointly by WKU and UK. Under the terms of the agreements between the degree-awarding institutions, WKU provides basic administrative support for students in the joint-degree program, including admission services, registration, and student financial aid. In addition, academic advising, laboratory and equipment support, and library and media resources are supplied by WKU.

The mechanical engineering curriculum of the joint program is listed below. The joint program faculty are responsible for on-going review of the curricular requirements.

Curriculum

Freshman Year

Fall Semester	Hours
ME 176 Freshman Design	1
CHEM 116/106 Intro Coll. Chem/LAB	4
MATH 136 Calculus I	4
ENG 100 Freshman English	3
COMM 161 Business Speaking	3
Total	15

Spring Semester	
ME 180 Freshman Design II	3
MATH 137 Calculus II	4
PHYS 255/256 Intro. Mech. & LAB (4, 1)	5
EM 221 UK Statics	3
Category F Elective 1 of 2	1
Total	16

Sophomore Year

Fall Semester	Hours
MATH 331 Differential Equations	3
ME 240/241 Mats./Meth. & LAB (3, 1)	4
PHYS 265/266 Intro E&M & LAB (4, 1)	5
Category F Elective 2 of 2	1
ENG 200 Introduction to Literature	3
Total	16

Spring Semester	
MATH 237 Multivariable Calculus	4
EM 303 WKU Mech. Def. Solids	3
EM 313 UK Dynamics	3
HIST 119/120 Western Civilization	3
ME 200 Sophomore Design	3
ME 347 Mechanics LAB	1
Total	17

Junior Year

Fall Semester	Hours
ME 220 Eng. Thermo I	3
ME 310 Eng. Instrumentation	3
ME 344 UK Mechanical Design	3
MATH/SCIENCE ELECTIVE	3
Category B Elective 1 of 2	3
Total	15

Spring Semester	
ME 300 Junior Design	2
ME 330/332 Fluid Mechanics/LAB	3, 1
EE 210 Circuits/Networks I	3.5
Category C Elective 1 of 2	3
Foreign Lang. Modern Language	3
Total	15.5

Senior Year

Fall Semester	Hours
ME 325/333 Heat Transfer/LAB	3, 1
ME 400 Mech. Engr. Design	2
ME --- ME Tech Elective 1 of 4	3
ME --- ME Tech Elective 2 of 4	3
ENG 300 Junior English	3
Category E Elective 1 of 1	3
Total	15

Spring Semester	
ME 412 ME Senior Project	3
ME --- ME Tech Elective 3 of 4	3
ME --- ME Tech Elective 4 of 4	3
Category B Elective 2 of 2	3
Category C Elective 2 of 2	3
Total	18

TOTAL HOURS 127.5

This curriculum applies to students entering in fall 2013 or later. Currently enrolled students may complete a "Request to Change or Extend Catalog Term/Year" form found on the ICAP main page.

Students are admitted as a Pre-Major in Mechanical Engineering. In order to transition from Pre-Major to Major and to graduate with a degree in Mechanical Engineering, students must satisfy the requirements below. All courses listed below must have a grade of C or better.

Written and Oral Communication

ENG 100 or equivalent credit	3
COMM 145 or 161 or equivalent credit	3

Engineering Design

ME 176 Mech Engineering Freshman Design	1
ME 180 Freshman Design II	3

Mathematics and Science

MATH 136 Calculus I or equivalent credit	4
MATH 137 Calculus II or equivalent credit	4
MATH 237 Multivariable Calculus	4
PHYS 255/256 University Physics I/LAB	5
PHYS 265/266 University Physics II/LAB	5
CHEM 116/106 or CHEM 120/121	4 or 5

Engineering Science

ME 240/241 Materials and Methods of Mfg	3/1
EM 221 or EM 222 Statics	3

TOTAL HOURS 43-44

These Pre-Major eligibility requirements MUST be completed before enrolling ME 300 Junior Design. Check iCAP for progress towards meeting these requirements.

After satisfying the requirements to transition from Pre-Major to Major in Mechanical Engineering, the student must also earn a grade of C or better in the following courses required of the major: EM 303, ME 200, 220, 310, 330, 347, and MATH 331.

Each Mechanical Engineering student's transcript must include at least 16 hours of credit in the major taught by UK faculty members.

UK faculty are scheduled to deliver the following courses to the ME Joint Program: EM 221, EM 313, ME 321, ME 344, ME 416, and a range of technical electives. ME 489 (fall) or 499 (spring)

Each Mechanical Engineering student must also take at least one mathematics/science elective, for a total of a minimum of 32 hours of mathematics and science beginning at MATH 136. This elective must be chosen from the following list:

ME Program Mathematics and Science Electives

PH 280 Introduction to Environmental Science (Equivalent to AGRI 280, CHEM 280, ENV 280, and GEOG 280)
ASTR 214 General Astronomy
BIOL 120/121 Biological Concepts: Cells Metabolism and Genetics
BIOL 122/123 Biological Concepts: Evolution, Diversity, and Ecology
BIOL 207/207C General Microbiology
CHEM 222/223 College Chemistry II
GEOG 121 Meteorology
GEOL 111 The Earth
GEOL 112 Earth History
PHYS 316 Computational Physics
PHYS 318 Data Acquisition Using Labview
PHYS 320 Introductory Modern Physics I
MATH 305 Introduction to Mathematical Modeling
MATH 307 Introduction to Linear Algebra
MATH 310 Introduction to Discrete Mathematics
MATH 370 Applied Techniques in Mathematics
STAT 301 Introductory Probability and Applied Statistics

Consult the WKU Undergraduate Catalog and ICAP for category B, C, E, and F electives. Categories A and D are covered by the plan of study shown. Review the WKU Undergraduate Catalog for current policies concerning the foreign language course.

BACHELOR OF SCIENCE IN MINING ENGINEERING

Mining engineering requires the broadest knowledge of sciences and other fields of engineering in its practice after graduation. The curriculum below prepares the student for a career in the field of mining.

The objectives of the undergraduate program in mining engineering take into consideration the intellectual and personal development of students so that after graduation they will be able to:

- Advance in their careers, adapting to new situations and emerging problems, through the application of general purpose engineering skills and the core technical disciplines, analytical procedures, and design practices of the mining engineering profession.
- Function ethically in a variety of professional roles such as mine planner, designer, production manager, mineral processing engineer, consultant, technical support representative and regulatory specialist with emphasis on the mineral industries of Kentucky and the surrounding region.
- Pursue advanced degrees in mineral-related fields and also those fields that support the mineral industries such as business and law.
- Utilize professional skills such as effective communication, teamwork, and leadership.
- Demonstrate an understanding of the critical role mining engineers play in society with respect to health, safety, and the environment in tangible ways such as achieving professional licensure.

Visit our Web page at:
www.engr.uky.edu/mng

Degree Requirements

Each student must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
MNG 592 Mine Design Project II 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
PHY 231 General University Physics 4
PHY 241 General University Physics Laboratory 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 113 Calculus I 4

VIII. Statistical Inferential Reasoning
MNG 335 Introduction to Mine Systems Analysis 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 33

Graduation Composition and Communication Requirement (GCCR)

MNG 371 Professional Development of Mining Engineers 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements

	Hours
CIS/WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
MA 114 Calculus II	4
MA 213 Calculus III	4
CHE 105 General College Chemistry I	4
PHY 231 General University Physics	4
plus an additional 13 credit hours acceptable towards the degree in mining engineering	13
Subtotal: Premajor hours	**36**

Major Requirements

	Hours
CHE 107 General College Chemistry II	3
CS 221 First Course in Computer Science for Engineers	2
EE 305 Electrical Circuits and Electronics	3
EM 221 Statics	3
EM 313 Dynamics	3
EM 302 Mechanics of Deformable Solids	3
EES 220 Principles of Physical Geology	4
EES 230 Fundamentals of Geology I	3
MA 214 Calculus IV	3
ME 220 Engineering Thermodynamics I	3
ME 330 Fluid Mechanics	3
MNG 101 Introduction to Mining Engineering	1
MNG 191 Mine Graphics	1
MNG 211 Mine Surveying	2
MNG 264 Mining Methods	3
MNG 291 Elements of Mine Design	2
MNG 301 Minerals Processing	3
MNG 302 Minerals Processing Laboratory	1
MNG 303 Deformable Solids Laboratory	1
MNG 322 Mine Safety and Health Management and Processes	2
MNG 331 Explosives and Blasting	2
MNG 332 Mine Plant Machinery	3
MNG 335 Introduction to Mine Systems Analysis	3
MNG 341 Mine Ventilation	3
MNG 371 Professional Development of Mining Engineers	3
MNG 435 Mine Systems Engineering and Economics	4
MNG 463 Surface Mine Design	3
MNG 551 Rock Mechanics	4
MNG 591 Mine Design Project I†	1
MNG 592 Mine Design Project II	3
PHY 232 General University Physics	4
PHY 241 General University Physics Laboratory	1
PHY 242 General University Physics Laboratory	1
Subtotal: Major hours	**84**

†At the time of publication, MNG 591 was being changed from 2 credit hours to 1 credit hour.

Electives

	Hours
Mineral Processing Technical Elective	3
Technical Electives	6
Supportive Elective	3
Subtotal: Electives	**12**
TOTAL HOURS:	**134**

Curriculum

Freshman Year

First Semester

	Hours
CHE 105 General College Chemistry I	4
CS 221 First Course in Computer Science for Engineers	2
CIS/WRD 110 Composition and Communication I	3
MA 113 Calculus I	4
MNG 101 Introduction to Mining Engineering	1
UK Core – Social Sciences	3

Second Semester

CHE 107 General College Chemistry II	3
MA 114 Calculus II	4
MNG 191 Mine Graphics	1
MNG 264 Mining Methods	3
PHY 231 General University Physics	4
PHY 241 General University Physics Laboratory	1

Sophomore Year

First Semester

EM 221 Statics	3
EES 220 Principles of Physical Geology	4
MA 213 Calculus III	4
MNG 331 Explosives and Blasting	2
PHY 232 General University Physics	4
PHY 242 General University Physics Laboratory	1

Second Semester

EM 302 Mechanics of Deformable Solids	3
MA 214 Calculus IV	3
ME 220 Engineering Thermodynamics I	3
CIS/WRD 111 Composition and Communication II	3
MNG 291 Elements of Mine Design	2
MNG 303 Deformable Solids Laboratory	1
MNG 322 Mine Safety and Health Management and Processes	2

Junior Year

First Semester

EE 305 Electrical Circuits and Electronics	3
EES 230 Fundamentals of Geology I	3
ME 330 Fluid Mechanics	3
MNG 211 Mine Surveying	2
MNG 301 Minerals Processing	3
MNG 302 Minerals Processing Laboratory	1
MNG 335 Introduction to Mine Systems Analysis†	3

Second Semester

EM 313 Dynamics	3
MNG 371 Professional Development of Mining Engineers	3
MNG 435 Mine Systems Engineering and Economics	4
MNG 463 Surface Mine Design	3
Minerals Processing Technical Elective*	3

Senior Year

First Semester

MNG 332 Mine Plant Machinery	3
MNG 341 Mine Ventilation	3
MNG 551 Rock Mechanics	4
MNG 591 Mine Design Project I***	1
UK Core – Citizenship - USA	3

Second Semester

MNG 592 Mine Design Project II (UK Core – Arts and Creativity)	3
UK Core – Global Dynamics	3
Technical Electives**	6
Supportive Elective	3
UK Core – Humanities	3

**The Mineral Processing Technical Elective is to be chosen between MNG 575, Coal Preparation Design, and MNG 580, Mineral Processing Plant Design.*

***Courses recommended as technical electives are listed below. These courses must be chosen with the approval of the student's advisor to ensure that the curriculum includes sufficient engineering design content.*

****At the time of publication, MNG 591 was being changed from 2 credit hours to 1 credit hour.*

†MNG 335 satisfies the Statistical Inferential Reasoning requirement in the UK Core.

Technical Electives: Of the two technical electives in the undergraduate program, students are required to select at least one from departmental courses. The remaining course, chosen with the approval of the student's advisor, can be used to fulfill specific educational goals.

MNG 511 Mine Power System Design
MNG 531 Advanced Blast Design and Technology
MNG 541 Computer Design of Mine Ventilation Systems
MNG 561 Mine Construction Engineering I
MNG 563 Simulation of Industrial Production Systems
MNG 572 Advanced Coal Preparation
MNG 575 Coal Preparation Design
MNG 580 Mineral Processing Plant Design
MNG 581 Geostatistics
MNG 599 Topic in Mining Engineering
BAE 438G Fundamentals of Groundwater Hydrology
CE 471G Soil Mechanics
CE 541 Intermediate Fluid Mechanics
EES 450G Sedimentary Geology
EES 585 Hydrogeology

College of Fine Arts

Michael S. Tick, Ph.D., is Dean of the College of Fine Arts.

The College of Fine Arts was established in September 1976 and includes the Department of Theatre and Dance, the School of Art and Visual Studies, the School of Music, the program in Arts Administration, and the Otis A. Singletary Center for the Arts.

Accreditation

Department of Theatre and Dance

The Department of Theatre and Dance is accredited by the National Association of Schools of Theatre (NAST).

School of Art and Visual Studies

The School of Art and Visual Studies is accredited by the National Association of Schools of Art and Design (NASAD).

School of Music

The School of Music is accredited by the National Association of Schools of Music (NASM).

Undergraduate Programs in Fine Arts

The University of Kentucky grants the following degrees in the College of Fine Arts:

- Bachelor of Arts
- Bachelor of Fine Arts
- Bachelor of Music
- Bachelor of Music in Music Education

Students pursuing the Bachelor of Arts may select from these majors: art education, art history and visual studies, art studio, music (successful audition required), theatre, or arts administration.

Students pursuing the Bachelor of Fine Arts select art studio. A portfolio review process is required.

Students pursuing a music degree select the Bachelor of Music with a major in music performance or the Bachelor of Music in Music Education. A successful audition is required.

The college also offers several graduate programs, which are described in *The Graduate School Bulletin*.

Departmental Minors

Students from any college may choose to have an interdisciplinary minor in the arts, or to minor in art history, art studio, dance, digital media and design, music (music theory and history or performance), photography, theatre, and visual studies. Requirements for these minors may be found under the departmental listings.

Undergraduate Certificates in Fine Arts

The University of Kentucky grants the following undergraduate certificates in the College of Fine Arts:

- Musical Theatre Certificate for Voice Majors
- Musical Theatre Certificate for Theatre Majors

Information and requirements for these certificates are listed on page 266. An audition is required.

Financial Aid

School of Music

The School of Music has a number of performance based grants-in-aid and scholarships. Talented singers and instrumentalists should contact the School of Music, (859) 257-4900 or write c/o 105 Fine Arts Building, University of Kentucky, Lexington, KY 40506-0022.

Department of Theatre and Dance

A significant number of scholarships are available from the Department of Theatre and Dance. For further information and to apply online, visit the scholarships page on our Web site at: **finearts.uky.edu/theatre**

Requirements for the Bachelor of Arts Degree

Students who wish to pursue the Bachelor of Arts degree within the College of Fine Arts must fulfill the following requirements:

University Requirements

All students must fulfill UK Core requirements. Students should work closely with advisors in selecting courses in each area.

College Requirements

1. Students must complete at least 120 hours of course work or its equivalent with a grade-point average of at least 2.0. Of these hours, 39 must be at or above the 300 level.
2. Students in music and students in the art history & visual studies major must 1) satisfy a four-semester sequence in one language by passing the fourth semester or by demonstrating equivalent competence, or 2) pass the third semester course in one language and the second semester course in a second language or demonstrate equivalent competence.
3. Students must complete a major program.

Requirements for a Major

The major – selected from art education, art history and visual studies, art studio, music, theatre, or arts administration – must include at least 45 credit hours. Among these 45 hours students must include the following:

1. At least 6 hours of premajor work.
2. At least 18 hours at or above the 200 level in a departmental or school program.
3. At least 9 hours in work related to but outside the major department.

In addition, students must complete the departmental or school requirements that have been established. Specific major requirements are outlined in detail under the appropriate department and school sections which follow.

Requirements for the Bachelor of Fine Arts Degree

The University and College requirements for the B.F.A. are the same as the B.A. requirements outlined above.

Requirements for the Bachelor of Music in Music Performance and in Music Education

These requirements are outlined with other program requirements under the School of Music.

Academic Advising

Advising is conducted through formal meetings with each student every semester to review individual curricular plans and progress towards degree. Lower-division advising (freshman and sophomore standing) is conducted by professional advisors in the Office of Student Affairs, 204 Fine Arts Building. Upper-division students (junior and senior standing) are assigned to faculty advisors/mentors in their major programs.

SCHOOL OF ART AND VISUAL STUDIES

Requirements for the B.A. with a major in ART EDUCATION

Art Education majors who wish to be recommended for a state teaching certificate must complete the requirements for the major in Art Education and the requirements for admission, retention, and completion of a UK educator preparation program in the *College of Education* section of this Bulletin.

The Art Education Program Faculty, the College of Education Director of Academic Services and Teacher Certification, the University Registrar, and in the case of graduate level programs, the UK Graduate School Dean, are charged with the responsibility of monitoring a student's progress through educator preparation programs. The Director of Academic Services and Teacher Certification recommends to the Kentucky Education Professional Standards Board (EPSB) that a successful candidate be awarded a state educator license (certificate).

College Requirements

	Hours
Music, Theatre and/or Arts Administration plus 39 hours at 300-level or above	6
Subtotal: College Required hours	**6**

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity	
A-S 102 Two-Dimensional Surface	
or	
A-S 103 Three-Dimensional Form	3
II. Intellectual Inquiry in the Humanities	
A-H 106 Renaissance to Modern Art	3
III. Intellectual Inquiry in the Social Sciences	
PSY 100 Introduction to Psychology	4
IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences	
Choose one course from approved list	3
V. Composition and Communication I	
CIS/WRD 110 Composition and Communication I	3
VI. Composition and Communication II	
CIS/WRD 111 Composition and Communication II	3
VII. Quantitative Foundations	
MA 111 Introduction to Contemporary Mathematics	3
VIII. Statistical Inferential Reasoning	
STA 200 Statistics: A Force in Human Judgment	3
IX. Community, Culture and Citizenship in the USA	
Recommended:	
Approved A-H course from list	3
X. Global Dynamics	
Recommended:	
Approved A-H course from list	3
UK Core hours	**31**

Graduation Composition and Communication Requirement (GCCR)

EPE 301 Education in American Culture	3
Subtotal: GCCR hours	**3**

Progression Requirement

Students must have earned an overall minimum GPA of 2.5 to progress from premajor to major status.

Premajor Requirements

	Hours
Art Education Foundations	
A-H 105 World Art Before 1400	3
A-H 106 Renaissance to Modern Art	3
A-S 001 Foundation Exhibition	0
A-S 101 Creativity Practices in Art Studio (taken first semester)	1
A-S 102 Two-Dimensional Surface	3
A-S 103 Three-Dimensional Form	3
A-S 130 Drawing	3
A-S 200 Introduction to Digital Art, Space and Time	3
Subtotal: Premajor hours	**19**

Premajor Foundation Exhibition

Each first-year student in the Foundation Program must participate in an annual exhibition to occur late each spring semester. Students will submit one work of their own selection from their first year's work for the exhibition, present it professionally, and provide an accompanying artist's statement. Participation in this exhibition is required and is tracked in A-S 001, Foundation Exhibition.

Major Requirements

Professional and Art Education Requirements

	Hours
CIS/WRD 110 Composition and Communication I	3
CIS/WRD 111 Composition and Communication II	3
PSY 100 Introduction to Psychology	4
EDP 202 Human Development and Learning	3
EDP 203 Teaching Exceptional Learners in Regular Classrooms	3
EPE 301 Education in American Culture	3
A-E 362 Field Experiences in Art Education	1-3
EDL 401 The Professional Teacher: Legal Perspectives	1
EDC 342 Student Teaching in Art	12
EDC 533 Teaching Literacy Across the Disciplines	3
A-E 576 Art in Middle Schools	3
A-E 577 Art in Secondary Schools	3
A-E 578 Art in Elementary Schools	3
A-E 579 Arts and Humanities in Art Education	3
A-S 490 Senior Seminar (To be taken during the final semester of study)	1
Subtotal: Professional and Art Education hours	**49-51**

Continuous Assessment in the Art Education Program

Students' progress through the art education programs is continuously monitored, assessed, and reviewed. In addition to regular evaluation in conjunction with their program course work and field placements, students will be assessed three times in their art education program:

1. **Teacher Education Program (TEP).** Students who desire to declare an Art Education major will demonstrate their progress in the Foundations Program and commitment to advanced undergraduate study through an application to the TEP. In this application, students must demonstrate that they have earned at least 60 credit hours and meet the criteria put forth by the College of Education by filling out the College of Education TEP application form. Upon meeting those criteria, applicants then have a portfolio review and interview with art education faculty to determine entry into the program.

   The TEP criteria include:

   - Total academic record. A minimum overall grade-point average of 2.75 is required.
   - Performance on required tests measuring proficiency in writing, reading and math.
   - Record of completed preprofessional course work, experiences, and awards.

2. **Mid-Level review**. No later than the semester prior to student teaching, students will demonstrate that they meet the criteria put forth by the art education faculty by submitting the materials required for review by the art education faculty.
3. **Student Teaching**. The final assessment is made by the two cooperating public school teachers who supervise the student, and by the observation assessments of the University student teaching supervisor.

Area of Concentration in Art

1. A-E 300 Introduction to Art Education	3
2. Two Art History courses at or above the 300 level	6
3. All of the following courses:	
A-S 310 Painting I	3
A-S 320 Printmedia: Screenprint/Relief	
or	
A-S 321 Printmedia: Intaglio/Lithography	3
A-S 355 Introduction to Sculpture	3
A-S 370 Ceramics I	3
A-S 331 Exploration of Human Form	3
Art Studio electives	6
Subtotal: Area of Concentration in Art hours	**30**
Subtotal: Major hours	**79-81**
TOTAL HOURS:	**minimum of 120**

State Mandated Testing and the Kentucky Teacher Internship

Successful completion of the examinations required by the Kentucky Education Professional Standards Board is a precondition for the granting of a teaching license (certificate). See **www.kyepsb.net/** for the current list of PRAXIS examination requirements for P-12 Art certification.

Upon being recommended for a Kentucky Teaching License (certificate), a candidate will be issued a Kentucky Letter of Eligibility for the Kentucky Teacher Internship Program. Upon employment in a Kentucky P-12 school, the candidate will receive a one-year license to practice as a fully qualified intern Art teacher. After successfully completing the internship year, the candidate will be eligible for a regular Kentucky Professional Teaching License (certificate).

Information concerning licensure in other states is available from the office of Academic Services and Teacher Certification in the College of Education.

Requirements for the B.A. with a major in
ART HISTORY & VISUAL STUDIES

This degree offers its majors a solid foundation in the art and visual cultures of Africa, Asia, and the Western tradition, with advanced courses that present differing approaches to both art history and visual studies. A major in Art History & Visual Studies provides a solid liberal arts education with a strong emphasis on skills in visual literacy, critical thinking, problem solving, and written and oral communication that are required for virtually any career path. The program also equips majors with advanced skills in visual analysis and research.

All majors are required to take a shared art history core of 15 credits. In consultation with their advisor, majors organize their upper-division course work around one of three options: art history, museum studies, or visual studies. Each upper-division option offers a tailored combination of upper-division art history and visual studies courses, foreign language study, and cognate courses in other disciplines. The required capstone course should be taken after majors have completed at least 21 credits of major courses, preferably at the beginning of their last year of course work. The curriculum includes a generous number of electives. If majors plan effectively, they may be able to take a broad range of courses and earn a minor or second major in another discipline.

Any student earning a Bachelor of Arts (B.A.) degree must complete a minimum of 39 hours at the 300 or above level. Depending on the option selected, at least 27 of the 39 hours are completed by the major requirements. However, students should keep this requirement in mind as they select their courses.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

Although the School of Art and Visual Studies offers courses in four of the ten UK Core Areas, majors may not use more than **six** credit hours of courses required for the Art History & Visual Studies major to also satisfy the UK Core Area requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose **one**:
A-S 102 Two-Dimensional Surface
A-S 103 Three-Dimensional Form 3

II. Intellectual Inquiry in the Humanities
Choose **one**:
A-H 101 Introduction to Visual Studies
A-H 106 Renaissance to Modern Art 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
A-H 360 Visual Culture of Politics 3

X. Global Dynamics
A-H 104 African Art and Its Global Impact
or
A-H 311 The Arts as Soft Power:
The Japanese Tea Ceremony 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

A-H 555 Methods in Art History and Visual Studies 3
Subtotal: GCCR hours 3

College Requirements

Music, Theatre and/or Arts Administration 6
plus 39 hours at 300-level or above
Subtotal: College Required hours 6

Premajor Requirements — Hours

The premajor requirements enable students to develop their abilities to observe, describe, and identify visual images, objects, and structures utilizing a shared vocabulary, and to analyze and interpret them in relation to particular cultural and historical circumstances.

Select one of the following (3 credit hours):
A-H 101 Introduction to Visual Studies 3
A-H 106 Renaissance to Modern Art 3

Select one *additional* course from the following (3 credit hours):
A-H 101 Introduction to Visual Studies 3
A-H 104 African Art and Its Global Impact 3
A-H 105 World Art Before 1400 3
A-H 106 Renaissance to Modern Art 3

Plus one of the following (3 credit hours):
A-S 102 Two-Dimensional Surface 3
A-S 103 Three-Dimensional Form 3
A-S 130 Drawing 3
A-S 200 Introduction to Digital Art, Space and Time 3
Subtotal: Premajor hours 9

Major Requirements

To complete this major, students must fulfill the following:

- the shared curriculum core of Art History & Visual Studies courses (15 credit hours)
- one of the three options in the major described below (33 credit hours);
- a capstone course (3 credit hours)
- electives (21 credit hours)

Shared Curriculum Core

Courses from the five shared curriculum core groups are designed to provide students with a broad knowledge of major developments in art history and visual studies. Students will develop skills in visual analysis, research methods, problem solving, and writing and oral communication.

Subtotal: Shared Curriculum Core 15

Select one course from each of the five following groups:

Non-Western Art & Visual Studies (3 credit hours)
A-H 308 Studies in African Arts (Subtitle required) 3
A-H 310 Asian Art and Culture (Subtitle required) 3
A-H 311 The Arts as Soft Power:
The Japanese Tea Ceremony 3

Ancient and Medieval Art & Visual Studies (3 credit hours)
A-H 314 Ancient (Subtitle required) 3
A-H 323 Medieval (Subtitle required) 3

Renaissance and Early Modern Art & Visual Studies (3 credit hours)
A-H 334 Reframing Renaissance Art 3
A-H 335 Early Modern Art & Visual Culture, 1400-1700 (Subtitle required) 3

18th and 19th Century Art & Visual Studies (3 credit hours)
A-H 339 Art & Visual Culture 1700-1840 (Subtitle required) 3
A-H 340 Art & Visual Culture 1840-1914 (Subtitle required) 3

Modern Art & Visual Studies (3 credit hours)
A-H 341 20th Century (Subtitle required) 3
A-H 342 Modern American Art & Visual Studies (Subtitle required) 3
A-H 350 Contemporary Art and Visual Studies (Subtitle required) 3

Students may petition the College to substitute the following courses to fulfill the corresponding historical core category above when the focus of the subtitle is appropriate:

A-H 300 Topics in Art History & Visual Studies (Subtitle required) 3
A-H 301 Cross-Cultural Topics in Art History & Visual Studies (Subtitle required) 3

Option in the Major (select one)

Each of the three options in the major assumes a sound knowledge of art history and visual studies provided by the shared curriculum core. Each requires a foreign language requirement, upper-division art history courses, and courses in one or more cognate disciplines. Majors will want to consult with their advisor in the Art History & Visual Studies program to select the path that best serves their future goals.

Art History Option
(33 credit hours)

This option focuses on the development of the visual arts, particularly on the histories of "high" or "fine" art within a broad liberal arts tradition. Students study artistic images, objects, and events representing diverse cultures within a global context. This option provides majors with historical, methodological, and theoretical knowledge to interpret visual forms as expressions of historical and cultural circumstances.

The program puts strong emphasis on the acquisition of skills in written and oral communication, foreign language comprehension, critical reading, and problem solving, all leading to the pursuit of independent scholarship in art history. These are skills useful for virtually any career path, but specifically, this option prepares majors to pursue post-graduate studies in art history and related humanistic disciplines, leading to careers in academia, arts administration, visual resources, museum professions, and similar fields.

Students who have selected the Art History option are required to have taken A-H 106, Renaissance to Modern Art, which is offered as a premajor requirement option.

Foreign Language (6-7 credit hours)
Complete one of the following sequences *beyond* the UK foreign language requirement:

Option A: Successful completion of the fourth college semester of one foreign language, German or French recommended. (Note: This may be accomplished by scoring at this level on a placement test for previous work in the foreign language.)

Option B: Successful completion of the third college semester course of one foreign language and the second college semester course of a second language. (Note: Either or both may be accomplished by scoring at the appropriate level on a placement test for previous work in the foreign languages selected.)

Option C: Demonstrate equivalent competence. Students for whom English is a second language, for instance, may use their native language to fulfill this requirement.

Upper-Division Art History & Visual Studies Courses (12 credit hours)

Select one of the following courses designed to provide students with direct experience with the art object through either a museum practicum or appropriate course offering:

A-H 399 Experiential Education in Art History & Visual Studies 3
A-H 501 Museum Studies I: Introduction 3
A-H 502 Museum Studies I: Internship 3
A-H 504 Practical Issues in Art History (Subtitle required) 3

Plus at least three Art History & Visual Studies courses at the 300 level or above, of which at least *two* must be from the following seminar areas. To fulfill the requirement, students must select two different seminar numbers (not the same seminar number with different subtitles). These courses provide students with differing perspectives and approaches to the study of the visual arts. Courses may explore interdisciplinary aspects of art history and visual studies, concentrate on an in-depth study of a specialized topic or period, or provide other frameworks beyond the traditional canon.

A-H 524 Theory and Methods (Subtitle required) 3
A-H 525 Studies in Genres and Media (Subtitle required) 3
A-H 526 Art and the Artist in Society (Subtitle required) 3
A-H 527 Interdisciplinary Approaches (Subtitle required) 3
A-H 528 Topical Seminar in Art History & Visual Studies (Subtitle required) 3
A-H 529 Topical Seminar in Architectural or Design History (Subtitle required) 3

Cognate Courses (15 credit hours)

Students must complete 15 hours in courses in anthropology, art studio, arts administration, art professions, classics, history, history of film, history of interior design, history of theatre, literature, music, or philosophy. Foreign language courses over and above the foreign language requirement for the art history option are also encouraged.

Capstone Course (3 credit hours)

Students will demonstrate a broad knowledge of art history and visual studies as well as skills in research and written and oral communication.

A-H 555 Methods in Art History & Visual Studies 3

Electives

In addition, students must choose 21 hours of free electives.

Subtotal: Electives 21

TOTAL HOURS: ..... minimum of 120

Museum Studies Option
(33 credit hours)

This option introduces majors to museology and the variety of careers available within or related to the museum profession. Majors examine the processes by which objects or events are interpreted within the context of museums and the roles that museums, broadly defined, play in society. Courses provide a historical and theoretical overview of museums and examine the critical issues confronting museums in the contemporary world. Museum Studies also establishes a bridge between theory and practice by requiring an experiential education component.

Students who choose this option are interested in working with the art object and often pursue further training leading to careers in galleries, museums of all kinds, auction houses or other institutions which present images, objects or events.

Students who have selected the Museum Studies option are required to have taken A-H 106, Renaissance to Modern Art, offered as an option for a premajor requirement, and A-H 350, Contemporary Art and Visual Studies (Subtitle required), offered as an option in the Modern Art & Visual Studies group of the shared curriculum core

Foreign Language

The UK foreign language requirement satisfies the Museum Studies option. The requirement states that any first-year freshman or transfer student must demonstrate that they have completed two high school credits in a single foreign language, or two semesters at the postsecondary level. A student who has not completed the high school foreign language requirement will be required to take a two-semester foreign language at UK prior to graduation.

Upper-Division School of Art and Visual Studies Courses (18 credit hours)

A-H 501 Museum Studies I: Introduction 3
A-E 560 Museum Education 3

Plus three of the following:

A-H 399 Experiential Education in Art History & Visual Studies 3
A-H 502 Museum Studies II: Internship 3
A-H 504 Practical Issues in Art History (Subtitle required) 3
A-E 550 Community Art Education 3
A-H 529 Topical Seminar in Architectural or Design History (Subtitle required) 3

Plus one of the following:

A-H 524 Theory and Methods (Subtitle required) 3
A-H 525 Studies in Genres and Media (Subtitle required) 3
A-H 526 Art and the Artist in Society (Subtitle required) 3
A-H 527 Interdisciplinary Approaches (Subtitle required) 3
A-H 528 Topical Seminar in Art History & Visual Studies (Subtitle required) 3
A-H 555 Methods in Art History & Visual Studies 3

Cognate Courses (15 credit hours)

Select five from the following. No more than three cognate courses may be from one discipline.

Anthropology

ANT 450 Symbols and Culture 3

Art

The art studio courses taken to satisfy the premajor requirement may not be used as a cognate course.

A-S 102 Two-Dimensional Surface
A-S 103 Three-Dimensional Form 3
A-S 130 Drawing 3
A-S 200 Introduction to Digital Art, Space and Time 3

Arts Administration

AAD 200 Arts Administration Communications 3
AAD 250 Digital Design for Arts Administrators I 3
AAD 310 Marketing for the Arts 3
AAD 320 Fundraising for the Arts 3
AAD 402 Topics in Arts Administration (Subtitle required) 3
AAD 420 Arts Administration: Practices, Policies and the Law 3

Communication

COM 181 Basic Public Speaking 3
COM 287 Persuasive Speaking 3
COM 325 Introduction to Organizational Communication 3

English

WRD 203 Business Writing 3

Foreign Languages

Any course/courses beyond the UK foreign language requirement.

Interior Design

ID 161 History and Theory of Interior Environments I 3
ID 162 History and Theory of Interior Environments II 3

Merchandising, Apparel, and Textiles

MAT 247 Dress and Culture 3

Capstone Course (3 credit hours)

At least one capstone course in Art History & Visual Studies will be offered each semester and so designated in the *Schedule of Classes*. A-H 555 Methods in Art History & Visual Studies, offered once each year, always serves as a capstone course. Students will demonstrate a broad knowledge of art history and visual studies as well as skills in research and written and oral communication.

Electives

In addition, students must choose 21 hours of free electives.

Subtotal: Electives 21

TOTAL HOURS: ..... minimum of 120

Visual Studies Option
(33 credit hours)

Ours is a visual culture. Workplaces today are visually saturated environments, our dominant pastimes are visual media (films, television, video, the Internet, etc.); knowledge is commonly communicated visually. Visual Studies teach critical viewing to prepare us for the visually complex milieu of the 21st Century. As contrasted with traditional humanistic scholarship that focuses on "high" or "fine" art, visual studies are more broadly based, reaching more fully into everyday life to deal with all aspects of culture that communicate through visual means, from paintings and film to advertising and Web sites.

This option offers majors a broad interdisciplinary selection of courses and methodologies from the arts, design, humanities, social sciences, and sciences to study the uses to which people put the visual and the place of the visual within the context of the whole culture. Visual studies ideally examine production and consumption of images, objects, and events in diverse cultures and within a global context.

Students who choose this option could pursue further training leading to careers in visual resource management, law, journalism, or may pursue graduate work in visual studies, cultural studies, film studies, and art history.

Students who select the Visual Studies option are required to have taken A-H 101, Introduction to Visual Studies, offered as an option for the premajor requirement.

Foreign Language

The UK foreign language requirement satisfies the Visual Studies option. The requirement states that any first-year freshman or transfer student must demonstrate that they have completed two high school credits in a single foreign language, or two semesters at the postsecondary level. A student who has not completed the high school foreign language requirement will be required to take a two-semester foreign language at UK prior to graduation.

Upper-Division Art History & Visual Studies Courses (6 credit hours)

Select two of the following. To satisfy this requirement, courses must have a different subtitle from those used to satisfy the shared curriculum core, cognate, or capstone requirements:

*A-H 300 Topics in Art History & Visual Studies (Subtitle required) 3
*A-H 301 Cross-Cultural Topics in Art History & Visual Studies (Subtitle required) 3
A-H 399 Experiential Education in Art History & Visual Studies 3
A-H 504 Practical Issues in Art History (Subtitle required) 3
A-H 524 Theory and Methods (Subtitle required) 3
A-H 525 Studies in Genres and Media (Subtitle required) 3
A-H 527 Interdisciplinary Approaches (Subtitle required) 3
A-H 528 Topical Seminar in Art History & Visual Studies (Subtitle required) 3
A-H 529 Topical Seminar in Architectural or Design History (Subtitle required) 3

Cognate Courses (27 credit hours)

For this requirement, select 9 courses from the following suggested courses. In consultation with their advisors, students may identify and propose other courses relevant to visual studies that may fulfill this requirement. Students must file a College of Fine Arts petition form for approval of any substitution of an alternate course with the College of Fine Arts Dean's Office. At least three of the course selections must be at the 300 level or above; students should bear in mind that some of the courses listed below may have prerequisites. No more than three cognate courses may be from one discipline (ENG, A-S, ANT, etc.).

Anthropology

ANT 450 Symbols and Culture 3

Art

Art History: any course at the 300 level or above not taken to satisfy another major requirement.

Art Studio: any course; courses involving digital media, such as A-S 200, A-S 280, A-S 345 and A-S 346 are encouraged.

Classics

CLA 135 Greek and Roman Mythology 3
CLA 210 The Art of Greece and Rome 3

Communication

COM 101 Introduction to Communications 3
COM 249 Mass Media and Mass Culture 3
COM 449 Mass Media and Social Influence 3
COM 453 Digital and Mass Communication Media Literacy 3
ISC 161 Introduction to Integrated Strategic Communication 3
ISC 319 World Media Systems 3
MAS 520 Social Effects of the Mass Media 3

Design

To register, instructor approval is required.

ARC 212 History and Theory I: 15th-17th Centuries 3
ARC 213 History and Theory II: 18th-19th Centuries 3
ARC 314 History and Theory III: 20th Century and Contemporary Architecture 3
ARC 315 World Architecture and Urbanism 3
ARC 511 History and Theory Seminar: Pre-20th Century (Subtitle required) 3
ARC 512 History and Theory Seminar: Modern (Subtitle required) 3
ARC 513 History and Theory Seminar: Contemporary (Subtitle required) 3

Film Studies

Offered by various language departments/areas.

CHI 321 Introduction to Contemporary Chinese Film 3
CLA 100 Ancient Stories in Modern Films 3
ENG 280 Introduction to Film 3
ENG 284 History of Film I 3
ENG 285 History of Film II 3
ENG 480G Studies in Film (Subtitle required) 3
FR 103 French Cinema 3
GER 105 German Film Today 3
GER 361 German Cinema 3
RUS 275 Russian Film 3
SPA 371 Latin American Cinema (Subtitle required) 3
SPA 372 Spanish Cinema (Subtitle required) 3
JPN 283 Japanese Film 3

History

HIS 597 Westerners in East Asia, 1839 to the Present 3

Interior Design

ID 161 History and Theory of Interior Environments I 3
ID 162 History and Theory of Interior Environments II 3

Journalism

JOU 455 Mass Media and Diversity (Subtitle required) 3

Landscape Architecture

LA 205 History of Landscape Architecture 3

Merchandising, Apparel, and Textiles

MAT 247 Dress and Culture 3

Russian

RUS 370 Russian Folklore (in English) 3
RUS 372 Russian Culture 1900-Present 3

Capstone Course (3 credit hours)

At least one capstone course in Art History & Visual Studies will be offered each semester and so designated in the *Schedule of Classes*. A-H 555 Methods in Art History & Visual Studies, offered once each year, always serves as a capstone course. Students will demonstrate a broad knowledge of art history and visual studies as well as skills in research and written and oral communication.

Electives

In addition, students must choose 21 hours of free electives.

Subtotal: Electives 21

TOTAL HOURS: ..... minimum of 120

Minor in Art History

The minor in Art History focuses on the development of the visual arts, particularly of the histories of "high" or "fine" art, within a broad liberal arts tradition. Students study artistic images, objects, and events representing diverse cultures within a global context. The minor provides students with historical, methodological, and theoretical knowledge to interpret visual forms as expressions of historical and cultural circumstances. Art history courses put strong emphasis on the acquisition of skills in critical reading, problem solving, art historical research, and written and oral communication. Students from any college may choose to minor in art history. Bear in mind that some course options may have prerequisites.

The minor requirements are as follows:

At least one course must be in non-Western Art History & Visual Studies. At least three courses must be at the 300-level or above

1. Two courses selected from the following (6 credit hours):
   A-H 101 Introduction to Visual Studies 3
   A-H 104 African Art and Its Global Impact 3
   A-H 105 World Art Before 1400 3
   A-H 106 Renaissance to Modern Art 3
2. One applied course in the College of Fine Arts appropriate to art history (3 credit hours). Courses in art studio, art education, as well as costume, make-up, or set design would apply.
3. Four additional Art History & Visual Studies courses (A-H prefix; 12 credit hours).

TOTAL HOURS: 21

Minor in Visual Studies

Ours is a visual culture. Workplaces today are visually saturated environments, our dominant pastimes are visual media (films, television, video, the Internet, etc.); knowledge is commonly communicated visually. Visual Studies teaches critical viewing to prepare us for the visually complex milieu of the 21st century. Visual studies is a more broadly based curriculum than is covered by traditional art history, reaching more fully into everyday life to deal with all aspects of culture that communicate through visual means. This minor offers students a broad interdisciplinary selection of courses and methodologies from the arts, design, humanities, social sciences, and sciences. Visual studies ideally examine production and consumption of images, objects, and events in diverse cultures and within a global context. Students from any college may choose to minor in visual studies. Bear in mind that some of the course options may have prerequisites.

The minor requirements are as follows:

No more than four courses may be from Art History & Visual Studies (A-H prefix). At least two courses selected must be taken at the 300 level or above (including requirement #4 below).

1. A-H 101 Introduction to Visual Studies 3
2. One course selected from the following:
   A-H 104 African Art and its Global Impact 3
   A-H 105 World Art Before 1400 3
   A-H 106 Renaissance to Modern Art 3
3. One course selected from the following:
   A-S 102 Two-Dimensional Surface 3
   A-S 103 Three-Dimensional Form 3
   A-S 130 Drawing 3
   A-S 200 Introduction to Digital Art, Space and Time 3
4. One course selected from the following:
   Any Art History & Visual Studies course at the 300 level
5. Three courses selected from the following:
   In consultation with an Art History & Visual Studies advisor, students may identify and propose courses relevant to visual studies other than those listed below to fulfill this requirement. They must file a College of Fine Arts petition form for approval of the substitution of the alternate course with the College of Fine Arts Dean's Office.
   A-H Art History & Visual Studies – up to one additional course
   A-S 200 Introduction to Digital Art, Space and Time (if not already used to fulfill #3 above) 3
   A-S 280 Introduction to Photographic Literacy 3
   A-S 345 Web Design 3
   A-S 346 Digital Video 3
   ANT 450 Symbols and Culture 3
   ARC 212 History and Theory I: 15th-17th Centuries 3
   ARC 213 History and Theory II: 18th-19th Centuries 3
   ARC 314 History and Theory III: 20th Century and Contemporary Architecture 3
   ARC 315 World Architecture and Urbanism 3
   CHI 321 Introduction to Contemporary Chinese Film 3
   CLA 100 Ancient Stories in Modern Films 3
   CLA 135 Greek and Roman Mythology 3
   CLA 210 The Art of Greece and Rome 3
   COM 101 Introduction to Communications 3
   COM 249 Mass Media and Mass Culture 3
   COM 449 Mass Media and Social Influence 3
   COM 453 Digital and Mass Communication Media Literacy 3
   ENG 280 Introduction to Film 3
   ENG 284 History of Film I 3
   ENG 285 History of Film II 3
   ENG 480G Studies in Film (Subtitle required) 3
   FR 103 French Cinema 3
   GER 105 German Film Today 3
   GER 361 German Cinema 3
   HIS 597 Westerners in East Asia, 1839 to the Present 3
   ID 161 History and Theory of Interior Environments I 3
   ID 162 History and Theory of Interior Environments II 3
   ISC 161 Introduction to Integrated Strategic Communication 3
   ISC 319 World Media Systems 3
   JOU 455 Mass Media and Diversity (Subtitle required) 3
   JPN 283 Japanese Film 3
   LA 205 History of Landscape Architecture 3
   MAS 520 Social Effects of the Mass Media 3
   MAT 247 Dress and Culture 3
   RUS 275 Russian Film 3
   RUS 370 Russian Folklore (in English) 3
   RUS 372 Russian Culture 1900-Present 3
   SPA 371 Latin American Cinema (Subtitle required) 3
   SPA 372 Spanish Cinema (Subtitle required) 3

TOTAL HOURS 21

Requirements for the B.A. with a major in ART STUDIO

The main thrust of the B.A. is the pursuit of a broad liberal arts education that extends beyond the purview of the Art Studio curriculum. This degree is available to students wishing to focus in a single medium or a combination of the following media: ceramics, digital media, drawing, fiber, painting, photography, printmaking, and sculpture.

The major in art studio must include the following:

College Requirements

Music, Theatre and/or Arts Administration 6
plus 39 hours at 300-level or above

Subtotal: College Required hours 6

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

NOTE: Students majoring in Art Studio may use no more than three credit hours of courses meeting Major Requirements to fulfill UK Core Requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
A-H 105 World Art Before 1400
or
A-H 106 Renaissance to Modern Art 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

ART 301 Professional Practices 3

Subtotal: GCCR hours 3

Premajor Requirements

Progression Requirement

Students must have earned at least a letter grade of **C** in each of the premajor foundation courses to progress from premajor to major status.

Art Studio Foundations — Hours

1. A-S 101 Creativity Practices in Art Studio (taken first semester) 1
2. Choose one of the following:
   A-H 104 African Art and Its Global Impact 3
   A-H 105 World Art Before 1400 3
3. A-H 106 Renaissance to Modern Art 3
   *A-S 001 Foundation Exhibition 0
   A-S 102 Two-Dimensional Surface 3
   A-S 103 Three-Dimensional Form 3
   A-S 130 Drawing 3
   A-S 200 Introduction to Digital Art, Space and Time 3

Subtotal: Premajor hours 19

**A-S 001 offered spring only and can be taken concurrently with the last of the following four courses: A-S 102, 103, 130, 200.*

Premajor Foundation Exhibition

Each first-year student in the Foundation Program must participate in an annual exhibition to occur late each spring semester. Students will submit one work of their own selection from the first year's work for the exhibition, present it professionally, and provide an accompanying artist's statement. Participation in this exhibition is required and is tracked in *A-S 001, Foundation Exhibition.

**A-S 001 offered spring only. Transfer students should enroll in A-S 001 the first spring semester in which they are enrolled or with their last foundations course.*

Major Requirements

B.A. Entrance Portfolio

Students who plan to declare an Art Studio major will demonstrate their progress in the Foundations Program and commitment to advanced undergraduate study through a mandatory portfolio review. The portfolio is to include selected works of art from each of the student's premajor foundation courses as well as a selection of works that indicates the student's current proposed direction. The portfolio will be created as a requirement of the Professional Practices in Art Studio (A-S 201).

1. ART 191 Art Professions (2 credit hours required)
2. A-S 201 Professional Practices in Art Studio (1 credit hour). Course should be taken the first semester after student has completed all premajor requirements.
3. 24 credit hours of studio courses at or above the 300 level, including the Studio Core requirement (9 credit hours). To fulfill the Studio Core, students must complete one course from each of the following categories:

STUDIO CORE

Category One Options (3 credit hours)
- A-S 310 Painting I
- A-S 320 Printmedia: Screenprint/Relief
- A-S 350 Fiber I

Category Two Options (3 credit hours)
- A-S 355 Introduction to Sculpture
- A-S 370 Ceramics I

Category Three Options (3 credit hours)
- A-S 380 Black and White Darkroom Photography
- A-S 345 Web Design
- A-S 346 Digital Video
- A-S 348 Circuits & Bits: Introduction to Hardware and Software Topics in Arts

4. At least 6 credit hours of art history at or above the 300 level
5. A-S 490 Senior Seminar (1 credit hour; taken during the final semester of study)
6. Participation in a Graduating Seniors' Juried Exhibition in final semester of study
7. At least 9 credit hours in work related to but outside the major. Choice of this related work must be approved by the student's advisor. Courses which are used to fulfill UK Core requirements may also be used to fulfill this related work, when appropriate.

Subtotal: Major hours 43

Required Minor

To fulfill the requirements for the B.A. in Art Studio, students must complete an official UK minor from any area except Art Studio.

Subtotal: Required Minor 18-21

Electives

Students must complete 6-9 hours of free electives.

Subtotal: Electives 6-9

TOTAL HOURS: 120

Requirements for the B.F.A. with a major in ART STUDIO

The B.F.A. program will allow for development of studio practice at a more focused, sophisticated and preprofessional level. This degree is available to students who demonstrate special abilities through a B.F.A. portfolio review of work in the visual arts no earlier than the student's fifth semester of college art study (60 credit hour minimum). Applicants must have completed all art studio premajor and studio core requirements prior to application. A student's program of study may focus on a single medium from the following media: ceramics, digital media, drawing, fiber, painting, photography, printmaking, and sculpture.

Students seeking the Bachelor of Fine Arts in art studio must complete the following:

College Requirements

Music, Theatre and/or Arts Administration 6
plus 39 hours at 300-level or above

Subtotal: College Required hours 6

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

NOTE: Students majoring in Art Studio may use no more than three credit hours of courses meeting Major Requirements to fulfill UK Core Requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
A-H 105 World Art Before 1400
or
A-H 106 Renaissance to Modern Art 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

ART 301 Professional Practices 3

Subtotal: GCCR hours 3

Premajor Requirements

Progression Requirement

Students must have earned at least a letter grade of **C** in each of the premajor foundation courses to progress from premajor to major status.

Art Studio Foundations	Hours
1. A-S 101 Creativity Practices in Art Studio (taken first semester)	1
2. Choose one of the following:	
A-H 104 African Art and Its Global Impact	3
A-H 105 World Art Before 1400	3
3. A-H 106 Renaissance to Modern Art	3
*A-S 001 Foundation Exhibition	0
A-S 102 Two-Dimensional Surface	3
A-S 103 Three-Dimensional Form	3
A-S 130 Drawing	3
A-S 200 Introduction to Digital Art, Space and Time	3
Subtotal: Premajor hours	**19**

**A-S 001 offered spring only and can be taken concurrently with the last of the following four courses: A-S 102, 103, 130, 200.*

Premajor Foundation Exhibition

Each first-year student in the Foundation Program must participate in an annual exhibition to occur late each spring semester. Students will submit one work of their own selection from the first year's work for the exhibition, present it professionally, and provide an accompanying artist's statement. Participation in this exhibition is required and is tracked in *A-S 001, Foundation Exhibition.

**A-S 001 offered spring only. Transfer students should enroll in A-S 001 the first spring semester in which they are enrolled or with their last foundations course.*

Major Requirements

B.F.A. Entrance Portfolio

B.A. Art majors may apply for the B.F.A. degree. The procedure to apply for entry into the Art Studio B.F.A. major consists of a mandatory portfolio review juried by Art Studio faculty. If the quality of the portfolio is not deemed sufficient, students may reapply.

The portfolio will be juried from actual works of art presented in a professional format. The selected works should demonstrate the student's advanced level of study, current proposed direction, and strong evidence that the student can succeed in creating a coherent body of work for a solo exhibition. Students will be present during the review to answer questions regarding formal, technical and conceptual elements of their work. In addition to the in-person review, students will submit an artist's statement and documentation of work presented during the review.

1. ART 191 Art Professions (2 credit hours required)
2. A-S 201 Professional Practices in Art Studio (1 credit hour). Course should be taken the first semester after student has completed all premajor requirements.
3. ART 291 B.F.A. Studio Practicum (2 credit hours required)
4. 36 credit hours of studio courses at or above the 300 level, according to the student's committee-approved plan of study. As a part of this 36 credit hour requirement, majors are to complete one course from each of the three following categories during the sophomore year (or equivalent):

STUDIO CORE

Category One Options (3 credit hours)
- A-S 310 Painting I
- A-S 320 Printmedia: Screenprint/Relief
- A-S 350 Fiber I

Category Two Options (3 credit hours)
- A-S 355 Introduction to Sculpture
- A-S 370 Ceramics I

Category Three Options (3 credit hours)
- A-S 380 Black and White Darkroom Photography
- A-S 345 Web Design
- A-S 346 Digital Video
- A-S 348 Circuits & Bits: Introduction to Hardware and Software Topics in Arts

5. At least 9 hours of art history at or above the 300 level
6. A-S 490 Senior Seminar (1 credit hour; taken during the final semester of study)
7. Participation in a Graduating Seniors' Solo Exhibition, reviewed by a faculty committee in final semester of study
8. At least 9 hours in work related to but outside the major. Choice of this related work must be approved by the student's advisor. Courses which are used to fulfill UK Core requirements may also be used to fulfill this related work, when appropriate.
9. Students are required to complete a minimum of two semesters at the University of Kentucky following admission into the B.F.A. program.

Subtotal: Major hours 60

Electives

Students must complete 9 hours of free electives.

Subtotal: Electives 9

TOTAL HOURS: 120

Minor in Art Studio

Students from any college may choose to minor in Art Studio. They may choose between a broad-based introduction to studio arts or a more focused concentration in a specific medium such as ceramics, drawing, intermedia, fiber, painting, photography, printmaking, or sculpture. All prospective minors should seek advice from an Art Studio faculty member.

To earn a minor in Art Studio, students must complete the following:

	Hours
1. ART 191 Art Professions	2
2. One course chosen from the list below:	
A-S 102 Two-Dimensional Surface	3
A-S 103 Three-Dimensional Form	3
A-S 130 Drawing	3
A-S 200 Introduction to Digital Art, Space and Time	3
3. One course in Art History	3
4. At least 12 hours in studio at the 200 level or above (with a minimum of 9 hours at or above the 300 level)	
Subtotal: Minor hours	**20**

Only 3 hours from courses taken to fulfill a requirement in another major or minor can be used to meet the requirements of the minor in Art Studio. Students must take at least 9 hours of classes at the 200 level or above from the UK Art Studio program.

Minor in Digital Media and Design

Students from any college may choose to minor in Digital Media and Design. Students select approved courses dealing with the creation of digital art and design. Prospective students should seek advice from an Art Studio faculty member or advisor.

To earn a minor in Digital Media and Design, students must complete the following:

1. A-S 200 Introduction to Digital Art, Space and Time	3
2. Five courses chosen from:	
A-H 101 Introduction to Visual Studies	3
A-S 280 Introduction to Photographic Literacy	3
A-S 300 Digital Photography	3
A-S 305 Studio Lighting	3
A-S 340 Introduction to Graphic Design, Meaning and Image	3
A-S 341 Graphic Design: Layout	3
A-S 345 Web Design	3
A-S 346 Digital Video	3
A-S 347 Multimedia (Subtitle required)	3
A-S 348 Circuits & Bits: Introduction to Hardware and Software Topics in Art	3
A-S 385 Digital Methods for Photography	3
Total Minor Hours	**18**

Only 3 hours from courses taken to fulfill a requirement in another major or minor can be used to meet the requirements of the minor in Digital Media and Design. Students must take at least 9 hours of classes from the UK Art Studio program.

Minor in Photography

Students from any college may choose to minor in Photography. Students select approved courses dealing with the photographic arts from the 19th century to the present. All prospective minors should seek advice from an Art Studio faculty member or advisor.

To earn a minor in Photography, students must complete the following:

1. Complete at least one of the following courses:	
A-S 200 Introduction to Digital Art, Space and Time	3
A-S 280 Introduction to Photographic Literacy	3
A-S 300 Digital Photography	3
A-S 380 Black & White Darkroom Photography	3
2. Complete an additional five courses from the following list:	
A-H 101 Introduction to Visual Studies	3
A-H 343 History of Photography	3
A-S 200 Introduction to Digital Art, Space and Time	3
A-S 280 Introduction to Photographic Literacy	3
A-S 300 Digital Photography	3
A-S 305 Studio Lighting	3
A-S 345 Web Design	3
A-S 346 Digital Video	3
A-S 380 Black & White Darkroom Photography	3
A-S 381 Advanced Black & White Darkroom Photography	3
A-S 384 Color Photography I	3
A-S 385 Digital Methods for Photography	3
A-S 386 Nonsilver Photography I	3
A-S 480 Professional Practices in Photography	3
A-S 580 Photography III	3
A-S 581 Photography IV	3
A-S 584 Color Photography II	3
A-S 586 Nonsilver Photography II	3
Subtotal: Minor hours	**18**

Only 3 hours from courses taken to fulfill a requirement in another major or minor can be used to meet the requirements of the minor in Photography. Students must take at least 9 hours of classes at the 200 level or above from the UK Art Studio program.

SCHOOL OF MUSIC

Requirements for the B.A. with a major in MUSIC

Admission to the B.A. program in music is granted only after the successful completion of an audition in the student's performance area.

The major in music must include the following:

College Requirements

Art, Theatre and/or Arts Administration	6
plus 39 hours at 300-level or above	
Subtotal: College Required hours	**6**

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity	
Choose one course from approved list	3
II. Intellectual Inquiry in the Humanities	
Choose one course from approved list	3
III. Intellectual Inquiry in the Social Sciences	
Choose one course from approved list	3
IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences	
Choose one course from approved list	3
V. Composition and Communication I	
CIS/WRD 110 Composition and Communication I	3
VI. Composition and Communication II	
CIS/WRD 111 Composition and Communication II	3
VII. Quantitative Foundations	
Choose one course from approved list	3
VIII. Statistical Inferential Reasoning	
Choose one course from approved list	3
IX. Community, Culture and Citizenship in the USA	
Choose one course from approved list	3
X. Global Dynamics	
Choose one course from approved list	3
UK Core hours	**30**

Graduation Composition and Communication Requirement (GCCR)

MUS 304 Music Communication I: Oral Communication of Music	1
MUS 305 Music Communication II: Written Communication of Music	1
Subtotal: GCCR hours	**2**

Lower Division Major Requirements

	Hours
1. Music Theory: MUS 170, 171, 172, 173, 270, 271, 272, 273	16
2. Music History: MUS 203	3
3. Major musical instrument or voice performance course of 2 hours each semester	8
4. Ensemble	4
5. All music majors must pass a piano proficiency examination and should schedule, in consultation with their advisor, a suitable course each semester until this requirement is completed. Students with little or no prior piano study should normally expect to complete the piano proficiency examination by the end of four semesters of study	4 or as needed
6. MUS 001 Recital Attendance (four courses – zero credit – completed satisfactorily)	0
Subtotal: Lower Division hours	**31-35**

Foreign Language

To satisfy the requirement students must: 1) satisfy a four-semester sequence in one language by passing the fourth semester, or 2) pass the third semester course in one language and the second semester course in a second language, or 3) demonstrate equivalent competence.

Subtotal: Foreign Language	**12-19**

Upper Division Major Requirements

	Hours
1. Continuation of major musical instrument or voice performance courses above the sophomore level	4
2. MUS 372 Musical Analysis	2
3. MUS 302 and 303	6
5. Ensemble	2
6. Music courses chosen from upper division courses appropriate to the areas of music history, theory, composition, and literature	10
7. Electives: To include 12 hours in courses related to the major but outside the School of Music. The student's advisor must approve choice of this related work. Courses used to fulfill UK Core requirements may be used to fulfill this related work, when appropriate.	
Subtotal: Upper Division hours	**38**
TOTAL HOURS:	**120**

Requirements for the BACHELOR OF MUSIC
with a major in Music Performance

Admission to the Bachelor of Music program in music performance is granted only after the successful completion of an audition in the student's performance area.

To earn a Bachelor of Music degree in music performance, a student must complete 120 credit hours and have at least a 2.0 grade-point standing. At the conclusion of the sophomore year and before continuing in music performance at the upper division level, each student must perform before the music performance faculty for approval. Each student must also present a full recital during the senior year.

Students in music performance must complete the following:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

MUS 304 Music Communication I: Oral Communication of Music 1
MUS 305 Music Communication II: Written Communication of Music 1
Subtotal: GCCR hours 2

Major Requirements — Hours

Music Theory
MUS 170, 171, 172, 173, 270, 271, 272, 273 16

Major Instrument Study
Choose option from Instrument, Piano, Organ or Voice (see below) 24

Recital Attendance
MUS 001 Recital Attendance (four courses – zero credit – completed satisfactorily) 0

Music History
MUS 203, 302, 303, plus one course elected from MUS 500, 501, 502, 503, 504, 505 or 506 12

Appropriate Music Ensemble
Each semester 8

Subtotal: Major hours 60

Students in music performance must choose one of the following concentrations:

Concentration in an Instrument

1. All music majors must pass a piano proficiency examination and should schedule, in consultation with their advisor, a suitable course each semester until this requirement is completed. Students with little or no prior piano study should normally expect to complete the piano proficiency examination by the end of four semesters of study ..... 4 or as needed
2. Music Theory: MUS 370, 371, 372, and choice of MUS 572 or 573 9
3. Conducting: MUS 358 2
4. Electives 13
5. Senior Recital (MUP 440): the successful completion of a solo recital must be completed for graduation.

Subtotal: Instrument Concentration 28

Concentration in Piano

1. All music majors must pass a piano proficiency examination. Piano majors work toward this goal as part of their keyboard study 0
2. Music Theory: MUS 370, 372, and choice of MUS 572 or 573 7
3. Piano Literature: MUS 522 3
4. Piano Pedagogy: MUS 566 3
5. Conducting: MUS 358 2
6. Electives 15
7. Senior Recital (MUP 440): the successful completion of a solo recital must be completed for graduation.

Subtotal: Piano Concentration 30

Concentration in Organ

1. All music majors must pass a piano proficiency examination. Organ majors work toward this goal as part of their keyboard study 0
2. Piano – one credit course MUP 101, MUP 201, each repeated once 4
3. Music Theory: MUS 370, 372, and choice of MUS 572 or 573 7
4. Organ Literature: MUS 521 3
5. Conducting: MUS 358 2
6. Electives 14
7. Senior Recital (MUP 440): the successful completion of a solo recital must be completed for graduation.

Subtotal: Organ Concentration 30

Concentration in Voice

1. All music majors must pass a piano proficiency examination and should schedule, in consultation with their advisor, a suitable course each semester until this requirement is completed. Students with little or no prior piano study should normally expect to complete the piano proficiency examination by the end of four semesters of study ..... 4 or as needed
2. Music Theory: MUS 370, 372, and choice of MUS 572 or 573 7
3. Foreign Language – Select two languages from Italian, French, or German and pass the third semester course of one language (or demonstrate equivalent competence) and the second semester course of another language (or demonstrate equivalent competence); or from these same three languages, pass the second semester course of one language (or demonstrate equivalent competence), the second semester course of a second language (or demonstrate equivalent competence) and the first semester of a third language (or demonstrate equivalent competence) 0-19
4. Foreign Language Vocal Diction: MUS 120 (four semesters) 4
5. Vocal Solo Literature: MUS 520 3
6. Conducting: MUS 358 2
7. Opera Workshop: MUC 196 (two semesters) 2
8. Movement for Singers: MUC 197 1
9. Opera Practicum: MUC 198 (two semesters) 2
10. Electives 6-8
11. Senior Recital (MUP 440): the successful completion of a solo recital must be completed for graduation.

Subtotal: Voice Concentration 20-48

TOTAL HOURS: 120

Requirements for the BACHELOR OF MUSIC IN MUSIC EDUCATION

The major in music education is the joint concern of the School of Music in the College of Fine Arts and the Department of Curriculum and Instruction in the College of Education. Admission to the program is granted only after the successful completion of an audition in the student's performance area. In addition to completing the required courses, the student must present a half-recital or the equivalent on the major instrument or in voice during or after the sixth semester of study.

Music education majors who wish to receive a teaching certificate must meet the certification requirements of the College of Education, as well as the requirements for the College of Fine Arts. To qualify for student teaching and state teacher certification, a student must be officially admitted into the Teacher Education Program. Certification also requires successful completion of the NTE/Praxis II and a one-year paid internship. Additional information on TEP, NTE/Praxis II, certification and internship is outlined in the *College of Education* section of this Bulletin.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
*PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours **31**

**PSY 100 is required for certification. It also fulfills the Social Sciences area of the UK Core.*

Graduation Composition and Communication Requirement (GCCR)

EPE 301 Education in American Culture 3
Subtotal: GCCR hours **3**

Professional Education Requirements

Hours

EDP 202 Human Development and Learning 3
EDP 203 Teaching Exceptional Learners in Regular Classrooms 3
EPE 301 Education in American Culture 3
EDC 377 Student Teaching in Music 12
Computer Competency: MUS 317 or EDC 317 or equivalent 0-1

Subtotal: Professional Education **21-22**

Music Requirements – General

Hours

Recital Attendance: (four courses – zero credit – completed satisfactorily) 0
Music Theory: MUS 170, 171, 172, 173, 270, 271, 272, 273, 371, 372 20
Music History: MUS 203, 302, 303 9
Performance: MUP in major performance area 12
Senior Recital (MUP 440): the successful completion of one half a solo recital must be completed for graduation.
Ensembles (one of which must be a chamber music ensemble) 6
Electives 6

Subtotal: General Major Requirements **53**

Music Requirements – Major Performance Areas

Depending on the area of interest, the student must select one of the major performance areas below:

Major Performance Area – Vocal

Hours

A. Diction: MUS 120 (two semesters) 2
B. All music majors must pass a piano proficiency examination and should schedule, in consultation with their advisor, a suitable course each semester until this requirement is completed. Students with little or no prior piano study should normally expect to complete the piano proficiency examination by the end of four semesters of study. Music Education majors should pass the piano proficiency examination at least two semesters before student teaching. ..... 4 or as needed
C. Music Education: MUS 262, 264, 360, 361, 362 .. 15
D. Secondary Instruments–choose three of the following: MUC 157, MUC 158, MUC 161, MUC 163 3

Subtotal: Vocal Performance Area **24**

Major Performance Area – Keyboard

Hours

A. All music majors must pass a piano proficiency examination. Keyboard majors work towards this goal as part of their keyboard study. Music education majors should pass the piano proficiency exam at least two semesters before student teaching.
B. Minor Performance: MUP 102, 202 3
A voice proficiency test must be passed prior to student teaching.
C. Pedagogy and Literature–select one of the following: MUS 522, 523, 566 3
D. Music Education: MUS 262, 264, 360, 361, 362 .. 15
E. Secondary Instruments–choose three of the following: MUC 157, MUC 158, MUC 161, MUC 163 3

Subtotal: Keyboard Performance Area **24**

Major Performance Area – Woodwinds, Brass, Strings, Percussion

Hours

A. All music majors must pass a piano proficiency examination and should schedule, in consultation with their advisor, a suitable course each semester until this requirement is completed. Students with little or no prior piano study should normally expect to complete the piano proficiency examination by the end of four semesters of study. Music Education majors should pass the piano proficiency examination at least two semesters before student teaching. ..... 4 or as needed
B. Secondary Instruments
Brass, Woodwind and String majors: Choose five hours from MUC 158, 161, and 163, plus one hour of MUC 157 6
Percussion majors: Take two hours each of MUC 158, 161, and 163 6
C. Music Education: MUS 263, 265, 360, 363, 365 .. 15

Subtotal: Woodwinds, Brass, Strings, Percussion Performance Area **25**

TOTAL HOURS: ..... **minimum of 120**

Minor in Music

Students from any college may complete a minor in Music, selecting either an emphasis in theory/history or performance. Such a minor consists of at least 18 hours of course work in music. In the theory/history emphasis, six to nine hours of music theory, six to nine hours of music history, and three hours of music performance are required. In the performance emphasis, eight hours of performance instruction, four hours of appropriate ensemble, and six hours of music history or theory are required. A successful audition is required for private performance study in the designated area (level of performance expectation is that of entering freshman music major). The course requirements are as follows:

Minor in Music: Music Theory and History

1. **Music Theory** (6 to 9 hours)
Students should choose from:
MUS 174 Theory for Non-Music Majors 3
MUS 170/171 Theory I: Elementary Aural and Written Theory 4
(Theory placement examination or MUS 174 is a prerequisite)
MUS 172/173 Theory I: Elementary Aural and Written Theory 4
(MUS 170/171 are prerequisites)

2. **Music History** (6 to 9 hours)
Students should choose from:
MUS 100 Introduction to Music 3
MUS 201 Music in Western Culture to 1700 3
MUS 202 Music in Western Culture, 1700 to Present .. 3
MUS 203 History of Music I 3
MUS 206 American Music 3
MUS 220 Symphonic Music 3
MUS 221 Survey of Vocal Music: Opera, Art Song, Choral Music 3
MUS 300 History of Jazz 3
MUS 301 Appalachian Music 3
MUS 302 History of Music II 3
MUS 303 History of Music III 3
MUS 330 Music in the World (Subtitle required) 3

3. **Performance** (3 hours)
Students may choose class or private performance instruction (1 to 2 hours) or ensemble (1 to 2 hours).

Minor in Music: Performance

1. **Performance Study** (12 hours)
Performance instruction (8 hours) – four semesters, sequential enrollment in MUP courses at appropriate level; 2 hours per semester.
Ensemble (4 hours) in appropriate ensemble.

2. **Music History and Theory** (6 hours)
Courses to be chosen from the following:
MUS 174 Theory for Non-Music Majors 3
MUS 170/171 Theory I: Elementary Aural and Written Theory 4
(Theory placement examination or MUS 174 is a prerequisite)
MUS 172/173 Theory I: Elementary Aural and Written Theory 4
(MUS 170/171 are prerequisites)
MUS 100 Introduction to Music 3
MUS 201 Music in Western Culture to 1700 3
MUS 202 Music in Western Culture, 1700 to Present .. 3
MUS 203 History of Music I 3
MUS 206 American Music 3
MUS 220 Symphonic Music 3
MUS 221 Survey of Vocal Music: Opera, Art Song, Choral Music 3
MUS 300 History of Jazz 3
MUS 301 Appalachian Music 3
MUS 302 History of Music II 3
MUS 303 History of Music III 3
MUS 330 Music in the World (Subtitle required) 3

Note: *Some variation in the above courses is possible, with written approval from the Director of Undergraduate Studies, School of Music. The availability of the minor in music performance is dependent on sufficient time within the appropriate instructor's designated teaching load.*

Undergraduate Certificates in Musical Theatre

The Department of Theatre and Dance and the School of Music in the College of Fine Arts offer an undergraduate interdisciplinary Certificate in Musical Theatre. By combining the efforts and resources of the Department of Theatre and Dance and the School of Music, students are able to take the breadth of course work necessary for a fundamental experience in musical theatre. The course work includes acting, dance, voice, and musical theatre techniques. This certificate will provide desired course work as well as performance opportunities for undergraduate students.

The course work in the certificate is designed to use the strengths of each unit and supplement them with course work from the other unit. For example, music students don't need additional voice work, but they do need training in acting and dance in order to be educated in musical theatre. Theatre students have access to both acting and

dance classes, but lack sufficient preparation in voice and music for musical theatre. The Certificate provides an interdisciplinary bridge between the two programs.

Upon completion of the Musical Theatre Certificate students will be able to:

- apply and exhibit proficiency in vocal technique within the forms and styles of the musical theatre canon
- apply and exhibit proficiency in diverse acting techniques and styles necessary for the forms and styles of musical theatre
- apply and exhibit proficiency in diverse dance techniques and styles necessary for the forms and styles of musical theatre
- synthesize acting, singing, and dancing in a musical theatre performance

Applying to the Program

Students audition in April during the spring semester to enroll and be accepted into the Certificate program. Students participate in a dance audition, and perform a short monologue and section of a song for the selection process. This process is similar to one that students can be expected to perform and compile as their audition material for any local, regional, or national musical theatre performance opportunity.

Students entering the Certificate Program must have a 3.0 GPA in their major course work.

Musical Theatre Certificate for Voice Majors

The Musical Theatre Certificate for Voice Majors provides an opportunity for theatre majors to enhance a specific set of skills and techniques required for musical theatre performance, enriching their undergraduate experience and course work in their primary degree program.

Requirements for the Musical Theatre Certificate for Voice Majors

The certificate in musical theatre for voice majors requires 15 credits, including the following:

TA 348 Musical Theatre Technique 3
TAD 147 Beginning Musical Theatre Dance 2
TAD 347 Advanced Musical Theatre Dance 2
TAD 243 Jazz Dance II 2
TAD 242 Ballet II 2
TA 237 Acting: Scene Study 3

Practicum

Students complete a practicum course where skills are applied and observed:

TA 390 Theatre Practicum
or
MUC 198 Opera Production Practicum 1

Total hours: **15**

DEPARTMENT OF THEATRE AND DANCE

Our program of study emphasizes the intersection of practice and theory and is geared toward students who are interested in theatre and dance as part of a liberal arts education. Students create a program that is unique to their interests and strengths, with freedom to choose between a wide variety of electives to complete a truly individualized course of study. Theatre courses emphasize the collaborative nature of the art form, which encompasses performance, literature, design, history, artistic community, and intellectual rigor. Dance courses enhance critical thinking and analytical skills, cooperation and teamwork, self-expression and self-esteem, organization and problem solving, and cultural literacy. They also provide integral skills for theatre and opera students who want to market themselves as versatile performers.

Requirements for the B.A. with a major in THEATRE

The major in theatre must include the following:

College Requirements

Art, Music and/or Arts Administration 6
plus 39 hours at 300-level or above

Subtotal: College Required hours **6**

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours **30**

Graduation Composition and Communication Requirement (GCCR)

TA 383 Play Analysis 3
Subtotal: GCCR hours **3**

Core Major Requirements — Hours

*TA 120 Creativity and the Art of Acting
or
TA 126 Acting I: Fundamentals of Acting 3

TA 237 Acting: Scene Study
or
TA 267 Lighting and Sound Technology 3

TA 260 Stagecraft 3
TA 265 Costume Construction 3

one of following courses:
TA 365 Costume Design
TA 367 Lighting Design
TA 374 Scene Design 3

*TA 385 World Theatre I 3
*TA 386 World Theatre II 3
TA 383 Play Analysis 3
TA 275 Stage Management 3
TA 490 Senior Capstone 1
TA 390 Theatre Practicum (repeat five times) 5

Core Major Requirement hours **33**

**Course may be used towards completion of a UK Core Requirement.*

Theatre Electives

In addition, students are required to complete 12 credits of theatre electives. If a student has a particular interest area within theatre, these electives may be selected and completed within a specific theatre focus under the guidance of their advisor.

Performance Focus

TA 236 Acting: Comedy Styles 3
TA 311 Audition Techniques 3
TA 326 Advanced Acting (Subtitle required) 3
TA 336 Advanced Acting: Classical Styles 3
TA 225 Vocal Production for the Stage I 3
TA 330 Theatre Directing I 3
TA 530 Experiment in Directing 3
TAD 141 Modern Dance I 2
TAD 241 Modern Dance II 2
TAD 142 Ballet I 2
TAD 242 Ballet II 2
TAD 143 Jazz Dance I 2
TAD 243 Jazz Dance II 2
TAD 147 Beginning Musical Theatre Dance 2
TAD 347 Advanced Musical Theatre Dance 2
TA 348 Musical Theatre Technique 3
TAD 244 Dance Improvisation 1
TAD 245 Choreography 2
TA 399 Field Based/
Community Based Education 1-15
TA 300 Special Projects in Theatre
(Subtitle required) 1-3
TA 395 Independent Work 1-3

Design and Technology Focus

*TA 150 Creativity and the Art of
Design and Production 3
TA 365 Costume Design 3
TA 367 Lighting Design 3
TA 374 Scene Design 3
TA 368 Visual Storytelling 3
TA 470 Advanced Project in Design 3
TA 361 Graphics for Theatre 3
TA 499 Professional Theatre Internship 1-12
TA 350 Topics in Theatre 3
TA 395 Independent Work 1-3

**Course may be used towards completion of a UK Core Requirement.*

Playwriting Focus

TA 516 Playwriting 3
TA 526 Playwriting II 3
TA 370 Staging History 3
TA 387 Seminar in Dramatic Literature (Subtitle required) 3
TA 395 Independent Work 1-3

General Theatre Studies Focus

*TA 110 Theatre: An Introduction 3
*TAD 140 Introduction to Dance 3
TA 286 Social Action Theatre 3
TA 384 Black Theatre Workshop 3
TA 387 Seminar in Dramatic Literature (Subtitle required) 3
FA 501 Arts-Study Tour 3
HON 352 Study and Travel Abroad (Subtitle required) 3
TA 485 French Theatre: Culture, Text and Performance 3
TA 587 Gender and Performance (Subtitle required) 3
TA 584 Asian Theatre 3

**Course may be used towards completion of a UK Core Requirement.*

Theatre Elective hours 12

Electives

Students can choose electives to lead to the minimum total of 120 hours required for graduation

TOTAL HOURS: 120

Minor in Theatre

Students from any college may choose to minor in Theatre. This minor requires at least 19 hours of course work arranged as follows:

Prerequisite — Hours

One theatre course chosen from the list below:

TA 110 Theatre: An Introduction 3
TA 120 Creativity and the Art of Acting 3
TA 126 Acting I: Fundamentals of Acting 3
TA 150 Creativity and the Art of Design and Production 3

When appropriate, upper level courses may be substituted with the approval of the student's advisor and the chairperson of the Department of Theatre and Dance.

Performance/Production Experience

TA 390 Theatre Practicum 1

Elected Theatre Courses (15 hours)

15 credits of theatre electives of which 6 must be at the 300 level and above.

Minor in Dance

The Dance program in the Department of Theatre and Dance was launched in 2011. Classes are available in modern, musical theatre, ballet and more, as well as an Introduction to Dance course under the UK Core Arts and Creativity curriculum. The program presents one annual concert with guest choreographers (auditions are open to all UK students). This minor requires at least 21 hours of course work to include:

Dance Minor Requirements (21 hours)

TAD 140 Introduction to Dance 3
TAD 141 Modern Dance I 2
TAD 241 Modern Dance II 2
TAD 244 Dance Improvisation 1
TAD 245 Choreography 2
TAD 370 Dance History 3

Plus one additional Dance Technique Course:

TAD 142 Ballet I 2
TAD 242 Ballet II 2
TAD 143 Jazz Dance I 2
TAD 243 Jazz Dance II 2
TAD 147 Beginning Musical Theatre Dance 2
TAD 447 Studies in Dance (Subtitle required) 2

Plus 6 hours from the following courses:

TAD 142 Ballet I 2
TAD 242 Ballet II 2
TAD 143 Jazz Dance I 2
TAD 243 Jazz Dance II 2
TAD 147 Beginning Musical Theatre Dance 2
TAD 345 Choreography II 2
TAD 347 Advanced Musical Theatre Dance 2
TAD 447 Studies in Dance (Subtitle required) 2
TAD 392 Dance Ensemble Practicum 1

Undergraduate Certificates in Musical Theatre

The Department of Theatre and Dance and the School of Music in the College of Fine Arts offer an undergraduate interdisciplinary Certificate in Musical Theatre. By combining the efforts and resources of the Department of Theatre and Dance and the School of Music, students are able to take the breadth of course work necessary for a fundamental experience in musical theatre. The course work includes acting, dance, voice, and musical theatre techniques. This certificate will provide desired course work as well as performance opportunities for undergraduate students.

The course work in the certificate is designed to use the strengths of each unit and supplement them with course work from the other unit. For example, music students don't need additional voice work, but they do need training in acting and dance in order to be educated in musical theatre. Theatre students have access to both acting and dance classes, but lack sufficient preparation in voice and music for musical theatre. The Certificate provides an interdisciplinary bridge between the two programs.

Upon completion of the Musical Theatre Certificate students will be able to:

- apply and exhibit proficiency in vocal technique within the forms and styles of the musical theatre canon
- apply and exhibit proficiency in diverse acting techniques and styles necessary for the forms and styles of musical theatre
- apply and exhibit proficiency in diverse dance techniques and styles necessary for the forms and styles of musical theatre
- synthesize acting, singing, and dancing in a musical theatre performance

Applying to the Program

Students audition in April during the spring semester to enroll and be accepted into the Certificate program. Students participate in a dance audition, and perform a short monologue and section of a song for the selection process. This process is similar to one that students can be expected to perform and compile as their audition material for any local, regional, or national musical theatre performance opportunity.

Students entering the Certificate Program must have a 3.0 GPA in their major course work.

Musical Theatre Certificate for Theatre Majors

The Musical Theatre Certificate for Theatre Majors provides an opportunity for voice majors to enhance a specific set of skills and techniques required for musical theatre performance, enriching their undergraduate experience and course work in their primary degree program.

Requirements for the Musical Theatre Certificate for Theatre Majors

The certificate in musical theatre for theatre majors requires 18 credits, including the following:

Vocal Ensemble Class

Choose one of the following:
MUC 192 University Choristers
MUC 174 University Chorale
MUC 196 Opera Workshop 1

Voice Class

Choose one of the following:
MUP 102 Applied Voice*
MUC 155 Voice Class for Non-Music Majors* 1

MUC 150 Class Instruction in Piano 1
TA 348 Musical Theatre Technique 3
TAD 242 Ballet II 2
TAD 243 Jazz Dance II 2
TA 237 Acting: Scene Study 3
TAD 147 Beginning Musical Theatre Dance 2
TAD 347 Advanced Musical Theatre Dance 2

Practicum

Students complete a practicum course where skills are applied and observed:

TA 390 Theatre Practicum
or
MUC 198 Opera Production Practicum 1

Total hours: 18

**Theatre Majors who are Voice Minors within the School of Music would be able to register for MUP 102, Applied Voice. Other Theatre Majors could enroll in MUC 155, Voice for Non-Majors unless an appropriate private voice instructor or graduate student was available.*

INTERDISCIPLINARY PROGRAMS

Requirements for the B.A. with a major in ARTS ADMINISTRATION

The demand for arts administrators remains strong. What was once a small niche has transformed into an industry of professionals trained to manage theatres, symphony halls, galleries, museums, community art councils, orchestras, art centers, and many other types of institutions. In fact, the nonprofit arts industry employs approximately 1.3 million individuals annually.

UK's Arts Administration degree program is designed to teach students the concepts, technologies, and skills necessary to successfully direct an arts organization in a competitive and changing environment. The program advocates a devotion to the arts, an interest in community development and integration, a focus on contemporary and relevant arts trends, and the belief that we can create a positive change by taking skills and knowledge out of the classroom and into the world.

Admission

To be admitted into the Arts Administration Program as a major, an applicant must first:

1. be enrolled in the University of Kentucky;
2. complete 30 semester hours of course work;
3. have a minimum 2.8 cumulative grade-point average; and
4. complete premajor core requirements (AAD 150, AAD 200, AAD 250, CIS/WRD 111, completion of Quantitative Foundations in UK Core, completion of Statistical/Inferential Reasoning in UK Core with a cumulative grade-point average of 3.0 in premajor courses.

Students meeting these requirements will be accepted as majors in the program. Applications for admission must be submitted before the end of the semester prior to a student taking an upper division Arts Administration course.

Students who want to be a major, but have not met one or more of the above requirements will be designated as "premajors." There is no application procedure for students to become Arts Administration premajors. Upon their request, premajors will be assigned Arts Administration advisors and folders will be created for them.

Students in arts administration must complete the following program requirements:

College Requirements

Art, Music or Theatre outside of AAD arts discipline 6
plus 39 hours at 300-level or above

Subtotal: College Required hours 6

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

NOTE: Students majoring in Arts Administration may use no more than six credit hours within the Arts Administration major requirements to fulfill UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

AAD 450 Arts Administration Senior Seminar 3
Subtotal: GCCR hours 3

Premajor Requirements — Hours

AAD 150 Exploring Arts Administration 3
AAD 200 Arts Administration Communications 3
AAD 250 Digital Design for Arts Administrators I 3
CIS/WRD 111 Composition and Communication II 3
UK Core – Quantitative Foundations 3
UK Core – Statistical/Inferential Reasoning 3

Subtotal: Premajor hours 18

Major Requirements — Hours

AAD 299 Arts Administration Internship Orientation 1
AAD 260 Digital Design for Arts Administrators II 3
AAD 300 Management and Planning for the Arts 3
AAD 310 Marketing for the Arts 3
AAD 320 Fundraising for the Arts 3
AAD 350 Financial Management for Arts Organizations I 3
AAD 370 Financial Management for Arts Organizations II 3
AAD 390 Programming and Event Planning 3
AAD 410 Arts Entrepreneurship 3
AAD 420 Arts Administration: Practices, Policies and the Law 3
AAD 450 Arts Administration Senior Seminar 3
AAD 499 Internship in Arts Administration 6

Subtotal: Major hours 37

In addition to the Major Requirements, students must take 30 credits within the College of Fine Arts, outside of their Arts Administration courses. Within these 30 credits, students must complete a minor or a double major in the College of Fine Arts. Additionally, 6 credit hours must be outside of the student's minor or double major arts discipline area.

Directed Electives — Hours

Nine credits chosen in consultation with the student's academic advisor from the following areas:

1. AAD 402 Topics in Arts Administration (Subtitle required) 3
   May be repeated to a maximum of 6 credit hours when identified by different subtitles.
2. AAD 500-level courses. At least 3 credit hours must be from 500-level AAD courses.
3. Upper division courses from the College of Business and Economics.
4. Upper division courses from the College of Communication and Information.

Subtotal: Directed Electives 9

Free Electives

In addition to meeting their UK Core and major requirements, students must earn 6 credits in any area(s) of their choosing.

Subtotal: Free Electives 6

TOTAL HOURS: 121

Interdisciplinary Minor in the Arts

For Students outside the College

Any student whose major concentration is outside the College of Fine Arts may choose to minor in the arts, an academic program that cuts across disciplinary lines. This minor requires at least 24 hours of course work to include:

Prerequisites (9 hours) — Hours

ART 100 Introduction to Art 3
MUS 100 Introduction to Music 3

Note: *When appropriate, upper level courses may be substituted with the approval of the student's advisor and the Dean of the College of Fine Arts.*

Elected Courses (15 hours)

Of these 15 hours, students must take at least 6 hours in each of two different disciplines (art, music, or theatre).

Performance and/or Studio Experience

Students must have performance and/or studio experience within the college in at least one of the arts, whether or not for academic credit.

For Students within the College

Any student whose major emphasis lies within the College of Fine Arts may choose to minor in the arts by selecting at least 24 hours of course work in the College of Fine Arts (art, music, or theatre) outside the major. The minor must include at least nine hours of credit in each of the disciplines outside the major department or school. No more than six hours of course work used as "related work" for the major may be used toward the minor.

Gaines Center for the Humanities

Phil Harling, Ph.D., is the Interim Director of the Gaines Center for the Humanities.

The Gaines Center for the Humanities is distinctive among special programs at state universities. Designed to enrich the upper levels of undergraduate study and thereby to offer exceptional opportunities for dedicated students, the programs of the center are open on a competitive basis to any student interested in the humanities, regardless of particular major or intended profession.

Activities of the Gaines Center are developed to encourage participation by a large segment of the university population. Conferences and lectures, informal seminars and discussions are open to all those interested. While the center's principal purpose is to enhance an appreciation of the humanities, its programs are arranged to stimulate inquiry about the relationship of the humanities to other broad areas of investigation, such as the sciences, the arts, and the professions.

The John R. and Joan B. Gaines Fellowships in the Humanities

A major feature of the Gaines Center for the Humanities is the Gaines Fellowship Program. The Gaines Fellowships are given in recognition of outstanding academic performance, demonstrated independent study, an interest in public issues, and a desire to enhance understanding of the human condition.

The fellowships are awarded in the student's sophomore year for tenure in the junior and senior years. Renewal in the senior year is contingent upon satisfactory academic performance.

All Gaines Fellows are required to take a specially-designed, four-credit-hour seminar in the humanities (HMN 301 and HMN 302) during both semesters of the junior year. Moreover, each Fellow in the senior year completes an undergraduate thesis (HMN 497) under the supervision of three faculty members and with a credit of six to fifteen hours.

Gaines Fellows also participate in all social and cultural activities sponsored by the Gaines Center.

Eligibility

Any student enrolled at the University of Kentucky, or any student enrolled in a community college who intends to transfer to the University of Kentucky, is eligible to apply.

The Thomas D. Clark Lectureship in the Humanities

Created to bring eminent scholars and authors to the campus, the Thomas D. Clark Lectureship stipulates that the recipient will offer a public lecture and will lead a session of a special humanities seminar related to the Lecturer's professional field on interest. Juniors and seniors, selected on the basis of written application, participate in this seminar.

The Mary C. Bingham Seminar in the Humanities

The Mary C. Bingham Seminar in the Humanities is offered every other year and is open on a competitive basis to any junior or senior in the University. Participating students are selected on the basis of written application. The seminar combines course work with a special summer field trip up to four weeks in length either in this country or abroad (four credit hours). The seminar is concerned with the comparative study of a humanities subject that benefits from site analysis (e.g., cities, landscape). Conducted by a faculty member whose proposal has been selected in competition, the seminar offers up to a $1,000 summer travel scholarship to each student participant.

Edward T. Breathitt Undergraduate Lectureship in the Humanities

The Edward T. Breathitt Lectureship is the first undergraduate lectureship established at an American university. It is named in honor of an eminent Kentuckian and an outstanding alumnus of the University of Kentucky whose interest in higher education has been exceptional.

The lectureship is awarded to an undergraduate student whose qualities of mind and spirit have been expressed eloquently on one or more of the basic characteristics that distinguish the humanities as fields of study. They are: form, value, memory.

Any university faculty member may nominate a qualified upper level student from any discipline. Each nominee must submit a two-page prospectus describing the lecture topic (to be of the candidate's own choice) and a brief, tentative biography, as well as a personal resume and an additional letter of recommendation. The recipient receives a special award and an honorarium.

How to Apply

Students interested in any of these special educational opportunities should write or telephone:

Gaines Center for the Humanities
232 East Maxwell Street
University of Kentucky
Lexington, KY 40506-0344
(859) 257-1537
www.uky.edu/academy/gainescenter

The Graduate School

Susan Carvalho, Ph.D., is Interim Associate Provost and Interim Dean of the Graduate School.

The University of Kentucky began offering graduate work in 1870, and awarding degrees in 1876. The Graduate School was organized as a distinct unit in 1912.

The Graduate School is concerned with advanced study and research carried on by the faculty and students of all colleges and departments. Under it, the total graduate resources of the University are merged in order to promote the achievement of knowledge in an atmosphere of free and lively inquiry.

More information is available on the Web at: **www.gradschool.uky.edu/**

GRADUATE DEGREES

Graduate work is offered in most colleges in the University. The following advanced degrees are conferred:

DOCTOR OF EDUCATION
DOCTOR OF MUSICAL ARTS
DOCTOR OF PHILOSOPHY
DOCTOR OF SCIENCE
MASTER OF ARCHITECTURE
MASTER OF ARTS
MASTER OF ARTS IN EDUCATION
MASTER OF ARTS IN INTERIOR DESIGN
MASTER OF ARTS IN TEACHING WORLD LANGUAGES
MASTER OF BUSINESS ADMINISTRATION
MASTER OF CIVIL ENGINEERING
MASTER OF EDUCATION
MASTER OF ENGINEERING
MASTER OF FINE ARTS
MASTER OF HEALTH ADMINISTRATION
MASTER OF HISTORIC PRESERVATION
MASTER OF MINING ENGINEERING
MASTER OF MUSIC
MASTER OF PUBLIC ADMINISTRATION
MASTER OF PUBLIC HEALTH
MASTER OF PUBLIC POLICY
MASTER OF REHABILITATION COUNSELING
MASTER OF SCIENCE
MASTER OF SCIENCE IN ACCOUNTING
MASTER OF SCIENCE IN AGRICULTURE
MASTER OF SCIENCE IN ATHLETIC TRAINING
MASTER OF SCIENCE IN BIOMEDICAL ENGINEERING
MASTER OF SCIENCE IN BIOSYSTEMS AND AGRICULTURAL ENGINEERING
MASTER OF SCIENCE IN CAREER, TECHNICAL, AND LEADERSHIP EDUCATION
MASTER OF SCIENCE IN CHEMICAL ENGINEERING
MASTER OF SCIENCE IN CIVIL ENGINEERING
MASTER OF SCIENCE IN COMMUNICATION DISORDERS
MASTER OF SCIENCE IN EDUCATION
MASTER OF SCIENCE IN ELECTRICAL ENGINEERING
MASTER OF SCIENCE IN FAMILY STUDIES
MASTER OF SCIENCE IN FORESTRY
MASTER OF SCIENCE IN HEALTH PHYSICS
MASTER OF SCIENCE IN LIBRARY SCIENCE
MASTER OF SCIENCE IN MANUFACTURING SYSTEMS ENGINEERING
MASTER OF SCIENCE IN MATERIALS SCIENCE AND ENGINEERING
MASTER OF SCIENCE IN MECHANICAL ENGINEERING
MASTER OF SCIENCE IN MERCHANDISING, APPAREL AND TEXTILES
MASTER OF SCIENCE IN MINING ENGINEERING
MASTER OF SCIENCE IN NUTRITIONAL SCIENCES
MASTER OF SCIENCE IN PHYSICIAN ASSISTANT STUDIES
MASTER OF SCIENCE IN RADIOLOGICAL MEDICAL PHYSICS
MASTER OF SOCIAL WORK
PROFESSIONAL MASTER OF BIOMEDICAL ENGINEERING
SPECIALIST IN EDUCATION

The degree of Doctor of Philosophy is offered with major work in the following fields: agricultural economics, anatomy and neurobiology, animal sciences, anthropology, biology, biomedical engineering, biosystems and agricultural engineering, business administration, chemical engineering, chemistry, civil engineering, communication, computer science, crop science, economics, educational and counseling psychology, electrical engineering, English, entomology, family studies, geography, geology, gerontology, studies in higher education, history, materials science and engineering, mathematics, mechanical engineering, microbiology, mining engineering, molecular and biomedical pharmacology, molecular and cellular biochemistry, music, nursing, nutritional sciences, pharmaceutical sciences, philosophy, physics and astronomy, physiology, plant pathology, plant physiology, political science, psychology, public administration, rehabilitation sciences, social work, sociology, soil science, Spanish, statistics, toxicology, and veterinary science.

Multidisciplinary Graduate Degree Programs

There are two multidisciplinary graduate degree programs administered in the Graduate School: Diplomacy and International Commerce and Public Administration. Students interested in information on these programs should contact the program directors at the addresses listed below.

Carey Cavanaugh, Ambassador (ret.)
The Patterson School of Diplomacy and International Commerce
455 Patterson Office Tower
University of Kentucky
Lexington, KY 40506-0027

Dr. Merl Hackbart, Interim Director
James W. Martin School of Public Policy and Administration
Public Administration
423 Patterson Office Tower
University of Kentucky
Lexington, KY 40506-0027

ORGANIZATION OF THE GRADUATE SCHOOL

The Graduate Faculty consists of the Dean of the Graduate School and all persons appointed thereto by the President of the University. As the chief University agency for the promotion of the ideals of graduate study, it determines the policies of the Graduate School and makes recommendations to the University Senate on such matters as require the approval of that body. All rules affecting graduate work and the inauguration of new graduate programs must be approved by the Graduate Faculty.

The Dean. The Dean of the Graduate School is charged with the administration of the policies adopted by the Graduate Faculty and the University Senate relating to graduate studies.

The Graduate Council is composed of 21 members and the Dean of the Graduate School, who serves as chair. There are 19 faculty representatives and two student representatives. Associate deans serve in a nonvoting, ex officio capacity.

The Graduate Council approves or disapproves proposals concerning courses offered for graduate credit, and advises and lends assistance to the Dean of the Graduate School in his execution of policies and regulations determined by the Graduate Faculty.

Directors of Graduate Studies. A Director of Graduate Studies is appointed for each program of graduate study. Among other duties, each director serves as advisor to students majoring in his or her area.

ADMISSION

Students seeking admission to a degree program in the Graduate School must hold a baccalaureate degree from a fully accredited institution of higher learning. An overall undergraduate grade-point average of 2.75 and 3.0 on all graduate work is required by the Graduate School. Individual departments may require higher grade-point averages.

All applicants for admission to degree programs in the Graduate School must submit official scores on the verbal, quantitative and analytical writing portions of the Graduate Record Examination, except programs with approved alternate requirements (Accounting, Business Administration, Health Administration, and Public Health may substitute the GMAT).

Upon admission, new students must submit official transcripts directly to the Graduate School from each institution of higher learning previously attended.

International applicants must meet the requirements listed above, as well as the English proficiency requirement; additional details are available in *The Graduate School Bulletin*.

Domestic applicants (U.S. citizens or resident aliens) must pay a $65 application fee; for international applicants, the fee is $75.

Complete applications must be submitted no later than one month before the beginning of the term the applicant intends to begin graduate work (five months for international applicants). Students should refer to the *University Calendar* in the front of this Bulletin for important dates.

University Scholars Program (Combined Doctoral or Master's/ Bachelor's Degree Program)

At the University of Kentucky there are some particularly gifted and highly motivated students whose well-defined academic and career plans include graduate study. The University Scholars program offers these students the opportunity and the challenge of integrating their undergraduate and graduate courses of study in a single continuous program culminating in both a baccalaureate and doctoral or master's degree.

Requirements for this program are listed in the *Special Academic Programs* section of this Bulletin.

Graduating Seniors as Part-Time Graduate Students

A senior at the University of Kentucky lacking no more than six credit hours for graduation and having an undergraduate grade-point average of at least 2.75 on all work attempted may register in a degree program in the Graduate School with the consent of his or her college dean, the Director of Graduate Studies, and the Dean of the Graduate School.

The total load of such a student may not exceed 12 credit hours. Graduate credit will be allowed for each credit hour of graduate work beyond the six or fewer credit hours needed to complete undergraduate requirements. Requirements for the undergraduate degree must be completed during the semester in which the student is allowed to register for part-time graduate work. A student applying for admission to the Graduate School under these conditions must fill out a petition form listing the course or courses to be taken in order to complete the undergraduate requirements. Petition forms are available in the Graduate School.

Conditional Admission

Students wishing to pursue a higher degree who are temporarily ineligible for regular graduate admission status may be recommended by the Director of Graduate Studies for conditional admission status for a maximum of one full-time semester. Students should refer to *The Graduate School Bulletin* for further information. Special international cohorts are considered for admission to graduate programs prior to meeting the language proficiency and GRE/GMAT requirements. If granted conditional admission, students must meet the language and GRE/GMAT requirements prior to beginning the academic program of study.

Post-Baccalaureate Graduate Students (Nondegree-Seeking Students)

Students who hold a baccalaureate degree and who wish to pursue graduate study **without a degree objective** may apply for admission as post-baccalaureate graduate students. An overall undergraduate grade-point average of 2.5 or better and 3.0 on all previous graduate work is required by the Graduate School for admission to post-baccalaureate status. Refer to *The Graduate School Bulletin* for further information.

Advanced Degrees for Faculty Members

Members of the faculty, except those in the Community College System, having a rank higher than that of instructor may not be considered as candidates for degrees in the discipline in which they are employed and hold academic rank.

DUAL DEGREE PROGRAMS

The University of Kentucky offers a number of dual degree programs; such programs require separate admission to each discipline involved. Dual degree programs currently in place are: J.D./M.B.A., J.D./M.P.A., M.D./M.B.A., M.D./M.P.H., Pharm.D./M.B.A., Pharm.D./M.P.A., Pharm.D./M.P.H., Pharm.D./M.S. in Economics, B.S. in Engineering/M.B.A., and B.S. in Engineering/M.P.A. Combined study leading to both the M.D. and Ph.D. is also available. For more information on the dual degree programs, see *The Graduate School Bulletin*.

JOINT AND COOPERATIVE DOCTORAL PROGRAMS

Cooperative doctoral programs in education are offered between the University of Kentucky and other state universities: Eastern Kentucky University, Morehead State University, Murray State University, and Western Kentucky University. These programs permit qualified candidates to complete approximately one year of graduate work above the master's degree at the cooperating university, and the work of each candidate is directed by a joint faculty committee from both institutions.

Cooperative doctoral programs in musicology, physics, and higher education are offered between the University of Kentucky and the University of Louisville; a cooperative program in geology between the University of Kentucky and Eastern Kentucky University; and a cooperative program in history between the University of Kentucky and Western Kentucky University. A cooperative doctoral program in rehabilitation sciences is offered between the University of Kentucky, Eastern Kentucky University, Murray State University, and Western Kentucky University. The University of Kentucky and the University of Louisville share a joint Ph.D. program in Social Work.

For more information on joint and cooperative programs, see *The Graduate School Bulletin*.

INDEPENDENT STUDY PROGRAMS

(Correspondence Courses)

No graduate credit is given for courses taken by correspondence.

REGISTRATION AND CLASSIFICATION

All students expecting graduate credit must be enrolled in the Graduate School. Graduate students will conform to the general registration schedule of the University and may not enter later than the last allowable date set by the University Registrar.

Before registering, a graduate student must obtain his or her advisor's approval of the proposed program.

ASSISTANTSHIPS, FELLOWSHIPS, STUDENT SUPPORT

Financial assistance is available in the form of assistantships and fellowships. An **assistantship** is an appointment to specified teaching or research duties. A **fellowship** is a non-service award made to superior students to assist in the pursuit of an advanced degree.

Assistantships

More than 1,500 teaching and research assistantships are available from departments and other units of the University. In addition to an assistantship stipend, full or partial tuition scholarships are available for most assistantship holders based on the number of hours per week in the assistantship. University-provided health insurance is offered for full-time assistants who meet the eligibility criteria.

The majority of assistantships are awarded for the academic year. Students interested in an assistantship should notify the appropriate Director of Graduate Studies by January for the

next academic year; later applicants have a reduced chance of obtaining an assistantship. Most assistantship decisions are made by April for the coming academic year.

Notification of an assistantship comes from the program. Contact the Director of Graduate Studies in the program you seek to enter regarding the availability of positions or the status of assistantship offers. For more information on assistantships, visit the Web at: **www.gradschool.uky.edu/fellowship/assistantships.html**

Fellowships

Non-service fellowships are available in all areas of graduate work. The majority of these fellowships include a stipend as well as a tuition scholarship and university-provided student health insurance. While many fellowships are formally awarded by the Graduate School, nominations for most fellowships are made by the program in which a student seeks to enroll.

Fellowships are awarded for the academic year. Departments make most fellowship nominations by February for the next academic year, so students interested in a fellowship are strongly urged to contact the appropriate Director of Graduate Studies no later than January 15 for the next academic year. Notification of fellowship awards generally comes from the Graduate School before April 15.

Awards are sometimes offered before an applicant is officially admitted to the Graduate School; all awards offered are contingent upon admission to the program of study nominating the student. Post-baccalaureate (nondegree) students are not eligible for fellowship consideration, or for those tuition scholarships that accompany most assistantships.

For more information on fellowships, visit: **www.research.uky.edu/gs/StudentFunding/fellowship_opportunities.html**

Student Support

Funds are available to doctoral students enrolled in graduate programs for travel to present research at professional meetings. The amount of the award is variable, depending on the available budget each year. Application materials and information about deadlines are available on the Web at: **www.research.uky.edu/gs/StudentFunding/supportfunding.html**

College of Health Sciences

Scott M. Lephart, Ph.D., is Dean of the College of Health Sciences; Sharon Stewart, Ph.D., is Associate Dean of Faculty and Academic Affairs; Charlotte Peterson, Ph.D., is Associate Dean for Research; Randa Remer, Ph.D., is Assistant Dean for Admissions and Student Affairs.

The College of Health Sciences is one of the six health professions colleges which, with the University Hospital, constitute the health science campus of the University of Kentucky.

The College of Health Sciences is composed of the Department of Clinical Sciences and the Department of Rehabilitation Sciences.

Today health science professionals are assuming greatly expanded and increasingly complex duties and responsibilities as essential members of the health care team. They work in a variety of delivery settings and have key responsibilities for the care and health of patients, clients, and communities. The UK College of Health Sciences, established in 1966, was among the first colleges to offer programs for students interested in these rapidly developing health professions. The college strives continually to revise its offerings in keeping with society's evolving expectations and health care needs.

Graduate, Professional and Undergraduate Programs in Health Sciences

All students within the College of Health Sciences must adhere to the Health Care Colleges Code of Student Professional Conduct, as well as the UK Student Code of Conduct. The Health Care Colleges Code of Student Professional Conduct is online at: **www.uky.edu/Provost/APVA/Policy_Protocol/HCCSPBC.pdf**

Undergraduate Programs in Health Sciences

The University of Kentucky grants the following degrees in the College of Health Sciences:

- Bachelor of Health Sciences
- Bachelor of Science

Students pursuing the Bachelor of Health Sciences select from these majors: Clinical Leadership and Management, Communication Sciences and Disorders, and Medical Laboratory Science. The College also offers a Bachelor of Science with a major in Human Health Sciences.

The College of Health Sciences offers a minor in Health Advocacy.

Undergraduate Certificate in Health Sciences

The University of Kentucky grants the following undergraduate certificates in the College of Health Sciences:

- Clinical Health Management
- Research in Human Health Sciences

Information and requirements for the certificates are listed on pages 279 and 277 respectively.

ADMISSIONS PROCEDURES

Baccalaureate Programs

Baccalaureate programs in the College of Health Sciences are divided into preprofessional and professional programs. A **premajor program** is comprised of courses prerequisite to professional program content as well as UK Core requirements. Freshman and transfer students who have initially not completed prerequisites for entrance into a professional program complete only the first step of the application process – application to the University of Kentucky. Freshman applicants to the college will be admitted into a premajor program if they meet University entrance requirements or to the human health sciences program if they are selected for admission.

A **professional program** is comprised of all courses and clinical experiences required for students who have applied for and have been accepted into professional programs. Consideration for admission to the college's professional programs requires completion of prerequisite course work and completion of the professional application procedure.

Therefore, the admissions procedure for all Clinical Leadership and Management (Track A), Communication Sciences and Disorders and Medical Laboratory Science programs within the College of Health Sciences is a **two-step process**. Applicants must **first** be accepted by the University of Kentucky and **second** must apply for admission to a professional program approximately two semesters prior to completing prerequisites. Students applying to the Clinical Leadership Program (Track B) need only apply to the University of Kentucky. Human Health Sciences admissions procedures require students to apply for admission to the University as well as to the College of Health Sciences, either upon initial admission to the University or during the freshman or sophomore year.

This selection procedure is necessary because of the limited space in the professional years of the health sciences programs.

Requirements for the first several years (preprofessional program) may be completed at the University of Kentucky, a community college, or another fully accredited college or university.

At the time of application to the major program, the student should have completed the

APPLICATION DEADLINES FOR UNDERGRADUATE PROGRAMS IN HEALTH SCIENCES

Professional Program Applicants (Students who have completed prerequisites at UK, community colleges, or other accredited colleges or universities)

Applications are available on the program Web site (see below):

	Fall	Spring	Summer
Clinical Leadership and Management	**August 1**	**December 1**	**April 15**
www.uky.edu/healthsciences/academic-programs/clinical-leadership-and-management			
Communication Sciences and Disorders	**February 1**		
www.uky.edu/healthsciences/academic-programs/communication-sciences-and-disorders			
Human Health Sciences	**January 15**		
www.uky.edu/healthsciences/academic-programs/human-health-sciences			
Medical Laboratory Science			
Traditional Track	**March 1**		
MLT to MLS Track	**May 15**		
www.uky.edu/healthsciences/academic-programs/medical-laboratory-science			

prerequisites required for application to the program he or she plans to enter, and have plans to complete **all prerequisites before actual enrollment** in the professional program as directed by each program, except for Human Health Sciences where freshmen gain entry through a selective admissions process during their first semester. Transfer students into Human Health Sciences must complete prerequisites prior to application.

It is essential that complete, accurate information be furnished on the application. Individuals seeking entry into the professional programs or those admitted to the programs through falsified or misleading information may be dropped from consideration or dismissed from the programs.

Persons not enrolled at the University of Kentucky must complete applications to both the University of Kentucky **and the professional program**. Application materials are available from:

Clinical Leadership and Management
www.uky.edu/healthsciences/academic-programs/clinical-leadership-and-management

Communication Sciences and Disorders
www.uky.edu/healthsciences/academic-programs/communication-sciences-and-disorders

Human Health Sciences
www.uky.edu/healthsciences/academic-programs/human-health-sciences

Medical Laboratory Science
www.uky.edu/healthsciences/academic-programs/medical-laboratory-science

Deadlines and specific application instructions are

Deadlines and specific application instructions are listed for each program in the descriptions which follow. Additional information for each program is available on their respective Web sites.

Graduate Programs

Students who want to earn advanced degrees in health sciences fields must be admitted to the University of Kentucky Graduate School. For complete information, students should refer to *The Graduate School Bulletin* or contact:

Graduate School Admissions
201 Gillis Building
University of Kentucky
Lexington, KY 40506-0033
(859) 257-4613
fax: (859) 323-5986
www.research.uky.edu/gs/

The College of Health Sciences offers graduate programs in the following areas: Athletic Training, Communication Sciences and Disorders, Physical Therapy, Physician Assistant Studies, and Rehabilitation Sciences.

PROBATION AND SUSPENSION

The probation and suspension rules for professional students in the College of Health Sciences appear under *Academic Requirements* in the front section of this Bulletin.

NOTICE TO ALL APPLICANTS

Some programs will require a period of training off-campus in community facilities outside of Lexington.

ADMISSIONS, RECRUITMENT AND ACADEMIC ADVISING

Academic advising is available from the College of Health Sciences. Students should report to the Office of Student Affairs to be assigned an advisor. Detailed information on each program is detailed on each program's Web site.

For academic advising, contact:

Wayne Centers
Academic Advisor
(859) 218-0864
wayne.centers@uky.edu
or
Jimmie L. Jones
Academic Advisor
(859) 218-0546
jimmie.jr2@uky.edu
or
Casey Shadix
Recruiter
(859) 218-0573
casey.shadix@uky.edu

BACCALAUREATE PROGRAMS

College Graduation Requirements

To graduate with a **Bachelor of Health Sciences** or a **Bachelor of Science** degree from the College of Health Sciences, a student must (1) satisfy UK Core requirements and (2) complete a minimum of 120 semester hours, including required courses in both the preprofessional and professional programs.

DEPARTMENT OF CLINICAL SCIENCES

B.H.S. with a major in
CLINICAL LEADERSHIP AND MANAGEMENT

Graduates of the Clinical Leadership and Management program earn a Bachelor of Health Sciences (B.H.S.) degree. The purpose of the program is to provide health care professionals with formal academic education and skills training needed to prepare them for leadership and management roles and responsibilities. The program offers a career ladder for professional advancement in the health sciences. Program graduates will be prepared to assume greater responsibilities at their current jobs, be better qualified for job promotions, and be positioned for graduate studies.

This program is intended for health care professionals who have an associate degree in a health related discipline (Track A) or entry level students (Track B). Historically, there have been limited educational options for associate degree trained health professionals who are interested in pursuing a baccalaureate degree in Kentucky. This degree completion program accommodates freshmen, associates or transfer students from many allied health disciplines including, but not limited to: radiological technology, respiratory therapy, dental hygiene, clinical laboratory technicians, and nursing. The program provides accessible course offerings for non-traditional students who may require part-time classes.

It is anticipated that graduates of the B.H.S. program in Clinical Leadership and Management will benefit from advanced knowledge and skills which will enhance their job/career, work environment and quality of life. Program graduates may also benefit their employers, health care facility, and patients.

For additional information, go to:
www.uky.edu/healthsciences/academic-programs/clinical-leadership-and-management

Application Process and Requirements

The admissions process begins with an application to the University of Kentucky by **December 1** for spring enrollment and **August 1** for fall enrollment. For incoming freshmen applying for admission for Summer I or Summer II, the deadline is **February 15**. For transfer students and readmitted students applying for admission for Summer I, the deadline is **April 15**. For transfer students and readmitted students applying for admission for Summer II, the deadline is **May 15**. Application must also be made directly to the CLM program for Track A students. The CLM Track A program uses rolling admissions once applicants are accepted by the University as a degree seeking student. Track B entry level students may apply to the University of Kentucky for either fall or spring admission.

Academic advising and information about admissions is available from:

Wayne Centers
Academic Advisor
(859) 218-0864
wayne.centers@uky.edu
or
Jimmie L. Jones
(859) 218-0546
jimmie.jr2@uky.edu
or
Casey Shadix
(859) 218-0573
casey.shadix@uky.edu

Office of Student Affairs
College of Health Sciences
University of Kentucky
111 Charles T. Wethington Bldg.
Lexington, KY 40536-0200

All transfer credits to meet CLM program core courses and electives must receive prior approval by the CLM Program Director or student advisor. For additional information about program content, email: **gbruckner@uky.edu**.

TRACKS

Track A is intended for health care professionals who have an associate degree in a health-related discipline and one year in a healthcare setting. **Track B** is intended for entry level students.

Depending on their status, students must complete one of the following tracks:

Track A – Associate Degree Track

The Curriculum

A total of 120 credits (including 39 program credits as listed below, UK Core and graduation requirements) are required to receive the Bachelor of Health Sciences degree from the University of Kentucky. The core curriculum of 39 credits includes:

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
Choose one course from approved list 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
Choose one course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

CLM 595 Directed Studies 1-3

Graduation Composition and Communication Requirement hours (GCCR) 1-3

Premajor Requirements

WRD 205 Writing and Rhetoric (Subtitle required) or equivalent graduation composition and communication requirement course 3

Fully Certified Associate Degree in a Health Care discipline and minimum 1 year work experience
OR
Block Certified Associate Degree in a Health Care discipline, minimum of 1 year work experience

Completion of missing UK Core Requirements

Core Curriculum — Hours

CLM 241 Health and Medical Care Delivery Systems 3
CLM 350 Health Policy and Politics 3
CLM 405 Epidemiology and Biostatistics 3
CLM 351 Health Services Administration 3
CLM 354 Health Law 3
CLM 355 Financial Management of Health Care Institutions 3
CLM 452 Community and Institutional Planning for Health Services Delivery 3
CLM 444 Leadership and Human Resource Management 3
CLM 445 Quality and Productivity Improvement and Evaluation 3
CLM 353 Ethics in Healthcare 2
*HSE 595 Directed Studies 4
Upper-Division Electives (from selective list below) 6
Free Electives 14

**Capstone Project*

Selective Course Options

Select 6 hours from the following:
HHS 443 Health Information Management 2
HHS 453 Cultural Competence in Healthcare 3
COM 471 Introduction to Health Communication 3
COM 571 Interpersonal Communication in Health Contexts 3
CNU 502 Obesity C2C: Cell to Community (Subtitle required) 2
COM 311 Taking Control of Your Health: Patient-Provider Communication 3
COM 315 Understanding Workplace Communication in a Diverse U.S. Society 3
CNU 500 Integrative Care for Health Sciences 1-3
HHS 362 Interdisciplinary Health Advocacy 1
HHS 356 Seminar in Interprofessional Healthcare 3
CNU 503 Nutrition for the Health Professions: Medical Nutrition Therapy 2
HHS 454 Research in Human Health Sciences 3

Major hours 39

Track B – Entry Level Track

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
ANT 230 Introduction to Biological Anthropology 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and Its Applications 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
GRN 250 Aging in Today's World 3

X. Global Dynamics
ANT 160 Cultural Diversity in the Modern World
or
GEO 161 Global Inequalities 3

UK Core hours 32

Graduation Composition and Communication Requirement (GCCR)

CLM 595 Directed Studies 1-3

Graduation Composition and Communication Requirement hours (GCCR) 1-3

Premajor Requirements — Hours

CIS/WRD 110 Composition and Communication I 3
CIS/WRD 111 Composition and Communication II 3
CLA 131 Medical Terminology from Greek and Latin 3
CLM 241 Health and Medical Care Delivery Systems 3
HHS 101 Survey of Health Professions I 1
HHS 102 Survey of Health Professions II: Shadowing Experience 1
PSY 100 Introduction to Psychology 4
WRD 205 Writing and Rhetoric (Subtitle required) 3

Premajor hours 21

Major Requirements — Hours

CLM 350 Health Policy and Politics 3
CLM 405 Epidemiology and Biostatistics 3
CLM 351 Health Services Administration 3
CLM 354 Health Law 3
CLM 355 Financial Management of Health Care Institutions 3
CLM 452 Community and Institutional Planning for Health Services Delivery 3
CLM 444 Leadership and Human Resource Management 3
CLM 445 Quality and Productivity Improvement and Evaluation 3
CLM 353 Ethics in Healthcare 2
*HSE 595 Directed Studies 4
CLM 501 Practicum in Clinical Leadership and Management 15
Upper-Division Electives (from selective list below) 12
Free Electives 20

**Capstone Project*

Major hours 57

Selective Course Options

Select 12 hours from the following:
HHS 443 Health Information Management 2
HHS 453 Cultural Competence in Healthcare 3
COM 471 Introduction to Health Communication 3
COM 571 Interpersonal Communication in Health Contexts 3

CNU 502 Obesity C2C: Cell to Community (Subtitle required) 2
COM 311 Taking Control of Your Health: Patient-Provider Communication 3
COM 315 Understanding Workplace Communication in a Diverse U.S. Society 3
CNU 500 Integrative Care for Health Sciences 1-3
HHS 362 Interdisciplinary Health Advocacy 1
HHS 356 Seminar in Interprofessional Healthcare 3
CNU 503 Nutrition for the Health Professions: Medical Nutrition Therapy 2
HHS 454 Research in Human Health Sciences 3

For More Information

For additional information, visit: **www.uky.edu/healthsciences/academic-programs/clinical-leadership-and-management**

B.S. with a major in HUMAN HEALTH SCIENCES

Students interested in health care have a variety of academic options. The Human Health Sciences (HHS) baccalaureate program was created to address the need for a well prepared health care work force. Graduates of this program will have a strong foundation in competencies necessary to deliver high quality health care in an interprofessional, dynamic environment. This program is not intended to replace traditional pathways to health care careers; instead, it is intended to offer a unique alternative for those who seek careers in health care and the health professions. Specifically, the degree offers four options for students' interested in future graduate or professional study in Physician Assistant, Physical Therapy, Dentistry, and Pharmacy programs. This degree also prepares students for work in a variety of other fields, including mid-level management or supervision across healthcare environments, medical or pharmaceutical sales, patient navigation, and community health advocacy.

Admission

Admission into the Human Health Sciences baccalaureate program is highly competitive. The following factors will be taken into consideration as part of the admissions decision:

- high school GPA (preference given to those with an unweighted high school grade-point-average of 3.5 or higher);
- ACT or SAT scores (preference given to those with a 28 ACT or composite SAT equivalent or higher);
- service and volunteerism;
- shadowing and observation of healthcare professionals;
- cultural experiences as well as leadership roles;
- completion of program application and interview process.

The Human Health Sciences program employs a holistic admissions model in which all aforementioned values are weighed equally along with an interview experience. The program **priority** application deadline is **December 1** of each year and will include a personal statement. A rolling admissions process shall be utilized until the cohort is filled. Interviews will be conducted to allow student finalists to demonstrate their non-academic skills.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

The Human Health Sciences baccalaureate program has selected specific UK Core courses that also meet major requirements. Students may choose their own UK Core approved course in areas where a specific one is not listed (e.g., Arts and Creativity, Humanities, etc.):

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I
and
CHE 111 Laboratory to Accompany General College Chemistry I 5

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 137 Calculus I With Life Science Applications 4

VIII. Statistical Inferential Reasoning
Choose one course from approved list 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

Subtotal: UK Core hours 34

Graduation Composition and Communication Requirement (GCCR)

HHS/CLM 350 Health Policy and Politics 3
HHS 453 Cultural Competence in Healthcare 3

Graduation Composition and Communication Requirement hours (GCCR) 6

Required Courses for the Major

All HHS degree seeking students are required to complete ten courses totaling 30 credits. These courses provide students with comprehensive knowledge of healthcare and related issues and the initial competencies essential for the profession. Courses have a particular focus on interprofessional healthcare delivery. Strongly encouraged are HHS 101 Survey of Health Professions I, and HHS 102 Survey of Health Professions II: Shadowing Experience.

	Hours
HHS 241 Health and Medical Care Delivery Systems	3
HHS 405 Epidemiology and Biostatistics	3
HHS 350 Health Policy and Politics	3
HHS 454 Research in Human Health Sciences	3
HHS 353 Ethics in Healthcare	2
HHS 351 Health Services Administration	3
HHS 361 Healthcare Quality and Patient Safety	3
*HHS 453 Cultural Competence in Health Care	3
HHS 356 Seminar in Interprofessional Healthcare (must enroll for a total of 2 credits)	2
HHS 362 Interdisciplinary Health Advocacy (must enroll for a total of 2 credits)	2
HHS 443 Health Information Management	2
CNU 503 Nutrition for the Health Professions: Medical Nutrition Therapy	1
Subtotal: Major hours	**30**

**This course meets the UK Communication Requirement in the major.*

Prerequisite Courses Unique to Each Option

These courses are consistent with the prerequisite requirements for each option program (Physician Assistant, Physical Therapy, Dentistry, and Pharmacy). Students will be advised accordingly to ensure they have met the course requirements for their program of interest.

Required Core Courses – Non-HHS

These courses are intended to support students' preparation in the sciences and better prepare them for healthcare careers or entry into professional degree programs.

Prerequisite Courses Recommended But Not Required

The Physical Therapy, Dentistry, and Pharmacy options have courses that are recommended, but not required. Students will be encouraged to take these courses, although taking these courses may extend their program. However, students completing the prerequisite recommended courses are traditionally more competitive for admission to future graduate and professional programs.

Option Related Major Requirements

The Physician Assistant and Dentistry options require an additional major course. For Physician Assistant, the course is HHS 451 Introduction to Medicine (2 credits). For Dentistry, the course is HHS 450 Introduction to Dentistry (3 credits).

Recommended Electives

Two courses, HHS 101 Introduction to the Health Sciences (1 credit) and HHS 102 Survey of Health Professions II (1 credit) are strongly recommended but not currently required. Freshmen and sophomores will be directed into these courses. In addition, several elective courses are available in the major, and students will be advised based on the option of the interest and availability in their program of study.

General Electives

The University has many courses that add to the students' course of study. Students will be advised accordingly.

For additional information, refer to: **www.uky.edu/healthsciences/academic-programs/human-health-sciences**

Or contact:

Wayne Centers
Office of Student Affairs
College of Health Sciences
University of Kentucky
111 Charles T. Wethington Building
Lexington, KY 40536-0200
(859) 218-0864
wayne.centers@uky.edu

www.uky.edu/healthsciences/academic-programs/human-health-sciences

B.H.S. with a major in MEDICAL LABORATORY SCIENCE

The undergraduate Medical Laboratory Science (MLS), formally Clinical Laboratory Sciences (CLS) program prepares medical laboratory scientists who perform laboratory tests that aid the diagnosis, prevention, prognosis, and treatment of disease. MLS graduates are employed in a variety of health care settings including hospital and private laboratories, clinics, pharmaceutical companies, research institutions, the armed forces, and public health centers. In addition to performing laboratory tests, MLS graduates can serve as consultants, managers, sales and technical representatives, and educators.

The MLS Program is offered at the Lexington campus and at the Center of Excellence in Rural Health campus in Hazard, Kentucky. Within the MLS Program there are two tracks leading to a B.H.S. with a major in Medical Laboratory Science. The **Traditional Track** is for students who have completed general education courses and have met the program preprofessional requirements. (This includes transfer students and students seeking a second bachelor's degree.) The **MLT to MLS Track** is only applicable to those who have earned an associate degree from a Medical Laboratory Technician (or Clinical Laboratory Technician) Program. (This track is offered via distance learning.)

Traditional Track Admission

The MLS program has selective admissions and students are admitted to the professional program on a competitive basis. Applicants must have completed all UK Core requirements and preprofessional requirements prior to entering the program. Admission is based on cumulative grade-point average (GPA) for all courses taken at institutions of higher education (2.5 or higher on a 4.0 scale), cumulative GPA for preprofessional courses, and recommendation scores. Interviews may also be used in the admissions process. Applicants must submit an application and three recommendation forms.

The application deadline is **March 1**.

The Curriculum

A total of 120 credits (including 60 professional program credits, preprofessional credits, UK Core requirements and the Graduation Composition and Communication requirement credits) is required to receive the Bachelor of Health Sciences with a major in MLS degree.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
CHE 105 General College Chemistry I 4
CHE 111 Laboratory to Accompany General Chemistry I 1

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 123 Elementary Calculus and Its Applications 4

VIII. Statistical Inferential Reasoning
STA 296 Statistical Methods and Motivations 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

Subtotal: UK Core hours 34

Graduation Composition and Communication Requirement (GCCR)

MLS 463 Immunohematology 3
MLS 470 Clinical Correlations 3

Graduation Composition and Communication Requirement hours (GCCR) 6

Preprofessional Course Requirements

CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany General Chemistry II 2
BIO 208 Principles of Microbiology 3
BIO 209 Principles of Microbiology Laboratory 2
PGY 206 Elementary Physiology 3
BIO 148 Introductory Biology I
or
BIO 152 Principles of Biology II 3
BIO 155 Laboratory for Introductory Biology I 1
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
STA 296 Statistical Methods and Motivations 3

Subtotal: Premajor Course hours 24

Professional Course Requirements

MLS 400 Laboratory Techniques and Phlebotomy 2
MLS 410 Medical Laboratory Biochemistry 3
MLS 420 Clinical Immunology and Serology 3
MLS 430 Clinical Mycology, Parasitology, and Virology 3
MLS 440 Molecular Techniques 3
MLS 450 MLS Education and Management 3
MLS 460 Clinical Hematology 3
MLS 465 Clinical Hematology Laboratory 2
MLS 461 Clinical Microbiology 3
MLS 466 Clinical Microbiology Laboratory 2
MLS 462 Clinical Chemistry 3
MLS 467 Clinical Chemistry Laboratory 2
MLS 463 Immunohematology 3
MLS 468 Immunohematology Laboratory 2
MLS 464 Body Fluids and Hemostasis 2
MLS 469 Body Fluids and Hemostasis Laboratory 2
MLS 470 Clinical Correlations 3
MLS 480 Clinical Hematology Practicum 4
MLS 481 Clinical Microbiology Practicum 4
MLS 482 Clinical Chemistry Practicum 4
MLS 483 Immunohematology Practicum 4

Subtotal: Professional Course hours 60

In addition, students holding baccalaureate degrees in a health-related science may apply to the MLS program (fulfillment of preprofessional courses is required) and earn a second baccalaureate degree. Upon successful completion of the professional program, all students are eligible for the national certifying exam.

MLT to MLS Track

The MLT to MLS track (bridge) is an online program only available to those who have an associate degree from a medical laboratory technician (MLT) program.

Admission

Early academic advising for this track is crucial and is available from Jimmie L. Jones at: **jimmie.jr2@uky.edu**

The MLS Program has selective admissions and students are admitted to the professional program on a competitive basis. Applicants must have completed all UK Core requirements and preprofessional requirements prior to entering the program. Admission requirements include: cumulative grade-point average (GPA) for all courses taken at institutions of higher education of 2.5 or higher on a 4.0 scale, successful completion of all preprofessional courses, an associate degree from a MLT/CLT program, and certification (BOC preferred) or documentation of five years of work experience in a MLT position within a multidisciplinary laboratory, and current employment in a clinical laboratory that offers testing in all major disciplines. Admission is based on GPA, cumulative GPA for preprofessional courses, and recommendation scores. Interviews may also be used in the admissions process. Applicants must submit an application, three recommendation forms, official transcripts, resume, and documentation of MLT/CLT program completion.

The application deadline is **May 15**.

The Curriculum

A total of 120 credits (including 40-48 professional program credits, preprofessional credits, UK core requirements, and the Graduation Composition and Communication Requirement) is required to receive the Bachelor of Health Sciences with a major in MLS degree.

UK Core Requirements

UK Core Requirements are the same as those listed above under the Traditional Track heading.

Graduation Composition and Communication Requirement (GCCR)

MLS 463 Immunohematology 3
MLS 470 Clinical Correlations 3

Graduation Composition and Communication Requirement hours (GCCR) 6

Preprofessional Course Requirements

CHE 107 General College Chemistry II 3
CHE 113 Laboratory to Accompany General Chemistry I 2
PGY 206 Elementary Physiology 3

BIO 148 Introductory Biology I
or
BIO 152 Principles of Biology II 3

BIO 155 Laboratory for Introductory Biology I 1
CHE 230 Organic Chemistry I 3
CHE 231 Organic Chemistry Laboratory I 1
STA 291 Statistical Methods 3

Subtotal: Preprofessional Course hours 19

Professional Course Requirements

MLS 410 Medical Biochemistry 3
MLS 420 Clinical Immunology and Serology 3
MLS 430 Clinical Mycology, Parasitology, and Virology 3
MLS 440 Molecular Techniques 3
MLS 450 MLS Education and Management 3
MLS 460 Clinical Hematology 3
MLS 461 Clinical Microbiology 3
MLS 462 Clinical Chemistry 3
MLS 463 Immunohematology 3
MLS 464 Body Fluids and Hemostasis 2
MLS 470 Clinical Correlation 3
MLS 480 Clinical Hematology Practicum 2-4
MLS 481 Clinical Microbiology Practicum 2-4
MLS 482 Clinical Chemistry Practicum 2-4
MLS 483 Immunohematology Practicum 2-4

Subtotal: Professional Course hours 40-48

For additional information, refer to: **www.uky.edu/healthsciences/academic-programs/medical-laboratory-science**

Or contact:

Michelle Butina, Ph.D., MLS (ASCP)
MLS Program Director
900 S. Limestone Street
126E CTW Building
Lexington, KY 40536-0200
(859) 218-0852
michelle.butina@uky.edu

Jimmie L. Jones
Academic Advisor
(859) 218-0546
jimmie.jr2@uky.edu

Minor in Health Advocacy

The minor in Health Advocacy educates students to serve as patient advocates to improve health and health care and help patients access an increasingly complex medical system.

The minor in Health Advocacy requires 18-19 hours:

Minor Prerequisites

HHS 101 Survey of Health Professions I 1
HHS 102 Survey of Health Professions II: Shadowing Experience 1

Minor Requirements

HHS 241 Health and Medical Care Delivery Systems 3
HHS 350 Health Policy and Politics 3
HHS 353 Ethics in Healthcare 2
HHS 453 Cultural Competence in Healthcare 3
HHS 354 Health Law 3
HHS 362 Interdisciplinary Health Advocacy 1
HS 500 Integrative Care for Health Sciences 1-3

Minor Electives

HHS 356 Seminar in Interprofessional Healthcare 3
HHS 361 Healthcare Quality and Patient Safety 3
CNU 503 Nutrition for the Health Professions: Medical Nutrition Therapy 2
HHS 405 Epidemiology and Biostatistics 3
CLM 452 Community and Institutional Planning for Health Services Delivery 3

Undergraduate Research in Human Health Sciences Certificate

The Office of Research in the College of Health Sciences in collaboration with The Departments of Rehabilitation Sciences and Clinical Sciences offers an undergraduate certificate in Undergraduate Research in Human Health Sciences. This certificate will enhance the educational goals of any University of Kentucky student interested in obtaining experience in health-related research to benefit the pursuit of a health care career.

Admissions Criteria

The admissions criteria for the proposed certificate are as follows:

- a minimum second semester freshman
- 3.0 GPA
- a statement from a CHS faculty research mentor willing to work with the student
- an application submitted through the Office of Student Affairs

Before beginning, all students accepted into the certificate program will be required to:

- register with the UK Office of Undergraduate Research
- complete research ethics education as director by their mentor
- complete web-based biosafety modules as directed by their mentor

Required Courses

A total of 12-15 credit hours is required for the certificate. All required courses for the certificate must be completed with an overall GPA of 3.0 or better **and** each course within the certificate must be completed with at least a **C** or better. Courses are described below and can be adapted to accommodate students enrolled in the Honors Program as requested:

HHS 454 Research in Human Health Sciences 3

This course provides an introduction to basic methods for undertaking research on issues related to health, health care, and within health services organizations and systems.

HHS 455 Research Experience in Human Health Sciences 6-9*

HHS 455 provides the student with the opportunity to engage in independent work devoted to research on a specific problem with the goal to challenge the student to synthesize concepts from his/her total program and relate them to his/her specific field of research interest. Students work under the direction of a faculty mentor in an area of mutual scientific interest. Student and mentor collaborate to develop a research contract that outlines the expectations of the research experience including: a description of the experience with goals and objectives, tasks for completing the objectives with timelines, and criteria, with percentages, for assessment. Students seeking the UGR certificate will complete, as part of one of their HHS 455 contracts, either (1) a presentation to a local targeted group (e.g. CHS Research Day); (2) poster preparation for national/international conference; **or** (3) manuscript development/writing with mentor. Additional activities expected of certificate holders could include participation in the mentor's lab group/journal club or IRB/IACUC preparation.

**If a student comes from another academic unit with research experience, the mentor can agree to have 3 credit hours count toward the 6-9 credit hours of research experience required for the certificate. In addition, students could elect to complete this requirement under the direction of different mentors as long as they demonstrate this is justified for their scientific field of interest.*

Mentor/student selected course work 3

(i.e. content specific to area of research) – 300 level or above

Student and mentor will collaborate to select an out-of-discipline course to meet this requirement of the certificate program. The course could come from any program on the UK campus with the caveat that the content of the course be specific to the student's scientific field of interest. For example, a student with a major in communication sciences and disorders interested in the effects of preterm birth on family stress might take a selected course in sociology (A&S), psychology (A&S), or health care navigation (HHS). A student interested in an aspect of aging muscle might take a course in gerontology (GRN) or public health (CPH). The connection between the selected course and its application to the area of research would be clearly linked in the agreement between the student and faculty mentor. In considering course options, the student/mentor would obtain any necessary instructor consent prior to student enrollment.

DEPARTMENT OF REHABILITATION SCIENCES

B.H.S. with a major in COMMUNICATION SCIENCES AND DISORDERS

In keeping with the standards of the American Speech-Language-Hearing Association, the undergraduate program in communication sciences and disorders is considered to be a preprofessional degree program. In order to meet Kentucky licensure and American Speech-Language-Hearing Association certification requirements, it is necessary to complete the master's degree. Students pursuing this program should plan on six years to complete both the Bachelor of Health Science and Master of Science programs.

Admission to the Professional Program

The Communication Sciences and Disorders program has selective admissions. Applicants must have completed a minimum of 42 credit hours at the time of application. Students are admitted to the professional program on a competitive basis. Admission is based on cumulative grade-point average, ACT or SAT scores, and relevant experiences. Applicants must submit a letter of application and three references. New students are admitted only for the fall semester. The application deadline is **February 1**.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
BIO 102 Human Ecology
or
BIO 103 Basic Ideas of Biology
or
other BIO course from approved list 3
or
CHE 101 Molecular Science for Engineers 3
or
CHE 105 General College Chemistry I
CHE 111 Laboratory to Accompany General Chemistry I 5
or
PHY 211 General Physics 5
or
PHY 231 General University Physics 4
or
PHY 241 General University Physics Laboratory 1
or
other CHE or PHY course from approved list 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
one of the following:
MA 111 Introduction to Contemporary Mathematics
MA 113 Calculus I
MA 123 Elementary Calculus and its Applications
MA 137 Calculus I With Life Science Applications 3-4

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3
or
PSY 215 Experimental Psychology
and
PSY 216 Applications of Statistics in Psychology 8
or
other STA course from approved list 3

IX. Community, Culture and Citizenship in the USA
Recommended:
EPE 301 Education in American Culture 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours ..... minimum of 32

Graduation Composition and Communication Requirement (GCCR)

CSD 402 Speech and Hearing Science 3
CSD 481 Clinical Experience in Communication Disorders 3
CSD 591 Aural Rehabilitation 3

Graduation Composition and Communication Requirement hours (GCCR) 9

Premajor Requirements — Hours

PSY 100 Introduction to Psychology 4
plus completion of 42 credit hours or more at time of application

Subtotal: Premajor hours ..... minimum of 46

Related Studies Requirement — Hours

Choose one of the following:
LIN 211 Introduction to the Study of Language
LIN 212 Introduction to Linguistics II
LIN 221 Introduction to Linguistics I: Theoretical Foundations and Analysis
LIN 310 American English
LIN 317 Language and Society (Subtitle required)
LIN 509 Semantics and Pragmatics

Subtotal: Related Studies hours 3

Major Requirements — Hours

CSD 277 Introduction to Communication Disorders 3
CSD 285 Applied Phonetics 3
CSD 378 Anatomy and Physiology of Speech 3
†CSD 402 Speech and Hearing Science 3
CSD 410 Language Development Through the Lifespan 3
†CSD 481 Clinical Experience in Communication Disorders 3
CSD 482 Clinical Management of Communication Disorders I 3
CSD 483 Clinical Management of Communication Disorders II 3
CSD 484 Introduction to Diagnostic Procedures in Speech-Language Pathology 3
CSD 491 Audiology 3
CSD 571 Neural Bases of Speech, Language, and Hearing 3
†CSD 591 Aural Rehabilitation 3
EDS 375 Introduction to Education of Exceptional Children 3
EDS 516 Principles of Behavior Management and Instruction 3
*EDP 202 Human Development and Learning 3
*EPE 301 Education in American Culture 3

Subtotal: Major hours 42

†Must be taken to partially fulfill the GCCR requirement.

**These courses are optional for CSD majors, but are strongly recommended.*

Electives

CSD 520 Introduction to Manual Communication 2

Electives should be chosen by the student to lead to the minimum total of 120 hours required for graduation.

TOTAL HOURS: 120

Curriculum

Junior Year

Fall Semester
*CSD 277 Introduction to Communication Disorders ... 3
*CSD 285 Applied Phonetics 3
CSD 378 Anatomy and Physiology of Speech 3

Spring Semester
CSD 402 Speech and Hearing Science 3
CSD 484 Introduction to Diagnostic Procedures in Speech-Language Pathology 3

Senior Year

Fall Semester
**CSD 481 Clinical Experience in Communication Disorders 3
CSD 482 Clinical Management of Communication Disorders I 3
CSD 491 Audiology 3
CSD 571 Neural Bases of Speech, Language, and Hearing 3

Spring Semester
CSD 410 Language Development Through the Lifespan 3
**CSD 481 Clinical Experience in Communication Disorders 3
CSD 483 Clinical Management of Communication Disorders II 3
CSD 591 Aural Rehabilitation 3

**May be taken as a pre-CSD course prior to the junior year.*

***Half of senior students take CSD 481 during fall semester; the remaining half take course during spring semester.*

For additional information, visit:
www.uky.edu/healthsciences/academic-programs/communication-sciences-and-disorders

Or contact:
Richard Andreatta, Ph.D.
CSD Director of Undergraduate Studies
900 S. Limestone Street
120F CTW Building
Lexington, KY 40536-0200
richard.andreatta@uky.edu

Undergraduate Certificate in Clinical Healthcare Management

Successful completion of the certificate in Clinical Healthcare Management will demonstrate that the graduate is prepared to function successfully in a clinical leadership and management role in a health care institution. The program is useful for any currently enrolled UK student interested in obtaining clinical management skills; in addition, the program is useful for practicing clinical professionals (non-degree-seeking) such as nurses, physicians, dentists, physician assistants, physical therapists, respiratory therapists and other interested in enhancing their management skills.

Clinical Health Management Curriculum

The Certificate in Clinical Health Management curriculum is as follows:

- A minimum of 12 credits of course work taken for a letter grade.
- At least 12 credits must be 200 level or above, and a minimum of 6 credits must be at the 300-level or above.
- The student must complete a 3-credit breadth component. The breadth component requires that a student take courses in at least two disciplines, with a minimum of 3 credits to be completed in a second discipline.
- Student must earn a **C** or better in each required certificate course to receive the certificate.
- Certificates will only be awarded to students who successfully complete a degree, or have completed a four-year degree.
- No more than 9 credits taken for a certificate can be used to satisfy the requirements for the student's bachelor's degree, a minor, or another certificate, exclusive of free or unrestricted electives.

Curriculum for Currently Enrolled Students

The undergraduate certificate in clinical health management is comprised of four 3-hour courses:

CLM 241 Health and Medical Care Delivery Systems 3
CLM 351 Health Services Administration 3
CLM 355 Financial Management of Health Care Institutions 3

plus one of the following:
CLM 350 Health Policy and Politics 3
CLM 354 Health Law 3
CLM 405 Epidemiology and Biostatistics 3
CLM 444 Leadership and Human Resource Management 3
CLM 445 Quality and Productivity Improvement and Evaluation 3
CLM 452 Community and Institutional Planning for Health Services Delivery 3
CLM 353 Ethics in Healthcare 2

Curriculum for Non-Degree Seeking Students

The undergraduate certificate in clinical health management is comprised of four 3-hour courses:

CLM 351 Health Services Administration 3
CLM 355 Financial Management of Health Care Institutions 3
HHS 395 Independent Study 3

plus one of the following:
HHS 350 Health Policy and Politics 3
CLM 354 Health Law 3
CLM 405 Epidemiology and Biostatistics 3
CLM 444 Leadership and Human Resource Management 3
CLM 445 Quality and Productivity Improvement and Evaluation 3
CLM 452 Community and Institutional Planning for Health Services Delivery 3
HHS 241 Health and Medical Care Delivery Systems 3

For more information, contact Faculty Director Dr. Geza Bruckner, Division of Clinical Leadership and Management within the Department of Clinical Sciences.

GRADUATE DEGREES IN HEALTH SCIENCES

Master of Science in Athletic Training

The Master of Science in Athletic Training (AT) is designed to accommodate both Board of Certification (BOC) athletic trainers and BOC "certification eligible" athletic trainers. Course work and clinical experiences are designed to develop skills necessary to conduct research and increase proficiency in sports injury prevention, treatment, and rehabilitation. It is a goal that graduates become: critical consumers of research and accepted clinical practices, advanced health care providers, and leaders in the clinical, educational, and research endeavors of the profession.

For more information, contact:

Carl Mattacola, Ph.D., ATC, Director
Division of Athletic Training
900 S. Limestone St., Room 206
210E CTW Building
University of Kentucky
Lexington, KY 40536-0200
(859) 218-0860
email: carlmat@uky.edu
www.uky.edu/healthsciences/academic-programs/athletic-training

Master of Science in Communication Sciences and Disorders

The Master of Science in Communication Sciences and Disorders is designed for students seeking entry-level professional preparation in speech-language pathology. Any student without an undergraduate major or equivalent in Communication Sciences and Disorders should apply as a prerequisite student to complete the prerequisite course work. The curriculum incorporates course work and intensive clinical practicum experiences designed to prepare students to meet state licensure and national certification requirements. For further information, contact:

Anne Olson, Ph.D.
Director of Graduate Studies
Division of Communication Sciences and Disorders
900 S. Limestone St., Room 124J
University of Kentucky
Lexington, KY 40536-0200
(859) 218-0572
aolso2@uky.edu
www.uky.edu/healthsciences/academic-programs/communication-sciences-and-disorders

Certification and the Master's Degree

The Master of Science degree program in Communication Sciences and Disorders is accredited by the Council on Academic Accreditation of the American Speech-Language-Hearing Association.

Upon completion of the undergraduate degree and with admission to the master's program, students complete the following courses for certification and the master's degree.

Course Requirements	Hours
CSD 621 Alternative and Augmentative Communication	3
CSD 647 Language Disorders in Developmentally Young Individuals	3
CSD 648 Language Disorders in School-Age Populations	3
CSD 661 Phonological Development and Disorders	3
CSD 670 Voice Disorders	3
CSD 675 Low Incidence Communication Disorders (Subtitle required)	3
CSD 677 Aphasia and Related Disorders	3
CSD 701 Research Methods in Communication Disorders	3
CSD 710 Cognitive Communication Disorders	3
CSD 744 Adult Swallowing and Motor Speech Disorders	3
CSD 745 Pediatric Feeding and Motor Speech Disorders	3
Total Credit Hours	**30**

The M.S. in Communication and Sciences Disorders consists of 30 didactic hours plus optional thesis or comprehensive examinations.

ASHA Certification

Applicants wishing to meet American Speech-Language-Hearing Association certification requirements must also complete the following additional clinical orientation, clinical practicum and clinical rotation experiences plus 2 hours of graduate-level electives, and optional 1-6 hours in thesis or comprehensive exams:

CSD 654 Clinical Orientation in Communication Disorders 3
CSD 657 Clinical Practicum in Speech-Language Pathology 6
CSD 659 Clinical Rotation in Speech-Language Pathology 21-30

Students completing the thesis option also complete the following:

CSD 748 Master's Thesis Research 0
CSD 768 Residence Credit for the Master's Degree ... 1-6

Master of Science in Nutritional Sciences

The program is designed to develop nutrition specialists, knowledgeable in the metabolic changes that occur in normal exercise and various pathophysiological states. Opportunities for specialization are available in the areas of clinical nutrition/medical nutrition therapy, wellness and sports nutrition, molecular and biomedical nutrition, and community nutrition. Clinical Nutrition is integrated with the doctoral program in the Graduate Center for Nutritional Sciences.

The courses provide the student with in-depth knowledge of the role of nutrition in metabolism, the physiology of organ systems, and the pathophysiology of specific disease states. Elective course selections provide program focus while allowing maximum flexibility to meet individual needs. A minimum of 30 credit hours of course work is required for graduation.

For further information, contact:

Clinical Nutrition
900 S. Limestone St., Room 209
University of Kentucky
Lexington, KY 40536-0200
(859) 218-0859
http://pharmns.med.uky.edu/lpharmns-nutritional-sciences

GRADUATE AND PROFESSIONAL PROGRAM

Physical Therapy – Doctor of Physical Therapy

The Physical Therapy Program at the University of Kentucky offers the professional (entry level) Doctor of Physical Therapy (DPT) degree. The program is offered at the Lexington campus and at the Center of Excellence in Rural Health campus in Hazard, Kentucky. Once accepted, the PT Program requires three successful years to completion (121 course credits) and results in the awarding of the DPT.

The PT Program has selective admissions. To be eligible for application, the student must complete a bachelor's degree prior to the start of the PT program, or complete (by no later than the end of the spring semester of application) the junior year requirements in a declared major and meet the University of Kentucky's University Scholars Program criteria which include:

- Ninety semester hours working toward a degree;
- An overall GPA of ≥ 3.2;
- A science GPA and major course GPA of ≥ 3.5;
- A combined verbal and quantitative GRE score of 300 is recommended by the Physical Therapy Division.

For additional requirements for application, including the application form, go to: **www.uky.edu/healthsciences/academic-programs/physical-therapy**

For more information about the Physical Therapy Program at the Lexington campus, contact:

Physical Therapy Program
900 South Limestone Street
Room 204
University of Kentucky
Lexington, KY 40536-0200
(859) 218-0494
www.uky.edu/healthsciences/academic-programs/physical-therapy

The Center of Excellence in Rural Health, Doctor of Physical Therapy

In 1992, the College of Health Sciences initiated an expansion program in physical therapy based at the Center of Excellence in Rural Health in Hazard, Kentucky. This professional program is conducted in parallel with the Lexington campus program.

For more information about the Physical Therapy program at the Hazard location, contact:

Student Services Coordinator
UK Center of Excellence
in Rural Health
Office B 480
750 Morton Blvd.
Hazard, KY 41701
(606) 439-3557 ext. 8-3508
1-800-851-7512 ext. 8-3508

Master of Science in Physician Assistant Studies

The University of Kentucky, Division of Physician Assistant Studies (PAS) offers a Plan B, non-thesis, master's degree program that is accredited by the Accreditation Review Commission on Education for the Physician Assistant (ARC-PA). The Master of Science in Physician Assistant Studies (M.S.P.A.S.) program is designed for students who wish to become Physician Assistants (PAs) and hold a baccalaureate or will have earned a baccalaureate degree by the time they enter the program. The M.S.P.A.S. program is offered in Lexington at the University of Kentucky and in Morehead, KY, located at the Center for Health Education & Research (CHER).

The goal of the M.S.P.A.S. program is to develop well-educated and highly skilled primary care PAs who will extend the physician's effectiveness and improve access to health care. The PA functions under the supervision and responsibility of a licensed physician and is competent to elicit comprehensive health histories, perform physical examinations, interpret and evaluate diagnostic data, establish treatment plans, counsel and educate, and respond appropriately to commonly encountered emergency care situations. Physician Assistants serve in a variety of health care settings, such as primary care practices, subspecialty clinics, inpatient hospitals, and community-based clinics. The M.S.P.A.S. program also prepares graduates to be competitive for positions in clinical research, health care administration and higher education. Graduates of the program are eligible to take the Physician Assistant National Certifying Examination. After successful completion of the National Commission on Certification of Physician Assistants Exam, graduates are eligible for state certification/licensure to practice as certified PAs.

Admission Requirements

Admission to the M.S.P.A.S. program occurs annually, with a new class beginning each January. Qualified applicants must simultaneously apply to the University of Kentucky Graduate School, **www.research.uky.edu/gs/ProspectiveStudents/Admission.html**, as well as the Central Application Service for Physician Assistants (CASPA): **https://caspa.liaisoncas.com/applicant-ux/#/login**.

Students must satisfy admissions requirements to both the Graduate School and the Physician Assistant Studies Program. Applicants to the PAS Program must complete the Graduate Record Examination (GRE). For GRE scores received before August 2011, applicants must have achieved a minimum combined score of 900 points on Verbal and Quantitative sections of the exam. Minimum scores for the new GRE must meet the minimum academic requirements for the Graduate School. Please note that the class average for GRE scores is generally around 1140 for the old GRE and average of 153 Verbal, 151 Quantitative and 3.75 Analytical. All GRE scores must have been taken within the last five years. The UKPAS Program accepts ONLY the GRE for our program. We do not accept any substitutes (e.g., the MCAT).

The UK GRE code is **R1837** and all official scores must be sent to the University of Kentucky Graduate School Office.

International students and domestic students who attended a high school in which English was not the primary language of instruction must achieve a minimum of 26 in each category on the TOEFL iBT exam. In addition to the TOEFL iBT requirement, international students must also complete the GRE.

Applicants must hold a baccalaureate degree from an accredited college or university (or have earned a baccalaureate degree by the time of entry into the program). Applicants may only have two outstanding prerequisites at the time of application. These courses must be completed by August 8, prior to the beginning of the program.

For specific information concerning admissions, visit: **www.uky.edu/healthsciences/academic-programs/physician-assistant-studies/admissions**

Prerequisite Courses for Physician Assistant Studies*

A **C** grade or better must be earned in the following prerequisite courses:

Course	Requirement	UK Equivalencies
General Chemistry I	1 semester + lab	CHE 105 & 111
General Chemistry II	1 semester + lab	CHE 107 & 113
Organic Chemistry	1 semester + lab	CHE 230 & 231 or CHE 232 & 233
Human Anatomy **OR** Human Anatomy/Physiology	1 semester (3 hours) **OR** 1 semester (4 hours)	ANA 209
Human Physiology **OR** Human Anatomy/Physiology	1 semester (3 hours) **OR** 1 semester (4 hours)	PGY 206
General Animal Biology	1 semester + lab	BIO 148/152 & 155, or 150 & 151, or 152 & 153
Microbiology	1 semester + lab	BIO 208/308 & BIO 209
Statistics	1 semester	STA 291, 296 or PSY 216
Psychology	1 semester	PSY 100
Developmental Psychology	1 semester	PSY 223
Anthropology **OR** Sociology	1 semester **OR** 1 semester	any anthropology (3 hours) **OR** any sociology (3 hours)
Medical Terminology	1 semester	CLA 131

For more detailed information on prerequisites and course equivalencies, please visit the program Web site:* ***www.uky.edu/healthsciences/academic-programs/physician-assistant-studies/admissions*

Three (3) letters of recommendation are required from people acquainted with the applicant for at least one year and familiar with his/her professional goals and must be submitted with the CASPA application packet, along with an admission essay. The UKPAS Program prefers to have one recommendation from a physician assistant or physician, one from an academic advisor or professor and one from either a PA, physician, or academic professor/advisor. The admission essay must be of graduate quality that reflects the applicant's commitment to primary care. The applicant must be certified in Basic Life Support for Healthcare Providers by the American Heart Association and be in compliance with the Technical Standards established by the College of Health Sciences and the PAS Program.

Health care experience is required and deemed beneficial to students entering the PAS Program. Applicants are required to have a minimum of 50 hours shadowing a physician assistant in any specialty.

Although 50 is the required minimum, typical applicants average greater than 100 shadowing hours, depending on the year of application.

Additionally, applicants must have direct patient care experience. Beginning in the 2016-2017 Admissions cycle, the minimum 1000 patient contact hour requirement will be removed. Patient contact experience will still be a requirement, however without a set amount of hours. It is highly recommended that hours be obtained in a formally trained medical discipline (as a registered nurse, certified nursing assistant, emergency technician, certified medical assistant, etc.). Lastly, volunteer hours may be in either primary and/or non-primary care settings and with various practitioners (physicians, nurse practitioners, etc.).

Due to the competitive nature and large number of students applying to the program, not all applicants who meet minimum requirements will be invited for an interview.

Please see the Web site at: **www.uky.edu/healthsciences/academic-programs/physician-assistant-studies** for the application deadline. Generally, the application is due in mid-summer.

For more information and dates of General Information Sessions, please visit our Web site at **www.uky.edu/healthsciences/academic-programs/physician-assistant-studies**. If you have questions after visiting our Web site and attending an information session, contact:

Jimmie L. Jones
Student Affairs Officer
Office of Admissions and Student Affairs
College of Health Sciences
900 S. Limestone
111 Charles T. Wethington Building
Lexington, KY 40536-0200
(859) 218-0546
jimmie.jr2@uky.edu

or

Julia Flannery
Student Affairs Officer
Physician Assistant Program

Lexington Campus Location:
Charles T. Wethington, Jr. Building, Room 205
Lexington, KY 40536-0200
(859) 217-5001

Morehead Campus Location:
Center for Health Education and Research, Room 202A
Morehead, KY 40351
(606) 783-2558
www.uky.edu/healthsciences/academic-programs/physician-assistant-studies

Physician Assistant Program – Morehead, Kentucky

The College of Health Sciences offers an extension of the UK Physician Assistant Studies Program in Morehead, Kentucky. Located at the Center for Health Education & Research (CHER), this campus is a unique collaboration with Morehead State University (MSU) and St. Claire Regional Medical Center (SCRMC). The requirements for admission are the same as in the curriculum. The purpose of the Morehead site is to enhance medical care for rural areas of Kentucky and Appalachia. For information on eligibility requirements and applications, please contact:

Julia Flannery
Student Affairs Officer
Physician Assistant Program

Lexington Campus Location:
Charles T. Wethington, Jr. Building, Room 205
Lexington, KY 40536-0200
(859) 217-5001

Morehead Campus Location:
Center for Health Education and Research, Room 202A
Morehead, KY 40351
(606) 783-2558
www.uky.edu/healthsciences/academic-programs/physician-assistant-studies

The Physician Assistant Program is linked with Graduate Certificates in Gerontology and Global Health.

Honors Program

Dr. Diane Snow, Ph.D., is Interim Director of the Honors Program.

The Honors Program at UK serves an important function in the University's commitment to excellence in undergraduate education. Through its special curriculum and related academic activities, the Program provides an unusual course of instruction for outstanding, highly motivated students.

Selection of Honors Students

Because the Honors Program seeks students of demonstrated high academic promise, admission to Honors is competitive. A student must complete the application form for the Honors Program. Entering students ideally have an outstanding high school grade-point average (3.5 unweighted GPA or better, as demonstrated by transcript of through at least the first half of senior year) and a documented composite score of 28 or above on the ACT or 1270 or above on the SAT. The Admissions Committee considers all aspects of an applicant's record; a student's test scores and GPA are only two of the factors considered. The Admissions Committee also considers the academic rigor of high school courses the applicant has taken. In addition, the Admissions Committee places great weight on the strength of the application essays, as well as the evidence they provide of motivation to accept the challenges of Honors and contribute to the program.

Students whose academic performance may vary (high GPA and lower test scores, for example) or who have talents and motivation that are not reflected in standardized testing procedures are invited to make their best case for admission to the Honors Program and to solicit recommendations from supportive teachers or supervisors.

Upper-division students at UK or transfer students with one semester or more of academic study at a college or university may apply to the Honors Program. They submit a copy of their college transcripts along with the materials requested of first-year students. All applicants must demonstrate strong academic performance at the college level (3.0 GPA or better).

The Honors Curriculum

An Honors education at UK opens up an exciting world of inquiry, including research, education abroad, and service that will challenge students intellectually, provide access to the most creative minds at UK, and prepare participants for advanced study and to make a difference in the world upon graduation. The Honors curriculum requires six credit hours in Honors course work, participation in at least six credit hours of Honors Experiences, a Senior Capstone, and a choice of course work campus-wide to fulfill the educational goals of the Honors student. There are Honors course expectations across the academic career of the student, opportunities for residential experiences in Honors Living Learning Communities, particularly during the first year, academic flexibility, and enhanced advising and cocurricular opportunities.



Program Requirements

1. Each Honors student must complete at least 15 hours in Honors courses.

   Six Credit Hours
   Students choose at least two Honors courses:
   - HON 151 (fulfills the Intellectual Inquiry in the Humanities)
   - HON 152 (fulfills the Intellectual Inquiry in the Natural/Physical/Mathematical Sciences)
   - HON 251 (fulfills the Intellectual Inquiry in the Social Sciences)
   - HON 252 (fulfills the Intellectual Inquiry in Arts and Creativity)
   - or Honors courses/sections in existing UK courses

   Three Credit Hours
   Senior Honors Capstone:
   - HON 398
   - or college/departmental equivalent

   Six Credit Hours
   Students choose two from:
   - departmental and disciplinary Honors courses and sections
   - HON 301
   - a graduate course that meets the needs and interests of the student*

   **Program pre-approval required.*

2. Each Honors student must complete one course in Composition and Communication.

   Three Credit Hours
   Students complete a designated section of accelerated Composition and Communication, unless they meet the UK Core Composition and Communication requirement through alternate means.

3. Each Honors student must complete 6 credit hours Honors Experiences.

   Six Credit Hours
   Students choose two or more experiences (may opt to do the same experience multiple times for a total of 6 credit hours):
   - Education Abroad
   - Service Learning or Community Outreach
   - Undergraduate Research Experience (HON 352, 395, or 399, or equivalent Honors course in the major)
   - alternate opportunities*

   **Other activities may also qualify, such as serving as an Undergraduate Instructional Assistant in a course, or other activities agreed on in advance with the Director of the Honors Program.*

4. Honors students must maintain a 3.0 GPA.

   Probationary status will be granted to Honors students falling below this threshold who can reasonably be expected to raise their GPA back to a 3.00 prior to graduation. Students who have not removed themselves from probationary status after two semesters will be required to leave the program.

SUGGESTED FOUR YEAR PLAN

First Year — **9 Credit Hours**
One Honors course each semester ..... 6 hours total
Honors Composition and Communication in either semester ..... 3 hours total

Second Year — **6 Credit Hours**
One Honors course
One Honors experience

Third Year — **6 Credit Hours**
One Honors course
One Honors experience

Fourth Year — **3 Hours**
HON 398 Senior Capstone

Graduating with Honors in the Program

To graduate with a Certificate of Honors in the Honors Program and have this designation on the final UK transcript and diploma, students must complete the requirements described above.

Special Opportunities

Students in the Honors Program have many opportunities, both in and out of the classroom, to develop and demonstrate academic excellence. The small class size and method of instruction in Honors courses foster active learning. Informal conferences, special speakers, trips, and workshops allow students to explore topics and issues not regularly considered within University departmental offerings.

Students in the program may elect to live in Central Hall, a study and community oriented, co-ed Honors residence hall equipped with seminar rooms, active learning centers, and the Honors Program advising offices.

Other social, service, and cultural activities organized by and for Honors students include the Honors Program Student Advisory Council or HPSC (social and service activities), and a highly active peer mentoring program. Students may also participate in the Journal Project, for which they keep a journal during their undergraduate career, sharing the journal with a staff member, administrator, or faculty member who volunteers as an advisor.

Honors students in good standing are eligible for a number of special grants and scholarships during and at the conclusion of their undergraduate career. These include scholarships based on financial need, grants to support independent research conducted in the U.S. or abroad, scholarships to support study-travel for members of the Journal Project, the Diachun Award for students continuing studies in graduate school, and several other literary, service, and book awards.

Benefits

The greatest benefits Honors Program students enjoy are intensified intellectual development and a heightened personal awareness of the individual's place in his or her culture. A high percentage of graduates of the Honors Program enter graduate or professional schools, and move on to successful careers.

How To Apply

For more information, contact:

Director, Honors Program
Central Residence Hall II
361 Huguelet Avenue
University of Kentucky
Lexington, KY 40506-0079
(859) 257-3111
fax: (859) 257-6428
www.uky.edu/academy/honors/

The application deadline is **December 1**. Contact the Honors Program for more information.

College of Law

David A. Brennen, J.D., LL.M., is Dean of the College of Law; Douglas C. Michael, J.D., Richard C. Ausness, J.D., and Susan Bybee Steele, J.D., are Associate Deans; Daniel P. Murphy, J.D., is Assistant Dean.

Since its establishment in 1908, UK Law has provided programs of legal instruction, research, and service to the Commonwealth and to the bar. The College of Law program is designed so graduates can practice their profession on a local, regional, or national level. The College is accredited by all agencies which establish standards for law schools, including the Association of American Law Schools and the American Bar Association.

The program consists of a three-year general law curriculum designed to be completed in six semesters (or in five semesters and two summer sessions). The program is designed to assist students in acquiring the skills required for the solution of modern legal problems; gaining an appreciation for and understanding of the legal, social, and political institutions on which the administration of justice rests; and preparing for the policy and ethical decisions which must be made in practicing law.

The Faculty

UK Law has a full-time faculty and staff composed of approximately 34 professors, 14 administrators, and 13 library and support personnel. They are assisted by a number of part-time and adjunct professors, as well as visiting professors.

The Library

The Alvin E. Evans Law Library contains the state's most comprehensive print collection of primary legal materials, as well as access to a growing list of premiere legal databases, including WestlawNext, Lexis Advance, Checkpoint, Making of Modern Law, and HeinOnline. In addition, there are reference services to provide students with assistance in identifying, locating, and using resources within the collection.

The Law Building

Centrally located on UK's main campus, the College of Law is a self-contained academic unit with facilities for receiving a quality legal education. Our students benefit from having the research and instructional facilities available at a major university, as well as the amenities of a large campus.

Other Facilities and Information

Since 1913 the College has published the *Kentucky Law Journal (KLJ)*, a quarterly periodical and the tenth oldest American law review. This journal is published by a student staff, and election to the staff is based on high academic achievement and proven ability to write and conduct research. Each issue contains articles written by prominent national scholars and notes written by *KLJ* members encompassing a broad range of legal topics.

The student-run *Kentucky Journal of Equine, Agriculture & Natural Resources Law (KLEANRL)* has been published since 1984, originally as the *Journal of Mineral Law & Policy* and then *Journal of Natural Resources and Environmental Law*, and is a multi-disciplinary journal of law, science, and policy.

Instruction in legal research and writing is available to all students, not only in required courses designed for this purpose, but also in seminars, drafting projects, and opportunities for independent study.

Practical training in trial and appellate advocacy is provided in courses like litigation skills and clinical courses, as well as the co-curricular Moot Court Board and Trial Advocacy Board. Teams representing the College compete in annual competitions.

The College operates an externship program to provide students with a variety of clinical learning experiences. In 1997, the UK Legal Clinic opened, which gives students, under the supervision of the clinic's director, the opportunity to advise, counsel, and represent clients on a variety of civil legal matters.

REQUIREMENTS FOR ADMISSION

1. The UK Law application and $50 application fee (paid by credit card) must be submitted online through the Law School Admission Council (LSAC) at **www.lsac.org**.
2. Applicants must obtain a bachelor's degree from a fully accredited institution of higher learning prior to enrollment at UK Law. However, if the applicant is a student at the University of Kentucky and is enrolled in an approved Bachelor to Law Undergraduate Education (BLUE) program, the applicant will be considered for admission without having a bachelor's degree at the time of enrollment. Transcript(s) should be submitted to LSAC's Credentials Assembly Service (CAS). Be sure to provide transcripts from all institutions from which you have received credits. CAS simplifies the admissions process by providing a centralized service to submit application materials. Applicants can register for CAS and the Law School Admission Test (LSAT) at the same time.
3. Applicants must take the LSAT. Registration and information for the LSAT are available from LSAC. The Admissions Committee will view all scores, but in most cases, will consider only the highest score. UK Law requires applicants to retake the LSAT if the most recent test was more than five years before expected enrollment.
4. Applicants must submit at least two (2) letters of recommendation from those with personal knowledge of the applicant's abilities and qualifications to study law. Letters of recommendation must be submitted through LSAC's Letter of Recommendation and Evaluation Service.
5. Applicants must submit a personal statement in accordance with the instructions on the application. Applicants must write their statement using their own words and ideas. The personal statement will be used as a sample of their writing and for insight into their background, goals, and potential for enriching UK Law's academic environment.

APPLICATION DEADLINES FOR COLLEGE OF LAW

First-Year Students

Fall
March 15

Transfer Students

Fall	Spring	Summer
June 1	Dec. 1	May 15

The Admission Process

The admission process at UK Law involves a "full-file review" of each application taking numerical, academic, and non-academic factors into account. The goal is to admit a talented and diverse student body that enhances the educational process. UK Law offers a full-time day program for entering students in the fall semester.

In measuring your academic potential, the Admissions Committee will begin with your cumulative undergraduate grade-point average (GPA) and your highest score on the LSAT. Additional academic factors that may be considered include: writing skills, trend of college grades, letters of recommendation, time between college and law school, performance of other students from your college, and course selection patterns. Nonacademic factors that the Admissions Committee may consider include: geographic and cultural diversity; achievements and leadership positions; and perseverance and accomplishment under adverse circumstances. However, your application must show evidence of your ability to succeed academically at UK Law before nonacademic factors can play a role in the admission decision.

Admission of Transfer Students

To be competitive, transfer applicants should have a 2.7 or higher GPA with at least 25 credit hours of law school work. The Admissions Committee will consider the applicant's law school record, as well as all factors the Committee considers in a first-year application.

Procedure for Application

UK Law applications and application fees must be submitted online through LSAC at **www.lsac.org**.

Submission Dates and Deadlines

First-year applications are accepted beginning September 1 with an application deadline of March 15. Admissions decisions are made on a rolling basis. The Admissions Committee begins its evaluation of files in November, with the majority of decisions being made between January and April. Applicants will be notified of their application status as soon as possible after their file is reviewed by the Admissions Committee.

College of Law Withdrawal Policy

All students enrolled at UK Law are expected to complete their degree requirements without interruption other than for regularly scheduled academic holidays. It is expected that students will complete all courses or seminars in which they are enrolled. Contact UK Law for complete information about rules specific to withdrawal.

PRELEGAL STUDY

If you are already in college and are thinking about law school, do not worry if your major is not typically thought of in connection with law. Law schools accept students from practically every undergraduate major there is. Choose a major you enjoy and find interesting, since you will be more likely to succeed. In addition, if you decide not to attend law school, a background in something that you enjoy will allow for more options than a typical "law school" major might.

In college as much as in high school, taking classes that require you to write papers and have them critiqued by your teachers or peers is an invaluable experience. It is also a good idea to consider taking at least one course related to logic. Having classroom experience with logic fundamentals will likely make the logical reasoning – an infamous section of the LSAT – less difficult during your LSAT preparation.

Generally, starting to plan for the LSAT in your junior year will give you plenty of time to study, take the LSAT (in June after your junior year), and have time to retake the LSAT if desired. There is a great deal of information about the LSAT on LSAC's Web site.

In addition, it is never too early to start thinking about which faculty members you would like to ask for letters of recommendation. Letters of recommendation are a required part of many law school applications. The best letters of recommendation come from faculty who know you well, are familiar with your academic work, and can write about your performance as a student. Making an effort to get to know your professors early is not only a smart step toward law school, but will often lead to a greater understanding of the subjects they teach.

For additional information, students can find a variety of information on LSAC's Web site as well as the *LSAC Official Guide to ABA Approved Law Schools*. UK undergraduate students can also visit **www.uky.edu/US/pre-law.html** for additional information on pre-professional advising.

THE DEGREE OF JURIS DOCTOR

Students admitted to UK Law are eligible for the degree of Juris Doctor (J.D.) upon completion of a minimum of three academic years (six full-time semesters or the equivalent) and 90 credit hours of courses with at least a cumulative of 2.0. All courses in the first year of law study are required, as well as a course in professional responsibility and an upper division writing course.

Because the study of law at UK is a full-time pursuit, all law students are expected to carry a full academic program (14-16 credit hours each semester). Second and third year students may work up to 20 hours per week.

To view the *UK Law Viewbook*, please visit: **http://law.uky.edu/admissions/viewbook**. For specific information about UK Law's academics and curriculum, please visit: **http://law.uky.edu/academics/academic-resources**. Prospective applicants can contact UK Law Admissions at (859) 218-1699, or at: **uklawadmissions@uky.edu**.

College of Medicine

Frederick C. de Beer, M.D., is Dean of the College of Medicine.

The College of Medicine offers a four-year curriculum leading to a degree of Doctor of Medicine (M.D.) and training for postdoctoral and research fellows. The University of Kentucky Hospital offers accredited postdoctoral training for interns and residents.

A curriculum in medicine has been part of the University of Kentucky since 1960. The College of Medicine is responsible for providing its students with training in related basic sciences and with clinical experience under supervision in the University of Kentucky Hospital and other affiliated facilities.

As part of the Medical Center – which also includes the University of Kentucky Hospital and the Colleges of Dentistry, Health Sciences, Nursing, Pharmacy, and Public Health – the College of Medicine strives for programs of the highest possible quality. This means selecting the best possible student body, creating an environment which fosters learning, investigation, and clinical excellence, and acquiring and keeping talented faculty and administrative staffs.

ACADEMIC PREPARATION FOR THE STUDY OF MEDICINE

Medical science and practice involve complex relationships between physical, biological, psychological, cultural, and environmental aspects of human behavior. In the preparation for medical school, fundamental undergraduate college training in biology, chemistry, physics and English is essential. Minimal requirements are satisfied with the equivalent of two semesters of studies in physics; two semesters in the biological sciences; four semesters in chemistry, including organic chemistry; and at least one year of English with emphasis on communication skills such as reading, writing, and speaking.

Courses in each of the science areas must include laboratory work. In addition, we strongly recommend that prospective applicants complete a course in cell biology, biochemistry, statistics, psychology, and sociology. Students are encouraged to follow special interests which they may have in philosophy, psychology, literature, social sciences, or the fine arts.

Students are urged to demonstrate a capacity for advanced work through concentrated study of at least one subject in a major area by completing courses beyond the introductory level.

REQUIREMENTS FOR ADMISSION

Applicants for admission to the College of Medicine, in addition to meeting general University requirements, must meet the prerequisite requirements of the College of Medicine and be accepted by the Medical College Admissions Committee. Applicants will be required to have taken the Medical College Admission Test (MCAT) and are encouraged to have completed a baccalaureate degree program at an accredited college or university.

SELECTION CRITERIA

In admitting students to the College of Medicine, the University endeavors to select students who show promise of becoming excellent future physicians. Applicants are judged on the basis of their total qualifications and in comparison with other applicants.

As a state-supported school, the College of Medicine gives preference to qualified residents of Kentucky. Although well-qualified nonresidents may apply, preference is given to candidates with Kentucky ties.

Selection from among applicants who meet the general premedical educational requirements of the College of Medicine is based on a number of criteria. A high level of academic performance at the undergraduate level is extremely important. It is recognized, however, that a meaningful evaluation of student performance must consider many factors in addition to grades. For example, exposure to the health care profession is considered essential.

Scholastic aptitude as measured by the Medical College Admission Test also is considered.

Since the practice of medicine involves the physician in continual relationships with people – with patients, and with other members of the health care team – applicants are also judged according to premedical evaluations, the degree of their participation in campus and community activities and organizations, and the personal characteristics that they demonstrate. Friendliness, warmth, compassion, integrity, and commitment are all essential traits of the physician.

Often the physician's ability to communicate effectively will determine the degree of success in the diagnosis and management of a patient's health problem and in other professional activities. Thus, consideration is given to the communication skills demonstrated by each applicant. Communication is a two-way process and involves the ability to listen perceptively, as well as to speak and write clearly.

Because the practice of medicine and the life of the medical student require a great investment of effort and demand both time and energy, it is essential that a prospective medical student meet the Technical Standards of the College of Medicine detailed online at: **www.mc.uky.edu/meded/admissions**. Further, prospective applicants should be able to demonstrate that their motivation to study medicine is sufficiently strong to sustain him or her in the face of difficulties. Accepted applicants are subject to a criminal background check prior to matriculation.

STUDENT PROGRESS

The Student Progress and Promotion Committee is charged with monitoring student progress through the curriculum. The committee regularly reviews each student's performance and makes recommendations on such actions as graduation, promotion, remediation, dismissal, and leaves of absence. Final authority on all matters of student progress and promotion is vested in the Dean of the College of Medicine.

Students are responsible for conforming to all rules and regulations specified by the *Behavioral Standards in Patient Care, Health Science Student Professional Behavior Code*, the College of Medicine Honor Code, the "Technical Standards Related to Applicant Admission and Student Performance" detailed online at: **http://meded.med.uky.edu/meded-technical-standards**, the academic standards established in the Student Promotion rules, and the Code of Student Rights and Responsibilities for all University of Kentucky students.

COURSE DESCRIPTIONS

Course listings for the College of Medicine may be found under the college according to departmental and area headings.

For specific information about programs in the College of Medicine, students should refer to *The Graduate School Bulletin* or the *College of Medicine Bulletin.*

COMBINED MEDICAL AND GRADUATE STUDIES

A medical student who wishes to work toward a combined medical and graduate degree (master's or doctoral) may enroll both as a graduate student and as a medical student. Details of the combined degrees are available from basic science department chairpersons, the Associate Dean for Research and Basic Sciences, or the Office of Medical Education, College of Medicine.

College of Nursing

Janie Heath, PhD, APRN, ACNP-BC, FAAN is the Dean of the College of Nursing. Patricia V. Burkhart, PhD, RN, is Associate Dean for Undergraduate Studies. Patricia B. Howard, PhD, RN, CNNA, FAAN, is Executive Associate Dean for Academic Affairs. Terry A. Lennie, PhD, RN, FAAN, is Associate Dean for PhD Studies. Thomas Kelly, PhD, is Interim Associate Dean for Research and Scholarship.

Accreditation

The College of Nursing has had continuous accreditation since 1967. The baccalaureate degree curriculum offered by the College of Nursing is accredited by the Commission on Collegiate Nursing Education and approved by the Kentucky Board of Nursing.

Undergraduate Program in Nursing

The University of Kentucky grants the following degree in the College of Nursing:

- Bachelor of Science in Nursing

ADMISSION REQUIREMENTS

The College of Nursing enrollment is composed of four-year students, associate degree nursing graduates, and diploma nursing school graduates. Admission to the University does not guarantee admission to the College of Nursing. Preference is given to Kentucky residents.

Applicants must be in a state of good health enabling them to carry out the functions of the professional nurse. Routinely, each student will be required to obtain a rubella and rubeola titers, hepatitis B immunizations, and have an annual tuberculin test or chest x-ray. (Other immunizations may be required. Check with the College of Nursing for a current list.)

The University of Kentucky will consider for admission any applicant who demonstrates the ability to perform or to learn to perform the skills listed below. Applicants are *not* required to disclose the nature of any disability, but an applicant with questions about these technical requirements is strongly encouraged to discuss the issue with the dean for the particular program of study. If appropriate, and upon the request of the applicant, student or faculty, reasonable accommodations for a disability will be provided.

Students must possess aptitude, abilities, and skills in five areas:

- observation;
- communication;
- sensory and motor coordination and function;
- conceptualization, integration, and quantification; and,
- behavioral and social skills, abilities and aptitude.

Full details on these standards are available by contacting the College of Nursing.

Progression to upper-division is regulated so that the total number of full-time equivalents at the beginning of the junior year does not exceed 120.

Admission Criteria

Criteria for admission to the 4-year B.S.N. program include:

1. Freshman Student:

Students will be admitted as freshmen to a **pre-nursing** curriculum based on the following criteria:

a) high school grade-point average of 3.25 (unweighted) or above on a 4.0 scale and a minimum of 22 ACT composite, with a minimum of 19 ACT math score;

b) meeting criteria for selective admission to the University of Kentucky (see the *Undergraduate Admission* section of this Bulletin for more information).

Consideration for Nursing program will occur at the sophomore level for all students based on the following criteria:

a) a minimum cumulative and science grade-point average of 3.0;

b) a grade of **C** or better in all required pre-nursing courses;

c) completion of the UK College of Nursing approved Medicaid Nurse Aide training program;

d) the Internet-based TOEFL is required of all applicants whose *first or primary language* is other than English. Minimum cumulative score of 90; *and at least* minimum individual scores of 26 in speaking, 22 in listening, 20 in writing and 22 in reading.

In addition, any or all of the following information may be requested as part of the application:

e) a writing exercise based on the criteria established by the College of Nursing;

f) two letters of reference from individuals who can assess potential for success (e.g., teacher, employer).

g) an interview with members of the Admissions and Progression Committee, or their designees.

APPLICATION DEADLINE FOR COLLEGE OF NURSING

Traditional B.S.N. Program:
March 1

Second Degree Program:
March 1 for fall semester
August 15 for spring semester

R.N.-B.S.N. Program:
March 1 preferred, until **August 1** on space-available basis for fall semester
December 1 for spring semester

D.N.P. Program:
February 15

Early Admission

Early provisional admission to the Professional Nursing Curriculum will be granted to graduating high school seniors who meet the criteria of a high school GPA of 3.6 or higher (unweighted). ACT composite of 28 or higher (or the equivalent SAT combined score). Students will be required to maintain a 3.6 GPA in each semester *in their first year at UK* and a 3.6 GPA in science to retain guaranteed admission to the professional level.

Students who meet the early admission requirements will be granted full admission to the Professional Nursing program in either the fall or spring of the student's sophomore year. Students who do not meet the requirements will be considered with other applicants who meet admission criteria, following completion of program prerequisites.

2. Transfer Student:

a) **for transfer students with less than 24 hours of college credit**, meeting the criteria for entering freshmen and a minimum grade-point average of 2.75 on all college work attempted as computed by the Office of Admissions;

b) **for transfer students with more than 24 hours of college credit**, maintaining grade-point average of 2.75 on all college work attempted, and a minimum cumulative grade-point average of 2.75 in science courses, as computed by the Office of Admissions;

Seeking licensure as a Registered Nurse requires that applicants have no criminal history. In Kentucky, applicants who are convicted felons may be denied licensure. Cases are reviewed individually, upon application. Additionally, some clinical agencies require criminal background checks and drug screening for students who might be placed there for a learning activity. The agency reserves the right to deny a student permission to meet clients, based on the results of the criminal background check.

If you have a criminal history, we urge you to contact the board of nursing in any state where you may seek licensure prior to enrolling in a nursing program. The regulations vary from state to state.

c) for applicants whose *first or primary language* is not English, a minimum TOEFL score of 90, with minimum scores of 26 in speaking, 22 in listening, 20 in writing and 22 in reading;

d) grades of **C** or better in all courses required for CON curriculum;

In addition, any or all of the following information may be requested as part of the application:

e) a writing exercise based on the criteria established by the College of Nursing;

f) two letters of reference from individuals who can assess potential for success (e.g., teacher, employer). Reference forms are available by calling (859) 323-5108.

g) completion of an approved Medicaid Nurse Aide training program;

h) an interview with members of the Admission and Progression Committee or their designees.

3. Students will be eligible to apply for readmission to the College of Nursing after suspension from the College when they meet criteria as stated in **Section 2 a** and **b** of this policy.

4. A student who is a registered nurse will be considered for admission to **upper-division** courses in the UK Professional Nursing program based on the following criteria:

a)

i. **For Associate Degree Nurses:** The registered nurse with an associate degree in nursing from a college accredited by one of the six regional academic accrediting associations will be considered for admission with a minimum GPA of 2.5 on a scale of 4.0 in all course work attempted as computed by the Office of Admissions. **NOTE: R.N. licensure is required to progress to the second semester of the curriculum or prior to beginning clinical experiences.**

ii. **For Diploma Prepared Nurses: Registered nurses** who graduate from a diploma program will be considered for admission after earning a minimum of 60 college credits from a regionally accredited college with a 2.5 minimum GPA which include:

English – 6 semester credits
Natural Sciences – 6 semester credits
Social Sciences – 6 semester credits
Humanities – 6 semester credits
Nursing* – 28 semester credits

*Nursing credits may be earned from regionally accredited colleges by taking the courses or by submission of a portfolio of R.N. licensure and experience to the R.N.-B.S.N. Option Coordinator.

All nursing courses taken in associate degree or diploma programs are considered lower-division courses and are not equivalent to upper-division courses in this program. The applicant must have at least a GPA of 2.5 on a scale of 4.0 in all college course work attempted as computed by the Office of Admissions.

b) a statement of academic and professional goals.

c) two letters of reference from individuals who can assess potential for success (e.g., teacher, employer).

iii. **For Registered Nurses who received their nursing education abroad and are licensed to practice nursing in the State of Kentucky:**

Registered nurses who received their nursing education abroad and are licensed to practice nursing in the State of Kentucky will be considered for admission after earning/transferring in a minimum of 60 college credits with a 2.5 minimum GPA. These courses should include:

English – 6 semester credits
Natural Sciences – 6 semester credits
Social Sciences – 6 semester credits
Humanities – 6 semester credits
Nursing* – 28 semester credits

*Nursing credits may be earned from regionally accredited colleges by taking the courses or by submission of a portfolio of R.N. licensure and experience to the R.N.-B.S.N. Option Coordinator.

Application Deadline

The preferred application deadline is **March 1**; however, applicants will be considered on a space-available basis until **August 1** for the fall semester. For spring semester, applications must be received by **December 1**.

Application for Admission

All applications and transcripts for admission must be submitted to the Office of Admissions according to the deadlines listed in the box above Transfer applicants will be evaluated for fall and spring admission, according to the deadlines listed. Those accepted for admission must notify the college within 30 days, in writing, of their intent to enroll. Late applicants will be considered for admission on a space-available basis.

Part-Time Study

The traditional and Second Degree Option nursing curricula were designed with co-requisites and courses taken in sequence. Therefore, students will be admitted to these options with the expectation that they will follow the prescribed nursing curriculum. R.N. students who are working toward the completion of the B.S.N. degree on a part-time basis must plan a course of study with the appropriate College of Nursing personnel or committee and may not alter that plan without prior approval from the College of Nursing.

Candidates for the degree who do not complete all requirements within a seven-year period (five years for R.N. students) after admission will have their records reevaluated and may be required to repeat or take selected courses.

Financial Aid

The college has scholarships designated for Nursing students. Inquiries should be directed to the Office of Student Services, College of Nursing.

Students may also wish to pursue funds available through hospitals and other agencies that offer financial assistance in return for a work commitment.

Academic Advising

Students who are admitted to the College of Nursing are assigned to an advisor within the college. Curriculum plans are determined in the first semester of enrollment in the college and updated each semester. Questions regarding progression through the program may be directed to the Office of Student Services, College of Nursing.

DEGREE REQUIREMENTS

BACHELOR OF SCIENCE IN NURSING

To obtain a Bachelor of Science in Nursing, students must satisfy the University requirements for graduation, including the UK Core requirements, and obtain a 2.0 grade-point average in nursing in the courses listed below. A grade of **C** or better must be attained in all courses required in the nursing curriculum in order to proceed to the next clinical course or to graduate. A minimum of 120 credit hours is required for graduation.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
PSY 100 Introduction to Psychology 4

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
BIO 103 Basic Ideas of Biology 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
Choose one course from approved list 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning
or
BST 330 Statistical Thinking for Population Health 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 31

Graduation Composition and Communication Requirement (GCCR)

NUR 200 Foundations for Professional Nursing 2
NUR 310 Research for Evidence-Based Nursing Practice 3
NUR 413 Synthesis of Clinical Knowledge for Nursing Practice 6

Graduation Composition and Communication Requirement hours (GCCR) 11

Premajor Requirements

Hours

ANA 109 Anatomy and Physiology for Nursing I 4
ANA 110 Anatomy and Physiology for Nursing II 4
PSY 100 Introduction to Psychology 4
CHE 103 Chemistry for Health Professionals 4
CIS/WRD 110 Composition and Communication I 3
CIS/WRD 111 Composition and Communication II 3
BIO 103 Basic Ideas of Biology 3

Subtotal: Premajor hours 25

Major Requirements

Hours

NUR 200 Foundations for Professional Nursing 2
NUR 201 Assessment and Health Promotion Across the Lifespan 8
NUR 210 Pathopharmacology I 3
NUR 211 Fundamentals of Adult Nursing Care 7
NUR 300 Pathopharmacology II 3
NUR 301 Family Centered Care of Adults With Common Health Problems 7
NUR 310 Research for Evidence-Based Nursing Practice 3
NUR 311 Nursing Care of Childrearing Families 5
NUR 313 Nursing Care of Childbearing Families 4
NUR 400 Leadership/Management in Nursing Care Delivery 3
NUR 401 Psychiatric-Mental Health Nursing 5
NUR 403 Public Health Nursing 5
NUR 410 Career Management in Nursing 2
NUR 411 High Acuity Nursing 5
NUR 413 Synthesis of Clinical Knowledge for Nursing Practice 6
NUR 540 Health Care Systems From an Interprofessional Perspective 3
BIO 208 Principles of Microbiology 3
DHN 212 Introductory Nutrition 3

STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning
or
BST 330 Statistical Thinking for Population Health 3

Subtotal: Major hours 80

Electives

Electives should be selected to complete the minimum 120 hours required for graduation.

Subtotal: Electives ..... minimum of 3
TOTAL HOURS: 120

Sample Curriculum Baccalaureate Program (Four-year Students)

Freshman Year

Hours

First Semester

ANA 109 Anatomy and Physiology for Nursing I 4

CHE 103 Chemistry for Health Professionals
or
BIO 103 Basic Ideas of Biology 3-4

CIS/WRD 110 Composition and Communication I
or
UK Core 3

PSY 100 Introduction to Psychology 4
UK Core 3

Second Semester

ANA 110 Anatomy and Physiology for Nursing II 4

CHE 103 Chemistry for Health Professionals
or
BIO 103 Basic Ideas of Biology 3-4

CIS/WRD 111 Composition and Communication II
or
UK Core 3

UK Core 3
UK Core 3

Sophomore Year

First Semester

BIO 208 Principles of Microbiology 3
DHN 212 Introductory Nutrition 3
NUR 200 Foundations for Professional Nursing 2
NUR 201 Assessment and Health Promotion Across the Lifespan 8

Second Semester

NUR 210 Pathopharmacology I 3
NUR 211 Fundamentals of Adult Nursing Care 7
UK Core 3

STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning
or
BST 330 Statistical Thinking for Population Health 3

Junior Year

First Semester

NUR 300 Pathopharmacology II 3
NUR 301 Family Centered Care of Adults With Common Health Problems 7
NUR 540 Health Care Systems From an Interprofessional Perspective 3
UK Core 3

Second Semester

NUR 310 Research for Evidence-Based Nursing Practice 3
NUR 311 Nursing Care of Childrearing Families 5
NUR 313 Nursing Care of Childbearing Families 4
UK Core 3
UK Core 3

Senior Year

First Semester

NUR 400 Leadership/Management in Nursing Care Delivery 3
NUR 401 Psychiatric-Mental Health Nursing 5
NUR 403 Public Health Nursing 5
Elective 3

Second Semester

NUR 410 Career Management in Nursing 2
NUR 411 High Acuity Nursing 5
NUR 413 Synthesis of Clinical Knowledge for Nursing Practice 6

Sample Curriculum Baccalaureate Program (Registered Nurses)

Graduation Composition and Communication Requirement (GCCR)

NUR 350 Concepts in Professional Nursing 5
NUR 413 Synthesis of Clinical Knowledge for Nursing Practice 6

Graduation Composition and Communication Requirement hours (GCCR) 11

Junior Year

Hours

First Semester

NUR 350 Concepts in Professional Nursing 5
NUR 351 Health Assessment 2
NUR 310 Research for Evidence-Based Nursing Practice 3

STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning
or
BST 330 Statistical Thinking for Population Health 3

Second Semester

NUR 403 Public Health Nursing 5
NUR 354 Pathophysiology 3
NUR 352 Pharmacology 3
Elective* 3

Third Semester

NUR 400 Leadership/Management in Nursing Care Delivery 3
NUR 413 Synthesis of Clinical Knowledge for Nursing Practice 6
Elective* 3

**Optional – for students who wish to take full time course work.*

Curriculum Policies

Students are expected to be familiar with the requirements for the degree of Bachelor of Science in Nursing and to confer with advisors in the College of Nursing when selecting courses.

Since the health needs of the nation are constantly changing, an effective curriculum requires continuous review and evaluation, which may necessitate revision of courses and requirements. Thus, there can be no guarantee that course content will be identical in each subsequent academic year. Furthermore, to continue to meet the changing emphasis in nursing education, some courses will require educational experiences for students in community facilities outside of Lexington.

SECOND DEGREE OPTION B.S.N. PROGRAM

The College of Nursing offers the Second Degree B.S.N. (Bachelor of Science in Nursing). This option is for people who have a bachelor's degree in a field other than nursing. It is not an accelerated B.S.N. option but a five-semester B.S.N. option.

Prerequisites for Second Degree B.S.N. Option

Students who have earned a degree in another field may apply to complete a B.S.N. The admission requirements/prerequisites include:

- a baccalaureate degree in another field;
- meet minimum GPA requirement for all college work;
- grade of **C** or higher in ANA 209 (Principles of Human Anatomy) or equivalent;
- grade of **C** or higher in PGY 206 (Elementary Physiology) or equivalent;
- grade of **C** or higher in CHE 103 (Chemistry for Health Professionals) or equivalent;
- grade of **C** or higher in PSY 100 (Introduction to Psychology) or equivalent;
- grade of **C** or higher in DHN 212 (Introductory Nutrition)*;
- grade of **C** or higher in BIO 208 (Principles of Microbiology)*;
- grade of **C** or higher in BIO 103 (Basic Ideas of Biology); and
- a written statement.

**DHN 212 and BIO 208 are prerequisites to NUR 221.*

It is strongly recommended that students complete the following course with a grade of **C** or higher before beginning the Second Degree B.S.N. Program (it is required for graduation):

- STA 210 (Making Sense of Uncertainty: An Introduction to Statistical Reasoning) or equivalent (prerequisite to NUR 310 – take in Semester I or Semester II).

By the time of enrollment in the first course, students must have also completed a CNA course and all immunizations as listed above under "Admissions Requirements."

Sample Curriculum
Second Degree B.S.N. Program

	Hours
Semester I	
NUR 210 Pathopharmacology I	3
NUR 221 Introduction to Professional Nursing Care Across the Lifespan for Second Degree Students	8
Semester II	
NUR 300 Pathopharmacology II	3
NUR 301 Family Centered Care of Adults With Common Health Problems	7
NUR 540 Health Care Systems From an Interprofessional Perspective	3
Semester III	
NUR 310 Research for Evidence-Based Nursing Practice	3
NUR 311 Nursing Care of Childrearing Families	5
NUR 313 Nursing Care of Childbearing Families	4
Semester IV	
NUR 400 Leadership/Management in Nursing Care Delivery	3
NUR 401 Psychiatric-Mental Health Nursing	5
NUR 403 Public Health Nursing	5
Semester V	
NUR 410 Career Management in Nursing	2
NUR 411 High Acuity Nursing	5
NUR 413 Synthesis of Clinical Knowledge for Nursing Practice	6

Graduate Study

The Doctor of Nursing Practice (D.N.P.) program is a professional clinical doctorate program which focuses on development of advanced competencies for complex practice, and research utilization for the improvement of clinical care delivery, patient outcomes, and system management. Graduates will be expert in designing, implementing, managing, and evaluating health care delivery systems and will be prepared to lead at the highest clinical and executive ranks.

There are two entry points to the D.N.P. program: the post-Master of Science in Nursing (M.S.N.) entry option for those with an awarded master's degree in nursing that are already prepared in the role of the an advanced practice nurse; and the post-Baccalaureate of Science in Nursing (B.S.N.) entry option. This option builds on the B.S.N. degree and prepares individuals for an APRN role. Both options culminate with the D.N.P. degree.

Application Deadline

Application materials are due by **February 15** for fall admission. Applications received after this date will be considered if space is available. For additional requirements for application, including the application forms, go to **www.uknursing.uky.edu**

M.S.N. - D.N.P. in Nursing

Graduates of the post-M.S.N. -D.N.P. option are expected to be experts in designing, implementing, managing and evaluating healthcare delivery systems. Simultaneously, they will know how to manage the complex balance between quality of care, access and fiscal responsibilities.

Admission Criteria

- Graduate grade-point average of 3.3 on a 4.0 grading scale
- Master's degree in nursing from a nationally accredited program
- Goal Statement: In one to three double-spaced pages, discuss your reasons for seeking doctoral study, including your short- and long-term professional goals. Discuss a system or population you are interested in working with and identify/discuss a system or health problem in that population that you wish to study as a practice inquiry project.
- An example of scholarly written work, completed within two years of application, related to nursing that demonstrates excellent writing skills and the ability to communicate clearly and logically. Samples of scholarly work: formal research paper written in M.S.N. program; published article on a nursing issue; or paper written on nursing issue of interest to applicant
- Three references (forms provided) attesting to the applicants' expertise in nursing or health care. Faculty prefer professional references from nursing faculty advisor if available or a nursing faculty member who knows the applicant, one from a doctorally prepared Registered Nurse, and no more than one from peer.
- Unencumbered licensure to practice in Kentucky or in the state in which clinicals will occur (prerequisite to clinical experience)
- Interview(s) with D.N.P. faculty
- A minimum of 460 clinical practice hours from a formal graduate program and certification as applicable. (Applicants who cannot demonstrate a minimum of 460 clinical clock hours of practice will be expected to complete clinical course work beyond the proposed curriculum.)
- Current vita

Sample Curriculum
M.S.N. - D.N.P. Program

YEAR ONE

Hours

Fall Semester

NUR 902 Nursing Leadership in Health Care Systems 3
NUR 915 Foundations of Evidence-Based Practice and Program Plan 4
NUR 919 Quality and Safety in Nursing and Healthcare 3
Statistics course* 3
Subtotal **10-13***

Spring Semester

NUR 903 Applied Biostatistics for Outcomes Evaluation 4
NUR 904 Epidemiology Applied to the Design and Evaluation of Nursing and Health Services 3
NUR 916 Evaluation for Improvement of Clinical Practice and Outcomes 3
Subtotal **10**

Summer

NUR 917 Technology for Transforming Nursing and Healthcare 3
NUR 918 Protection of Human Subjects 1
Subtotal **4**

YEAR TWO

Hours

Fall Semester

NUR 778 Proseminar in Contemporary Health and Nursing Policy Issues 3
NUR 914 Economic and Financial Aspects of Clinical and Population-Based Health Care Delivery Systems 4
NUR 920 Advanced Nursing Practice in Dynamic Health Care Systems (Subtitle required) .. 3
Subtotal **10**

Spring Semester

NUR 910 Clinical Residency 3
Subtotal **3**

Summer

NUR 910 Clinical Residency 3
Subtotal **3**

**STA 570 or comparable graduate-level course within the past five years is a prerequisite to the program or can be taken during the fall of the first year; statistics is a required course prerequisite for NUR 903 (Applied Biostatistics for Outcomes Evaluation).*

B.S.N. - D.N.P. in Nursing

The post-BSN entry option builds on a student's undergraduate degree and experience as a registered nurse and prepares the individual for the advanced practice registered nurse role in a chosen specialty. Direct care specialties include: Adult-Gero Acute Care Nurse Practitioner, Adult-Gero Clinical Nurse Specialist, Pediatric Primary Care Nurse Practitioner, Psychiatric-Mental Health Nurse Practitioner (Family), Primary Care Nurse Practitioner (Adult-Gero or Family) or population/systems focus in the Populations and Organizational Leadership specialty. Students apply to and are admitted to a particular specialty. Admission decisions are made on a competitive basis by specialty.

Admission Criteria

- Undergraduate grade-point average of 3.3 on a 4.0 grading scale
- Three references (forms provided) attesting to the applicants' expertise in nursing or health care. Faculty prefer professional references from nursing faculty advisor if available or a nursing faculty member who knows the applicant, one from a doctorally prepared Registered Nurse, and no more than one from peer.
- Personal interview(s)
- Unencumbered licensure as a registered nurse in the state in which clinicals will occur (prerequisite to clinical experience)
- Clinical nursing experience prior to the first D.N.P. clinical course
- Goal Statement: In one to three double-spaced pages, discuss your reasons for seeking doctoral study, including your short- and long-term professional goals. Discuss a system or population you are interested in working with and identify/discuss a system or health problem in that population that you wish to study as a practice inquiry project.
- An example of scholarly written work, completed within two years of application, related to nursing that demonstrates excellent writing skills and the ability to communicate clearly and logically. Samples of scholarly work: formal research paper written in B.S.N. program; published article on a nursing issue; or paper written on nursing issue of interest to applicant.
- Current vita

Sample Curriculum
B.S.N. - D.N.P. Program

FIRST YEAR

Hours

Fall Semester

STA 569 Applied Statistical Methods
or
STA 570 Basic Statistical Analysis* 4
NUR 921 Pathophysiology
or
NUR XXX Specialty Science** 3
NUR 924 Concepts, Theories, and Models for Advanced Practice Nursing 3
NUR 900 Process of Nursing Leadership 3

Spring Semester

NUR 927 Special Topics in Pharmacology (Subtitle required) 1
NUR 922 Advanced Pharmacology for Advanced Practice Nurses
or
NUR XXX Specialty Science** 3
NUR 923 Applications of Advanced Health Assessment
or
NUR 926 Systems Application of Advanced Health Assessment** 3
NUR 925 Research Methods in Advanced Practice Nursing 3
NUR XXX Advanced Practice Registered Nurse I or Systems Management I (actual course numbers vary by specialty/track) 3

Summer

Elective 3

SECOND YEAR

Hours

Fall Semester

NUR 902 Nursing Leadership in Health Care Systems 3
NUR 915 Foundations of Evidence-Based Practice and Program Plan 4
NUR 919 Quality and Safety in Nursing and Healthcare 3
NUR XXX Advanced Practice Registered Nurse II or Systems Management II*** (actual course numbers vary by specialty/track) 5

Spring Semester

NUR 903 Applied Biostatistics for Outcomes Evaluation 4
NUR 904 Epidemiology Applied to the Design and Evaluation of Nursing and Health Services 3
NUR 916 Evaluation for Improvement of Clinical Practice and Outcomes 3
NUR XXX Advance Practice Registered Nurse III or Systems Management III*** (actual course numbers vary by specialty track) 5

Summer

NUR 917 Technology for Transforming Nursing and Healthcare 3
NUR 918 Protection of Human Subjects 1
NUR 930 Problems in Advanced Practice Nursing (Subtitle required) 2

THIRD YEAR

Hours

Fall Semester

NUR 778 Proseminar in Contemporary Health and Nursing Policy Issues 3
NUR 914 Economic and Financial Aspects of Clinical and Population-Based Health Care Delivery Systems 4
NUR 920 Advanced Nursing Practice in Dynamic Health Care Systems (Subtitle required) .. 3

Spring Semester

NUR 910 Clinical Residency 3

Summer

NUR 910 Clinical Residency 3

**STA 570 or comparable graduate-level course within the past five years is a prerequisite to the program or can be taken during the fall of the first year; statistics is a required course prerequisite for NUR 925 (Research Methods in Advanced Practice Nursing) and NUR 903 (Applied Biostatistics for Outcomes Evaluation).*

***Related specialty science courses to be completed by nurse practitioner and clinical nurse specialist students for direct patient care.*

****Additional credit hours required for Family and Adult-Gero Primary Care Nurse Practitioner specialties.*

Post Graduate Certificate Option

The primary objective of this option is to prepare advanced practice registered nurses for national certification eligibility and licensure in a new or additional specialty area of practice through a formal, organized curriculum that focuses on specialty courses in the students' area of interest. Post-Master of Science in Nursing, post-Doctor

of Philosophy in Nursing and post-Doctor of Nursing Practice individuals are eligible to apply.

Students enrolled in this option are assessed the professional doctoral tuition and fee rates.

Specialties Available for the Certificate Option

- Adult Gerontology Acute Care Nurse Practitioner
- Adult Gerontology Clinical Nurse Specialist*
- Psychiatric Mental Health Nurse Practitioner*
- Pediatric Acute Care Nurse Practitioner*
- Pediatric Primary Care Nurse Practitioner*
- Populations and Organizational Systems Leadership*

**The specialty course sequence for these specialties is offered every OTHER year.*

Family and Adult Nurse Practitioner (primary care) are not currently available as a certificate option.

Application Deadline

Application materials are due by **February 15.** Applications received after this date will be considered if space is available. Admission decisions are made on a competitive basis. Requirements and forms are available at: **www.uknursing.uky.edu**

Admission Criteria

- Master of Science or doctoral degree in nursing. Doctoral degree preferred.
- Completed application to the UK College of Nursing Certificate Option.
- Minimum score of 550 (or 213 on computer-based test, or 79 on iBT) on Test of English as a Foreign Language (TOEFL) for all applicants whose native language is not English.
- Unencumbered registered nurse licensure in the state where clinical work will take place.
- Two references, one of which must be from your current supervisor, the other from your master's or doctoral degree program advisor preferred, or other nursing faculty member.
- Interview(s) with graduate faculty member(s).

Admission to the certificate option is made on a competitive, space-available basis.

Sample Curriculum
Post Graduate Nursing Certificate

YEAR ONE

Hours

Fall Semester

Pre or Corequisite Courses

NUR 921 Pathophysiology 3
NUR 922 Advanced Pharmacology for Advanced Practice Nurses 3
NUR 923 Applications of Advanced Health Assessment 3

Spring Semester

NUR 927 Special Topics in Pharmacology (Subtitle required) 1
NUR XXX Advanced Practice Registered Nurse I or Systems Management I (actual course numbers vary by specialty) 3

YEAR TWO

Hours

Fall Semester

NUR XXX Advanced Practice Registered Nurse II or Systems Management II (actual course numbers vary by specialty) 5

Spring Semester

NUR 930 Problems in Advanced Practice Nursing (Subtitle required) 3
NUR XXX Advanced Practice Registered Nurse III or Systems Management III (actual course numbers vary by specialty) 5

The College of Nursing also offers the terminal academic degree program leading to the Doctor of Philosophy in Nursing. For more information on this program, refer to *The Graduate School Bulletin* at: **www.rgs.uky.edu/gs/**

For further information, contact:

College of Nursing
315 College of Nursing Building
University of Kentucky
Lexington, KY 40536-0232
(859) 323-5108
email: conss@uky.edu
www.uknursing.uky.edu

College of Pharmacy

Kelly Smith, PharmD, is Interim Dean of the College of Pharmacy.

The College of Pharmacy offers a professional degree program, a four year curriculum leading to the Doctor of Pharmacy (PharmD). The PharmD degree allows one to sit for the national licensing exam to become a licensed, practicing pharmacist. The College of Pharmacy also offers training for postdoctoral and research fellows, residency programs and graduate training (Ph.D.) in all areas of the pharmaceutical sciences, pharmaceutical outcomes and policy through the Graduate School. The professional program is fully accredited by the Accreditation Council for Pharmacy Education and satisfies all educational requirements for licensure. The residency programs are accredited by the American Society of Health-System Pharmacists (ASHP).

ADMISSIONS OVERVIEW – PharmD PROGRAM

The College of Pharmacy's primary mission is to develop pharmacy practitioners and research scholars to improve patient outcomes and human health. The College recognizes that a geographically and culturally diverse student body contributes to more robust exchange of creative ideas and experiences, one that benefits all students. The UK College of Pharmacy, therefore, strives to admit a talented and diverse student body that enhances the educational process while serving the needs of the Commonwealth and the pharmacy profession.

Admission to the professional program is competitive. The number of students admitted to the Doctor of Pharmacy program depends upon the availability of resources such as faculty, clinical facilities and space for implementation of a quality educational program. Consideration for admission will be based on a holistic review of the applicant's previous academic record, potential for academic achievement, standardized admission test scores, assessment of communication skills, contribution to diversity, integrity, commitment, motivation, character, maturity and emotional stability. Each applicant must have the physical, mental and emotional ability to learn and accomplish those competencies required of a pharmacy practitioner, as well as the character and thought processes necessary to make professional judgments that benefit the patient.

The Admissions Committee believes the applicant should base a decision to enter the pharmacy profession on more solid reasoning than merely an interest in science courses. The applicant should research opportunities available to pharmacy graduates, services provided by pharmacists and obligations of pharmacy practitioners to the people they serve.

Work experience is not a requirement for admission. However, applicants are strongly advised to shadow a pharmacist and volunteer in a pharmacy or health care environment prior to entering a pharmacy program. Students who have prior work, shadowing or volunteer experience in a pharmacy setting generally enhance their performance during the admissions interview process and in the PharmD program if later admitted.

The Admissions Committee cannot consider applications from students in other colleges of pharmacy when the applicant has previously been denied admission to the UK professional program or when the maximum number of students is already enrolled in the program.

Individuals who have been dropped for academic or other reasons applying for reinstatement in the College will have their application considered, but on a competitive basis with new applicants. Students applying for admission should be able to meet the technical standards for students in the College. These standards should be reviewed in the College Bulletin, under "Academic Progress and Promotion."

Any student may be denied admission or permission to continue enrollment in the College of Pharmacy if, in the opinion of the faculty, the moral or ethical character of the student casts grave doubts upon his or her potential capabilities as a pharmacist. Any type of involvement in the illegal use of drugs or other illegal or unethical acts relating to the practice of pharmacy are examples of incidents which would provide cause for considering denying admission or for dismissal of a student from the College.

ACADEMIC PREPARATION – PharmD ADMISSION REQUIREMENTS

A minimum of 70 semester credit hours of prepharmacy course work is required for admission. Approximately 45-55 of those hours are in required subjects; the remaining credit hours can be elective courses of the student's choice. Students are encouraged to take elective courses that satisfy their major requirements. Highly recommended electives include biochemistry, genetics, and physics. Other electives to consider: courses required by major; UK Core courses; PharmD Dual Degree prerequisites (if needed); medical terminology; healthcare-related courses; undergraduate courses in Human Health Sciences (HHS), Public Health (CPH), Clinical Leadership and Management (CLM).

Prepharmacy courses should be completed by the end of the spring semester prior to the desired fall enrollment. If admitted, a student may petition the Admissions Committee to determine if a prerequisite may be completed during the summer prior to College of Pharmacy matriculation. See the chart on page 295 for the number of semester credit hours required in each prepharmacy subject area and the exact courses as offered at UK. Students may complete the prepharmacy course work at any regionally-accredited college or university.

English Requirement for Students Interested in Pharmacy

UK students must take courses which satisfy the Composition and Communications I and II requirements. Non-UK students must take two semesters of English writing/composition **and** one semester of basic public speaking.

PharmD Admission Requirements: Suggested Prepharmacy Schedule

Below is a suggested three-year schedule for UK students on a prepharmacy track. For a two-year, more aggressive prepharmacy schedule, contact the Prepharmacy Advisor at: **pharmacyinfo@lsv.uky.edu**.

FIRST PREPHARMACY YEAR

Fall Semester

MA 109 College Algebra	3
CHE 105 General College Chemistry I	4
CHE 111 Laboratory to Accompany General Chemistry I	1
CIS/WRD 110 Composition and Communication I	3
UK 101 Academic Orientation	1-2
Elective	3
TOTAL	15-16

Spring Semester

MA 123 Elementary Calculus and Its Applications	4
CHE 107 General College Chemistry II	3
CHE 113 Laboratory to Accompany General Chemistry II	2
CIS/WRD 111 Composition and Communication II	3
Elective	3
TOTAL	15

SECOND PREPHARMACY YEAR

Fall Semester

CHE 230 Organic Chemistry I	3
CHE 231 Organic Chemistry Laboratory I	1
BIO 148 Introductory Biology I	3

BIO 155 Introductory Biology I Laboratory 1
STA 291 Statistical Methods
or
STA 296 Statistical Methods and Motivations 3
Elective 3
TOTAL 14

Spring Semester

CHE 232 Organic Chemistry II 3
CHE 233 Organic Chemistry Laboratory II 1
ANA 209 Principles of Human Anatomy 3
Electives 6
TOTAL 13

THIRD PREPHARMACY YEAR

Fall Semester

PGY 206 Elementary Physiology 3
BIO 208 Principles of Microbiology 3
BIO 209 Introductory Microbiology Laboratory 2
Electives 6
TOTAL 14

Spring Semester

*Business 3
Electives 12
TOTAL 15

**The Business requirement may be satisfied by taking one semester of any of the following: principles of microeconomics, principles of macroeconomics, financial accounting, corporation finance (ECO 201, ECO 202, ACC 201, or FIN 300).*

Grades/Pharmacy College Admissions Test (PCAT)

Grades: Please note that a grade of **D** is not acceptable in any required prepharmacy course. Applicants should repeat such courses to receive a **C** average or better to improve their chances for admission. Most applicants are still completing prepharmacy courses when admission decisions are made. Acceptance is contingent upon continued strong academic performance. Any decline in academic performance, failure to complete the required courses, or a relevant change in status may result in an offer of admission being rescinded. If a grade of **D** or lower is earned in any required course after an offer of conditional admission has been made, the student must notify the Director of Admissions immediately.

Pharmacy College Admission Test (PCAT)

In addition to completing the required prepharmacy course work, prospective students must take and submit at least one set of PCAT scores for admission consideration. Most applicants take the PCAT 2-3 times. The highest composite percentile score reported will be considered in the admissions process. PCAT scores earned more than 24 months prior to the opening of a new PharmCAS application cycle will not be considered. Scores earned in January of the application cycle are not guaranteed to be considered given the short time span between the test date and final interviews.

Structured Admissions Interview

To be considered for admission, applicants must be selected for and complete a structured interview process. Interview selection is based on information submitted during the application process. The interview itself is structured to assess the applicant's communication skills, confidence, integrity, maturity, commitment to the field of pharmacy, motivation, character and ability to interact with others. Students selected for an interview can expect to spend about two hours interviewing. The interview may include individual and group sessions with fellow applicants before a committee of faculty, practitioners, and current pharmacy students.

Note: Interview dates for each admission cycle are set in early summer by the College of Pharmacy Admissions Office (dates may vary annually; it is strongly suggested that candidates apply by **August 8** for maximum consideration). Apply approximately 14-months in advance of intended start date or as soon as possible thereafter due to a rolling admissions process.

Rolling Admissions Process/ Application Timelines

Rolling Admissions: Please note that the UK College of Pharmacy uses a rolling admissions process. The College screens applications, schedules interviews and makes acceptance decisions on a continual basis, which makes it necessary to complete the application process as early in the admissions cycle as possible. Review of applications specifically begins with Early Decision in late August/early September.

Early Decision (ED): Applicants are strongly encouraged to apply by **August 8** for Early Decision consideration. Many positions in the class will be filled through the ED process which will limit the number of seats available through Regular Decision. Early Decision applications receive maximum consideration.

Required Admission Applications, Documents and Verification Process

Two separate applications and fees are required for admission to the College of Pharmacy:

1. PharmCAS Online Application – **www.pharmcas.com**
2. UK PharmD Supplemental Application – **http://pharmacy.mc.uky.edu/admissions/admissions.php**

Note: Deadlines for receipt of application materials may vary annually depending on PharmCAS requirements. For the most current listings of application deadlines and procedures, review both the PharmCAS and UK College of Pharmacy Web sites in June, approximately 14-months prior to intended start date.

Admission Committee Decisions/ Conditional Acceptance

The Admissions Committee convenes and admission decisions are made at the conclusion of each round of interviews. Selected candidates are then "conditionally accepted" based on a holistic review of GPA (weighing the science GPA most heavily), PCAT scores, interview performance, references, leadership/volunteer/service activities, written essays, character, contribution to diversity and an assessment of other characteristics as described under "Admissions Overview." The total number of students admitted each year will depend upon the availability of resources.

All acceptances remain conditional until final matriculation and fall enrollment in classes.

Final Matriculation/Fall Enrollment Requirements

Before final matriculation and fall enrollment can be approved, all conditionally accepted students must submit a non-refundable tuition deposit, signed copies of specified acceptance forms, pass a criminal background check/drug screen with acceptable results, attend orientation programs and meet other enrollment requirements as set forth by the College prior to the first day of classes.

Individuals who are being reinstated to the full course of study following their removal for academic or other reasons must also submit a non-refundable tuition deposit.

Criminal Background Check and Drug Screen: Applicants should be aware that both criminal background checks (CBC) and drug screens (DS) are becoming common requirements for participation in specific course work in the College of Pharmacy and for eventual licensure as a pharmacist. As a result, CBC/DS are requirements for those students conditionally accepted for admission and must be completed with satisfactory results prior to matriculation to the College. Instructions for completion of CBC/DS requirements will be forwarded immediately following conditional acceptance to the College. The CBC/DS will be annual requirements for all PharmD students enrolled in the College. The types of tests required as well as the cost involved are subject to change and beyond the control of the College of Pharmacy. The expense for background checks and drug screens will be borne by the individual applicant and/or student.

To view the official UK College of Pharmacy Criminal Background Check/Drug Screen Policy, visit: **http://pharmacy.mc.uky.edu/admissions/cbc.php**

General/Contact Information

For questions concerning admission, prepharmacy course work or a visit to the College, contact:

University of Kentucky
College of Pharmacy
Academic and Student Affairs
114 BioPharm Complex
Lexington, KY 40536-0596
Phone: (859) 323-2755
http://pharmacy.mc.uky.edu/
pharmacyinfo@lsv.uky.edu

Prerequisite changes affecting first-time freshmen entering college fall 2014 or after are reflected below. Prerequisite listings for all students are available at ***http://go.uky.edu/prepharmreqs***

Prepharmacy Required Subjects	Number of Semester Credit Hours Required in Each Subject	UK Prepharmacy Courses
English	2 semester(s) (6-7 semester credit hours)	CIS/WRD 110/111 Composition and Communication I/II
Basic Public Speaking	1 semester (3 semester credit hours)	UK students satisfy this requirement through completion of Composition & Communications I & II
Biology I and Lab	1 semester plus lab (4-5 semester credit hours)	BIO 148 (lecture) and BIO 155 (lab)
Microbiology and Lab	1 semester plus lab (4-5 semester credit hours)	BIO 208 and BIO 209 (lab) (BIO 308 also acceptable with BIO 209 lab)
Calculus Students can choose to bypass calculus by taking both college algebra and elementary calculus.	1 semester (4 semester hours **OR** 6 semester) hours if taking college algebra and elementary calculus)	MA 113 – **or both** MA 109 (College Algebra **and** MA 123 (Elementary Calculus and Its Applications)
Statistics	1 semester (3 semester credit hours)	STA 291 or STA 296
Human Anatomy	1 semester (3 semester credit hours)	ANA 209
Physiology	1 semester (3 semester credit hours)	PGY 206
General Chemistry I and II and Labs	2 semesters plus lab (8-10 semester credit hours)	CHE 105 and CHE 111, CHE 107 and CHE 113
Organic Chemistry I and II and Labs	2 semesters plus lab (8-10 semester credit hours)	CHE 230 and CHE 231, CHE 232 and CHE 233
Business	1 semester (3 semester credit hours)	One of the following: ECO 201, ECO 202, ACC 201, FIN 300
Elective Courses	Enough elective hours (17-26) to bring total to a minimum 70 semester credit hours after required courses are included	Highly recommended electives include biochemistry, genetics, and physics. Other electives to consider: courses required by major; UK Core courses; PharmD Dual Degree prerequisites (if needed); medical terminology; healthcare-related courses; undergraduate courses in Human Health Sciences (HHS), Public Health (CPH), Clinical Leadership and Management (CLM).

College of Public Health

The Interim Dean of the College of Public Health is Wayne T. Sanderson, Ph.D. Kathryn M. Cardarelli, Ph.D., is Associate Dean for Academic and Student Affairs, and Kimberly I. Tumlin, Ph.D. is Assistant Dean for Academic and Faculty Affairs. Nancy Schoenberg, Ph.D. is Associate Dean for Research and Margaret McGladrey is Assistant Dean for Research.

The College of Public Health

The College of Public Health (CPH) is one of the six Health Professions Colleges at the University of Kentucky. Faculty within CPH work closely with the University Hospital, and local and regional clinical, research and translational centers. Ranked a Top 25 School of Public Health by *U.S. News & World Report*, CPH takes seriously its responsibility to the communities and individuals that comprise the Commonwealth of Kentucky. Further, CPH values students highly and, in all its actions, strives to build an environment where students can succeed and thrive. It takes pride in a collegial community of faculty and staff who are encouraged and supported in their work to solve the pressing public health problems that plague the region and the nation. Diversity of thought and diversity among students, staff and faculty, is woven into the fabric of the CPH culture. Given Kentucky's ranking as the fourth unhealthiest state in the nation, the College continues its mission to help reduce the burdens and disparities of health problems on individuals, families and communities in the Commonwealth. Several professional and academic programs are offered at CPH including doctoral programs in public health, gerontology, and epidemiology and biostatistics; master's programs in public health, health administration, and clinical research design; and an undergraduate program in public health. Further, CPH has partnerships with other units across campus to offer joint degree programs, including MD/MPH, PharmD/MPH and JD/MHA. Graduate certificates are also offered in the following: biostatistics, gerontology, global health, maternal and child health, and public health management. UK's CPH is one of over 50 colleges nationally accredited by the Council for Education in Public Health (CEPH).

Bachelor of Public Health

This program is for the student seeking a broad-based, scientifically grounded, and professionally-oriented foundation for impacting societal health. Public Health connects populations from an integrated approach of identifying behaviors that affect health and changing these behaviors; education on the science of primary prevention of disease; promoting healthcare equity, quality and accessibility; and advocating for improved healthcare systems. Completion of a Bachelor of Public Health degree prepares students for the public health workforce and equips them to find effective and meaningful solutions to real-world health problems. The College has strong ties to the public health practice community, both regionally and nationally, and provides students with opportunities to engage with professionals across the country. BPH graduates are well-positioned to pursue entry-level positions in community and public health and healthcare, as well as for graduate study in public health and a variety of other health professions. Students enrolled in the BPH should have both a belief in making positive changes and a devotion to making a difference in the health status of communities.

Graduate Programs in Public Health

The College of Public Health offers the following graduate degrees: Master of Public Health, Master of Health Administration, Master of Science in Clinical Research Design, Doctor of Public Health, Ph.D. Epidemiology/Biostatistics and a Ph.D. in Gerontology. Additional information may be obtained from the Admissions and Students Affairs office in the College of Public Health and/or from the Graduate School. There is an application deadline for each program and current information can be located on the College Web site at: **www.uky.edu/publichealth/**

Students who want to earn advanced degrees must be admitted to the University of Kentucky Graduate School, with the exception of the Doctor of Public Health Professional Program. For complete information, students should refer to *The Graduate School Bulletin* or contact:

Graduate School Admissions
201 Gillis Building
University of Kentucky
Lexington, KY 40506-0033
(859) 257-4613
fax: (859) 323-5986
www.research.uky.edu/gs/

Student Success

Student success is a priority in the College of Public Health and relies on collaboration between students, faculty and staff. The College looks forward to working with you on a rewarding academic venture! Admitted students are assigned to an advisor within the College. Curriculum plans are determined in the first semester of enrollment and updated each semester. For questions regarding progression through the program, contact:

Marilyn E. Underwood
Director of Undergraduate Advising
111 Washington Avenue, Suite 113C
Lexington, KY 40536-0003
(859) 218-2064
email: ukcph@uky.edu
www.uky.edu/publichealth

All students within CPH must adhere to the Health Care Colleges Code of Student Professional Conduct, as well as the UK Student Code of Conduct.

Bachelor of Public Health

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
CPH 201 Introduction to Public Health 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
BIO 103 Basic Ideas of Biology 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
MA 111 Introduction to Contemporary Mathematics 3

VIII. Statistical Inferential Reasoning
BST 330 Statistical Thinking for Population Health 3

IX. Community, Culture and Citizenship in the USA
GRN 250 Aging in Today's World 3

X. Global Dynamics
Choose one course from approved list 3

UK Core hours 30

Graduation Composition and Communication Requirement (GCCR)

CPH 470 Public Health Capstone 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements — Hours

*BIO 103 Basic Ideas of Biology (or higher) 3
*BST 330 Statistical Thinking for Population Health 3
CLA 131 Medical Terminology from Greek and Latin 3
*CPH 201 Introduction to Public Health 3
*GRN 250 Aging in Today's World 3
*MA 111 Introduction to Contemporary Mathematics 3

Subtotal: Premajor hours 18

Please note that 15 credits of the premajor requirements can be utilized for UK Core hours. A student's elective credits will vary depending on how many courses are used as UK Core requirements.

Major Requirements — Hours

I. Required Public Health Courses

CPH 310 Disease Detectives: Epidemiology in Action 3
CPH 320 Foundations of Environmental Health 3
CPH 440 Foundations of Health Behavior 3
CPH 472 Public Health Professions and Practice 3
HSM 241 Health and Medical Care Delivery Systems 3

Subtotal: Major Hours: 15

II. Public Health Electives (choose 5 out of 8)

CPH 202 Public Health through Popular Film 3
CPH 203 Sexual Health 3
CPH 351 Preparing for An Apocalyptic Event: Population Health and Crisis Management 3
CPH 410 Epidemiology in the Web of Causation: People, Place, and Politics 3
CPH 423 The Health of Kentuckians 3
CPH 441 The Smoking Gun: Tobacco and the Public's Health 3
CPH 450 Managing Health Organizations to Improve Population Health 3
CPH 451G A Sick World: Global Public Health in the Early 21st Century 3
GRN 585 Aging and Environment 3

Subtotal: Public Health Electives: 15

III. Specialty Support Courses (Electives within the major and additional courses)

Choose 6 credits from the following courses in anthropology, geography and/or sociology:

ANT 251 Global Health: Culture, Pathologies, and Social Inequalities 3
ANT 303 Topics in the Anthropology of Food and Nutrition (Subtitle required) 3
*GEO 261 Global Dynamics of Health and Disease 3
GEO 309 Introduction to GIS 3
SOC 235 Inequalities in Sociology 3
SOC 360 Environmental Sociology 3

Choose 12 credits in natural or physical science courses at the 200+ level. These courses are generally chosen from the following departments: ANA, BIO, CHE, PHY, PGY. (Students desiring to enroll in 200+ level CHE courses will be required to enroll in 100 level CHE prerequisites. Students desiring to enroll in 200+ level PHY courses will be required to enroll in 100 level MA prerequisites.)

Subtotal: Specialty Support Courses 18

IV. Required Capstone Course

After attaining junior status, students must complete a capstone course, which also satisfies the Graduation Composition and Communication Requirement (GCCR).

CPH 470 Public Health Capstone 3

Subtotal: Major hours 39

NOTE: Students must earn a grade of C or better in all Major Requirements courses.

Electives

Choose electives to lead to the minimum total of 120 hours required for graduation.

Total Minimum Hours Required for Degree 120

**Course may also be used toward completion of a UK Core requirement.*

Curriculum Policies

Students are expected to be familiar with the requirements for the degree of Bachelor of Public Health and to confer with their advisor for selecting courses. An effective curriculum requires continuous review to remain current and applicable to changing health needs. This may result in revision of courses and requirements; therefore, there can be no guarantee that course content will be identical in each subsequent academic year. The BPH Program Learning Outcomes are:

- Demonstrate knowledge of public health from an interdisciplinary perspective.
- Show competency in ethical issues, social responsibility, and problem solving using evidence-based concepts in core public health areas.
- Show competency in relationship-building and team dynamics to plan and promote public health and reduce health disparities.
- Apply theories and concepts to communicate the interconnectedness among the physical, social, and environmental aspects of population health.

College of Social Work

James P. "Ike" Adams, Jr., Ph.D., is Dean of the College of Social Work; Carlton Craig, Ph.D., is Director of Graduate Studies; David P. Royse, Ph.D., is Director of the Ph.D. Program; Karen Badger, PhD, is Associate Dean of Academic and Student Affairs; Carlton Craig, Ph.D., is Director of Graduate Studies; Pam Weeks, J.D., M.S.W., is Director of Field Education.

Social work is a profession with a two-fold mission: to help people function as well as they can within their environment and to work for improved social conditions. Social workers are involved in providing services to people in such areas as education, health, mental health, housing, public welfare, counseling, services to the aging, care for the retarded, recreation, corrections and criminal justice, family services, child welfare services, services for the physically and mentally handicapped, vocational rehabilitation and the like. This includes services designed to protect, promote or restore the well-being of people. Both universal services and services for special-needs groups are included.

Social work is not only restorative in nature, responding to human problems after the fact; there is also a strong commitment towards preventive measures. An emphasis upon institutional change within society is predicated upon the principle that society has a responsibility to protect the most vulnerable groups in its midst from falling prey to damage and injury. This expresses itself in the central thrust of the social work profession towards social justice.

The origins of social work are rooted in the ancient human impulse of altruism, the desire to care for one another's needs. Social work became a profession around the beginning of the twentieth century through the efforts of social reformers to meet the needs of the poor, of neglected children and of exploited workers through the better organization of charities and the first "friendly visitors." Social workers led the fight for child labor laws, more humane industrial conditions, voting rights for women and other progressive causes.

Today, professional social work as described in a publication of the National Association of Social Workers, is a "dynamic, growing profession based on knowledge drawn from the social sciences and its own research and practice. It has a code of ethics, standards for practice, and a nationwide system of accredited educational programs designed to merge the impulse to help others with the skill and knowledge needed to provide that help."

Program Accreditation

Both the Bachelor of Arts in Social Work and the Master of Social Work degree programs are fully accredited by the Council on Social Work Education.

Licensing

Social work graduates are eligible for licensing from the State Board of Examiners of Social Work of Kentucky, PO Box 1360, Frankfort, KY 40602, as follows:

- BASW graduates for license as "social workers"
- MSW graduates for license as "certified social workers"

Undergraduate Program in Social Work

The University of Kentucky grants the following degree in the College of Social Work:

- Bachelor of Arts in Social Work

THE UNDERGRADUATE PROGRAM OF EDUCATION FOR SOCIAL WORK

The undergraduate program in social work was inaugurated in 1944. Effective July 1, 1969, its administration was transferred from the College of Arts and Sciences to the newly established College of Social Professions, which is now the College of Social Work. Freshmen and transfer students who elect social work as a major should arrange to register in the College of Social Work. Each student will be assigned a member of the faculty of the college as an advisor who will assist in the selection of appropriate courses and ensure that the requirements for the B.A. degree are met. Students who wish special information or a personal interview prior to registration may make an appointment through the Office of the Director of the Undergraduate Program of the College of Social Work.

The principal objective of the undergraduate program is to prepare students for beginning social work practice. Additionally, it prepares students for graduate professional education.

All social work majors have actual experience in the field under faculty direction. These experiences are provided in teaching-learning centers in a variety of agencies located in or adjacent to Lexington.

Courses in social work contribute to the liberal education of all students and help prepare them to be more effective citizens in a complex society in which welfare issues and programs are of increasing importance to everyone.

These courses may serve one or more of the following purposes:

1. To enrich and broaden the knowledge of social problems and social issues.
2. To help develop effective interpersonal relations.
3. To provide basic knowledge of social services to students who are preparing for careers in other helping professions (i.e., special education, rehabilitation, nursing, law, medicine).

Advising

Every student is assigned an academic advisor who assists them in preparing for registration each semester. Undergraduate advisors are assigned by the Director of the Undergraduate Program, 625 Patterson Office Tower, (859) 257-2350.

Undergraduate Admission Policy

Admission to the University of Kentucky is sufficient for admission to the College of Social Work as a premajor. Social work students receive academic advising from the College of Social Work faculty and must successfully complete the premajor course requirements before applying to the BASW degree program. The premajor course requirements are: (SW 124 and SW 222) or SW 322; PSY 100; SOC 101; and BIO 103 or BIO 110.

An application must be filed with the College of Social Work in order for a student to be considered for admission as a major. In general, admission as a major depends upon the qualifications and preparation of the applicant, as well as the availability of resources for maintaining quality instruction.

Admission Criteria to the Bachelor of Arts in Social Work Degree Program

In order to be admitted to the BASW degree program as a major, applicants must fulfill the following requirements:

1. Admission to the University of Kentucky (students are considered for acceptance by the College only after acceptance by the University);
2. A grade of **B** or better in both SW 124 and SW 222, or equivalent (or a grade of **B** or better in SW 322);

3. Submission of an application form;
4. Minimum of a 2.5 cumulative grade-point average on all college work attempted as computed by the Registrar's Office;
5. Ability to articulate reasons for choosing social work as a career, as evidenced in an essay;
6. A passing grade in PSY 100, SOC 101, and BIO 103 or BIO 110.

Applications for admission to the College of Social Work must be received by the Records Office of the College of Social Work (613 Patterson Office Tower) no later than **May 1** for summer sessions, **August 1** for the fall semester, and **December 1** for the spring semester.

Individuals who do not meet the admissions criteria may submit additional materials to the College's Admissions Committee. Admission may be granted if there is persuasive evidence of both the capability and motivation to undertake successfully the BASW degree program.

BACHELOR OF ARTS IN SOCIAL WORK

Degree Requirements

The College of Social Work requires students to earn a minimum of 120 hours for the B.A. in Social Work with a minimum grade-point average of 2.5. In addition, students must earn a grade of **C** or better in all professional social work core classes. Students may take additional hours in accordance with stated University policy.

In addition to fulfilling UK Core requirements, students must complete the program requirements listed below.

UK Core Requirements

See the *UK Core* section of this Bulletin for the complete UK Core requirements. The courses listed below are (a) recommended by the college, or (b) required courses that also fulfill UK Core areas. Students should work closely with their advisor to complete the UK Core requirements.

I. Intellectual Inquiry in Arts and Creativity
Choose one course from approved list 3

II. Intellectual Inquiry in the Humanities
Choose one course from approved list 3

III. Intellectual Inquiry in the Social Sciences
SOC 101 Introduction to Sociology 3

IV. Intellectual Inquiry in the Natural, Physical, and Mathematical Sciences
BIO 103 Basic Ideas of Biology 3

V. Composition and Communication I
CIS/WRD 110 Composition and Communication I 3

VI. Composition and Communication II
CIS/WRD 111 Composition and Communication II 3

VII. Quantitative Foundations
PHI 120 Introductory Logic 3

VIII. Statistical Inferential Reasoning
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning 3

IX. Community, Culture and Citizenship in the USA
Choose one course from approved list 3

X. Global Dynamics
Choose one course from approved list 3

UK Core Hours 30

Graduation Composition and Communication Requirement (GCCR)

SW 470 Senior Seminar 3

Graduation Composition and Communication Requirement hours (GCCR) 3

Premajor Requirements

	Hours
PSY 100 Introduction to Psychology	4
ECO 101 Contemporary Economic Issues **or** ECO 201 Principles of Economics I	3
ANT course	3
one of the following PS courses: PS 101 American Government; PS 240 Introduction to Political Theory; PS 372 Introduction to Political Analysis; PS 458 American State and Local Government	3
MA 109 College Algebra **or** MA 111 Introduction to Contemporary Mathematics	3
PHI 120 Introductory Logic	3
SOC 101 Introduction to Sociology	3
STA 210 Making Sense of Uncertainty: An Introduction to Statistical Reasoning	3
BIO 103 Basic Ideas of Biology **or** BIO 110 Introduction to Human Biology and Health	3
Subtotal: Premajor Hours	**28**

Premajor Social Work Courses

	Hours
*SW 124 Introduction to Social Services **and** *SW 222 Development of Social Welfare	6
or *SW 322 Social Work and Social Welfare	4

**Students who take SW 124 and SW 222 would not take SW 322; students who take SW 322 do so in lieu of SW 124 and SW 222 to meet this premajor requirement.*

Subtotal: Premajor SW Hours 4-6

Professional Social Work Major Courses

	Hours
SW 300 Social Work Practice I	4
SW 350 Social Work Practice II: Survey of Groups	3
SW 400 Social Work Practice III	4
SW 421 Human Behavior and Social Environment I	3
SW 422 Human Behavior and the Social Environment II	3
SW 430 Social Welfare Policy: Theory and Implementation	3
SW 435 Foundations of Professional Ethics in Social Work	3
SW 444 Educational Practicum I	5
SW 450 Social Work Research	4
SW 460 Understanding Behavior From a Socio-Cultural Perspective: Exploring Explanatory Theories	4
SW 445 Educational Practicum II	8
SW 470 Senior Seminar	3

NOTE: Students must earn a grade of **C** or better in all Major Requirements courses.

Subtotal: Professional Social Work Major Hours 47

Social and Behavioral Sciences and Social Work Electives

Students must complete 15 hours of upper-division courses from any of the following: anthropology, economics, family studies, political science, psychology, social work, sociology.

Subtotal: Related Electives 15

Electives

Students must complete at least 6 hours of upper-division free elective courses and enough lower-division elective hours to lead to the minimum total of 120 hours required for graduation.

Subtotal: Free Electives ..... minimum of 6

TOTAL HOURS: 120

Probation, Dismissal and Reinstatement Policy

An undergraduate social work major or graduate student may be dismissed from the College of Social Work for failure to make satisfactory progress. In the Social Work program, the college continuously monitors the progress of all social work students. Consistent with University regulations and the CSWE requirements that social work programs have policies for "terminating a student's enrolment . . . . for reasons of academic and professional performance," the following rules apply in the College of Social Work.

Academic Performance

For students accepted to the Bachelor of Arts in Social Work (BASW) program, the rules for academic probation, dismissal and reinstatement are comparable to those established by the University for undergraduate colleges and also include criteria for student performance in required social work courses:

a. A student must earn a **C** or better in all social work core courses (SW 300, SW 350, SW 400, SW 421, SW 422, SW 430, SW 435, SW 444, SW 450, SW 460, SW 445, SW 470) in order to complete the major requirements and advance through sequential social work courses. A grade lower than a **C** will require the student to repeat that course and obtain a **C** or better to meet major requirements.

b. Any student who fails to maintain a cumulative UK GPA of 2.5 shall be placed on academic probation within the College of Social Work.

c. A student can be removed from academic probation when a cumulative GPA of 2.5 is obtained.

d. A student shall be dismissed from the College who fails to achieve a cumulative GPA of 2.5 or higher within two consecutive semesters of being placed on probation or fails to earn a term GPA of 2.5 or higher for any two consecutive semesters following his/her placement on academic probation.

e. A student who earns a term GPA of 2.5 or higher for each semester following placement on probation will continue in probationary status until a cumulative GPA of 2.5 or higher is obtained.

f. A student may not graduate from the College of Social Work while on academic probation.

g. Students who are on academic probation within the College of Social Work may transfer to other colleges or departments provided the students meet eligibility criteria.

h. A student who has been dismissed from the College for academic reasons and has remained outside the program for at least a semester and a summer session may petition for reinstatement. Petition for reinstatement is to be made in writing to the Dean and shall include a written statement by the student specifying why he/she should be considered for reinstatement. After consultation with the Director of Undergraduate Studies and other faculty as appropriate, the Dean may choose to accept or deny the petition. The Dean may require that the student agree to certain conditions in order to be reinstated (i.e. take additional course work, complete a writing class, obtain tutoring, etc.). The Dean shall inform the student in writing that he/she has been reinstated or reasons for denial of the petition for reinstatement. No student will be readmitted to the College via reinstatement request more than twice.

i. A student who has been dismissed for academic reasons and reinstated shall, upon reinstatement, be placed on academic probation and be subject to the academic performance expectations outlined in this policy.

COURSES FOR NONMAJORS

Students from other departments are eligible to take certain social work courses offered to enrich the content of their basic major and/or to increase their knowledge and understanding of the society of which they are a part. They may take SW 124, Introduction to Social Services; SW 222, Development of Social Welfare; SW 322, Social Work and Social Welfare; and elective social work courses.

GRADUATE PROGRAMS

The College of Social Work offers graduate curricula leading to the Master of Social Work degree and to the Ph.D. in Social Work. The Ph.D. program is offered jointly with the University of Louisville. An MSW is a prerequisite to Ph.D. admission.

Master's applicants holding the baccalaureate degree in social work may be eligible for the 38-credit advanced standing option. Others will be considered for the regular 60-credit MSW program.

For further information, see *The Graduate School Bulletin* or the *College of Social Work Bulletin*.

Additional Learning Opportunities

Don Witt is Vice Provost for Enrollment Management.

ADDITIONAL LEARNING OPPORTUNITIES

There are plenty of ways students can earn credit at the University of Kentucky. To learn more, see the information below. Distance Learning Programs are administered by the Office of the Associate Provost for Undergraduate Education; all other programs are administered by the Assistant Provost for Enrollment Management.

DISTANCE LEARNING PROGRAMS

Distance Learning Programs, a unit of the Teaching and Academic Support Center (TASC), provides a wide variety of faculty and student support services to enable development and delivery of credit courses and programs throughout the Commonwealth of Kentucky and around the world, with over 10,000 enrollments annually. Distance Learning students enroll in 15 full degree programs, over 700 courses, 5 certificates and state-mandated training while residing in over 200 cities and towns in more than 100 Kentucky counties. Distance Learning Programs delivers course work in cooperation with Teaching and Academic Support Center staff, UK academic departments and colleges, and other institutions of higher education statewide and nationally. Available advanced delivery modes include online instruction, interactive video, video-desktop conferencing, videostreaming, Web 2.0 technologies and hybrid models.

Specific support includes:

- online and hybrid course development and support;
- technical coordinators at interactive video and videoconferencing sites;
- extensive distance learning faculty and student support services;
- exploration of new technologies for distance learning delivery/modeling;
- strategic planning with academic units;
- support for collaborative distance learning programming;
- marketing for Distance Learning courses and programs; and
- coordination with Distance Learning Library Services.

For more information on Distance Learning Programs, call (859) 257-3377; or go to: **www.uky.edu/DistanceLearning**



SUMMER SCHOOL

The University offers two summer sessions between the spring and fall semesters: a first (four week) summer session in May followed by a second (eight week) summer session beginning in June. There are also some courses with variable terms available within these two sessions. Summer School courses provide educational enrichment and give students the opportunity to accelerate their academic progress. Information regarding admission procedures and Summer School calendar dates are listed in the *University Calendar* at the front of this Bulletin.

The Summer School *Schedule of Classes* can be viewed online in early December. For information about summer school, contact:

Summer School
(859) 257-3382
email: sbsize00@uky.edu
www.uky.edu/registrar/content/summer-sessions

WINTER INTERSESSION

Winter Intersession classes for 2015-2016 begin on December 21, 2015 and end on January 12, 2016. For more information on Winter Intersession courses, please contact:

Winter Intersession
(859) 257-8725
email: asout2@email.uky.edu
www.uky.edu/registrar/winter-intersession

Course Numbering System

001-099 — No credit, non-degree and/or developmental courses;

100-199 — Open to freshmen; undergraduate credit only;

200-299 — Prerequisite sophomore classification; or consent of instructor; undergraduate credit only;

300-399 — Prerequisite junior classification; undergraduate credit only;

400-499 — Prerequisite junior classification; undergraduate credit;

400G-499G — Graduate credit for non-majors;

500-599 — Prerequisite junior classification; undergraduate and graduate credit;

600-799 — Open only to graduate students;

800-999 — Open only to students in professional colleges and to students in other colleges offering professional degrees as defined by the Council on Postsecondary Education.

R — The letter **R** following the course designation and number indicates a remedial course. No course designated with an **R** will be counted as credit toward a bachelor's degree at the University of Kentucky.

Courses may be approved for variable credits, e.g., (1-3), (2-6), etc. In no case, however, may the total credits exceed the maximum number authorized for the course.

Repeated registration in a course may be allowed if the course description carries the statement: "May be repeated to maximum of . . . credits." However, a student may enroll only one time in a specific course during a given semester. Courses with the same number are not considered to be the same course if different identifying titles are an integral part of the record.

Unless indicated in the course description, the number of credits for a course indicates the number of lecture or discussion or class hours.

Exceptions to the requirements for admission to courses may be made as follows:

a. Freshmen and sophomores may be admitted to courses numbered between 300 and 499, upon approval of the instructor and the dean of the student's college. Such approval is limited to students who have demonstrated superior ability or preparation.

b. Seniors with superior ability or preparation may be admitted to courses numbered between 600 and 799, upon approval of the instructor, the dean of the student's college and the Dean of The Graduate School.

c. Courses elected on a pass-fail basis.

Administration

BOARD OF TRUSTEES

C.B. Akins, Sr.

James H. Booth

William C. Britton

Edward Britt Brockman

Sheila Brothers, Secretary

Mark P. Bryant

Angela L. Edwards

William Stamps Farish, Jr.

Oliver Keith Gannon, Chair

Carol Martin "Bill" Gatton

Cammie DeShields Grant

Robert Grossman

David V. Hawpe

Kelly Sullivan Holland

Austin M. Mullen (*Student Government President*)

Terry B. Mobley

James W. Stuckert

Robert D. Vance

John F. Wilson

Barbara Young, Vice Chair

ADMINISTRATION

Eli Capilouto, President

Mitchell S. Barnhart, Director of Athletics

Lisa Cassis, Interim Vice President for Research

Thomas W. Harris, Vice President for University Relations

Judy "J.J." Jackson, Vice President for Institutional Diversity

Michael Karpf, Executive Vice President for Health Affairs

Vince J. Kellen, Senior Vice Provost for Academic Planning, Analytics and Technologies

Susan I. Krauss, Treasurer

Angela S. Martin, Vice President for Financial Planning and Chief Budget Officer

Robert C. Mock, Jr., Vice President for Student Affairs

Eric N. Monday, Executive Vice President for Finance and Administration

D. Michael Richey, Vice President for Development

Bill Thro, General Counsel

Tim Tracy, Provost

Mary Vosevich, Vice President for Facilities Management

Kim Wilson, Vice President for Human Resources

DEANS

Nancy M. Cox, Dean of the College of Agriculture, Food and Environment

Mark Lawrence Kornbluh, Dean of the College of Arts and Sciences

H. Dan O'Hair, Dean of the College of Communication and Information

Sharon P. Turner, Dean of the College of Dentistry

Ann Whiteside-Dickson, Interim Dean of the College of Design

Mary John O'Hair, Dean of the College of Education

John Y. Walz, Dean of the College of Engineering

Michael S. Tick, Dean of the College of Fine Arts

David Blackwell, Dean of the Gatton College of Business and Economics

Susan Carvalho, Interim Dean of The Graduate School

Scott M. Lephart, Dean of the College of Health Sciences

David A. Brennen, Dean of the College of Law

Terry Birdwhistell, Dean of Libraries

Frederick C. de Beer, Dean of the College of Medicine

E. Janie Heath, Dean of the College of Nursing

Kelly Smith, Interim Dean of the College of Pharmacy

Wayne T. Sanderson, Interim Dean of the College of Public Health

James P. "Ike" Adams, Jr., Dean of the College of Social Work

University Faculty

COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT

Nancy M. Cox, Dean

AGRICULTURAL COMMUNICATIONS

Laura Skillman, Director

Carla G. Craycraft, Extension Professor Emerita, Ph.D., Oklahoma State, 1981
Joe B. Williams, Extension Assistant Professor Emeritus, Ed.D., Kentucky, 1971

AGRICULTURAL ECONOMICS

Leigh J. Maynard, Chair

Marvin T. Batte, Research Professor, Ph.D., Illinois-Urbana, 1981
Robert Lee Beck, Professor Emeritus, Ph.D., Michigan State, 1963
Fred J. Benson, Extension Professor Emeritus, Ph.D., Missouri, 1972
Barry Wright Bobst, Associate Professor Emeritus, Ph.D., Washington State, 1966
Russell Herbert Brannon, Professor Emeritus, Ph.D., Wisconsin, 1967
Roger M. Brown, Senior Lecturer, Ph.D., Auburn, 2004
Kenneth H. Burdine, Extension Assistant Professor, Ph.D., Kentucky, 2011
Orlando D. Chambers, Adjunct Assistant Professor, Ph.D., Kentucky, 1995
James Earnest Criswell, Assistant Professor Emeritus, Ph.D., Minnesota, 1966
Siddhartha Dasgupta, Adjunct Assistant Professor, Ph.D., Texas A&M, 1997
Alison F. Davis, Extension Professor, Ph.D., North Carolina State, 2004
Todd Davis. Extension Assistant Professor, Ph.D., Purdue, 2001
David Lee Debertin, Professor Emeritus, Ph.D., Purdue, 1973
Carl R. Dillon, Professor, Ph.D., Texas A&M, 1991
David Freshwater, Professor, Ph.D., Michigan State, 1977
William T. Gorton, III, Adjunct Assistant Professor, J.D., Kentucky, 1988
Gregory Halich, Extension Associate Professor, Ph.D., Virginia Tech, 2005
Wuyang Hu, Professor, Ph.D., Alberta, 2004
Craig Lynn Infanger, Professor Emeritus, Ph.D., Washington State, 1974
Stephen G. Isaacs, Extension Professor, Ph.D., Tennessee, 1992
Larry D. Jones, Extension Professor Emeritus, Ph.D., Purdue, 1973
Fred Edward Justus, Jr., Professor Emeritus, Ph.D., Illinois, 1955
Yoko Kusunose, Assistant Professor, Ph.D., California-Davis, 2010
Harold Gibson Love, Extension Professor Emeritus, Ph.D., Missouri, 1969
Tyler B. Mark, Assistant Professor, Ph.D., Louisiana State, 2010
Loys L. Mather, Associate Professor Emeritus, Ph.D., Wisconsin, 1968
Leigh J. Maynard, Professor, Ph.D., Penn State, 1998
Lee Meyer, Extension Professor, Ph.D., Purdue, 1979
Angelos Pagoulatos, Professor Emeritus, Ph.D., Iowa State, 1975
Michael R. Reed, Professor, Ph.D., Iowa State, 1979
Steven K. Riggins, Extension Professor Emeritus, Ph.D., Cornell, 1977
Lynn W. Robbins, Professor Emeritus, Ph.D., Michigan State, 1975
Sayed H. Saghaian, Associate Professor, Ph.D., Kentucky, 1992
John K. Schieffer, Assistant Professor, Ph.D., Ohio State, 2008
Dallas Milton Shuffett, Professor Emeritus, Ph.D., Kentucky, 1956
Marion Simon, Adjunct Assistant Professor, Ph.D., Oklahoma State, 1984
Jordan Shockley, Extension Assistant Professor, Ph.D., Kentucky, 2010
Jerry Robert Skees, Professor, Ph.D., Michigan State, 1981
William M. Snell, Extension Professor, Ph.D., Kentucky, 1989
Christina J. Stowe, Associate Professor, Ph.D., Texas A&M, 2002
Richard L. Trimble, Extension Professor Emeritus, Ph.D., Michigan State, 1973
Lionel Williamson, Extension Professor Emeritus, Ph.D., Missouri, 1977
Timothy Woods, Extension Professor, Ph.D., Michigan State, 1996
Yuqing Zheng, Assistant Professor, Ph.D., Auburn, 2006

ANIMAL AND FOOD SCIENCES

Richard D. Coffey, Chair

Debra K. Aaron, Professor, Ph.D., Oklahoma State, 1984
Curtis W. Absher, Extension Professor Emeritus, Ph.D., Tennessee, 1969
Sunday Adedokun, Assistant Professor, Ph.D., Purdue, 2007
Glen E. Aiken, Adjunct Associate Professor, Ph.D., Florida, 1989
Donna M. Amaral-Phillips, Extension Professor, Ph.D., Iowa State, 1988
Leslie H. Anderson, Extension Professor, Ph.D., Ohio State, 1996
Kenneth Andries, Adjunct Assistant Professor, Ph.D., Kansas State, 1996
Tuoying Ao, Adjunct Assistant Professor, Ph.D., Kentucky, 2005
Jeffery Bewley, Extension Associate Professor, Ph.D., Purdue, 2008
W. Luke Boatright, Professor, Ph.D., Arkansas, 1994
James A. Boling, Professor Emeritus, Ph.D., Wisconsin, 1967
Kristen M. Brennan, Adjunct Assistant Professor, Ph.D., Washington State, 2008
Phillip J. Bridges, Assistant Professor, Ph.D., West Virginia, 1999
K. Darrh Bullock, Extension Professor, Ph.D., Georgia, 1992
Walter R. Burris, Extension Professor, Ph.D., Kentucky, 1974
Fernanda Camargo, Extension Associate Professor, Ph.D., Kentucky, 2007
Austin H. Cantor, Associate Professor Emeritus, Ph.D., Cornell, 1974
Richard D. Coffey, Extension Professor, Ph.D., Kentucky, 1994
Robert J. Coleman, Extension Associate Professor, Ph.D., Alberta, 1998
Nancy M. Cox, Professor, North Carolina State, 1982
William L. Crist, Extension Professor Emeritus, Ph.D., Ohio State, 1970
Gary L. Cromwell, Professor Emeritus, Ph.D., Purdue, 1967
Karl A. Dawson, Adjunct Professor, Ph.D., Iowa State, 1979
Lee A. Edgerton, Associate Professor Emeritus, Ph.D., Purdue, 1970
Donald G. Ely, Professor, Ph.D., Kentucky, 1966
Michael D. Flythe, Adjunct Assistant Professor, Ph.D., Cornell, 2006
David L. Harmon, Professor, Ph.D., Nebraska, 1983
Robert J. Harmon, Professor, Ph.D., Guelph, Ontario, 1977
Virgil W. Hays, Professor Emeritus, Ph.D., Iowa State, 1957
George Heersche, Jr., Extension Professor, Ph.D., Kansas State, 1975
Bernhard Hennig, Professor, Ph.D., Iowa State, 1982
Clair L. Hicks, Professor, Ph.D., Wisconsin, 1974
James D. Kemp, Professor Emeritus, Ph.D., Illinois, 1952
James L. Klotz, Adjunct Assistant Professor, Ph.D., Tennessee, 2004
Elizabeth LaBonty, Lecturer, M.S., California-Davis, 2006
Bruce E. Langlois, Professor Emeritus, Ph.D., Purdue, 1962
Laurie M. Lawrence, Professor, Ph.D., Colorado State, 1982
Jeffrey W. Lehmkuhler, Extension Associate Professor, Ph.D., Missouri, 2001
Merlin D. Lindemann, Professor, Ph.D., Minnesota, 1981
C. Oran Little, Professor Emeritus, Ph.D., Iowa State, 1960
James C. Matthews, Professor, Ph.D., Virginia Tech, 1995
Alan J. McAllister, Extension Professor Emeritus, Ph.D., Ohio State, 1975
Kyle R. McLeod, Associate Professor, Ph.D., Kentucky, 1995
George E. Mitchell, Jr., Professor Emeritus, Ph.D., Illinois, 1956
William G. Moody, Professor Emeritus, Ph.D., Missouri, 1963
Melissa C. Newman, Associate Professor, Ph.D., Kentucky, 1990
Joseph O'Leary, Associate Professor Emeritus, Ph.D., Minnesota, 1974
Gary R. Parker, Extension Professor Emeritus, Ph.D., Kentucky, 1975
Anthony J. Pescatore, Extension Professor, Ph.D., Texas A&M, 1981
James L. Pierce, Adjunct Assistant Professor, Ph.D., Kentucky, 1999
Gregg K. Rentfrow, Extension Associate Professor, Ph.D., Missouri-Columbia, 2005
John C. Robertson, Professor Emeritus, Ph.D., Kentucky, 1960
Mary G. Rossano, Associate Professor, Ph.D., Michigan State, 2003
Keith K. Schillo, Associate Professor Emeritus, Ph.D., Wisconsin, 1981
William J. Silvia, Professor, Ph.D., Colorado State, 1985
Herbert J. Strobel, Adjunct Associate Professor, Ph.D., Cornell, 1990
Surendranath Suman, Associate Professor, Ph.D., Connecticut, 2006
Fred A. Thrift, Professor Emeritus, Ph.D., Oklahoma State, 1968
James H. Tidwell, Adjunct Assistant Professor, Ph.D., Mississippi State, 1987
Juan M. Tricarico, Adjunct Assistant Professor, Ph.D., Kentucky, 2001
Ray E. Tucker, Professor Emeritus, Ph.D., Kentucky, 1966
Kristine L. Urschel, Associate Professor, Ph.D., Alberta, 2007
Eric S. Vanzant, Associate Professor, Ph.D., Kansas State, 1993
Paul P. Vijayakumar, Extension Assistant Professor, Ph.D., Oklahoma State, 2014
Changzheng Wang, Adjunct Assistant Professor, Ph.D., Florida, 1990
Craig H. Wood, Extension Professor, Ph.D., New Mexico State, 1985
Youling L. Xiong, Professor, Ph.D., Washington State, 1989
Alexandros Yiannikouris, Adjunct Assistant Professor, Ph.D., University Blaise Pascal, 2004
Panayiotis M. Zavos, Professor Emeritus, Ph.D., Minnesota, 1978

BIOSYSTEMS AND AGRICULTURAL ENGINEERING

Sue E. Nokes, Chair

Akinbode A. Adedeji, Assistant Professor, Ph.D., McGill, 2010
Carmen T. Agouridis, Associate Professor, Ph.D., Kentucky, 2004
Francois Birgand, Adjunct Associate Professor, Ph.D., North Carolina State, 2000
Carl H. Bolster, Adjunct Assistant Professor, Ph.D., Virginia, 1999
Matthew E. Byers, Adjunct Assistant Professor, Ph.D., Nebraska, 1990
Manuel Castillo, Adjunct Associate Professor, Ph.D., University of Murcia, 2002
Donald G. Colliver, Professor, Ph.D., Purdue, 1979
Czarena Crofcheck, Professor, Ph.D., Kentucky, 2001
George A. Duncan, Extension Professor Emeritus, Ph.D., Kentucky, 1979
Joseph S. Dvorak, Assistant Professor, Ph.D., Kansas State, 2012
Dwayne R. Edwards, Professor, Ph.D., Oklahoma State, 1988
Robert L. Fehr, Extension Professor Emeritus, Ph.D., Iowa State, 1976
Richard S. Gates, Adjunct Professor, Ph.D., Cornell, 1984
Stephen F. Higgins, Adjunct Assistant Professor, Ph.D., Kentucky, 2004
Samuel G. McNeill, Extension Associate Professor, Ph.D., Tennessee, 1996
Michael D. Montross, Professor, Ph.D., Purdue, 1999
Sue E. Nokes, Professor, Ph.D., North Carolina State, 1990
Douglas G. Overhults, Extension Professor Emeritus, Ph.D., Nebraska, 1982
Blaine F. Parker, Professor Emeritus, Ph.D., Michigan State, 1954
Frederick A. Payne, Professor Emeritus, Ph.D., Kentucky, 1980
Mark Purschwitz, Extension Professor, Ph.D., Purdue, 1989
I. Joseph Ross, Professor Emeritus, Ph.D., Purdue, 1960
Michael Sama, Assistant Professor, Ph.D., Kentucky, 2013
Audrey H. Sawyer, Adjunct Assistant Professor, Ph.D., University of Texas at Austin, 2011
Scott A. Shearer, Professor Emeritus, Ph.D., Ohio State, 1986
Jian Shi, Assistant Professor, Ph.D., North Carolina State, 2007
Paul Stiglbauer, Adjunct Assistant Professor, Ph.D., Kentucky, 2008
Timothy S. Stombaugh, Extension Professor, Ph.D., Illinois, 1998
Joseph L. Taraba, Extension Professor, Ph.D., Ohio State, 1978
John N. Walker, Professor Emeritus, Ph.D., Purdue, 1961
Linus R. Walton, Professor Emeritus, Ph.D., Tennessee, 1974
Richard C. Warner, Extension Professor, Ph.D., Clemson, 1982
Erin G. Webb, Adjunct Assistant Professor, Ph.D., Florida, 2005
Larry G. Wells, Professor Emeritus, Ph.D., North Carolina State, 1975
Gerald Martin White, Professor Emeritus, Ph.D., Purdue, 1960
Stephen R. Workman, Professor, Ph.D., North Carolina State, 1990

COMMUNITY AND LEADERSHIP DEVELOPMENT

Larry D. Jones, Interim Chair

Charles W. Byers, Professor Emeritus, Ph.D., Ohio State, 1972
C. Milton Coughenour, Professor Emeritus, Ph.D., Missouri, 1953
Patricia H. Dyk, Associate Professor, Ph.D., Utah State, 1990
Rebekah B. Epps, Assistant Professor, Ph.D., Ohio State, 2010
Lorraine E. Garkovich, Professor, Ph.D., Missouri, 1976
Bryan Hains, Associate Professor, Ph.D., Purdue, 2007
Gary L. Hansen, Extension Professor Emeritus, Ph.D., Iowa State, 1978
Rosalind P. Harris, Associate Professor, Ph.D., Penn State, 1990
Ronald J. Hustedde, Extension Professor, Ph.D., Wisconsin, 1988
William J. Jackman, Adjunct Assistant Professor, Ph.D., Virginia Tech, 1991
Kenneth R. Jones, Extension Associate Professor, Ph.D., Penn State, 2004
Daniel W. Kahl, Assistant Extension Professor, Ph.D., Kansas State, 2012
Richard C. Maurer, Extension Professor Emeritus, Ph.D., Ohio State, 1977
Alissa L. Meyer-Rossi, Lecturer, Ph.D., Penn State, 2008
Seungahn Nah, Associate Professor, Ph.D., Wisconsin, 2006
Martha Nall, Extension Professor Emerita, Ed.D., North Carolina State, 1983
Kang Namkoong, Assistant Professor, Ph.D., Wisconsin-Madison, 2011
Kristina Ricketts, Extension Associate Professor, Ph.D., Florida, 2005
Karen E. Rignall, Assistant Professor, Ph.D., Kentucky, 2012
Darryl Strode, Adjunct Assistant Professor, Ph.D., Kentucky, 2012
Keiko Tanaka, Associate Professor, Ph.D., Michigan State, 1997
Rodney W. Tulloch, Associate Professor Emeritus, Ph.D., Penn State, 1972
Quentin R. Tyler, Adjunct Assistant Professor, Ph.D., Kentucky, 2011
Stacy K. Vincent, Assistant Professor, Ph.D., Missouri, 2010
Paul D. Warner, Extension Professor Emeritus, Ph.D., Ohio State, 1973
Randy D. Weckman, Associate Professor Emeritus, Ph.D., Minnesota, 1989
Deborah B. Witham, Professor Emerita, Ph.D., Indiana, 1981
Julie N. Zimmerman, Extension Professor, Ph.D., Cornell, 1997

ENTOMOLOGY

Subba Reddy Palli, Chair

Ricardo T. Bessin, Extension Professor, Ph.D., Louisiana State, 1990
Grayson C. Brown, Professor, Ph.D., Washington State, 1978
Douglas Lee Dahlman, Professor Emeritus, Ph.D., Iowa State, 1965
Stephen Dobson, Professor, Ph.D., California-Berkeley, 1996
Luke E. Dodd, Adjunct Assistant Professor, Ph.D., Kentucky, 2010
Charles W. Fox, Professor, Ph.D., California-Berkeley, 1993
Paul H. Freytag, Professor Emeritus, Ph.D., Ohio State, 1963
James D. Harwood, Associate Professor, Ph.D., University College, Cardiff, 2001
Kenneth F. Haynes, Professor, Ph.D., California-Davis, 1982
Douglas W. Johnson, Extension Professor, Ph.D., Florida, 1980
Fred William Knapp, Professor Emeritus, Ph.D., Kansas State, 1961
John J. Obrycki, Professor, Ph.D., Cornell, 1982
Subba Reddy Palli, Professor, Ph.D., Western Ontario, 1987
Daniel A. Potter, Professor, Ph.D., Ohio State, 1978
Michael F. Potter, Extension Professor, Ph.D., Arizona, 1982
Lynne K. Rieske-Kinney, Professor, Ph.D., Wisconsin, 1995
John D. Sedlacek, Adjunct Assistant Professor, Ph.D., Kentucky, 1985
Michael Sharkey, Professor, Ph.D., McGill, 1983
Lee H. Townsend, Jr., Extension Professor, Ph.D., Virginia Tech, 1977
Bruce A. Webb, Professor, Ph.D., Washington, 1988
Thomas C. Webster, Adjunct Assistant Professor, Ph.D., California-Davis, 1986
Jennifer A. White, Associate Professor, Ph.D., Minnesota, 2005
Steve Yanoviak, Adjunct Associate Professor, Ph.D., Oklahoma, 1999
Kenneth V. Yeargan, Professor, Ph.D., California-Davis, 1974
Xuguo Zhou, Associate Professor, Ph.D., Nebraska, 2002

FORESTRY

Terrell "Red" T. Baker III, Chair

Albert Abbott, Adjunct Assistant Professor, Ph.D., Brown, 1981
Mary A. Arthur, Professor, Ph.D., Cornell, 1990
Terrell "Red" T. Baker III, Extension Professor, Ph.D., Auburn, 1998
Christopher D. Barton, Professor, Ph.D., Kentucky, 1999
Danna Baxley, Adjunct Assistant Professor, Ph.D., Southern Mississippi, 2007
John Brunjes, Adjunct Assistant Professor, Ph.D., Texas Tech, 2005
Terrance Conners, Extension Associate Professor, Ph.D., Virginia Tech, 1985
Marco A. Contreras, Assistant Professor, Ph.D., Montana, 2010
Claudia A. Cotton, Adjunct Assistant Professor, Ph.D., Virginia Tech, 2010
John J. Cox, Assistant Professor, Ph.D., Kentucky, 2003
Darryl W. Cremeans, Adjunct Instructor, Ph.D., Kentucky, 1992
Michael J. Lacki, Professor, Ph.D., North Carolina State, 1984
Laura R. Lhotka, Academic Coordinator/Adjunct Instructor, Ph.D., Auburn, 2006
John Lhotka, Associate Professor, Ph.D., Auburn, 2006
Monte McGregor, Adjunct Assistant Professor, Ph.D., Auburn, 2000
Robert Paratley, Herbarium Curator/Adjunct Instructor, M.S., Cornell, 1985
Geri Philpott, Adjunct Instructor, M.S., Antioch New England Graduate School, 2002
Steven J. Price, Assistant Professor, Ph.D., Wake Forest, 2011
James M. Ringe, Professor, Ph.D., Purdue, 1983
G. Andrew Stainback, Assistant Professor, Ph.D., Florida, 2002
Jeffrey Stringer, Extension Professor, Ph.D., Kentucky, 1993
David B. Wagner, Associate Professor, Ph.D., California-Davis, 1986
Jian Yang, Assistant Professor, Ph.D., University of Missouri-Columbia, 2005

HORTICULTURE

Robert L. Houtz, Chair

Robert G. Anderson, Extension Professor Emeritus, Ph.D., Florida, 1976
George F. Antonious, Adjunct Assistant Professor, Ph.D., Alexandria, 1983
Douglas D. Archbold, Professor, Ph.D., Michigan State, 1982
Michael Bomford, Adjunct Assistant Professor, Ph.D., West Virginia, 2004
Jack W. Buxton, Associate Professor Emeritus, Ph.D., Kentucky, 1973
Paul E. Cappiello, Adjunct Associate Professor, Ph.D., Illinois, 1988
Seth DeBolt, Professor, Ph.D., University of Adelaide, 2006
A. Bruce Downie, Associate Professor, Ph.D., Guelph, 1994
Winston Dunwell, Extension Professor, Ph.D., Idaho, 1978
Richard E. Durham, Extension Professor, Ph.D., Florida, 1990
William M. Fountain, Extension Professor, Ph.D., Louisiana, 1979
Robert L. Geneve, Professor, Ph.D., Minnesota, 1985
Robert L. Houtz, Professor, Ph.D., Michigan State, 1984
Dewayne L. Ingram, Extension Professor, Ph.D., Tennessee, 1977
Krista L. Jacobsen, Assistant Professor, Ph.D., Georgia, 2008
R. Terry Jones, Extension Professor Emeritus, Ph.D., Ohio State, 1974
Thomas R. Kemp, Professor Emeritus, Ph.D., Kentucky, 1970
Robert E. McNiel, Extension Professor Emeritus, Ph.D., Purdue, 1975
Kirk W. Pomper, Adjunct Associate Professor, Ph.D., Oregon State, 1995
C. R. Roberts, Extension Professor Emeritus, Ph.D., Texas A&M, 1964
A. Brent Rowell, Adjunct Professor, Ph.D., Cornell, 1984
Shubin K. Saha, Extension Assistant Professor, Ph.D., Florida, 2009
Ruth Scott, Lecturer, M.S., Kentucky, 2000
John C. Snyder, Associate Professor, Ph.D., Minnesota, 1978
John G. Strang, Extension Professor, Ph.D., Oregon State, 1978

Albert S. Williams, Extension Professor Emeritus, Ph.D., North Carolina State, 1954
Mark A. Williams, Professor, Ph.D., California-Irvine, 1998
Mary L. Witt, Extension Professor Emerita, Ph.D., Oregon State, 1976

LANDSCAPE ARCHITECTURE

Ned M. Crankshaw, Chair

Ned M. Crankshaw, Professor, M.L.A., Iowa State, 1988
Molly M. Davis, Adjunct Assistant Professor, B.S., Kentucky, 1987
Ryan Hargrove, Associate Professor, Ph.D., North Carolina State, 2007
Jayoung Koo, Extension Assistant Professor, Ph.D., California-Davis, 2012
Brian D. Lee, Associate Professor, Ph.D., Penn State, 2005
Thomas J. Nieman, Professor, Ph.D., Southern Illinois, 1973
Christopher K. Sass, Assistant Professor, Ph.D., Kansas State 2011
Horst Schach, Professor Emeritus, M.L.A., California, 1966
Andrea Carolina Segura, Lecturer, M.C.P., Cincinnati, 2010

PLANT AND SOIL SCIENCES

Todd Wayne Pfeiffer, Chair

Glen E. Aiken, Adjunct Professor, Ph.D., Florida, 1989
William A. Bailey, Extension Professor, Ph.D., Virginia Tech, 2002
Richard Irven Barnhisel, Professor Emeritus, Ph.D., Virginia Tech, 1964
Michael Barrett, Professor, Ph.D., California-Davis, 1980
Carol Baskin, Professor, Ph.D., Vanderbilt, 1968
Paul Bertsch, Professor, Ph.D., Kentucky, 1983
Robert L. Blevins, Professor Emeritus, Ph.D., Ohio State, 1967
Harold Rhodes Burton, Associate Professor Emeritus, Ph.D., Louisville, 1964
Lowell Palmer Bush, Professor Emeritus, Ph.D., Iowa State, 1964
Glenn Burton Collins, Professor Emeritus, Ph.D., North Carolina State, 1966
Mark S. Coyne, Professor, Ph.D., Michigan State, 1989
Elisa M. D'Angelo, Associate Professor, Ph.D., Florida, 1998
H. Maelor Davies, Professor, Ph.D., London, 1977
Randy D. Dinkins, Adjunct Associate Professor, Ph.D., University of British Columbia, 1992
David C. Ditsch, Professor, Ph.D., Virginia Tech, 1991
Charles Thomas Dougherty, Professor Emeritus, Ph.D., Purdue, 1966
Dennis B. Egli, Professor, Ph.D., Illinois, 1969
Wilbur W. Frye, Professor Emeritus, Ph.D., Virginia Tech, 1969
Ben M. Goff, Assistant Professor, Ph.D., Kentucky, 2012
Lawrence J. Grabau, Professor, Ph.D., Missouri, 1984
J.D. Green, Extension Professor, Oklahoma State, 1986
John Hamman Grove, Professor, Ph.D., Georgia, 1980
Erin R. Haramoto, Assistant Professor, Ph.D., Michigan State, 2014
Jimmy C. Henning, Extension Professor, Ph.D., Kentucky, 1986
James Herbek, Extension Professor Emeritus, Ph.D., Illinois, 1970
Andrew J. Hiatt, Professor Emeritus, Ph.D., North Carolina State
David Floyd Hildebrand, Professor, Ph.D., Illinois, 1982
Arthur G. Hunt, Professor, Ph.D., Brandeis, 1981
Isabelle A. Kagan, Adjunct Assistant Professor, Ph.D., Michigan State, 1999
Anastasios D. Karathanasis, Professor, Ph.D., Auburn, 1982
Carrie Knott, Extension Assistant Professor, Ph.D., Kentucky, 2007
Brad D. Lee, Extension Associate Professor, Ph.D., California-Riverside, 1999
Chad D. Lee, Extension Professor, Ph.D., Michigan State, 2002
Paul Davis Legg, Professor Emeritus, Ph.D., North Carolina State, 1964
Indu Maiti, Adjunct Assistant Professor, Ph.D., Calcutta, 1975
James R. Martin, Extension Professor Emeritus, Ph.D., Kentucky, 1978
Christopher J. Matocha, Associate Professor, Ph.D., Delaware, 2000
Rebecca McCulley, Associate Professor, Ph.D., Colorado, 2002
Joshua McGrath, Extension Associate Professor, Ph.D., Delaware, 2004
David McNear, Associate Professor, Ph.D., Delaware, 2005
Robert D. Miller, Special Professor, Ph.D., Kentucky, 1980
Luke A. Moe, Assistant Professor, Ph.D., Wisconsin, 2005
Gregg Munshaw, Extension Assistant Professor, Ph.D., Virginia Tech, 2003
Lloyd W. Murdock, Jr., Extension Professor Emeritus, Ph.D., Virginia Tech, 1967
Gary K. Palmer, Extension Professor, Ph.D., Tennessee, 1984
Robert C. Pearce, Extension Associate Professor, Ph.D., Georgia, 1994
Sharyn E. Perry, Associate Professor, Ph.D., Wisconsin-Madison, 1993
Todd Wayne Pfeiffer, Professor, Ph.D., Wisconsin-Madison, 1982
Timothy D. Phillips, Associate Professor, Ph.D., North Carolina State, 1991
Charles Gustav Poneleit, Professor Emeritus, Ph.D., Purdue, 1968
John Leonard Ragland, Professor Emeritus, Ph.D., North Carolina State, 1959
Monroe Rasnake, Extension Associate Professor Emeritus, Ph.D., Kentucky, 1973
Wei Ren, Assistant Professor, Ph.D., Auburn, 2009
Harold B. Rice, Extension Associate Professor Emeritus, Ph.D., North Carolina State, 1966
Edwin L. Ritchey, Extension Assistant Professor, Ph.D., Kentucky, 2010
Frank J. Sikora, Adjunct Associate Professor, Ph.D., Illinois, 1986
John Leonidas Sims, Professor Emeritus, Ph.D., Iowa State, 1960
Karamat Sistani, Adjunct Professor, Ph.D., Oklahoma State 1983
Jan Smalle, Associate Professor, Ph.D., Ghent, 1998
M. Scott Smith, Professor, Ph.D., Michigan State, 1978
S. Ray Smith Jr., Extension Professor, Ph.D., Georgia, 1991
Dennis M. TeKrony, Professor Emeritus, Ph.D., Oregon State, 1969
William Orville Thom, Extension Professor Emeritus, Ph.D., Missouri, 1975
Olga V. Tsyusko, Research Assistant Professor, Ph.D., Georgia, 2004
Jason M. Unrine, Assistant Professor, Ph.D., Georgia, 2004
David Anthony Van Sanford, Professor, Ph.D., North Carolina State, 1981
George Joseph Wagner, Professor Emeritus, Ph.D., SUNY at Buffalo, 1974
Michael Weintraub, Adjunct Assistant Professor, Ph.D., California-Santa Barbara, 2004
Kenneth Lincoln Wells, Extension Professor Emeritus, Ph.D., Iowa State, 1963
Ole Wendroth, Professor, Ph.D., Georg-August-University Gottingen, 1990
David W. Williams, Professor, Ph.D., Kentucky, 1996
William W. Witt, Professor Emeritus, Ph.D., North Carolina State, 1974
Ling Yuan, Professor, Ph.D., Texas-Austin, 1988
Hongyan Zhu, Professor, Ph.D., Texas A&M, 2001
Demetrio Zourarakis, Adjunct Assistant Professor, Ph.D., Kentucky, 1992

PLANT PATHOLOGY

Christopher L. Schardl, Chair

A. Rick Bennett, Professor, Ph.D., West Virginia, 1987
Carl Bradley, Extension Professor, Ph.D., University of Illinois-Urbana, 2001
Mark L. Farman, Professor, Ph.D., East Anglia, 1990
Nicole A. Gauthier, Extension Assistant Professor, Ph.D., Louisiana State, 2010
Michael M. Goodin, Associate Professor, Ph.D., Penn State, 1996
John R. Hartman, Extension Professor Emeritus, Ph.D., Wisconsin, 1971
James W. Hendrix, Professor Emeritus, Ph.D., North Carolina State, 1963
Donald E. Hershman, Extension Professor Emeritus, Ph.D., Rutgers, 1983
Aarda Kachroo, Assistant Professor, Ph.D., Maharaja Sayajirao University of Baroda, 1999
Pradeep Kachroo, Professor, Ph.D., Maharaja Sayajirao University of Baroda, 1995
Joseph A. Kuc´, Professor Emeritus, Ph.D., Purdue, 1955
Peter D. Nagy, Professor, Ph.D., Keszthely, 1990
William C. Nesmith, Extension Professor Emeritus, Ph.D., North Carolina State, 1977
Emily Pfeufer, Extension Assistant Professor, Ph.D., Pennsylvania State, 2014
Thomas P. Pirone, Professor Emeritus, Ph.D., Wisconsin, 1960
Christopher L. Schardl, Professor, Ph.D., California-Davis, 1983
Louis Shain, Professor Emeritus, Ph.D., North Carolina State, 1967
John G. Shaw, Professor Emeritus, Ph.D., Wisconsin, 1960
Shuh J. Sheen, Professor Emeritus, Ph.D., Minnesota, 1962
Robert J. Shepherd, Professor Emeritus, Ph.D., Wisconsin, 1959
Malcolm R. Siegel, Professor Emeritus, Ph.D., Maryland, 1962
David A. Smith, Professor Emeritus, Ph.D., Cornell, 1974
Lisa J. Vaillancourt, Professor, Ph.D., Purdue, 1991
Paul Vincelli, Extension Professor, Ph.D., Cornell, 1988
Walter J. Walla, Extension Professor Emeritus, Ph.D., Texas A&M, 1971

VETERINARY SCIENCE

David W. Horohov, Interim Chair

Amanda A. Adams, Research Assistant Professor, Ph.D., Kentucky, 2008
Laura Michelle Arnold, Clinical Associate Professor, D.V.M., University of Tennessee-Knoxville, 1990
Ernest F. Bailey, Professor, Ph.D., California-Davis, 1980
Udeni Balasuriya, Professor, B.V.Sc., University of Peradeniya, Sri Lanka, 1985; Ph.D., California-Davis, 1996
Barry A. Ball, Professor, D.V.M., Georgia, 1981; Ph.D., Cornell, 1987
David C. Bolin, Special Associate Professor, D.V.M., Purdue, 1980; Ph.D., Purdue, 1988
Uneeda Bryant, Special Associate Professor, D.V.M., Tuskegee Institute, 2002
Craig Carter, Special Professor, D.V.M., Ph.D., Texas A&M, 1981, 1993
Lynne M. Cassone, Clinical Assistant Professor, D.V.M., Texas A&M, 1999
Thomas M. Chambers, Associate Professor, Ph.D., Notre Dame, 1982
R. Frank Cook, Research Associate Professor, Ph.D., Warwick, 1980
Ernest G. Cothran, Research Professor Emeritus, Ph.D., Oklahoma, 1982
Ward W. Crowe, Professor Emeritus, D.V.M., Auburn, 1957
James M. Donahue, Special Professor Emeritus, Ph.D., Missouri, 1971
Roberta M. Dwyer, Professor, D.V.M., Iowa State, 1985
Erdal Erol, Clinical Associate Professor, D.V.M., Ph.D., Firat University, Texas A&M, 1986, 2004
Cynthia Gaskill, Special Associate Professor, D.V.M., Colorado State, 1987; Ph.D., University of Prince Edward Island, 2002
Ralph C. Giles, Jr., Special Professor Emeritus, D.V.M., Auburn, 1970
Kathryn T. Graves, Clinical Associate Professor, Ph.D., Cornell, 1985
Gracie Hale, librarian II, M.S., Kentucky, 1990
Lenn R. Harrison, Special Professor Emeritus, V.M.D., Pennsylvania, 1967
C. B. Hong, Special Professor Emeritus, B.V.Sc., National Taiwan University, 1965; Ph.D., Cornell, 1972

David W. Horohov, Professor, Ph.D., Tennessee, 1985
Daniel K. Howe, Professor, Ph.D., Purdue, 1992
Charles J. Issel, Professor, D.V.M., California, Davis, 1969; Ph.D., Wisconsin-Madison, 1973
Carney B. Jackson, Special Professor, D.V.M., Oklahoma State, 1977
Jennifer G. Janes, Special Assistant Professor, Ph.D., Kentucky, 2014; D.V.M., University of Tennessee-Knoxville, 2006
Laura Kennedy, Special Assistant Professor, D.V.M., Michigan State, 2001
Teri L. Lear, Research Associate Professor, Ph.D., Kentucky, 1997
Robert G. Loy, Professor Emeritus, Ph.D., Wisconsin, 1959
Alan T. Loynachan, Special Associate Professor, D.V.M., Ph.D., Iowa State, 2003, 2005
Eugene T. Lyons, Professor, Ph.D., Colorado State, 1963
James N. MacLeod, Professor, V.M.D., Ph.D., Pennsylvania, 1984, 1990
Karen J. McDowell, Associate Professor, Ph.D., Florida, 1986
E. Duane Miksch, Extension Professor Emeritus, D.V.M., Kansas State, 1957
Martin K. Nielsen, Assistant Professor, D.V.M., Royal Agriculture University, 2001; Ph.D., University of Copenhagen, 2007
K. B. Poonacha, Special Professor Emeritus, D.V.M., Madras University, India, 1963; Ph.D., Wisconsin, 1972
David G. Powell, Extension Professor Emeritus, B.V.Sc., Bristol University, England, 1965; FRCVS, Royal College of Veterinary Surgeons, London, 1980
Stephen M. Reed, Adjunct Professor, DVM, Ohio State, 1976
Richard A. Sams, Adjunct Professor, Ph.D., Ohio State, 1975
Pawel Slusarewicz, Adjunct Assistant Professor, Ph.D., University of London, 1994
Edward L. Squires, Research Professor Emeritus, Ph.D., Wisconsin, 1974
Thomas W. Swerczek, Professor, D.V.M., Kansas State, 1964; Ph.D., Connecticut, 1969
John F. Timoney, Professor, M.V.B., National University of Ireland, 1965; D.Sc., National University of Ireland, 1983; Ph.D., National University of Ireland, 1969
Peter J. Timoney, Professor, M.V.B., National University of Ireland (UCD), 1964; Ph.D., University of Dublin (Trinity College), Ireland, 1974; FRCVS, Royal College of Veterinary Surgeons, London, 1978
Thomas Tobin, Professor, M.V.B., University College Dublin, Ireland, 1964; Ph.D., Toronto, Canada, 1970
Mats Troedsson, Professor, D.V.M., Royal Veterinary College, Stockholm, Sweden, 1975, Ph.D., California-Davis, 1991
Mary Lynne Vickers, Special Associate Professor Emerita, Ph.D., Wisconsin, 1981
Neil M. Williams, Special Professor Emeritus, D.V.M., Mississippi State, 1982; Ph.D., Kentucky, 1992
Walter W. Zent, Adjunct Professor, D.V.M., Cornell, 1963

SCHOOL OF HUMAN ENVIRONMENTAL SCIENCES

Ann Vail, Director

DIETETICS AND HUMAN NUTRITION

Sandra Bastin, Chair

Ingrid K. Adams, Extension Associate Professor, Ph.D., RD, LD Iowa State, 2006
Kwaku Addo, Associate Professor Emeritus, Ph.D., Washington State, 1991
Sandra Bastin, Extension Professor, Ph.D., R.D., Kentucky, 1995
Dawn P. Brewer, Assistant Professor, Ph.D., R.D., L.D., Georgia, 2009
Ching K. Chow, Professor, Ph.D., Illinois-Urbana, 1969
Elizabeth L. Combs, Lecturer, MS, Kentucky, 2010
Hazel Waldron Forsythe, Associate Professor, Ph.D., R.D., Oklahoma State, 1987
Lisa Gaetke, Professor, Ph.D., R.D., Kentucky, 1994
Alison Gustafson, Assistant Professor, Ph.D., RD, LD, North Carolina, 2010
Janet Kurzynske, Extension Professor, Ph.D., R.D., Tennessee, 1975
Janet Tietyen Mullins, Extension Professor, Ph.D., R.D., Kansas State, 1993
Aaron K. Schwartz, Lecturer, M.S., Kentucky, 2014
Tammy J. Stephenson, Assistant Professor, Ph.D., Kentucky, 2001
Kelly Webber, Associate Professor, Ph.D., RD, LD, North Carolina, 2007
Amy Williams, Lecturer, MS, Eastern Kentucky, 1999

FAMILY SCIENCES

Ronald Werner-Wilson, Chair

Suzanne B. Badenhop, Extension Professor Emerita, Ph.D., Cornell, 1970
Darla R. Botkin, Associate Professor Emerita, Ph.D., Tennessee, 1983
Gregory W. Brock, Professor Emeritus, Ph.D., Penn State, 1978
John F. Crosby, Professor Emeritus, Ph.D., Syracuse, 1970
Ruth Ann Crum, Associate Professor Emerita, M.S., Kentucky, 1980
Kenneth Culp III, Adjunct Associate Professor, Ph.D., Purdue, 1995
Robert H. Flashman, Extension Professor, Ph.D., Ohio State, 1976
Raymond Forgue, Associate Professor Emeritus, Ph.D., Virginia Tech, 1980
Diana L. Haleman, Senior Lecturer, Ph.D., Kentucky, 1998
Jason Hans, Professor, Ph.D., Missouri, 2004
Claudia J. Heath, Professor, Ph.D., Iowa State, 1981
Gladys J. Hildreth, Professor Emerita, Ph.D., Michigan State, 1973
Amy F. Hosier, Associate Professor, Ph.D., Kentucky, 2006
Jennifer L. Hunter, Extension Assistant Professor, Ph.D., Kentucky, 2010
Hyungsoo Kim, Associate Professor, Ph.D., Kyoto, 2000
Sandra Miller, Professor Emerita, Ph.D., Ohio State, 1971
Trent S. Parker, Assistant Professor, Ph.D., Texas Tech, 2003
David C. Payne, Associate Professor Emeritus, Ph.D., Indiana, 1965
Samuel Quick, Extension Professor Emeritus, Ph.D., Florida State, 1975
Donna R. Smith, Special Associate Professor, Ph.D., Ohio State, 1989
Ann Vail, Professor, Ph.D., Ohio State, 1991
Alexander T. Vazsonyi, Professor, Ph.D., Arizona, 1995
Retia Scott Walker, Professor Emerita, Ph.D., Iowa State, 1982
O'Neal Weeks, Professor Emeritus, Ph.D., North Carolina, 1972
Ronald Werner-Wilson, Professor, Ph.D., Georgia, 1993
Tracey Werner-Wilson, Lecturer, M.S.W., Western Michigan, 1995
Nathan D. Wood, Associate Professor, Ph.D., Brigham Young, 2004

RETAILING AND TOURISM MANAGEMENT

Vanessa Jackson, Chair

Desmond Brown, Special Associate Professor, Ph.D., Virginia Tech, 1996
RayeCarol Cavender, Assistant Professor, Ph.D., Virginia Tech, 2012
Elizabeth Easter, Professor, Ph.D., Tennessee, 1982
Vanessa Jackson, Associate Professor, Ph.D., Michigan State, 1998
Min-Young Lee, Associate Professor, Ph.D., Tennessee, 2007
Ying Lu, Assistant Professor, Ph.D., Purdue, 2011
Susan O. Michelman, Associate Professor Emerita, Ph.D., Minnesota, 1992
Kim Miller-Spillman, Associate Professor, Ph.D., Wisconsin-Madison, 1990
Jason R. Swanson, Assistant Professor, Ph.D., North Carolina State, 2010
Mika L. Turner-Pryor, Lecturer, MS, Kentucky, 2005
Scarlett C. Wesley, Associate Professor, Ph.D., Tennessee, 1996

COLLEGE OF ARTS AND SCIENCES

Mark Kornbluh, Dean

AEROSPACE STUDIES

(Air Force ROTC)

Lieutenant Colonel John E. Ard, Chair

Lieutenant Colonel John E. Ard, Professor, M.S., Lesley College, 1996 and M.S. Air University, 2004
Captain Jeremiah C. Sloan, Assistant Professor, B.S., Tennessee State University, 2010

ANTHROPOLOGY

Mary K. Anglin, Chair

Steven R. Ahler, Adjunct Assistant Professor, Ph.D., Wisconsin-Milwaukee 1984
Mary K. Anglin, Associate Professor, Ph.D., New School for Social Research, 1990
Lee Blonder,* Associate Professor, Ph.D., Pennsylvania 1986
Renee M. Bonzani, Lecturer, Ph.D., Pittsburgh, 1995
Lisa Cliggett, Associate Professor, Ph.D., Indiana, 1997
Deborah L. Crooks, Associate Professor, Ph.D., SUNY-Buffalo, 1992
George M. Crothers, Assistant Professor, Ph.D., Washington, 1999
Beth Goldstein,* Associate Professor, Ph.D., Wisconsin, 1985
N. Thomas Hakansson, Adjunct Associate Professor, Ph.D., Uppsala, 1987
A. Gwynn Henderson, Adjunct Assistant Professor, Ph.D., Kentucky, 1998
Scott R. Hutson, Associate Professor, Ph.D., California-Berkeley, 2004
Hsain Ilahiane, Associate Professor, Ph.D., Arizona, 1998
Richard W. Jefferies, Professor, Ph.D., Georgia, 1978
Diane E. King, Assistant Professor, Ph.D., Washington State, 2000
Ann Kingsolver, Professor, Ph.D., Massachusetts-Amherst, 1991
Erin Koch, Assistant Professor, Ph.D., New School, 2005
Sarah Lyon, Associate Professor, Ph.D., Emory, 2005
Carmen Martinez Novo, Associate Professor, Ph.D., New School for Social Research, 2000
Kim A. McBride, Adjunct Assistant Professor, Ph.D., Michigan State, 1990
Juliana McDonald, Assistant Professor, Ph.D., Kentucky, 2000
Kristin V. Monroe, Assistant Professor, Ph.D., Stanford, 2009
Shannon Plank, Lecturer, Ph.D., Boston, 2003
David Pollack, Adjunct Assistant Professor, Ph.D., Kentucky, 1998
Christopher A. Pool, Professor, Ph.D., Tulane, 1990
Karl B. Raitz,* Professor, Ph.D., Minnesota, 1970
Shaunna L. Scott,* Associate Professor, Ph.D., California-Berkeley, 1988

Monica Udvardy, Associate Professor, Ph.D., Uppsala, Sweden, 1990
Helen Jean Wiese,* Associate Professor, Ph.D., North Carolina, 1971
Mark Whitaker, Professor, Ph.D., Princeton, 1986
Heather Worne, Assistant Professor, Ph.D., Binghamton, 2011
*Joint Appointment

BIOLOGY

Vincent Cassone, Chair

Carol Baskin, Professor, Ph.D., Vanderbilt, 1968
Ruth Beattie, Professor, Ph.D., Queen's University, Belfast, 1987
P. H. Bonner, Associate Professor, Ph.D., California, San Diego, 1971
Vincent Cassone, Professor, Ph.D., Oregon, 1983
Robin L. Cooper, Associate Professor, Ph.D., Texas Tech, 1989
Philip H. Crowley, Professor, Ph.D., Michigan State, 1975
Melody Danley, Lecturer, Ph.D., West Virginia, 2008
Elizabeth Debski, Associate Professor, Ph.D., Virginia, 1985
Jakub Famulski, Assistant Professor, Ph.D., University of Alberta, 2003
Scott Gleeson, Associate Professor, Ph.D., Michigan State, 1986
Douglas A. Harrison, Associate Professor, Ph.D., Johns Hopkins, 1990
Grace M. Jones, Professor, Ph.D., California-Davis, 1983
Seth Jones, Lecturer, Ph.D., Emory, 2007
Rebecca Kellum, Associate Professor, Ph.D., Princeton, 1990
James J. Krupa, Professor, Ph.D., Oklahoma, 1987
Karla Lightfield, Lecturer, Ph.D., University of California at Berkeley, 2010
Catherine R. Linnen, Assistant Professor, Ph.D., Harvard, 2007
D. Nicholas McLetchie, Associate Professor, Ph.D., Tennessee, 1993
Peter M. Mirabito, Associate Professor, Ph.D., Georgia, 1989
Ann C. Morris, Assistant Professor, Ph.D., Emory, 2001
Bruce F. O'Hara, Professor, Ph.D., Johns Hopkins, 1988
Claire T. O'Quin, Lecturer, Ph.D., Maryland, 2014
Jeffrey L. Osborn, Professor, Ph.D., Michigan State, 1979
Jennifer L. Osterhage, Lecturer, Ph.D., Vanderbilt, 2007
Brent D. Palmer, Associate Professor, Ph.D., Florida, 1990
Erin M. Richard, Lecturer, Ph.D., Medical University of South Carolina, 2009
Edmond Rucker, Associate Professor, Ph.D., Texas A&M, 1996
Brian Rymond, Professor, Ph.D., SUNY, Albany, 1984
R. Craig Sargent, Professor, Ph.D., SUNY-Stony Brook, 1981
Ashley W. Seifert, Assistant Professor, Ph.D., Florida, 2009
Kausalya Shenoy, Lecturer, Ph.D., Kentucky, 2012
Jeramiah J. Smith, Assistant Professor, Ph.D., Kentucky, 2007
Jeremy Van Cleve, Assistant Professor, Ph.D., Stanford, 2009
Stephen Randal Voss, Professor, Ph.D., Clemson, 1994
David Weisrock, Associate Professor, Ph.D., Washington, 2003
David Westneat, Professor, Ph.D., North Carolina, 1986

Emeritus Faculty

Thomas C. Barr, Jr., Professor Emeritus, Ph.D., Vanderbilt, 1958
Jim D. Clark, Associate Professor Emeritus, Ph.D., California, Berkeley, 1972
W. S. Cohen, Associate Professor Emeritus, Ph.D., City University of New York, 1970
Wayne H. Davis, Professor Emeritus, Ph.D., Illinois, 1957
Lester Goldstein, Professor Emeritus, Ph.D., Pennsylvania, 1953
Denny O. Harris, Associate Professor Emeritus, Ph.D., Indiana, 1967
Carl E. Henrickson, Associate Professor Emeritus, Ph.D., Ohio State, 1950
John J. Just, Associate Professor Emeritus, Ph.D., Iowa, 1968
Judith A. Lesnaw, Professor Emeritus, Ph.D., Illinois, 1969
John M. Rawls, Jr., Professor, Ph.D., North Carolina, 1973
Gerald A. Rosenthal, Professor Emeritus, Ph.D., Duke, 1966
Sheldon Steiner, Professor Emeritus, Ph.D., Kentucky, 1967

CHEMISTRY

Mark S. Meier, Chair

John E. Anthony, Professor, Ph.D., California-Los Angeles, 1994
David A. Atwood, Professor, Ph.D., Texas, 1992
Fitzgerald B. Bramwell, Professor, Ph.D., Michigan, 1970
Carolyn P. Brock, Professor, Ph.D., Northwestern, 1972
D. Allan Butterfield, Professor, Ph.D., Duke, 1974
Yuguang Cai, Assistant Professor, Ph.D., Princeton, 2003
Arthur Cammers, Associate Professor, Ph.D., Wisconsin, 1994
Dennis J. Clouthier, Professor, Ph.D., Saskatchewan, 1980
Mark Crocker, Adjunct Associate Professor, Ph.D., Bristol, England, 1985
Burtron H. Davis, Adjunct Professor, Ph.D., Florida, 1965
Jason DeRouchey, Assistant Professor, Ph.D., University of Massachusetts-Amherst, 2002
William D. Ehmann, Professor Emeritus, Ph.D., Carnegie, 1957
Edith C. Glazer, Assistant Professor, Ph.D., California-San Diego, 2003
Robert B. Grossman, Professor, Ph.D., Massachusetts Institute of Technology, 1992
Beth Guiton, Assistant Professor, Ph.D., University of Pennsylvania, 2008
Robert D. Guthrie, Professor Emeritus, Ph.D., Rochester, 1963
Marcelo Guzman, Assistant Professor, Ph.D., California Institute of Technology, 2006
Boyd E. Haley, Professor Emeritus, Ph.D., Washington State, 1971
Bruce J. Hinds, Associate Professor, Ph.D., Northwestern, 1996
F. James Holler, Professor Emeritus, Ph.D., Michigan State, 1977
Tae H. Ji, Professor Emeritus, Ph.D., California-San Diego, 1968
Doo Young Kim, Assistant Professor, Ph.D., Texas-Austin, 2005
Folami T. Ladipo, Associate Professor, Ph.D., Virginia Polytechnic Institute, 1991
Robert A. Lodder,* Professor, Ph.D., Indiana, 1988
Mark A. Lovell, Professor, Ph.D., Kentucky, 1992
Bert C. Lynn, Jr., Professor, Ph.D., Mississippi State, 1987
Mark S. Meier, Professor, Ph.D., Oregon, 1988
Anne-Frances Miller,* Associate Professor, Ph.D., Yale, 1989
Susan A. Odom, Assistant Professor, Ph.D., Georgia Institute of Technology, 2008
James E. O'Reilly, Associate Professor Emeritus, Ph.D., Michigan, 1971
Sean Parkin, Adjunct Assistant Professor, Ph.D., California-Davis, 1993
John M. Patterson, Professor Emeritus, Ph.D., Northwestern, 1953
Chris Richards, Assistant Professor, Ph.D., Georgia Institute of Technology, 2009
Donald E. Sands, Professor Emeritus, Ph.D., Cornell, 1955
Donald T. Sawyer, Adjunct Professor, Ph.D., California-Los Angeles, 1956
Paul G. Sears, Professor Emeritus, Ph.D., Kentucky, 1953
John P. Selegue, Professor, Ph.D., Massachusetts Institute of Technology, 1979
Stanford L. Smith, Professor Emeritus, Ph.D., Iowa State, 1961
Walter T. Smith, Jr., Professor Emeritus, Ph.D., Indiana, 1946
H. Peter Spielmann,* Associate Professor, Ph.D., California-Berkeley, 1991
Stephen M. Testa, Associate Professor, Ph.D., Purdue, 1994
Mark D. Watson, Associate Professor, Ph.D., Florida, 1999
David S. Watt,* Professor, Ph.D., Harvard, 1972
Yinan Wei, Assistant Professor, Ph.D., Princeton, 2003
Joseph W. Wilson, Professor Emeritus, Ph.D., Indiana, 1961
Dong-Sheng Yang, Professor, Ph.D., Western Ontario, 1990
Steven W. Yates,* Professor, Ph.D., Purdue, 1973
*Joint Appointment

EARTH AND ENVIRONMENTAL SCIENCES

David P. Moecher, Chair

Regular Faculty

Sean P. Bemis, Assistant Professor, Ph.D., Oregon, 2010
Frank R. Ettensohn, Professor, Ph.D., Illinois 1975
Rebecca L. Freeman, Assistant Professor, Ph.D., Tulane, 2011
Alan E. Fryar, Associate Professor, Ph.D., Alberta, 1992
Michael M. McGlue, Assistant Professor, Ph.D., Arizona, 2011
David P. Moecher, Professor, Ph.D., Michigan, 1988
Dhananjay Ravat, Professor, Ph.D., Purdue, 1989
J. Ryan Thigpen, Assistant Professor, Ph.D., Virginia Tech, 2009
Edward W. Woolery, Professor, Ph.D., Kentucky, 1998
Kevin Yeager, Associate Professor, Ph.D., Texas A&M, 2002

Lecturers

Kent Ratajeski, Senior Lecturer, Ph.D., North Carolina, 1999

Adjunct Faculty

J. Richard Bowersox, Adjunct Assistant Professor, Ph.D., South Florida, 2006
James Cobb, Adjunct Assistant Professor, Ph.D., Illinois, 1981
James Dinger, Adjunct Assistant Professor, Ph.D., Nevada-Reno, 1977
Cortland Eble, Adjunct Assistant Professor, Ph.D., West Virginia, 1988
Stephen Greb, Adjunct Associate Professor, Ph.D., Kentucky, 1992
Kevin Henke, Adjunct Assistant Professor, Ph.D., North Dakota, 1997
James Hower, Adjunct Professor, Ph.D., Penn State, 1978
Thomas M. Parris, Adjunct Assistant Professor, Ph.D., California-Santa Barbara, 1998
Thomas L. Robl, Adjunct Assistant Professor, Ph.D., Kentucky, 1977
Zhenming Wang, Adjunct Associate Professor, Ph.D., Kentucky, 1998
Jerry Weisenfluh, Adjunct Assistant Professor, Ph.D., South Carolina, 1982
Jungfeng Zhu, Adjunct Assistant Professor, Ph.D., Arizona, 2005

Emeritus Faculty

Richard I. Barnhisel, Professor Emeritus, Ph.D., Virginia Tech, 1964
William H. Blackburn, Jr., Professor Emeritus, Ph.D., MIT, 1968
Bruce R. Moore, Associate Professor Emeritus, Ph.D., Melbourne, Australia, 1967
Kieran D. O'Hara, Associate Professor Emeritus, Ph.D., Brown, 1984
Susan M. Rimmer, Professor Emeritus, Ph.D., Penn State, 1985
Lyle Sendlein, Professor Emeritus, Ph.D., Iowa State, 1964
Ronald L. Street, Associate Professor Emeritus, Ph.D., St. Louis, 1975
William A. Thomas, Professor Emeritus, Ph.D., Virginia Tech, 1960
John Thrailkill, Professor Emeritus, Ph.D., Princeton, 1965

ENGLISH

Jeffory A. Clymer, Chair

Jonathan M. Allison, Professor, Ph.D., Michigan, 1988
Edward R. Barrett, Associate Professor, Ph.D., Texas-Austin, 1999
Frederick Bengtsson, Visiting Lecturer, Ph.D., Columbia, 2014
Virginia L. Blum, Professor, Ph.D., Brown, 1989
Susan Bordo, Professor, Ph.D., SUNY at Stony Brook, 1982
Anna R. K. Bosch, Associate Professor, Ph.D., University of Chicago, 1991
Andrew M. Byrd, Assistant Professor, Ph.D., California-Los Angeles, 2010
Cheryl Cardiff, Lecturer, M.F.A., New School for Social Research, 2002
Michael Carter, Senior Lecturer, M.F.A., Montana, 1983
Thomas M. Clayton, Professor, Ph.D., Pittsburgh, 1995
Jeffory A. Clymer, Professor, Ph.D., Duke, 1998
Jennifer S. Cramer, Assistant Professor, Ph.D., Illinois, 2010
Rynetta Sherri Davis, Assistant Professor, Ph.D., Kentucky, 2006
Andrew V. Doolen, Professor, Ph.D., Arizona, 2001
Janet Carey Eldred, Professor, Ph.D., Illinois, 1988
W. Andrew Ewell, Assistant Professor, M.F.A., Boston, 2011
Walter C. Foreman, Associate Professor, Ph.D., Washington, 1974
Michael E. Genovese, Assistant Professor, Ph.D., Virginia, 2010
Matthew C. Giancarlo, Associate Professor, Yale, 1998
Matthew Godbey, Lecturer, Ph.D., Kentucky, 2006
Juan Manuel Gonzales, Assistant Professor, M.F.A, Columbia, 2003
Fabiola Henri, Assistant Professor, Ph.D., Paris, 2010
DaMaris Hill, Assistant Professor, Ph.D., Kansas, 2012
Andrew Hippisley, Professor, Surrey, 1997
John Daniel Howell, M.F.A., California-Irvine, 1989
Pearl James, Associate Professor, Ph.D., Yale, 2002
Julia Mae Johnson, Associate Professor, M.F.A., Virginia, 1995
Peter J. Kalliney, Professor, Ph.D., Michigan, 2001
Joyce G. MacDonald, Associate Professor, Ph.D., Vanderbilt, 1989
Alyssa MacLean, Lecturer, Ph.D., British Columbia, 2011
Kevin B. McGowan, Assistant Professor, Ph.D., Michigan, 2011
Alan M. Nadel, Professor, Ph.D., Rutgers, 1981
Gurney M. Norman, Professor, A.B., Kentucky, 1959
Hannah Pittard, Assistant Professor, M.F.A., Virginia, 2007
Armando J. Prats, Professor, Ph.D., Florida, 1975
Jill N. Rappoport, Associate Professor, Ph.D., Virginia, 2006
Erik Reece, Associate Professor, M.A., Kentucky, 1992
Randall Keith Roorda, Associate Professor, Ph.D., Michigan, 1994
Ellen B. Rosenman, Professor, Ph.D., Virginia, 1983
Marion L. Rust, Associate Professor, Ph.D., Stanford, 1997
Emily Shortslef, Assistant Professor, Ph.D., Columbia, 2015
Michelle Renee Sizemore, Assistant Professor, Ph.D., Wisconsin, 2010
Gregory T. Stump, Professor, Ph.D., Ohio State, 1981
Michael A. Trask, Professor, Ph.D., Johns Hopkins, 1998
Frank X. Walker, Professor, M.F.A., Spalding, 2003
Nazera S. Wright, Assistant Professor, Ph.D., Maryland, 2009
Lisa Zunshine, Professor, Ph.D., California-Santa Barbara, 2000

GEOGRAPHY

Richard Schein, Chair

Betsy Beymer-Farris, Assistant Professor, Ph.D., Illinois, 2011
Wilford A. Bladen, Associate Professor Emeritus, Ph.D., Kentucky, 1972
Stanley D. Brunn, Professor Emeritus, Ph.D., Ohio State, 1966
Jeremy W. Crampton, Associate Professor, Ph.D., Penn State, 1994
Patricia Ehrkamp, Associate Professor, Ph.D., Minnesota, 2002
P. P. Karan, Professor, Ph.D., Indiana, 1956
Michael D. Kennedy, Associate Professor Emeritus, M.S., Louisville, 1979
Daehyun Kim, Associate Professor, Ph.D., Texas A&M, 2009
Liang Liang, Assistant Professor, Ph.D., University of Wisconsin-Milwaukee, 2009
Tad Mutersbaugh, Professor, Ph.D., California-Berkeley, 1994
Jonathan Phillips, Professor, Ph.D., Rutgers, 1985
Lynn Phillips, Assistant Professor, Ph.D., Louisville, 2013
Karl B. Raitz, Professor Emeritus, Ph.D., Minnesota, 1970
Susan Roberts, Professor, Ph.D., Syracuse, 1992
Graham D. Rowles,* Professor, Ph.D., Clark, 1976
Michael Samers, Associate Professor, Ph.D., Oxford, 1997
Richard H. Schein, Professor, Ph.D., Syracuse, 1989
Anna Secor, Professor, Ph.D., Colorado, 2000
Gary Shannon, Professor, Ph.D., Michigan, 1970
J. Anthony Stallins, Associate Professor, Ph.D., University of Georgia, 2000
Alice Turkington, Associate Professor, Ph.D., Queens University-Belfast, 2001
John F. Watkins,* Associate Professor, Ph.D., Colorado, 1986
Matthew W. Wilson, Assistant Professor, Ph.D., University of Washington, 2009
Andrew Wood, Associate Professor, Ph.D., Ohio State, 1993
Matthew Zook, Professor, Ph.D., California-Berkeley, 2001
*Joint Appointment

HISPANIC STUDIES

Ana Rueda, Chair

John J. Allen, Professor Emeritus, Ph.D., Wisconsin, 1960
Anibal A. Biglieri, Professor, Ph.D., Syracuse, 1982
Alan V. Brown, Associate Professor, Ph.D., Arizona, 2006
Susan de Carvalho-Chumney, Professor, Ph.D., Virginia, 1989
Moisés R. Castillo, Associate Professor, Ph.D., Minnesota, 2000
Mónica Díaz, Associate Professor, Ph.D., Indiana, 2002
Michael Impey, Professor Emeritus, Ph.D., Michigan, 1970
Joseph R. Jones, Professor Emeritus, Ph.D., Wisconsin, 1962
Margaret E. W. Jones, Professor Emerita, Ph.D., Wisconsin, 1963
Susan Larson, Associate Professor, Ph.D., Arizona, 1999
John Lihani, Professor Emeritus, Ph.D., Colorado, 1954
Matthew Losada, Assistant Professor, Ph.D., University of California, Berkeley, 2009
Carmen Moreno-Nuño, Associate Professor, Ph.D., Minnesota, 2000
Yanira Paz, Associate Professor, Ph.D., Kentucky, 2000
Daniel R. Reedy, Professor Emeritus, Ph.D., Illinois, 1962
Ana Rueda, Professor, Ph.D., Vanderbilt, 1985
Enrico Mario Santí, Professor, Ph.D., Yale, 1976
Edward F. Stanton, Professor Emeritus, Ph.D., UCLA, 1972
Haralambos Symeonidis, Associate Professor, Ph.D., University of Münster, 1998

HISTORY

Tracy Campbell, Chair

James C. Albisetti, Professor, Ph.D., Yale, 1976
Jane E. Calvert, Associate Professor, Ph.D., Chicago, 2003
Tracy Campbell, Professor, Ph.D., Duke, 1988
Paul T. Chamberlin, Associate Professor, Ph.D., Ohio State, 2009
Francie R. Chassen-Lopez, Professor, Ph.D., Universidad National de Mexico, 1986
Eric H. Christianson, Associate Professor, Ph.D., Southern California, 1976
Steve Davis, Assistant Professor, Ph.D., Florida, 2010
Bruce S. Eastwood, Professor Emeritus, Ph.D., Wisconsin-Madison, 1963
Ronald D Eller, Professor Emeritus, Ph.D., North Carolina-Chapel Hill, 1979
Abigail A. Firey, Professor, Ph.D., Toronto, 1995
Ronald P. Formisano, Bryan Professor Emeritus, Ph.D., Wayne State, 1966
William W. Freehling, Singletary Professor Emeritus, Ph.D., Berkeley, 1963
Ellen Furlough, Associate Professor Emeritus, Ph.D., Brown, 1987
Daniel J. Gargola, Associate Professor, Ph.D., North Carolina-Chapel Hill, 1988
Melanie Goan, Assistant Professor, Ph.D., Kentucky, 1999
David E. Hamilton, Associate Professor, Ph.D., Iowa, 1984
Philip R. Harling, Professor, Ph.D., Princeton, 1992
George C. Herring, Alumni Professor Emeritus, Ph.D., Virginia, 1965
Bruce F. Holle, Associate Professor, Ph.D., Michigan, 1978
David G. Hunter, Cothrill-Rolfes Chair, Ph.D., Notre Dame, 1986
Robert M. Ireland, Professor Emeritus, Ph.D., Nebraska, 1967
Kathi L. Kern, Associate Professor, Ph.D., Pennsylvania, 1989
Joanne Melish, Associate Professor Emeritus, Ph.D., Brown, 1996
Francis Musoni, Assistant Professor, Ph.D., Emory, 2011
Erik Lars Myrup, Associate Professor, Ph.D., Yale, 2006
Kathryn Newfont, Associate Professor, Ph.D., North Carolina-Chapel Hill, 2001
Lien-Hang Nguyen, Associate Professor, Ph.D., Yale, 2006
Robert W. Olson, Professor Emeritus, Ph.D., Indiana, 1972
David M. Olster, Professor, Ph.D., Chicago, 1985
Karen Petrone, Professor, Ph.D., Michigan, 1994
Jeremy D. Popkin, Professor, Ph.D., California-Berkeley, 1977
Sophie Roberts, Assistant Professor, Ph.D., Toronto, 2010
Daniel B. Rowland, Associate Professor Emeritus, Ph.D., Yale, 1976
Daniel B. Smith, Professor Emeritus, Ph.D., Virginia, 1977
Gerald L. Smith, Professor, Ph.D., Kentucky, 1988
Gretchen D. Starr-LeBeau, Associate Professor, Ph.D., Michigan, 1996
Mark W. Summers, Professor, Ph.D., California-Berkeley, 1980
Akiko Takenaka, Associate Professor, Ph.D., Yale, 2004
Amy Murrell Taylor, Associate Professor, Ph.D., Virginia, 2001
Scott K. Taylor, Associate Professor, Ph.D., Virginia, 2001
Awet T. Weldemichael, Assistant Professor, Ph.D., UCLA, 2008
Tammy C. Whitlock, Assistant Professor, Ph.D., Rice, 1998

JAPAN STUDIES

Douglas N. Slaymaker, Director

Atsushi Hasegawa, Assistant Professor, Second Language Acquisition, Ph.D., Wisconsin-Madison, 2010
Kazuko Hioki, Librarian I, Conservation Librarian, Adjunct Liaison Librarian for Asian Studies, William T. Young Library, M.L.I.S., University of Texas at Austin, 2000
Masamichi Inoue, Associate Professor, Cultural Anthropology, Ph.D., Duke, 1999
P.P. Karan, Professor, Human Geography, Ph.D., Indiana, 1956
Andrew Maske, Associate Professor, Art History, D.Phil., Oxford University, 1995
Anthony Ogden, Adjunct Assistant Professor, Education Theory and Policy & Comparative and International Education, Pennsylvania State, 2009
Nobuko Patton, Lecturer, Language Instruction, MATWL, University of Kentucky, 2012
Douglas N. Slaymaker, Professor, Language and Literature, Ph.D., Washington, 1997
Akiko Takenaka, Associate Professor, History, Ph.D., Yale, 2004
Keiko Tanaka, Associate Professor, Sociology, Ph.D., Michigan State, 1997

LINGUISTICS

Andrew Hippisley, Director

Edward R. Barrett, Associate Professor (English), Ph.D., University of Texas at Austin, 1999
Anna R. K. Bosch, Associate Professor (English), Ph.D., Chicago, 1991
Andrew M. Byrd, Assistant Professor (English), Ph.D., UCLA, 2010
Thomas M. Clayton, Professor (English), Ph.D., Pittsburgh, 1995
Jennifer S. Cramer, Assistant Professor (English), Ph.D., Illinois-Urban, 2010
Stayc DuBravac, Associate Professor (Modern & Classical Languages), Ph.D., Pennsylvania State, 1999
Atsushi Hasegawa, Assistant Professor (Modern & Classical Languages), Ph.D., Wisconsin-Madison, 2010.
Fabiola Henri, Assistant Professor (English), Ph.D., Paris-Diderot, 2010
Andrew Hippisley, Professor (English), Ph.D., University of Surrey, 1997
Mark Lauersdorf, Associate Professor (Modern & Classical Languages), Ph.D., Kansas, 1995
Kevin B. McGowan, Assistant Professor (English), Ph.D., Michigan, 2011
Jeanmarie Rouhier-Willoughby, Professor (Modern & Classical Languages), Ph.D., Virginia, 1993
Gregory T. Stump, Professor (English), Ph.D., Ohio State, 1981
Haralambos Symeonidis, Associate Professor (Hispanic Studies), Ph.D., University of Münster, 1998

MATHEMATICS

Russell Brown, Chair

David R. Adams, Professor, Ph.D., Minnesota, 1969
Adib Bagh,* Assistant Professor, Ph.D., UC-Davis, 1994
James C. Beidleman, Professor Emeritus, Ph.D., Penn State, 1964
Benjamin J. Braun, Associate Professor, Ph.D., Washington University-St. Louis, 2007
James E. Brennan, Professor, Ph.D., Brown, 1968
Russell Brown, Professor, Ph.D., Minnesota, 1987
Carmn Bruni, Lecturer, Ph.D., University of British Columbia, 2015
Russell L. Carden, Assistant Professor, Ph.D., Rice, 2011
Richard W. Carey, Professor, Ph.D., SUNY-Stony Brook, 1970
Thomas A. Chapman, Professor Emeritus, Ph.D., Louisiana State, 1970
Francis Chung, Assistant Professor, Ph.D., University of Chicago, 2012
Alberto Corso, Associate Professor, Ph.D., Rutgers, 1995
Raymond H. Cox, Associate Professor Emeritus, Ph.D., North Carolina, 1963
Paul M. Eakin, Jr., Professor, Ph.D., Louisiana State, 1968
Carl Eberhart, Professor Emeritus, Ph.D., Louisiana State, 1966
Richard Ehrenborg, Professor, Ph.D., MIT, 1993
Edgar Enochs, Professor Emeritus, Ph.D., Notre Dame, 1958
Brauch Fugate, Professor Emeritus, Ph.D., Iowa, 1964
Ronald Gariepy, Professor Emeritus, Ph.D., Wayne State, 1969
Heide Gluesing-Luerssen, Professor, Ph.D., University of Bremen, 1991
Bertrand J. Guillou, Assistant Professor, Ph.D., University of Chicago, 2008
Lawrence A. Harris, Professor, Ph.D., Cornell, 1969
Thomas L. Hayden, Professor Emeritus, Ph.D., Texas, 1961
Peter D. Hislop, Professor, Ph.D., California-Berkeley, 1984
Henry C. Howard, Professor Emeritus, Ph.D., Carnegie-Mellon, 1958
Michel E. Jabbour, Associate Professor, Ph.D., Cal Tech, 1999
David Jensen, Assistant Professor, Ph.D., UT-Austin, 2010
David C. Johnson, Professor Emeritus, Ph.D., Virginia, 1970
Kenneth K. Kubota, Professor, Ph.D., Facultes des Sciences de Paris, France, 1969
Carl Lee, Professor, Ph.D., Cornell, 1981
David Leep, Professor, Ph.D., Michigan, 1980
John Lewis, Professor, Ph.D., Illinois, 1970
John E. Mack, Professor Emeritus, Ph.D., Purdue, 1959
Chi-Sing Man, Professor, Ph.D., Johns Hopkins, 1980
Robert Molzon, Associate Professor, Ph.D., Johns Hopkins, 1977
David Murrugarra, Assistant Professor, Ph.D., Virginia Tech, 2012
Uwe R. Nagel, Professor, Ph.D., University of Paderborn, 1990
Nicholas Nguyen, Lecturer, Ph.D., University of California, San Diego, 2013
Serge Ochanine, Associate Professor, Ph.D., University of Paris-Sud (Orsay), France, 1978
Peter Perry, Professor, Ph.D., Princeton, 1981
Kathleen Ponto, Assistant Professor, Ph.D., University of Chicago, 2007
Olivia Prosper, Assistant Professor, Ph.D., Florida, 2012
Margaret A. Readdy, Professor, Ph.D., Michigan State, 1993
Raymond Rishel, Professor Emeritus, Ph.D., Wisconsin, 1959
David C. Royster, Associate Professor, Ph.D., Louisiana State, 1978
Avinash Sathaye, Professor, Ph.D., Purdue, 1973
Jack Schmidt, Lecturer, Ph.D., Kentucky, 2008
Zhongwei Shen, Professor, Ph.D., University of Chicago, 1989
Ted J. Suffridge, Professor Emeritus, Ph.D., Kansas, 1965
Mihai Tohaneanu, Assistant Professor, University of California, Berkeley, 2009
James H. Wells, Professor Emeritus, Ph.D., Texas, 1958
erica Whitaker, Lecturer, Ph.D, Ohio State University, 2011
Qiang Ye, Professor, Ph.D., Calgary, 1989
Martha Yip, Assistant Professor, Ph.D., Wisconsin, 2010
*Joint Appointment

MILITARY SCIENCE (Army ROTC)

MAJ Thomas D. Krupp, Chair

Mr. Allen Back, Recruiting Operations Officer
SFC Jesus Davalos, Military Instructor/Training NCO
MAJ Thomas D. Krupp, Chair, Professor of Military Science, M.S. in Leadership, Grand Canyon University, 2010
CPT Brian C. Smith, Assistant Professor, M.S. in Environmental Management, Webster University, 2011
MSG Michael Tanner, Senior Military Instructor

MODERN AND CLASSICAL LANGUAGES, LITERATURES AND CULTURES

Jeanmarie Rouhier-Willoughby, Chair

Gloria Allaire, Assistant Professor, Ph.D., Wisconsin-Madison, 1992
Roger Anderson, Professor Emeritus, Ph.D., Michigan, 1967
Ihsan Bagby, Associate Professor, Ph.D., Michigan, 1986
Francis Bailey, Associate Professor, Ph.D., Massachusetts, 1993
Jeannine Blackwell, Professor, Ph.D., Indiana, 1982
Molly Thomasy Blasing, Assistant Professor, Ph.D., Wisconsin-Madison, 2014
Brenna Reinhart Byrd, Assistant Professor, Ph.D., UCLA, 2010
Valerio Caldesi-Valeri, Lecturer, Ph.D., Texas, 2009
Jacqueline Couti, Assistant Professor, Ph.D., Virginia, 2008
Suleiman Darrat, Senior Lecturer Emeritus, Ph.D., TU Berlin, 1981
Stayc H. DuBravac, Associate Professor, Ph.D., Penn State, 1999
Phillip A. Duncan, Professor Emeritus, Ph.D., Indiana, 1958
John D. Erickson, Professor Emeritus, Ph.D., Minnesota, 1964
Theodore Fiedler, Professor, Ph.D., Washington, 1969
James A. Francis, Associate Professor, Ph.D., Duke, 1991
Atsushi Hasegawa, Assistant Professor, Ph.D., Wisconsin-Madison, 2010
Jianjun He, Assistant Professor, Ph.D., Oregon, 2007
Hillary Hope Herzog, Associate Professor, Ph.D., Chicago, 2001
Harald Hoebusch, Associate Professor, Ph.D., California-Irvine, 1996
Julie Human, Assistant Professor, Ph.D., Michigan, 2010
David G. Hunter, Professor and Cottrill-Rolfes Chair of Catholic Studies, Ph.D., Notre Dame, 1986
Masamichi S. Inoue, Associate Professor, Ph.D., Duke, 1999
Gerald Janecek, Professor Emeritus, Ph.D., Michigan, 1972
Wei Jiang, Lecturer, M.A., Nanjing, 2003; M.A., Kentucky, 2006
Michael T. Jones, Professor Emeritus, Ph.D., Yale, 1978
Bernd Kratz, Professor Emeritus, Ph.D., Marburg, Germany, 1963
Raymond C. La Charité, Professor Emeritus, Ph.D., Pennsylvania, 1966
Virginia A. La Charité, Professor Emerita, Ph.D., Pennsylvania, 1966
Ioana Larco, Assistant Professor, Ph.D., Indiana, 2011
Mark R. Lauersdorf, Associate Professor, Ph.D., Kansas, 1995
Edward S. Lee, Associate Professor, Ph.D., Pittsburgh, 1976
Liang Luo, Associate Professor, Ph.D., Harvard, 2006
Hubert M. Martin, Jr., Professor, Ph.D., Johns Hopkins, 1958
Milena Y. Minkova, Professor, Ph.D., Pontifical Salesian, 1995
Jackie Murray, Assistant Professor, Ph.D., Washington, 2005
Joseph D. O'Neil, Assistant Professor, Ph.D., Indiana, 2009
Nobuko Patton, Lecturer, M.A., Kentucky, 2012
Jeffrey N. Peters, Associate Professor, Ph.D., Michigan, 1996
Jane E. Phillips, Professor Emerita, Ph.D., North Carolina-Chapel Hill, 1969
Rupert T. Pickens, Professor Emeritus, Ph.D., North Carolina, 1966
Suzanne R. Pucci, Professor, Ph.D., Syracuse, 1980
Robert J. Rabel, Professor, Ph.D., Michigan, 1975
John A. Rea, Associate Professor Emeritus, A.B., Miami, 1948

Nels Jeffrey Rogers, Associate Professor, Ph.D., Pennsylvania, 2001
Jeanmarie Rouhier-Willoughby, Professor, Ph.D., Virginia, 1992
Cynthia Ruder, Associate Professor, Ph.D., Cornell, 1987
Leon Sachs, Associate Professor, Ph.D., Yale, 2004
Jeorg Ellen Sauer, Senior Lecturer, M.A., Kentucky, 2001
Douglas N. Slaymaker, Professor, Ph.D., Washington, 1997
Louis J. Swift, Professor Emeritus, Ph.D., Johns Hopkins, 1963
Jennifer Morrish Tunberg, Associate Professor, D.Phil., Oxford, 1982
Terence O. Tunberg, Professor, Ph.D., Toronto, 1986
Anna Voskresensky, Lecturer, M.A., Russia, 1982
Matthew Wells, Assistant Professor, Ph.D., Oregon, 2006
Linda Kraus Worley, Associate Professor, Ph.D., Cincinnati, 1985
Ghadir Zannoun, Assistant Professor, Ph.D., Arkansas, 2011
Sadia Zoubir-Shaw, Associate Professor, Doctorate, Université de Provence, 1988

PHILOSOPHY

David Bradshaw, Chair

Clare Batty, Assistant Professor, Ph.D., M.I.T., 2007
Stefan Bird-Pollan, Assistant Professor, Ph.D., Vanderbilt, 2008; D.Phil., Oxford, 2003
David Bradshaw, Professor, Ph.D., Texas, 1996
J. Daniel Breazeale, Professor, Ph.D., Yale, 1971
Ronald Bruzina, Professor, Ph.D., Notre Dame, 1966; Doctorat de 3e cycle, Paris-Nanterre, France, 1970
Arnold L. Farr, Associate Professor, Ph.D., Kentucky, 1996
Oliver Leaman, Professor, Ph.D., Cambridge, 1979
Brandon C. Look, Professor, Ph.D., Chicago, 1997
Natalie Nenadic, Assistant Professor, Ph.D., Yale, 2011
Alan R. Perreiah, Professor, Ph.D., Indiana, 1967
Ronald J. Planer, Assistant Professor, Ph.D., Rutgers, 2015
Eric Sanday, Assistant Professor, Ph.D., Penn State, 2003
Robert Sandmeyer, Lecturer, Ph.D., Kentucky, 2007
Theodore R. Schatzki, Professor, Ph.D., California-Berkeley, 1986
Timothy R. Sundell, Assistant Professor, Ph.D., Michigan, 2009
Anita M. Superson, Professor, Ph.D., Illinois, Chicago, 1989
Megan B. Wallace, Assistant Professor, Ph.D., North Carolina-Chapel Hill, 2009

PHYSICS AND ASTRONOMY

Sumit Das, Chair

Joseph Warren Brill, Professor, Ph.D., Stanford, 1978
Gang Cao, Professor, Ph.D., Temple, 1992
Michael Cavagnero, Professor, Ph.D., Chicago, 1987
Yang-Tse Cheng,* Professor, Ph.D., California Institute of Technology, 1987
John Ernest Christopher, Associate Professor Emeritus, Ph.D., Virginia, 1967
John W. D. Connolly, Professor Emeritus, Ph.D., Florida 1966
Christopher B. Crawford, Associate Professor, Ph.D., Massachusetts Institute of Technology, 2005
Sumit Ranjan Das, Professor, Ph.D., Chicago, 1983
Lance Eric DeLong, Professor, Ph.D., California-San Diego, 1977
Terrence Draper, Professor, Ph.D., California-Los Angeles, 1984
Michael I. Eides, Professor, Ph.D., Leningrad State, 1977
Moshe Elitzur, Professor Emeritus, Ph.D., Weizmann Institute, 1971
Renee H. Fatemi, Associate Professor, Ph.D., Virginia, 2002
Gary Ferland, Professor, Ph.D., Texas-Austin, 1978
Fletcher Gabbard, Professor Emeritus, Ph.D., Rice, 1959
Susan V. Gardner, Professor, Ph.D., Massachusetts Institute of Technology, 1988
Tim Paul Gorringe, Professor, Ph.D., Birmingham, 1984
Howard Grotch, Professor Emeritus, Ph.D., Cornell, 1967
Ribhu Kaul, Associate Professor, Ph.D., Duke, 2006
Wolfgang Korsch, Professor, Ph.D., Marburg, 1990
Michael A. Kovash, Professor, Ph.D., Ohio State, 1978
Richard Lamb, Professor Emeritus, Ph.D., Kentucky, 1963
Bing-An Li, Professor Emeritus, Ph.D., Academia Sinica, China, 1968
Keh-Fei Liu, Professor, Ph.D., SUNY at Stony Brook, 1975
Keith Bradford MacAdam, Professor Emeritus, Ph.D., Harvard, 1971
Nicholas L.S. Martin, Professor, Ph.D., Oxford, 1977
Marcus T. McEllistrem, Professor Emeritus, Ph.D., Wisconsin, 1956
Madhu Menon,* Adjunct Assistant Professor, Ph.D., Notre Dame, 1986
Ganpathy Murthy, Professor, Ph.D., Yale, 1987
Kwok-Wai Ng, Professor, Ph.D., Iowa State, 1986
Bradley Plaster, Associate Professor, Ph.D., Massachusetts Institute of Technology, 2004
Dhananjay Ravat,* Professor, Ph.D., Perdue, 1989
David Joseph Singh,* Professor, Ph.D., University of Ottawa, 1985
Milton Slaughter,* Adjunct Professor, Ph.D., University of New Orleans, 1974
Sung Seo, Assistant Professor, Ph.D., Seoul National University, 2007
Alfred D. Shapere, Professor, Ph.D., California-Santa Barbara, 1988
Isaac Shlosman, Professor, Ph.D., Tel Aviv, 1986
Douglas Strachan, Assistant Professor, Ph.D., Maryland, 2002
Joseph Paul Straley, Professor, Ph.D., Cornell, 1970
Thomas H. Troland, Professor, Ph.D., California-Berkeley, 1980
Jesse L. Weil, Professor Emeritus, Ph.D., Columbia, 1959
Ronald Wilhelm, Associate Professor, Ph.D., Michigan State, 1995
Renbin Yan, University of California-Berkeley, 2007
Steven W. Yates,* Professor, Ph.D., Purdue, 1973
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POLITICAL SCIENCE

Ernest J. Yanarella, Chair

Horace A. Bartilow, Associate Professor, Ph.D., SUNY-Albany, 1994
Tiffany D. Barnes, Assistant Professor, Ph.D., Rice, 2011
Emily Beaulieu, Assistant Professor, Ph.D., California-San Diego, 2006
Bradley C. Canon, Professor Emeritus, Ph.D., Wisconsin, 1967
Abby Cordova, Assistant Professor, Ph.D., Vanderbilt, 2008
Charles L. Davis, Professor Emeritus, Ph.D., Kentucky 1974
Herbert N. Drennon, Professor Emeritus, Ph.D., Duke 1951
George H. Gadbois, Professor Emeritus, Ph.D., Duke, 1965
Donald A. Gross, Professor, Ph.D., Iowa, 1976
Edward T. Jennings, Jr.,* Professor, Ph.D., Washington, 1977
Jesse C. Johnson, Assistant Professor, Ph.D., Rice, 2012
Penny Miller, Professor Emeritus, Ph.D., Kentucky 1986
Karen A. Mingst,* Professor, Ph.D., Wisconsin, 1974
Daniel Morey, Associate Professor, Ph.D., Iowa, 2006
Mark A. Peffley, Professor, Ph.D., Minnesota 984
Herbert G. Reid, Professor Emeritus, Ph.D., North Carolina 1968
Ellen D. Riggle, Professor, Ph.D., Illinois, 1990
John D. Stemple,* Professor Emeritus, Ph.D., California,-Berkley, 1965
S. Sidney Ulmer, Professor Emeritus, Ph.D., Duke 1956
Clayton Thyne, Associate Professor, Ph.D., Iowa 2007
D. Steven Voss, Associate Professor, Ph.D., Harvard, 1998
Richard W. Waterman, Professor, Ph.D., Houston, 1986
Justin P. Wedeking, Associate Professor, Minnesota, 2007
Ernest Yanarella, Professor, Ph.D., North Carolina, 1971
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PSYCHOLOGY

Robert F. Lorch, Jr., Chair

Chana Akins, Professor, Ph.D., Texas, 1994
Michael A. Andrykowski,* Professor, Ph.D., Illinois, 1984
Christopher Ray Archer, Lecturer, Ph.D., Virginia Commonwealth, 1997
Steven A. Arthur, Lecturer, Ph.D., Purdue, 2010
Ruth A. Baer, Professor, Ph.D., West Virginia, 1985
Christal Badour, Assistant Professor, Ph.D., Arkansas, 2014
Michael T. Bardo, Professor, Ph.D., Iowa State, 1980
Susan Barron, Professor, Ph.D., SUNY-Albany, 1987
Joshua Beckmann, Assistant Professor, Ph.D., Southern Illinois, 2007
Philip K. Berger,* Professor Emeritus, Ph.D., Texas Christian, 1969
David T. R. Berry, Professor, Ph.D., Florida, 1985
Ramesh S. Bhatt, Professor, Ph.D., Iowa, 1988
Gregory W. Brock,* Professor, Ph.D., Penn State, 1978
Jazmin Brown-Iannuzzi, Assistant Professor, Ph.D., North Carolina, 2015
Jessica Burris, Assistant Professor, Ph.D., Kentucky, 2012
Charles R. Carlson, Professor, Ph.D., Vanderbilt, 1983
C. Melody Carswell, Professor, Ph.D., Illinois, 1988
C. Nathan DeWall, Professor, Ph.D., Florida State, 2007
Rachel Farr, Assistant Professor, Ph.D., Virginia, 2011
Mark T. Fillmore, Professor, Ph.D., Waterloo, 1993
Andrea M. Friedrich, Assistant Professor, Ph.D., Kentucky, 2005
Will Gervais, Assistant Professor, Ph.D., Michigan State, 2008
Jonathan M. Golding, Professor, Ph.D., Denver, 1986
Lawrence Gottlob, Associate Professor, Ph.D., Arizona State, 1995
Dianna E. Hartley,* Adjunct Assistant Professor, Ph.D., Vanderbilt, 1978
Rick H. Hoyle,* Adjunct Professor, Ph.D., North Carolina, 1988
Mitzi M.S. Johnson,* Associate Professor, Ph.D., Ohio State, 1986
Carol E. Jordan,* Adjunct Instructor, M.S., Eastern Kentucky, 1983
Jane E. Joseph,* Assistant Professor, Ph.D., Virginia, 1996
Peggy S. Keller, Associate Professor, Ph.D., Notre Dame, 2006
Sung Hee Kim, Associate Professor, Ph.D., Tufts, 1991
Philipp J. Kraemer, Professor, Ph.D., Western Ontario, 1982
Elizabeth P. Lorch, Professor, Ph.D., Massachusetts, 1981
Robert F. Lorch, Jr., Professor and Chair, Ph.D., Massachusetts, 1980
Steven J. Mangine,* Adjunct Assistant Professor, Ph.D., Kentucky, 1992
Michelle Martel, Associate Professor, Ph.D., University of British Columbia, 2012
Mary Beth McGavran, Assistant Professor, Ph.D., Kentucky, 1999
William J. Meegan,* Adjunct Assistant Professor, Ph.D., Kentucky, 1975

Richard S. Milich, Professor, Ph.D., Washington University 1976
John R. Neill,* Associate Professor, Ph.D., Maryland, 1973
T. Kerby Neill,* Adjunct Assistant Professor, Ph.D., Catholic University, 1968
Arthur J. Nonneman,* Adjunct Professor, Ph.D., Florida, 1970
Mark A. Prendergast, Professor, Ph.D., Nebraska, 1994
Donald E. Ralph,* Adjunct Professor, Ph.D., Catholic University, 1965
John D. Ranseen,* Associate Professor, Ph.D., Ohio, 1982
Frederick A. Schmitt,* Associate Professor, Ph.D., Akron, 1982
Suzanne C. Segerstrom, Professor, Ph.D., California, 1997
Lynda Sharrett-Field, Assistant Professor, Ph.D., Kentucky, 2013
Arthur L. Shechet,* Adjunct Assistant Professor, Ph.D., Kentucky, 1987
Elizabeth Sheehan, Senior Lecturer, Ph.D., Emory, 2008
Cynthia A. Smith,* Assistant Professor, Ph.D., California-Alameda, 1995
Gregory T. Smith, Professor, Ph.D., Wayne State, 1985
Richard Smith, Professor, Ph.D., North Carolina, 1985
Christia Spears-Brown, Associate Professor, Ph.D., Texas, 2003
David T. Susman, Associate Clinical Professor, Ph.D., Kentucky, 1992
Thomas A. Widiger, Professor, Ph.D., Miami (Ohio), 1981
John F. Wilson,* Professor, Ph.D., Michigan, 1977
Thomas R. Zentall, Professor, Ph.D., California-Berkeley, 1969
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SOCIOLOGY

Claire Renzetti, Chair

Walter Abbott, Professor Emeritus, Ph.D., Washington, 1970
Shannon Bell, Assistant Professor, Ph.D., Oregon, 2010
Dwight Billings, Professor, Ph.D., North Carolina, 1976
C. Milton Coughenour, Professor Emeritus, Ph.D., Missouri, 1953
Alan DeYoung,* Professor, Ph.D., Stanford, 1975
Patricia Dyk,* Associate Professor, Ph.D., Utah State, 1990
Lorraine Garkovich,* Professor, Ph.D., Missouri, 1976
Thomas F. Garrity,* Professor Emeritus, Ph.D., Duke, 1971
Gary Hansen,* Extension Professor, Ph.D., Iowa State, 1978
Rosalind P. Harris,* Associate Professor, Ph.D., Pennsylvania State, 1990
James G. Hougland, Jr., Professor, Ph.D., Indiana, 1976
Christopher M. Huggins, Lecturer, Ph.D., Ohio State, 2009
Ronald J. Hustedde,* Extension Professor, Ph.D., Wisconsin, 1988
Thomas Janoski, Professor, Ph.D., California-Berkeley, 1986
Ana S. Q. Liberato, Associate Professor, Ph.D., Florida, 2005
Richard C. Maurer,* Extension Professor, Ph.D., Ohio State, 1977
Patrick Mooney, Professor, Ph.D., Wisconsin, Madison, 1985
Edward Morris, Associate Professor, Ph.D., University of Texas-Austin, 2003
Christopher Oliver, Lecturer, Ph.D., Michigan State, 2008
Carrie B. Oser, Associate Professor, Ph.D., Georgia, 2004
Brea Perry, Associate Professor, Ph.D., Indiana, 2008
Claire M. Renzetti, Professor, Ph.D., Delaware, 1982
Shaunna L. Scott, Associate Professor, Ph.D., California-Berkeley, 1988
Gerald T. Slatin, Associate Professor Emeritus, Ph.D., Indiana, 1967
Janet P. Stamatel, Assistant Professor, Ph.D., University of Chicago, 2004
Keiko Tanaka,* Associate Professor, Ph.D., Michigan State, 1997
Carlos de la Torre,* Professor, Ph.D., New School for Social Research, 1993
Paul D. Warner,* Extension Professor Emeritus, Ph.D., Ohio State, 1973
Doris Wilkinson, Professor Emeritus, Ph.D., Case Western, 1968
Julie Zimmerman,* Extension Associate Professor, Ph.D., Cornell, 1997
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STATISTICS

Arnold J. Stromberg, Chair

Debra K. Aaron,* Professor, Ph.D., Oklahoma State, 1984
David M. Allen, Professor Emeritus, Ph.D., North Carolina State, 1968
Arne C. Bathke, Associate Professor, Ph.D., Goettingen, 2000
Simon Bonner, Assistant Professor, Ph.D., Simon Fraser, 2008
Richard J. Charnigo,* Professor, Ph.D., Case Western, 2003
William S. Griffith, Professor, Ph.D., Pittsburgh, 1979
Solomon W. Harrar, Associate Professor, Ph.D., Bowling Green State, 2004
Richard J. Kryscio,* Professor, Ph.D., SUNY at Buffalo, 1971
William S. Rayens, Professor, Ph.D., Duke, 1986
Cidambi Srinivasan, Professor, Ph.D., Indian Statistical Institute, 1979
Arnold J. Stromberg, Professor, Ph.D., North Carolina, 1989
Katherine Thompson, Assistant Professor, Ph.D., Ohio State, 2013
Kert Viele, Associate Professor, Ph.D., Carnegie-Mellon, 1996
Constance L. Wood, Associate Professor, Ph.D., Florida State, 1975
Xiangrong Yin, Professor, Ph.D., Minnesota, 2000
Ruriko Yoshida, Associate Professor, Ph.D., California-Davis, 2004
Derek Young, Assistant Professor, Ph.D., Pennsylvania State, 2007
Yanbing Zheng, Assistant Professor, Ph.D., Wisconsin, 2007
Mai Zhou, Professor, Ph.D., Columbia, 1986
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WRITING, RHETORIC, AND DIGITAL STUDIES

Jeffrey R. Rice, Chair

Joshua Abboud, Lecturer, Ph.D., Clemson, 2011
Steven P. Alvarez, Assistant Professor, Ph.D., City University of New York, 2012
Adam J. Banks, Professor, Ph.D., Pennsylvania State, 2003
Elizabeth Connors-Manke, Lecturer, Ph.D., Kentucky, 2010
Janice W. Fernheimer, Associate Professor, Ph.D., University of Texas-Austin, 2006
Thomas Marksbury, Lecturer, Ph.D., Kentucky, 1992
Brian J. McNely, Assistant Professor, Ph.D., University of Texas-El Paso, 2009
Jeffrey R. Rice, Professor, Ph.D., Florida, 2002
Jennifer H. Rice, Associate Professor, Ph.D., Texas, 2005
James P. Ridolfo, Assistant Professor, Ph.D., Michigan State, 2009
Katherine Rogers-Carpenter, Lecturer, Ph.D., Kentucky, 2006
Brandy Scalise, Lecturer, Ph.D., Pennsylvania State University, 2011

GATTON COLLEGE OF BUSINESS AND ECONOMICS

David Blackwell, Dean

VON ALLMEN SCHOOL OF ACCOUNTANCY

Urton Anderson, Director

Urton Anderson, Director, Ph.D., Minnesota, 1985
Brian Bratten, Assistant Professor, Ph.D., Texas at Austin, 2009
Raymond Burgess, Lecturer, Utah State, 1986
Monika Causholli, Associate Professor, Ph.D., Florida, 2009
Myrtle W. Clark, Associate Professor, Ph.D., South Carolina, 1978; CMA
Benjamin Commerford, Assistant Professor, Ph.D., Alabama, 2015
Jean C. Cooper, Associate Professor Emerita, Ph.D., North Carolina, 1985
Sean Dennis, Assistant Professor, Ph.D., Wisconsin, 2015
David Hulse, Associate Professor, Ph.D., Penn State, 1992
Nicole Jenkins, Associate Professor, Ph.D., Iowa, 2002
Cynthia Miller, Lecturer, M.B.A., Michigan-Ann Arbor, 1990
Jeff L. Payne, Associate Professor, Ph.D., Florida, 1995; CPA
Sean A. Peffer, Assistant Professor, Ph.D., Indiana, 1996; CPA
Thomas Pope, Associate Professor, D.B.A., Kentucky, 1976; CPA
Robert J. Ramsay, Professor Emeritus, Ph.D., Indiana, 1991; CPA
Jennifer Siebenthaler, Lecturer, M.S., CPA
John Smigla, Lecturer, M.S.
Dan N. Stone, Gatton Endowed Professor, Ph.D., Texas, 1987
Cynthia C. Vines, Associate Professor, Ph.D., Southern California, 1991; CPA
Jane B. Wells, Associate Professor, M.S., Kentucky, 1986; CPA
Hong Xie, Associate Professor, Ph.D., Iowa, 1998
David A. Ziebart, Professor, Ph.D., Michigan State, 1983; CPA

ECONOMICS

William Hoyt, Chair

Thomas Ahn, Assistant Professor, Ph.D., Duke, 2003
Adib Bagh, Associate Professor, Ph.D., University of California-Davis 2008
Felipe Benguria, Assistant Professor, Ph.D., Virginia
Glenn C. Blomquist,* Professor, Ph.D., Chicago, 1977
Christopher Bollinger, Professor, Ph.D., Wisconsin, 1993
Anthony Creane, Professor, Ph.D., Virginia, 1991
Alison Davis,* Associate Extension Professor, Ph.D., North Carolina State, 2004
Josh Ederington, Professor, Ph.D., Wisconsin, 1998
James S. Fackler, Professor, Ph.D., Indiana, 1977
John E. Garen, Professor, Ph.D., Ohio State, 1982
Richard E. Gift, Professor Emeritus, Ph.D., Duke, 1965
J. Robert Gillette, Associate Professor, Ph.D., Texas A&M, 1986
Ana Maria Herrera, Associate Professor, Ph.D., California-San Diego, 2000
Gail M. Hoyt, Professor, Ph.D., Kentucky, 1992
William H. Hoyt,* Professor, Ph.D., Wisconsin, 1986
Yoonbai Kim, Professor, Ph.D., Stanford, 1987
Yoko Kusunose,* Assistant Professor, Ph.D., University of California-Davis, 2010
Carlos Lamarche, Associate Professor, Ph.D., Illinois-Urbana, 2006
Lala Ma, Assistant Professor, Ph.D., Duke
Dirk Mateer, Senior Lecturer, Ph.D., Florida State, 1991
Jenny A. Minier, Professor, Ph.D., Wisconsin, 1998
Darsak Patel, Lecturer, Ph.D., Kentucky
Jeremy Sandford, Assistant Professor, Ph.D., Wisconsin, 2007
Frank A. Scott, Professor, Ph.D., Virginia, 1979
Christine Jill Stowe,* Assistant Professor, Ph.D., Texas A&M, 2002
Mark Toma, Associate Professor, Ph.D., Virginia Polytechnic Institute, 1977
Kenneth R. Troske, Professor, Ph.D., Chicago, 1992

David Wildasin,* Professor, Ph.D., Iowa, 1976
Aaron Yelowitz,* Associate Professor, Ph.D., MIT, 1994
James Ziliak,* Professor, Ph.D., Indiana, 1993
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FINANCE AND QUANTITATIVE METHODS

Leonce Bargeron, Assistant Professor, Ph.D., North Carolina
David Blackwell, Dean, Ph.D., Tennessee, 1986
Paul D. Childs, Associate Professor, Ph.D., Wisconsin, 1995
Chris Clifford, Assistant Professor, Ph.D., Arizona State, 2008
Dan Davenport, Assistant Professor, Ph.D., Kentucky, 2006
Will Gerken, Assistant Professor, Ph.D., Michigan State, 2009
Merlin M. Hackbart, Professor, Ph.D., Kansas State, 1968
Kristine Hankins, Assistant Professor, Florida, 2006
Clyde W. Holsapple, Professor, Ph.D., Purdue, 1977
Russell Jame, Assistant Professor, Ph.D., Emory, 2010
Bradford D. Jordan, Professor, Ph.D., Florida, 1984
Susan D. Jordan, Associate Professor, Ph.D., Georgia, 1986
Mark Liu, Associate Professor, Ph.D., Boston College, 2004
Wendy Liu, Senior Lecturer, Ph.D., Indiana
Donald J. Mullineaux, Professor Emeritus, Ph.D., Boston College, 1971
Krishnamurty Muralidhar, Professor, Ph.D., Texas A&M, 1986
Dennis T. Officer, Associate Professor, Ph.D., Arkansas, 1979
R. Pakath, Professor, Ph.D., Purdue, 1988
Joshua Pierce, Professor, Ph.D., Michigan State, 2007

MANAGEMENT

Steve Borgatti, Professor, Ph.D., California-Irvine, 1989
Daniel Brass, Professor, Ph.D., Illinois, 1979
Chen-Hua Chung, Professor, Ph.D., Ohio State, 1982
Rebecca Davis, Lecturer, J.D., Kentucky, 2001
Brian Dineen, Associate Professor, Ph.D., Ohio State, 2003
Walter J. Ferrier, Associate Professor, Ph.D., Maryland, 1995
Eric Gladstone, Assistant Professor, Ph.D., Cornell, 2015
Daniel Halgin, Assistant Professor, Ph.D., Boston College, 2009
Gordon Holbein, Senior Lecturer, Ph.D., Penn State, 1996
Zhi Huang, Assistant Professor, Ph.D., Boston College
Nancy Brown Johnson, Associate Professor, Ph.D., Kansas, 1987
Ji Youn Kim, Assistant Professor, M.B.A., University of Washington
Guiseppe Labianca, Associate Professor, Penn State, 1998
Albert L. Lederer, Professor Emeritus, Ph.D., Ohio State, 1983
Ajay Mehra, Associate Professor, Penn State, 1998
Scott Soltis, Assistant Professor, Ph.D., Kentucky

MARKETING AND SUPPLY CHAIN

Alexis Allen, Assistant Professor, M.B.A., Southern Illinois
Adam Craig, Assistant Professor, Ph.D., South Carolina, 2011
Tereza Dean, Assistant Professor, Ph.D., Michigan State, 2012
Scott Ellis, Assistant Professor, Ph.D., SUNY-Buffalo, 2008
Aaron Garvey, Assistant Professor, Ph.D., Penn State, 2012
Holly Hapke, Lecturer, M.B.A., Tarleton State, 1999
David Hardesty, Professor, Ph.D., South Carolina, 1998
Scott Kelley, Professor, D.B.A., Kentucky, 1987
Anita Lee-Post, Associate Professor, Ph.D., Iowa, 1990
Tom Lewis, Lecturer, M.B.A., J.D., Kentucky, 1992
De Liu, Associate Professor, Ph.D., Texas, 2004
Brian Murtha, Associate Professor, Ph.D., Georgia Institute of Technology, 2008
John Peloza, Associate Professor, Ph.D., University of Calgary
Daniel Sheehan, Assistant Professor, Ph.D., Georgia, 2015
Steven J. Skinner, Professor, D.B.A., Kentucky, 1983
Devanathan Sudharshan, Professor, Ph.D., Pittsburgh, 1982

COLLEGE OF COMMUNICATION AND INFORMATION

H. Dan O'Hair, Dean

COMMUNICATION

Elisia Cohen, Chair

James L. Applegate, Professor Emeritus, Ph. D., Illinois, 1978
John R. Baseheart, Associate Professor Emeritus, Ph.D., Michigan State, 1969
Douglas A. Boyd*, Professor, Ph.D., Minnesota, 1972
Elisia L. Cohen, Associate Professor, Ph. D., Southern California, 2003
Pamela K. Cupp, Associate Research Professor, Ph.D., Kentucky, 2002
Alan D. DeSantis, Professor, Ph.D., Indiana, 1993
R. Lewis Donohew, Professor Emeritus, Ph.D., Iowa, 1965
Marko Dragojavic, Assistant Professor, Ph.D., California-Santa Barbara, 2015
Nancy Grant Harrington, Professor, Ph.D., Kentucky 1992
Donald W. Helme, Associate Professor, Ph. D., Kentucky, 2000
J. David Johnson, Professor, Ph.D., Michigan State, 1978
Derek Lane, Associate Professor, Ph.D., Oklahoma, 1996
Traci S. Letcher, Senior Lecturer, M.A., Marshall, 1997
Anthony Limperos, Assistant Professor, Ph.D., Pennsylvania State, 2011
Don I. Lowe, Senior Lecturer, M.A., Marshall, 1988
Cynthia Harbett Miller, Senior Lecturer, M.A., Kentucky 1981
H. Dan O'Hair, Professor, Ph.D., Oklahoma, 1982
Philip C. Palmgreen, Professor Emeritus, Ph.D., Michigan 1975
*Kimberly Parker, Associate Professor, Ph.D., Oklahoma, 2004
Andrew Pilny, Assistant Professor, Ph.D., Illinois, 2015
Ramona R. Rush, Professor Emeritus, Ph.D., Wisconsin, 1969
Matthew Savage, Assistant Professor, Ph.D., Arizona State, 2012
Jennifer Scarduzio, Assistant Professor, Ph.D., Arizona State, 2012
Allison M. Scott, Assistant Professor, Ph.D., Illinois, 2010
*Timothy L. Sellnow, Professor, Ph. D., Wayne State, 1987
Kimberly Stoltzfus, Lecturer, Ph.D., California-Santa Barbara, 2012
Jeannette Sutton, Assistant Professor and Director of the Division of Risk Sciences, Ph.D., Colorado, 2004
Jeff VanCleave, Lecturer, Ph.D., Kansas, 2005
G. Norman Van Tubergen, Associate Professor Emeritus, Ph.D., Iowa, 1968
Shari R. Veil, Assistant Professor, Ph.D., North Dakota State, 2007
Enid Waldhart, Associate Professor Emerita, Ph.D., Indiana, 1976
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INTEGRATED STRATEGIC COMMUNICATION

Alyssa Eckman, Chair

Dennis Altman, Associate Professor, B.A., Long Island University, 1953
Chike Anyaegbunam, Professor, Ph.D., Iowa, 1994
Tae Hyun Baek, Assistant Professor, Ph.D., Georgia, 2011
Beth E. Barnes, Professor, Ph.D., Northwestern, 1990
Alyssa Eckman, Associate Professor, Ph.D., Kentucky 2001
Adriane Grumbein, Assistant Professor, Ph.D., Florida, 2014
Phillip J. Hutchison, Associate Professor, Ph.D., Utah, 2005
Bobi Ivanov, Associate Professor, Ph.D., Oklahoma, 2006
Hyun Ju Jeong, Lecturer, Ph.D., Michigan State, 2011
David Stephenson*, Lecturer, B.A., Western Kentucky, 1992
Mark W. Stuhlfaut, Associate Professor, Ph.D., Michigan State, 2006
S. Scott Whitlow, Associate Professor, Ph.D., Southern Illinois, 1975
Chan Yun Yoo, Associate Professor, Ph.D., Texas-Austin, 2005
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SCHOOL OF JOURNALISM AND TELECOMMUNICATIONS

Douglas A. Boyd*, Professor, Ph.D., Minnesota, 1972
John Clark, Associate Professor, M.A., Kentucky, 1992
Melvin Coffee, Associate Professor, M.S., Northwestern, 1984
Alvin Cross, Associate Professor, B.A., Western Kentucky, 1978
Deborah S. Chung, Associate Professor, Ph.D., Indiana, 2004
J. Michael Farrell, Associate Professor, M.A., Kentucky 1997
James Hertog, Associate Professor, Ph.D., Minnesota, 1990
Kyra Hunting, Assistant Professor, Ph.D., Wisconsin, 2014
Yung Soo Kim, Associate Professor, Ph. D., Southern Illinois, 2008
Richard Labunski, Professor, Ph.D., California, 1979; J.D., Seattle University School of Law, 1994
Thomas R. Lindlof, Professor, Ph.D., Texas, 1980
Roy L. Moore, Professor Emeritus, Ph.D., Wisconsin, 1974; J.D., Georgia State, 1986

Robert N. Orndorff, Associate Professor Emeritus, A.B., Kentucky, 1961
*Kimberly Parker, Associate Professor, Ph.D., Oklahoma, 2004
Elizabeth "Scoobie" Ryan, Associate Professor, M.A., Antioch School of Law, 1984
Leland "Buck" Ryan, Associate Professor, M.A., Missouri-Columbia, 1990
David Stephenson*, Lecturer, B.A., Western Kentucky, 1992
Zixue Tai, Associate Professor, Ph.D., Minnesota, 2004
Kathleen "Kakie" Urch, Associate Professor, M.A., Kentucky, 1994
*Joint Appointment

SCHOOL OF INFORMATION SCIENCE

Jeffrey T. Huber, Director

Melissa Adler, Assistant Professor, Ph.D., Wisconsin, 2012
Melissa Adler, Assistant Professor, Ph.D., Wisconsin, 2012
Sean Burns, Assistant Professor, Ph.D., Missouri, expected 2013
Maria Cahill, Assistant Professor, Ph.D., Tennessee, 2009
Donald Case, Professor Emeritus, Ph.D., Stanford, 1984
Namjoo Choi, Assistant Professor, Ph.D., SUNY at Albany, 2011
Deloris Foxworth, Lecturer, M.S.L.S., Kentucky, 2010.
Jeffrey T. Huber, Professor, Ph.D., Pittsburgh, 1991
Sujin Kim, Associate Professor, Ph.D., Pittsburgh, 2003
Youngseek Kim, Assistant Professor, Ph.D., Syracuse, expected 2013
Melissa Johnston, Assistant Professor, Ph.D., Florida State, 2011
Jasmine McNealy, Assistant Professor, Ph.D., Florida, 2008
Joseph B. Miller, Associate Professor Emeritus, M.S.L.S., Kentucky, 1972
David Nemer, Assistant Professor, Ph.D., Indiana, expected 2015
Lisa O'Connor, Assistant Professor, Ph.D., Kent State, 2006
Shannon M. Oltmann, Assistant Professor, Ph, D., Indianan, 2011
Stephanie D. Reynolds, Lecturer, M.S.L.S., North Texas, 2003
*Timothy L. Sellnow, Professor, Ph.D., Wayne State, 1987
Timothy W. Sineath, Professor Emeritus, Ph.D., Illinois, 1970
Michael Tsikerdekis, Assistant Professor, Ph.D., Masaryk University (Brno, Czech Republic), 2013
Sheralli Zeadally, Associate Professor, Ph.D., University of Buckingham (England), 1996
*Joint Appointment

INSTRUCTIONAL COMMUNICATION AND RESEARCH

Carla Bevins, Lecturer, Ph.D., Kentucky, 2011
Joanne Cattafesta, Lecturer, Ph.D., Rutgers, 2007
Troy Cooper, Lecturer, Ph.D., Illinois, 2011
William M. Cooper IV, Lecturer, J.D., Washington and Lee, 1986
Brandi Frisby, Assistant Professor, Ph.D., West Virginia, 2010
Amy Gaffney, Assistant Professor, Ph.D., North Carolina State, 2010
Rajesh Gaur, Lecturer, Ph.D., Kentucky, 2009
Chas Hartman, Lecturer, Ph.D., Kentucky, 2011
Sarah Kercsmar, Lecturer, Ph.D., Kentucky, 2007
Rachel Price, Lecturer, ABD, Kentucky, 2013
Andrea Reed, Lecturer, M.A., Wake Forest, 2009
Molly A. Reynolds, Lecturer, Ph.D., Kentucky, 2013
Thomas Sabetta, Lecturer, Ph.D., Wayne State, 2008
Schyler Simpson, Lecturer, Ph.D., Kentucky, 2013
Patric R. Spence, Associate Professor, Ph. D., Wayne State, 2005
Jami Warren, Lecturer, Ph.D., Kentucky, 2011

COLLEGE OF DENTISTRY

Sharon P. Turner, Dean

DEPARTMENT OF ORAL HEALTH PRACTICE

Mel Kantor, Interim Chair

Endodontics

Alfred Wiemann, Division Chief

Barry Burkett, Assistant Professor (part-time), D.M.D., Kentucky, 1977; Cert. Endo, Naval School of Health Services, 1984
Gregory Carman, Assistant Professor (part-time), D.M.D., Kentucky, 1996, M.S. and Cert. Endo, Univ. of Louisville; 2010
Anna Dressman, Assistant Professor (part-time), D.M.D., Kentucky, 2007, Cert. Endo., Ohio State Univ., 2011
Donald Kelley, Assistant Professor (part-time), D.D.S., Tennessee, 1995; M.S., Univ. of Louisville, 2003
Harmeet Walia, Associte Professor, D.D.S., Marquette, 1984, M.S.D., Marquette, 1986
Paul T. Wehrman, Assistant Professor (part-time), D.M.D., Kentucky, 1973; Cert. Endo., Pittsburgh, 1978
Alfred Wiemann, Assistant Professor, D.M.D., Kentucky, 1981

Oral Diagnosis, Oral Medicine and Oral Radiology

Iquebal Hasan, Division Chief

Robert Danaher, Assistant Professor, Ph.D., Maryland, 1994
Iquebal Hasan, Assistant Professor, B.D.S., Magadh Uni, India, 1995
John E. Lindroth, Associate Professor, D.D.S., West Virginia, 1977; Fellowship, Orofacial Pain, Kentucky, 1992
Teresa A. Dawahare Lyon, Assistant Professor (part-time), D.M.D., Kentucky, 1989; Cert., G.P.R., Kentucky, 1991
Craig S. Miller, Professor, D.M.D., Kentucky, 1982; Cert., G.P.R., USAF, 1983; M.S., Texas-San Antonio, 1987
Kenneth B. Nusbacher, Assistant Professor, D.M.D., Kentucky, 2008
Galal Omami, Assistant Professor, B.D.S., Benghazi Univ., Libya, 2003; M.Sc., Benghazi Univ., Libia, 2008; Cert. G.P.R., Univ. of Connecticut, 2012; M.S.D., Univ. of Connecticut, 2013
B. Lynn Theiss, Assistant Professor, D.M.D., Kentucky, 1986; G.P.R., Kentucky 1988; M.S.D., Geriatric Dental Fellowship, Kentucky, 1991

Periodontics

Mohanad Al-Sabbagh, Division Chief

Mohanad Al-Sabbagh, Assistant Professor, D.D.S., Damacus, Syria, 1993; M.S., Buffalo, 2002
Dolph Dawson, Assistant Professor, D.M.D., Univ. of Louisville, 1993; M.S., Kentucky, 1998
Jeffrey Ebersole, Professor, Ph.D., Pittsburgh, 1975
Pinar Emecen Huja, Assistant Professor, D.D.S., Hacettepe University, Turkey, 1998; Ph.D., Hacettepe University, Turkey, 2005; M.S. Ohio State, 2011
Samuel J. Jasper, Associate Professor, D.D.S., Ohio State, 1976; M.S., Ohio State, 1980
Elliot Neuman, Assistant Professor (part-time) D.M.D., Kentucky, 2011; M.S., Kentucky, 2014
Ward T. Piepgrass, Assistant Professor (part-time) D.D.S., Univ of Alberta, 1986; M.S., Kentucky, 2007
Thomas G. Rubino, Assistant Professor (part-time) D.D.S., Virginia, 1983; M.S., Kentucky, 1988
W. Neal Shepherd, Assistant Professor (part-time) D.D.S., Univ. of Louisville, 2005
Nancy von Lackum, Assistant Professor (part-time) D.M.D., Univ. of Florida, 2010

Restorative Dentistry

Robert Q. Frazer, Division Chief

Elizangela Bertoli, Assistant Professor, D.D.S., Universidade Federal Do Espirito, 1995; Cert. Endodontics, Universidade Federal Do Espirito, 1998; Cert. Orofacial Pain, Kentucky, 2000; M.S., Kentucky, 2005
Susan Bishop, Assistant Professor, D.M.D., Kentucky, 2001
Raymond J. Byron, Jr., Associate Professor (part-time), D.M.D., Kentucky, 1979
Robert Q. Frazer, Associate Professor, D.D.S., Colorado-Denver, 1981; Cert. G.P.R., Chanute AFB Hospital, Illinois, 1982; Cert. Prosth., Missouri-Kansas City, 1983
Bradley Hall, Assistant Professor (part-time) D.M.D., Kentucky, 2012
Rodrigo Hidalgo Fuentealba, Assistant Professor, D.D.S., Univ. of Concepcion, Chile, 1996
Ershal Harrison, Assistant Professor, D.M.D., Kentucky, 1981
James E. Haubenreich, Associate Professor (part-time), D.D.S., Memphis, 1977
H. F. Howard, Assistant Professor (part-time), D.M.D., Kentucky, 1982
Jane Jordan, D.M.D., Assistant Professor (part-time), D.M.D., Kentucky, 1987
Ahmad Kutkut, Assistant Professor, D.D.S., Univ of Jordan, 2001; M.S.D., New York, 2010
Stacie Maggard, Assistant Professor (part-time), D.M.D., Kentucky, 1998
Thomas A. McConnell, Associate Professor, D.D.S., University of the Pacific, 1977
Richard J. Mitchell, Associate Professor, M.S., Georgia, 1971; Ph.D., Virginia, 1975
Hiroko Nagaoka, Assistant Professor, D.D.S., Nihon Uni, Japan, 2001; M.S., Univ of North Carolina, 2013
Patricia Nihill, Associate Professor, (volunteer) D.M.D., S. Illinois, 1982; M.S., Northwestern, 1991
Kristy A. Pepper, Assistant Professor, D.M.D., Kentucky, 2005
Gitanjali L. Pinto-Sinai, Assistant Professor, D.D.S., SUNY of Buffalo, 2001
Deborah S. Ray, Assistant Professor, D.M.D., Kentucky, 1987; G.P.R. Cert., Kentucky, 1988
Martha Rice, Assistant Professor (part-time) D.M.D., Kentucky, 1981
Carla Rodriguez, Assistant Professor, D.M.D., Kentucky, 1981
Lindsay Rule, Assistant Professor (part-time) D.M.D., Midwestern, 2012
Lina Sharab, Assistant Professor, D.M.D., Al-Ba'ath Univ, Syria, 2003; M.S., Kentucky, 2014
Richard Stoss, Assistant Professor (part-time) D.M.D., Kentucky, 2006
Robert C. Taylor, Assistant Professor, D.M.D., Kentucky, 2003
Charles A. Thomas, Associate Professor (part-time), D.M.D., Kentucky, 1977; Cert., Geriatrics, Duke, 1991
David Thornton, Assistant Professor (part-time), D.M.D., Kentucky, 2000
Sharon P. Turner, Professor, D.D.S., North Carolina, 1979; J.D., North Carolina, 1995
Gregory G. Zeller, Professor, D.D.S., Univ of Maryland-Baltimore, 1975; M.S., Univ of Maryland-Baltimore, 1983
Gregory A. Zoll, Assistant Professor (part-time) M.S.Ed., Kentucky, 1995

DEPARTMENT OF ORAL HEALTH SCIENCE

Larry L. Cunningham, Jr., Interim Chair

Octavio A. Gonzalez, Associate Professor, D.D.S., Pontifical Javeriana Univ., Columbia, 1993; M.Sc., Pontifical Javeriana Univ., Columbia, 2002; Ph.D., Kentucky, 2010
Christine T. Harper, Assistant Professor**, M.S., Univ. of Dayton, 2002
Chifu B. Huang, Assistant Professor (part-time), M.S., Kentucky, 1990; Ph.D., 1995, Kentucky; MBA Washington, 2002
Lorri Morford, Assistant Professor, Ph.D., Kentucky, 1995

Oral and Maxillofacial Surgery

Larry L. Cunningham, Jr., Division Chief

Aaron Baldwin, Assistant Professor (part-time), D.M.D., Louisville, 2004; M.D., Kentucky, 2009; Cert. Kentucky, 2011
Kenneth Bondra, Assistant Professor (part-time), D.M.D., Univ of Pittsburgh, 1972
Larry L. Cunningham, Jr., Professor, D.D.S., Texas, 1995; M.D., Texas, 1998
William J. Curtis, Assistant Professor, D.M.D., Univ of Nevada-Las Vegas, 2006; M.D., Univ of Texas, 2010;
Enif A. Dominguez Fernandez, Assistant Professor, D.D.S., Central Univ of Venezuela, 2001;
Ehab Shehata, Assistant Professor, M.M.Ch.B., 1988; M.Sc., 1993; B.D.S., 1997; M.D., 2004; Univ of Alexandria, Egypt
Joseph D. Van Sickels, Professor, D.D.S., Virginia, 1972

Pediatric Dentistry

Enrique Bimstein, Division Chief

Shellie A. Branson, Assistant Professor (part-time), D.M.D., Univ. of Louisville, 1984; Cert. Pediatric Dentistry, Univ. of Louisville, 1986
Enrique Bimstein, Professor, C.D., Univ Nacional Autonoma De Mexico, 1970; Cert., Pediatric Dentistry Fellowship, Jerusalem, 1971; Cert., Master Educator Fellowship, Florida, 2007
Amy Goodlett, Assistant Professor (part-time) D.M.D., Kentucky, 2012; M.S., Indiana, 2014
Charlotte Haney, Assistant Professor (part-time) D.M.D., Kentucky, 1976; Cert., Pediatric Dentistry, Kentucky, 1983
Wendy K. Humphrey Van Meter, Assistant Professor (part-time), D.M.D., Kentucky, 2003; G.P.R. Cert., Kentucky, 2004; Cert. Pediatric Dentistry, Kentucky, 2008
Rodney Jackson, Assistant Professor (part-time), D.M.D., Kentucky, 2001
Lisa A. Kochis, Assistant Professor (part-time), D.D.S., Univ of Oklahoma, 1999, Cert., G.P.R., Univ of Oklahoma, 2000; Cert., Orthodontics, Univ of Louisville, 2003
David A. Nash, Professor, D.M.D., Kentucky, 1968; M.S., Iowa, 1970; Ed.D., West Virginia, 1984
Cristina V. Perez Pacheco, Assistant Professor, D.D.S., Concepcion, Chile, 1998; Cert., Clinical pediatric dentistry, Concepcion, Chile, 2000, Cert., Specialization in pediatric dentistry, Concepcion, Chile, 2002; Cert. and M.S., orofacial pain, Kentucky, 2011
Erwin G. Turner, Associate Professor, D.M.D., Kentucky, 1974; Cert., Pediatric Dentistry, Kentucky, 1976

Adult Dentistry

Ted P. Raybould, Division Chief

John B. Burt, Assistant Professor, D.M.D., Kentucky, 1996
Eric T. Demann, Associate Professor, D.M.D., Kentucky, 2000
Christian S. Fraley, Assistant Professor, D.M.D., Kentucky, 1996; G.P.R. Cert., Kentucky, 1997
Kathryn Haynes, Assistant Professor, D.M.D., Kentucky, 1984
Ted P. Raybould, Professor, D.M.D., Kentucky, 1981; G.P.R. Cert., Kentucky, 1985
Daria Stone, Assistant Professor, D.M.D., Kentucky, 1995
James R. Thompson, Assistant Professor (part-time), D.M.D., Kentucky, 1978

Oral Pathology

Douglas D. Damm, Division Chief

Douglas D. Damm, Professor, D.D.S., Louisiana State, 1977; Cert. Oral Pathology, Emory, 1979
Craig B. Fowler, Associate Professor, D.D.S., Baylor, 1976; Cert. Oral Pathology, Emory, 1985
Dean K. White, Professor (part-time), D.D.S., Missouri, 1970; M.S.D., Indiana, 1972

Orofacial Pain

Jeffrey P. Okeson, Division Chief

Charles R. Carlson,* Associate Professor, Ph.D., Vanderbilt, 1983
Reny de Leeuw, Professor, D.M.D., State Univ Groningen, 1988; Ph.D., State Univ Groningen, 1994
John E. Lindroth, Associate Professor, D.D.S., West Virginia, 1977; Fellowship, Orofacial Pain, Kentucky, 1992
Jeffrey P. Okeson, Professor, D.M.D., Kentucky, 1972

Orthodontics

Sarandeep Huja, Division Chief

Cynthia S. Beeman, Associate Professor, D.D.S., Case Western, 1981; Ph.D., Connecticut, 1989; Cert. Orthodontics, Connecticut, 1989
Edgar L. Berre, Jr., Assistant Professor (part-time), D.D.S., Ohio State Univ., 1970; Cert. Orthodontics, Univ. of Pittsburgh, 1973
Melvin W. Dean, Assistant Professor (part-time), D.M.D., Kentucky, 1977, Cert. Orthodontics, Kentucky, 1979
James K. Hartsfiled, Jr., Professor, D.M.D., South Carolina, 1981; M.S., Indiana, 1983; M.Sc., Harvard, 1987; Ph.D., South Florida, 1993
Bruce S. Haskell, Professor (part-time), D.M.D., Univ. of Pittsburgh, 1973; Cert. Orthodontics, Univ. of Rochester, 1975; Ph.D., Physical Anthropology, Univ. of Pittsburgh, 1978
Sarandeep Huja, Professor, M.S.D., Bombay, India, 1992; Cert. Orthodontics, Indiana, 1999; M.Sc., Marquette, 1999; D.D.S., Nebraska, 2001
G. Thomas Kluemper, Professor, D.M.D., Kentucky, 1983; M.S., Orthodontics, Michigan, 1991
Judson M. Knight, Associate Professor (part-time), D.M.D., Kentucky, 1967; Cert. Orthodontics, Kentucky, 1972
James Thacker, Assistant Professor (part-time), D.D.S., Case Western, 1982; Cert. Orthodontics, Boston, 1984
J. Philip Wahle, Assistant Professor (part-time), D.M.D., Kentucky, 1990; M.S., Kentucky, 1993

Public Health Dentistry

Joanna A. Aalboe, Interim Division Chief

Joanna A. Aalboe, Assistant Professor, M.S., Eastern Kentucky, 2009
L. Jackson Brown, Assistant Professor (part-time), D.D.S., Univ of Missouri/St. Louis, 1968; M.Phil, Univ of Missouri/Columbia, 1975; Ph.D., Univ of Missouri/Columbia, 1985
Sharlee Burch, Assistant Professor (part-time), M.P.H., Western Kentucky, 2000; Ed.S., Liberty Baptist College, Lynchburg, VA, 2011; Ed.D., Liberty Baptist College, Lynchburg, VA, 2013
Wesley Coffman, Assistant Professor (part-time), D.M.D., Kentucky, 1978
William Collins, Assistant Professor (part-time), D.D.S., Univ. of Louisville, 1991
Kelly J. Dingrando, Assistant Professor, D.M.D., Kentucky, 2005
David L. Graham, Assistant Professor, D.M.D., Louisville, 1971
Laura D. Hancock Jones, Assistant Professor, D.M.D., Louisville, 2003
Robert G. Henry, Associate Professor (part-time), D.M.D., Kentucky, 1981
Robert E. Kovarik, Associate Professor, D.M.D., Kentucky, 1982; M.S., Georgia, 1991
Daniel C. Marsh, Assistant Professor (part-time), D.D.S., West Virginia, 1984
M. Raynor Mullins, Associate Professor (part-time), D.M.D., Kentucky, 1968; M.P.H., North Carolina, 1970
Pam Stein, Professor, D.M.D., Kentucky, 1990; M.S., Kentucky, 2009
Jenny L. Stigers, Associate Professor (part-time), D.M.D., Kentucky, 1984; G.P.R. Cert., Kentucky, 1986
Keith White, Assistant Professor, D.M.D., Kentucky, 1986

*Joint Appointment
**Adjunct Series

COLLEGE OF DESIGN

Ann Whiteside-Dickson, Interim Dean

SCHOOL OF ARCHITECTURE

David M. Biagi, Director

David M. Biagi, Associate Professor, M.Arch., Ohio State
Clyde R. Carpenter, Professor, M.Arch., Pennsylvania
Anne Filson, Associate Professor, M.Arch., Columbia
Hans Gesund, Professor, Department of Civil Engineering, College of Engineering and College of Design, D.Eng., Yale
Michael W. Jacobs, Instructor, B.Arch., Kentucky
Peyman Jahed, Instructor, A.B.D., Kentucky
Gregory Luhan, Associate Professor, M.Arch., Princeton
Andrew Manson, Instructor, M.Phil., Columbia
Michael Mckay, Assistant Professor, M.Arch., Princeton
Wallis Miller, Charles Parker Graves Professor of Architecture, Ph.D., Princeton
David Mohney, Professor, M.Arch., Princeton
Mark J. O'Bryan, Associate Professor, M.Arch., Cornell
Anthony Roccanova, Associate Professor, M.Arch., Cornell
Gary Rohrbacher, Assistant Professor, M.S.Arch., MIT
Jerzy Rozenberg, Associate Professor, M.F.A., Cinema Studies, New York University
Jason Scroggin, Associate Professor, M.S. in Advanced Architectural Design, Columbia
Martin Summers, Assistant Professor, M.A., University of California
Elizabeth Swanson, Associate Professor, M.Arch., California-Berkeley
Bruce A. Swetnam, Kentuckiana Masonry Institute Associate Professor, B.Arch., Kentucky

SCHOOL OF INTERIORS

Planning / Strategy / Design

Patrick L. Lucas, Director

Allison Carll-White, Professor, Ph.D., Tennessee
Lindsey Fay, Assistant Professor, M.S., University of Cincinnati
Rebekah Radtke, Assistant Professor, M.A., School of the Art Institute of Chicago
Patrick L. Lucas, Professor, Ph.D., Michigan State University
Joe Rey-Barreau, Associate Professor, M.S., Louisville
Helen Turner, Assistant Professor M.S., University of Cincinnati

HISTORIC PRESERVATION

Allison Carll-White, Chair

Douglas Appler, Assistant Professor, Ph.D., Cornell
Clyde R. Carpenter, FAIA, Professor, School of Architecture, M.Arch., Pennsylvania
Allison Carll-White, Professor, School of Interior Design, Ph.D., Tennessee
Ned M. Crankshaw, ASLA, Professor, Department of Landscape Architecture, College of Agriculture, M.L.Arch., Iowa State
Hans Gesund, Professor, Department of Civil Engineering, College of Engineering and College of Design, D.Eng., Yale
Ted Grossardt, Kentucky Transportation Center, Ph.D., Kentucky
Gregory Luhan, Associate Professor, School of Architecture, M.Arch., Princeton
Wallis Miller, Charles Parker Graves Endowed Associate Professor of Architecture, Ph.D., Princeton
David Mohney, Professor, School of Architecture, M.Arch., Princeton
Julie Riesenweber, Lecturer, Department of Historic Preservation, M.A., Delaware
Richard H. Schein, Professor, Department of Geography, Ph.D., Syracuse

COLLEGE OF EDUCATION

Mary John O'Hair, Dean

CURRICULUM AND INSTRUCTION

Susan Cantrell, Interim Chair

Janice Almasi, Professor, Ph.D., Maryland, 1993
Gary Anglin, Associate Professor, Ed.D., Indiana, 1979
Ronald Atwood, Professor Emeritus, Ed.D., Florida State, 1966
Virginia Atwood, Professor Emeritus, Ph.D., Texas, 1969
Harry V. Barnard, Professor Emeritus, Ed.D., Alabama, 1959
Ollie E. Bissmeyer, Jr., Assistant Professor Emeritus, Ed.D., Indiana, 1964
Sharon Brennan, Associate Professor, Ed.D., Kentucky, 1987
Elinor Brown, Associate Professor, Ph.D., Akron, 1998
Les Burns, Associate Professor, Ph.D., Michigan State, 2005
Susan Cantrell, Associate Professor, Ed.D., Kentucky, 1997
Ryan Crowley, Assistant Professor, Ph.D., Texas, 2014
Regina Dawson, Clinical Assistant Professor, M.S., Kentucky, 2006
Laurie Henry, Associate Professor, Ph.D., Connecticut, 2007
George Hruby, Research Associate Professor, Ph.D., Georgia, 2002
Willis Johnson, Professor Emeritus, Ed.D., Temple, 1975
Linda Levstik, Professor, Ph.D., Ohio State, 1980
Christine Mallozzi, Assistant Professor, Ph.D., Georgia, 2009
Huajing Maske, Clinical Associate Professor, Ph.D., Oxford, 2008
Joan Mazur, Professor, Ph.D., Cornell, 1993
Jack McElroy, Professor Emeritus, Ed.D., Cincinnati, 1974
Phil Nacke, Associate Professor Emeritus, Ed.D., University of British Columbia, Canada, 1970
Kristen Perry, Associate Professor, Ph.D., Michigan State, 2007
Opal Reynolds, Assistant Professor Emeritus, M.A., Kentucky, 1952
Margaret Rintamaa, Clinical Assistant Professor, Ed.D., Kentucky, 2000
Rosetta F. Sandidge, Associate Professor, Ed.D., Kentucky, 1989
Mary C. Shake, Associate Professor, Ed.D., SUNY at Albany, 1984
Doug Smith, Associate Professor, Ph.D., Arizona State, 1986
J. Truman Stevens, Associate Professor Emeritus, Ed.D., Virginia, 1972
Gerry Swan,* Associate Professor, Ph.D., Virginia, 2004
Kathleen Swan, Associate Professor, Ph.D., Virginia, 2004
Robert Tannenbaum,* Adjunct Professor, Ed.D., Columbia, 1968
Mary Ann Vimont, Associate Professor, M.A., Kentucky, 1976
Kimberly White, Clinical Assistant Professor, Ed.D., Georgia, 1991
Angene Wilson, Professor Emeritus, Ph.D., Ohio State, 1976

*Joint Appointment

EARLY CHILDHOOD, SPECIAL EDUCATION, AND REHABILITATION COUNSELING

Margaret Bausch, Chair

Richard Allday, Associate Professor, Ph.D., Auburn, 2004
Melinda Ault, Assistant Professor, Ph.D., Kentucky, 2010
Margaret Bausch, Professor, Ed.D., Kentucky, 1999
William H. Berdine, Professor Emeritus, Ed.D., Penn State, 1972
Malachy Bishop, Professor, Ph.D., Wisconsin-Madison, 2000
Brian Bottge, Professor, Ph.D., Tennessee, 1991
Belva Collins, Professor Emeritus, Ed.D., Kentucky, 1990
Ralph M. Crystal, Professor, Ph.D., Wisconsin, 1977
Sonja M. Feist-Price, Professor, Ph.D., Southern Illinois, 1992
Sara Flanagan, Assistant Professor, Ph.D., Purdue, 2012
Allison Fleming, Assistant Professor, Ph.D., Michigan State, 2012
Jennifer Grisham-Brown, Professor, Ed.D., Kentucky, 1985
Debra A. Harley, Professor, Ph.D., Southern Illinois, 1992
Lee Ann Jung, Professor, Ph.D., Auburn, 2001
Justin Lane, Assistant Professor, Ph.D., Georgia, 2014
Donna Lee, Assistant Professor, Ph.D., Western Michigan, 2012
Katherine McCormick, Professor, Ph.D., Auburn, 1990
Robert McKenzie, Professor, Ph.D., Iowa, 1981
Carol Mushett, Clinical Assistant Professor, M.Ed., Georgia, 1978
C. Michael Nelson, Professor Emeritus, Ed.D., Kansas, 1969
Jackie Rogers, Clinical Assistant Professor, Ph.D., Kentucky, 2001
John W. Schuster, Professor Emeritus, Ed.D., Kentucky, 1987
Sally Shepley, Assistant Professor, Ph.D., Georgia, 2015
Deborah Bott Slaton, Professor Emeritus, Ph.D., Florida, 1983
Amy Spriggs, Assistant Professor, Ph.D., Georgia, 2011
Kim Townley, Associate Professor Emeritus, Ph.D., Missouri, 1984
Noel Ysasi, Assistant Professor, Ph.D., Texas, 2015

EDUCATIONAL, SCHOOL, AND COUNSELING PSYCHOLOGY

Jeff Reese, Chair

Jonathan Campbell, Professor, Ph.D., Memphis State, 2000
Charlotte Clark, Associate Professor Emeritus, Ph.D., Minnesota, 1977
Henry P. Cole, Professor Emeritus, Ed.D., SUNY at Buffalo, 1968
Candice Crowell, Assistant Professor, Ph.D., Georgia, 2015
Fred W. Danner, Professor, Ph.D., Minnesota, 1974
Stephen T. DeMers, Professor Emeritus, Ed.D., Rutgers, 1976
Alicia Fedewa, Associate Professor, Ph.D., Michigan State, 2009
Sycarah Fisher, Assistant Professor, Ph.D., Michigan State, 2009
Joseph Hammer, Assistant Professor, Ph.D., Iowa, 2015
Rachel Hammond, Clinical Associate Professor, Ph.D., Kentucky, 2009
Xin Ma, Professor, Ph.D., British Columbia, 1997
H. Thompson Prout, Professor Emeritus, Ph.D., Indiana, 1976
Jeff Reese, Professor, Ph.D., Texas A&M, 2000
Pam Remer, Associate Professor Emeritus, Ph.D., Colorado, 1972
Rory Remer, Professor Emeritus, Ph.D., Colorado, 1972
Sharon S. Rostosky, Professor, Ph.D., Tennessee, 1998
Lisa Ruble, Professor, Ph.D., Indiana, 1998
Danelle Stevens-Watkins, Associate Professor, Ph.D., University of Kentucky, 2008
William E. Stilwell III, Professor Emeritus, Ph.D., Stanford, 1969
Michael Toland, Associate Professor, Ph.D., Nebraska-Lincoln, 2008
Kenneth M. Tyler, Associate Professor, Ph.D., Howard, 2002
Ellen Usher, Associate Professor, Ph.D., Emory, 2007
Judith Worell, Professor Emeritus, Ph.D., Ohio State, 1954
Lynda Brown Wright, Professor Emeritus, Ph.D., Texas A&M, 1991

EDUCATIONAL LEADERSHIP STUDIES

Beth Rous, Chair

Justin Bathon, Associate Professor, Ph.D., Indiana-Bloomington, 2008
Lars G. Björk, Professor, Ph.D., New Mexico, 1983
Rose Boulay, Lecturer, Ed.D., Spalding, 2006
Patricia Browne-Ferrigno, Professor, Ph.D., Colorado at Denver, 2001
Carmen Coleman, Clinical Associate Professor, Ph.D., Kentucky, 2009
Fred Edmonds, Professor Emeritus, Ed.D., Kentucky, 1961
Charles F. Faber, Professor Emeritus, Ph.D., Chicago, 1961
J. John Harris III, Professor, Ph.D., Michigan, 1972
Wayne Lewis, Associate Professor, Ph.D., North Carolina State, 2009
John Nash, Associate Professor, Ph.D., Wisconsin-Madison, 1992
James R. Ogletree, Professor Emeritus, Ed.D., Columbia, 1956
Mary John O'Hair, Professor, Ed.D., New Mexico State, 1987
Eve Proffitt, Clinical Assistant Professor, Ed.D., Kentucky, 1984

Jayson Richardson, Associate Professor, Ph.D., Minnesota, 2007
Beth Rous, Professor, Ed.D., Professor, University of Kentucky, 2001
Eddy J. Van Meter, Professor Emeritus, Ed.D., New Mexico State, 1971
Gene Wilhoit, Clinical Assistant Professor, MAT, Indiana, 1971

EDUCATIONAL POLICY STUDIES AND EVALUATION

Jeff Bieber, Interim Chair

Richard Angelo, Associate Professor, Ed.D., Temple, 1978
Jeffery P. Bieber, Associate Professor, Ph.D., Michigan, 1990
Kelly Bradley, Professor, Ph.D., Ohio State, 2002
Clinton Collins, Associate Professor Emeritus, Ph.D., Indiana, 1970
Alan J. DeYoung, Professor Emeritus, Ph.D., Stanford, 1975
Joseph Ferrare, Assistant Professor, Ph.D., Wisconsin, 2011
Beth Goldstein, Associate Professor, Ph.D., Wisconsin, 1985
Jessica Hearn, Clinical Assistant Professor, Ph.D., Virginia, 2008
Jane Jensen, Associate Professor, Ph.D., Indiana, 1997
Willis Jones, Assistant Professor, Ph.D., Vanderbilt, 2011
Edward Kifer, Professor Emeritus, Ph.D., Chicago, 1973
Jungmin Lee, Assistant Professor, Ph.D., Tennessee, 2014
Virginia Davis Nordin, Associate Professor Emeritus, J.D., Harvard, 1959
John Thelin, Professor, Ph.D., California at Berkeley, 1973
Richard Waddington, Assistant Professor, Ph.D., Michigan, 2012

KINESIOLOGY AND HEALTH PROMOTION

Benjamin Johnson, Chair

Mark Abel, Associate Professor, Ph.D., Utah, 2006
Rayma Beal, Associate Professor Emeritus, Ed.D., Cincinnati, 1985
Aaron Beighle, Associate Professor, Ph.D., Arizona State, 2003
Haley Bergstrom, Assistant Professor, Ph.D., Nebraska, 2014
Lance Bollinger, Assistant Professor, Ph.D., East Carolina, 2013
T. Jeff Chandler, Adjunct Professor, Ed.D., Auburn, 1987
Jody L. Clasey, Professor, Ph.D., Illinois, 1993
Heather Erwin, Associate Professor, Ph.D., Illinois, 2006
Elizabeth Fettrow, Assistant Professor, Ph.D., Ohio, 2013
Brad Fleenor, Assistant Professor, Ph.D., Missouri-Columbia, 2008
John Hall, Associate Professor Emeritus, Ph.D., Oregon, 1975
Melinda Ickes, Assistant Professor, Ph.D., Cincinnati, 2010
Stanley Labanowich, Associate Professor Emeritus, Ph.D., Illinois, 1975
Kristen Mark, Assistant Professor, Ph.D., Indiana, 2012
James Nance, Associate Professor Emeritus, Ed.S., Eastern Kentucky, 1977
Melody Noland, Professor, Ph.D., Maryland, 1981
Steve Parker, Associate Professor, Ed.D., Kentucky, 1995
Michael Pohl, Assistant Professor, Ph.D., University of Leeds, 2006
Bruce A. Rector, Adjunct Professor, J.D., Kentucky, 1990
Richard Riggs, Associate Professor, Ed.D., Tennessee, 1975
Robert Shapiro, Professor, Ph.D., Illinois-Urbana, 1979
Lucian Taylor, Associate Professor, Ph.D., Mississippi, 1995
Dennis Vinton, Associate Professor Emeritus, Re.D., Indiana, 1969
Andrew Weiner, Associate Professor Emeritus, Ed.D., Georgia, 1976
James W. Yates, Associate Professor Emeritus, Ph.D., Penn State, 1980

STEM: SCIENCE, TECHNOLOGY, ENGINEERING, AND MATHEMATICS

Jennifer Wilhelm, Chair

Brett Criswell, Clinical Assistant Professor, Ph.D., Pennsylvania, 2009
Molly Fisher, Associate Professor, Ph.D., North Carolina-Charlotte, 2009
Cindy Jong, Assistant Professor, Ph.D., Boston College, 2009
Rebecca McNall Krall, Associate Professor, Ph.D., Virginia, 2003
Lisa Krause, Clinical Assistant Professor, Ed.D., Illinois, 2014
Margaret Schroeder, Associate Professor, Ph.D., Texas A&M, 2006
Jonathan Thomas, Assistant Professor, Ed.D., Cincinnati, 2010
Jennifer Wilhelm, Professor, Ph.D., Texas-Austin, 2002

COLLEGE OF ENGINEERING

John Y. Walz, Dean

BIOMEDICAL ENGINEERING

Abhijit Patwardhan, Interim Chair

Kimberly Ward Anderson,* Professor, Ph.D., Carnegie-Mellon, 1986
Babak Bazrgari, Assistant Professor, Ph.D., Ecole Polytechnique, Montreal, 2008
Eugene Bruce, Professor Emeritus, Ph.D., Southern California, 1973
Peter Hardy,* Assistant Clinical Professor, Ph.D., Toronto, 1991
Thomas P. Hedman, Adjunct Associate Professor, Ph.D., University of Strathclyde , Scotland, 1996
Charles F. Knapp, Professor Emeritus, Ph.D., Notre Dame, 1968
Stephen Lai-Fook, Professor Emeritus, Ph.D., Washington, 1972
Lu Yuan Lee,* Professor, Ph.D., Mississippi, 1975
Ai-Ling Lin,* Assistant Professor, Ph.D., University of Texas Health Science Center, 2006
Abhijit Patwardhan, Professor, Ph.D., Kentucky, 1992
David Pienkowski, Associate Professor, Ph.D., Pennsylvania, 1982
David Powell,* Assistant Professor, Ph.D., Kentucky, 2002
David Puleo, Professor, Ph.D., Rensselaer Polytechnic, 1991
David Randall,* Professor, Ph.D., Washington, 1972
Keith Rouch,* Professor, Ph.D., Marquette, 1978
Sibu P. Saha,* Professor, M.D., MBA, University of Rajshahi, 1966
Robert Shapiro,* Professor, Ph.D., Illinois at Urbana, 1979
Hainsworth Shin, Assistant Professor, Ph.D., Rensselaer Polytechnic, 2003
Betty F. Sisken, Research Professor Emeritus, Ph.D., Kentucky, 1973
Charles Smith,* Assistant Professor, M.D., Tulane, 1979
Sridhar Sunderam, Assistant Professor, Ph.D., Kansas, 1999
Margaret M. Szabunio,* Professor, M.D., Hahnemann Medical College, 1984
Moriel Vandsburger,* Assistant Professor, Ph.D., Virginia, 2010
Janet Walker,* Associate Professor, M.D., South Florida, 1981
Guoqiang Yu, Associate Professor, Ph.D., Tianjin, China, 1999
Joseph Zwischenberger,* Professor, M.D., Kentucky, 1977
*Joint Appointment

CHEMICAL AND MATERIALS ENGINEERING

Douglass S. Kalika, Chair

Kimberly Ward Anderson, Professor, Ph.D., Carnegie-Mellon, 1986
Rodney J. Andrews, Professor, Ph.D., Kentucky, 1999
Thomas John Balk II, Professor, Ph.D., Johns Hopkins, 2000
Matthew Beck, Assistant Professor, Ph.D., Northwestern, 2005
Bradley J. Berron, Assistant Professor, Ph.D., Vanderbilt, 2008
Dibakar Bhattacharyya, Professor, Ph.D., Illinois Institute of Technology, 1966
Yang-Tse Cheng, Professor, Ph.D., California Institute of Technology, 1987
Thomas Cochell, Lecturer, Ph.D., Texas at Austin, 2013
Thomas D. Dziubla, Associate Professor, Ph.D., Drexel, 2002
Derek L. Englert, Assistant Professor STS, Ph.D., Texas A&M, 2009
Isabel C. Escobar, Professor, Ph.D., University of Central Florida, 2000
Eric A. Grulke, Professor, Ph.D., Ohio State, 1975
Zachary Hilt, Professor, Ph.D., Texas at Austin, 2004
Gerald P. Huffman, Research Professor Emeritus, Ph.D., West Virginia, 1965
Frank E. Huggins, Research Professor Emeritus, Massachusetts Institute of Technology, 1975
Hyun-Tae Hwang, Assistant Professor STS, Ph.D., University of Southern California, 2009
Douglass S. Kalika, Professor, Ph.D., California-Berkeley, 1988
Richard I. Kermode, Professor Emeritus, Ph.D., Northwestern, 1962
Barbara Knutson, Professor, Ph.D., Georgia Institute of Technology, 1994
Kenji Okazaki, Professor Emeritus, Dr. Eng. Sci., Kyoto University, 1967
Daniel W. Pack, Professor, Ph.D., California Institute of Technology, 1997
Christina M. Payne, Assistant Professor, Ph.D., Vanderbilt, 2007
Stephen E. Rankin, Professor, Ph.D., Minnesota, 1998
Phillip J. Reucroft, Professor Emeritus, Ph.D., Imperial College, England, 1959
J. Thomas Schrodt, Professor Emeritus, Ph.D., Louisville, 1966
Jeffrey R. Seay, Associate Professor STS, Ph.D., Auburn, 2008
Naresh Shah, Research Professor Emeritus, Ph.D., Kentucky, 1987
Mona Shirpour, Assistant Professor, Ph.D., Universitat Stuttgart, Germany, 2011
David L. Silverstein, Professor STS, Ph.D., Vanderbilt, 1998
Jim L. Smart, Associate Professor STS Emeritus, Ph.D., Texas at Austin, 1997
Terry W. Strange, Voluntary Lecturer, M.S., Kentucky, 1974
Tate T. H. Tsang, Professor, Ph.D., Texas at Austin, 1980
John Y. Walz, Professor, Ph.D., Carnegie Mellon, 1992
Sarah A. Wilson, Lecturer, Ph.D., University of Massachusetts, 2015
Fuqian Yang, Professor, Ph.D., Rochester, 1994
Tongguang Zhai, Associate Professor, Ph.D., Oxford, England, 1994
*Joint Appointment

CIVIL ENGINEERING

Reginald R. Souleyrette, Chair

Staley F. Adams, Professor Emeritus, Ph.D., Colorado, 1965
George E. Blandford, Professor, Ph.D., Cornell, 1981
Gail Brion, Professor, Ph.D., Colorado, 1995
L. Sebastian Bryson, Associate Professor, Ph.D., Northwestern, 2002
Richard Cheeks, Adjunct Assistant Professor, M.S., Kentucky, 1972; J.D., Kentucky, 2000
Mei Chen, Associate Professor, Ph.D., New Jersey Institute of Technology, 1999
Joseph Crabtree, Adjunct Assistant Professor, Ph.D., Kentucky, 2004
Gabriel B. Dadi, Assistant Professor, Ph.D., Kentucky, 2013
Brad Davis, Assistant Professor, Ph.D., Virginia Tech, 2008

John A. Deacon, Professor Emeritus, D.Engr., California-Berkeley, 1965
Vincent P. Drnevich, Professor Emeritus, Ph.D., Michigan, 1967
James Fox, Professor, Ph.D., Iowa, 2005
Hans Gesund, Professor, D.Engr., Yale, 1958
Donn E. Hancher, Professor Emeritus, Ph.D., Purdue, 1972
Bobby O. Hardin, Professor Emeritus, Ph.D., Florida, 1961
Issam E. Harik, Professor, Ph.D., Wayne State, 1982
Yang H. Huang, Professor Emeritus, D.Sc., Virginia, 1966
John W. Hutchinson, Professor Emeritus, Ph.D., Illinois, 1961
Michael E. Kalinski, Associate Professor, Ph.D., Texas-Austin, 1998
Kamyar C. Mahboub, Professor, Ph.D., Texas A&M, 1988
William F. Maloney, Professor, Ph.D., Michigan, 1976
Lindell E. Ormsbee, Professor, Ph.D., Purdue, 1983
Kelly G. Pennell, Assistant Professor, Ph.D., Purdue, 2005
Kenneth L. Perry, Associate Professor Emeritus, M.S., Murray, 1975
Jerry G. Rose, Professor, Ph.D., Texas A&M, 1971
Reginald R. Souleyrette, Professor, Ph.D., California-Berkeley, 1989
Nikiforos Stamatiadis, Professor, Ph.D., Michigan State, 1990
Timothy Taylor, Associate Professor, Ph.D., Texas A&M, 2009
Robert A. Walker, Associate Professor Emeritus, M.S., Eastern, 1978
Shien T. Wang, Professor Emeritus, Ph.D., Cornell, 1969
Yi-Tin Wang, Professor, Ph.D., Illinois Urbana-Champaign, 1984
Don J. Wood, Professor Emeritus, Ph.D., Carnegie Institute of Technology, 1961
Samantha Jones Wright, Lecturer, M.S., Kentucky, 1997
Scott Yost, Associate Professor, Ph.D., Michigan, 1995

COMPUTER SCIENCE

W. Brent Seales, Chair

Anthony Q. Baxter, Associate Professor Emeritus, Ph.D., Virginia, 1973
Kenneth L. Calvert, Professor, Ph.D., Texas at Austin, 1991
Fuhua Cheng, Professor, Ph.D., Ohio State, 1982
Zongming Fei, Professor, Ph.D., Georgia Institute of Technology, 2000
Raphael A. Finkel, Professor, Ph.D., Stanford, 1976
Judith A. Goldsmith, Professor, Ph.D., Wisconsin-Madison, 1988
James Griffioen, Professor, Ph.D., Purdue, 1991
Jane E. Hayes, Professor, Ph.D., George Mason, 1999
J. Robert Heath,* Associate Professor, Ph.D., Auburn, 1973
Nathan Jacobs, Assistant Professor, Ph.D., Washington, 2010
Jerzy W. Jaromczyk, Associate Professor, Ph.D., Warsaw, Poland, 1984
Debby L. Keen, Lecturer, Ph.D., Kentucky, 1994
Andrew M. Klapper, Professor, Ph.D., Brown, 1982
K. K. Kubota,* Professor, Ph.D., Facultes des Sciences de Paris, France, 1969
Jinze Liu, Associate Professor, Ph.D., North Carolina-Chapel Hill, 2006
D. Manivannan, Associate Professor, Ph.D., Ohio State, 1997
Victor Marek, Professor, Ph.D., Warsaw, Poland, 1968
Yi Pike, Lecturer, Ph.D., Kentucky, 2011
Paul E. Piwowarski, Lecturer, M.S., Kentucky, 1982
Chen Qian, Assistant Professor, Ph.D., Texas at Austin, 2013
W. Brent Seales, Professor, Ph.D., Wisconsin, 1991
Miroslaw Truszczynski, Professor, Ph.D., Warsaw University of Technology, 1980
Grzegorz Wasilkowski, Professor, Ph.D., Warsaw, Poland, 1980
Ruigang Yang, Professor, Ph.D., North Carolina-Chapel Hill, 2003
Tingting Yu, Assistant Professor, Ph.D., Nebraska, 2014
Jun Zhang, Professor, Ph.D., George Washington, 1997
*Joint Appointment

ELECTRICAL AND COMPUTER ENGINEERING

Lawrence E. Holloway, Chair

Robert J. Adams, Associate Professor, Ph.D., Virginia Polytechnic, 1998
Jeffrey Ashley, Senior Lecturer, Ph.D., Kentucky, 2004
Lyle N. Back, Assistant Professor Emeritus, M.S., Kentucky, 1962
Zhi Chen, Professor, Ph.D., Illinois at Urbana-Champaign, 1999
Sen-ching Samson Cheung, Associate Professor, Ph.D., California-Berkeley, 2002
Sanjeevi Chitkeshi,* Assistant Professor, Ph.D., Southern Illinois University, 2007
Aaron M. Cramer, Assistant Professor, Ph.D., Purdue, 2007
John B. Crofton,* Associate Professor, Ph.D., Auburn, 1992
Henry Dietz, Professor, Ph.D., Polytechnic, 1987
Raymond J. Distler, Associate Professor Emeritus, Ph.D., Kentucky, 1964
Paul A. Dolloff, Adjunct Assistant Professor, Ph.D., Virginia Polytechnic Institute, 1996
Kevin D. Donohue, Professor, Ph.D., Illinois Institute of Technology, 1987
Joseph A. Elias, Adjunct Assistant Professor, Ph.D., Rice, 1996
Gregory Gerhardt,* Professor, Ph.D., Kansas, 1983
Regina Hannemann, Lecturer, Ph.D., Kassel, Germany, 2001
Laurence G. Hassebrook, Professor, Ph.D., Carnegie Mellon, 1990
J. Todd Hastings, Professor, Ph.D., Massachusetts Institute of Technology, 2003
J. Robert Heath, Associate Professor, Ph.D., Auburn, 1973
James M. Hereford,* Assistant Professor, Ph.D., Georgia Institute of Technology, 1990
Lawrence E. Holloway, Professor, Ph.D., Carnegie-Mellon, 1990
Dan M. Ionel, Professor, Ph.D., Polytechnic University of Bucharest, Romania, 1996
Daniel L. Lau, Professor, Ph.D., Delaware, 1999
Michael E. Lhamon, Adjunct Assistant Professor, Ph.D., Kentucky, 1997
Yuan Liao, Professor, Ph.D., Texas A&M, 2000
Stephen M. Lipka, Adjunct Assistant Professor, Ph.D., Virginia, 1985
Robert A. Lodder,* Professor, Ph.D., Indiana, 1988
Caicheng Lu, Professor, Ph.D., Illinois at Urbana-Champaign, 1995
James E. Lumpp, Jr., Professor, Ph.D., Iowa, 1993
Janet K. Lumpp, Professor, Ph.D., Iowa, 1993
Vijay P. Singh, Professor, Ph.D., Minnesota, 1974
William T. Smith, Associate Professor, Ph.D., Virginia Polytechnic Institute, 1990
Joseph Sottile, Jr.,* Associate Professor, Ph.D., Penn State, 1991
Himanshu Thapliyal, Assistant Professor, Ph.D., South Florida, 2011
Lee T. Todd Jr., Professor Emeritus, Ph.D., Massachusetts Institute of Technology, 1974
Frederick C. Trutt, Professor Emeritus, Ph.D., Delaware, 1964
Bruce L. Walcott, Professor, Ph.D., Purdue, 1987
John C. Young, Assistant Professor, Ph.D., Clemson, 2002
Yu-Ming Zhang, Professor, Ph.D., Harbin Institute of Technology, China, 1990
*Joint Appointment

MECHANICAL ENGINEERING

Michael W. Renfro, Chair

Nelson K. Akafuah, Assistant Research Professor, Ph.D., Kentucky, 2009
Rodney J. Andrews,* Professor, Ph.D., Kentucky, 1999
Fazleena Badurdeen, Associate Professor, Ph.D., Ohio, 2005
Mehmet Bahadir,* Assistant Professor, D.I.T., Northern Iowa, 2009
Sean Bailey, Associate Professor, Ph.D., Ottawa, 2006
John R. Baker, Associate Professor STS, Ph.D., Kentucky, 1999
Millard F. Beatty, Jr., Professor Emeritus, Ph.D., Johns Hopkins, 1964
Louis M. Brock, Professor, Ph.D., Northwestern, 1972
Roy D. Burberry, Assistant Professor Emeritus, M.A., Kentucky, 1958
Vincent R. Capece, Associate Professor STS Emeritus, Ph.D., Purdue, 1987
Oscar W. Dillon, Jr., Professor Emeritus, D.Eng.Sci., Columbia, 1959
Robert M. Drake, Jr., Professor Emeritus, Ph.D., California-Berkeley, 1950
Christine F. Goble, Lecturer, Ph.D., Purdue, 1999
Ottfried J. Hahn, Professor Emeritus, Ph.D., Princeton, 1964
Mark T. Hanson, Associate Professor, Ph.D., Northwestern, 1989
J. Thomas Henninger, Lecturer, Ph.D., Kentucky, 2009
David W. Herrin, Associate Professor, Ph.D., Kentucky, 2000
Donna Hewett, Lecturer, M.S., Kentucky, 1979
Jesse Hoagg, Assistant Professor, Ph.D., Michigan, 2006
Patrick G. Hu, Adjunct Assistant Professor, Ph.D., Virginia Tech, 2001
I. S. Jawahir, Professor, Ph.D., University of New South Wales, 1986
Haluk E. Karaca, Associate Professor, Ph.D., Texas A&M, 2007
Marwan Khraisheh, Adjunct Professor, Ph.D., Washington State, 1996
Thomas W. Lester, Dean and Professor Emeritus, Ph.D., Purdue, 1974
Tianxiang Li, Associate Research Professor Emeritus, Ph.D., Kentucky, 1999
Wei (Mike) Li, Assistant Professor, Ph.D., Calgary, 2011
Kunlei Liu, Associate Research Professor, Ph.D., Southeast University, 1993
Sarah Shen Liu,* Assistant Professor, Ph.D., Old Dominion, 2006
Yuebin Charles Lu, Associate Professor STS, Ph.D., Western Ontario, Canada, 1999
John Maddox, Assistant Professor STS, Ph.D., Auburn, 2015
M. Abbot Maginnis, Adjunct Assistant Professor, Ph.D., Kentucky, 2012
Alan T. Male, Professor Emeritus, Ph.D., University of Birmingham, England, 1962
Sergiy Markutsya, Assistant Professor STS, Ph.D., Iowa State, 2010
Maurice Keith Marshall, Associate Professor Emeritus, M.S., Kentucky, 1956
Alexandre Martin, Assistant Professor, Ph.D., Ecole Polytechnique, Montreal, 2005
Harry L. Mason, Associate Professor Emeritus, M.S., Kentucky, 1959
James M. McDonough, Professor, Ph.D., California-Los Angeles, 1980
M. Pinar Mengüc, Professor Emeritus, Ph.D., Purdue, 1985
William E. Murphy, Professor Emeritus, Ph.D., Purdue, 1980
James Kyle Neathery, Adjunct Assistant Professor, Ph.D., Kentucky, 1993
Johné M. Parker, Associate Professor, Ph.D., Georgia Institute of Technology, 1996
Michael W. Renfro, Professor, Ph.D., Purdue, 2000
James W. Rogers,* Assistant Professor, Ph.D., Illinois at Urbana-Champaign, 2002
Keith E. Rouch, Professor, Ph.D., Marquette, 1977
Kozo Saito, Professor, D.Eng., Seikei University, Japan, 1980
Ahmad Salaimeh, Assistant Research Professor, Ph.D., Kentucky, 2011
T. Michael Seigler, Associate Professor, Ph.D., Virginia Polytechnic, 2005
Dusan P. Sekulic, Professor, D.Sc., Belgrade, Yugoslavia, 1981
Andrew F. Seybert, Professor Emeritus, Ph.D., Purdue, 1975
Shiva N. Singh, Professor Emeritus, Ph.D., Indian Institute of Technology, Kharagpur, India, 1959
Suzanne Weaver Smith, Professor, Ph.D., Virginia Polytechnic Institute, 1988
Lyndon Scott Stephens, Professor, Ph.D., Virginia, 1995
Kaveh A. Tagavi, Professor, Ph.D., California-Los Angeles, 1982
Farzad Taghaddosi, Lecturer, Ph.D., McGill University, 2006
Theodore R. Tauchert, Professor Emeritus, D.Eng., Yale, 1964

Theodore D. Thiede,* Assistant Professor, Ph.D., Iowa State, 1996
Christine Trinkle, Associate Professor, Ph.D., California-Berkeley, 2007
Horn-Sen Tzou, Professor Emeritus, Ph.D., Purdue, 1983
David Weatherly, Assistant Research Professor, Ph.D., Kentucky, 1998
Jonathan F. Wenk, Assistant Professor, Ph.D., California-Berkeley, 2008
Michael Winter, Assistant Professor, Ph.D., Universitat Stuttgart, Germany, 2006
Ting-Wen Wu, Professor, Ph.D., Texas at Austin, 1987
William S. Young, Lecturer Emeritus, B.S., Kentucky, 1975
*Joint Appointment

MINING ENGINEERING

Rick Q. Honaker, Chair

Zacharias G. Agioutantis, Professor, Ph.D., Virginia Tech, 1987
John G. Groppo, Jr., Adjunct Professor, Ph.D., Kentucky, 1992
Rick Q. Honaker, Professor, Ph.D., Virginia Polytechnic Institute, 1992
Joseph W. Leonard, Professor Emeritus, M.S., Penn State, 1958
G. T. Lineberry, Professor, Ph.D., West Virginia, 1982
Braden T. Lusk, Professor, Ph.D., Missouri-Rolla, 2006
Thomas Novak, Professor, Ph.D., Penn State, 1984
B. K. Parekh, Adjunct Professor Emeritus, Ph.D., Penn State, 1979
Kyle A. Perry, Assistant Professor, Ph.D., Kentucky, 2010
Jhon J. Silva Castro, Assistant Professor, Ph.D., Kentucky, 2012
Joseph Sottile, Jr., Professor, Ph.D., Penn State, 1991
Richard J. Sweigard, Professor Emeritus, Ph.D., Penn State, 1984
Konstanty F. Unrug, Professor Emeritus, D.Sc., Krakow, 1971
Andrzej Wala, Professor Emeritus, Ph.D., Krakow, 1972
William Chad Wedding, Assistant Professor, Ph.D., Kentucky, 2014

COLLEGE OF FINE ARTS

Michael S. Tick, Dean

ARTS ADMINISTRATION PROGRAM

Rachel Shane, Director

Michael Braun, Associate Professor Emeritus, M.A., St. Cloud State, 1978
Sarah Clare Corporandy, Adjunct Assistant Professor, M.F.A, Wayne State, 2007
Frank Fletcher, Adjunct Assistant Professor, Ph.D., Massachusetts, Amherst, 1993
Steve Hoffman, Adjunct Assistant Professor, M.A., Wisconsin-Madison, 1992
Michael Ibrahim, Adjunct Assistant Professor, M.A., Boston, 2007
Kathleen Keys, Adjunct Assistant Professor, Ph.D., Ohio State, 2003
Cassandra Lopez, Adjunct Assistant Professor, M.F.A., Crankbrook Academy of Art, 2013
Geraldine Maschio, Associate Professor, Ph.D., Wisconsin-Madison, 1981
Carter McGowan, Adjunct Assistant Professor, J.D., Cornell Law School, 1995
Christopher Montpetit, Adjunct Assistant Professor, M.F.A., Columbia, 1990
Mark Rabideau, Lecturer, D.M.A., Illinois, 1998
Rachel Shane, Assistant Professor, Ph.D., Ohio State, 2006
Jessica Shields Adjunct Assistant Professor, M.F.A., Savannah College of Art and Design, 2012
Jeremy Stiffler, Adjunct Assistant Professor, M.S., Pennsylvania State, 2011
Misty Tolle, Adjunct Assistant Professor, M.A., Juilliard School, 2000

SCHOOL OF ART AND VISUAL STUDIES

Robert Jensen, Chair

Ruth Adams, Associate Professor, M.F.A., Miami, 1999
Garry Bibbs, Associate Professor, M.F.A., Kentucky, 1986
Anna Brzyski, Associate Professor, Ph.D., Chicago, 1999
Dennis Carpenter, Professor Emeritus, M.F.A., Florida, 1979
Alice Christ, Associate Professor, Ph.D., Chicago, 1992
Georgia Collins, Professor Emeritus, Ph.D., Ohio State, 1978
Robert Dickes, Lecturer, M.F.A., Kentucky, 2009
Beth Ettensohn, Lecturer, M.F.A., Kentucky, 1988
Joel Feldman, Adjunct Professor, M.F.A., Indiana, 1967
Gerald Ferstman, Associate Professor Emeritus, M.F.A., Washington, 1965
Joseph Fitzpatrick, Professor Emeritus, M.A., Louisville, 1958
Belinda Rae Goodwin, Assistant Professor, M.F.A., Winthrop, 2006
Marilyn Hamann, Associate Professor Emeritus, M.A., California-Berkeley, 1970
Garrett Hansen, Assistant Professor, M.F.A., Indiana, 2011
Martha Henton, Senior Lecturer, M.A., Western Kentucky, 1972
Donald H. Hoffman, Professor Emeritus, Ed.D., Georgia, 1972
Robert Jensen, Associate Professor, Ph.D., California-Berkeley, 1987
Hui Chi Lee, Lecturer, M.F.A., Florida, 2006
Doreen Maloney, Associate Professor, M.F.A., Wisconsin, 1999
Andrew L. Maske, Associate Professor, D.Phil., Oxford, 1995
Jonathan McFadden, Assistant Professor, M.F.A.
Matthew Page, Lecturer, M.F.A., Vermont College, 2006
Ebony Patterson, Associate Professor, M.F.A., Washington-St. Louis, 2006
Jane S. Peters, Associate Professor Emeritus, Ph.D., Wisconsin-Madison, 1975
Allan Richards, Associate Professor, Ed.D., Illinois State, 1987
Arturo A. Sandoval, Professor, M.F.A., Cranbrook, 1971
Robert Scroggins, Associate Professor, M.F.A., Southern Illinois-Edwardsville, 1980
Robert Shay, Professor, M.F.A., Wisconsin, 1973
James (Rob) Southard, Lecturer, M.F.A., Carnegie Mellon, 2011
Brandon Smith, Lecturer, M.F.A., Cincinnati, 2004
Hunter Stamps, Associate Professor, M.F.A., Indiana, 2005
Dmitry Strakovsky, Associate Professor, M.F.A., Art Institute of Chicago, 2001
George Szekely, Professor, Ed.D., Columbia, 1975
Robert Tharsing, Associate Professor Emeritus, M.A., California-Berkeley, 1967
Nicole White, Lecturer, M.F.A., School of the Art Institute of Chicago
Sarah Wylie Van Meter, Lecturer, M.F.A., San Francisco Art Institute, 2009
Monica Visoná, Associate Professor, Ph.D., California-Santa Barbara, 1983
Paolo Visoná, Adjunct Associate Professor, Ph.D., Michigan, 1985
James Wade, Jr., Senior Lecturer, M.F.A., Georgia, 1996
Kathleen Wheeler, Senior Lecturer, M.A., Kentucky, 2005
David Wischer, Lecturer, M.F.A. Purdue, 2012
Benjamin C. Withers, Professor, Ph.D., Chicago, 1994

SCHOOL OF MUSIC

John Scheib, Director

Ben Arnold, Professor, Ph.D., Kentucky, 1986
Elizabeth P. Arnold, Associate Professor, D.M.A., Cincinnati University-College Conservatory of Music, 2006
Scott Atchison, Assistant Professor, M. M. Tennessee, 2006
Joseph W. Baber, Professor, M.M., Rochester, 1965
Michael Baker, Associate Professor, Ph.D., Indiana, 2007
Dennis Bender, Associate Professor, D.M.A., Cincinnati University-College Conservatory of Music, 2009
Cody Birdwell, Associate Professor, D.M.A., North Texas, 1996
Erin Walker Bliss, Lecturer, D.M.A. Kentucky, 2008
Karen Bottge, Associate Professor, Ph.D., Wisconsin-Madison, 2006
George R. Boulden, Associate Professor, M.M.E., South Carolina, 1986
Lance W. Brunner, Associate Professor, Ph.D., North Carolina, 1976
James B. Campbell, Professor, M.M., Northern Illinois, 1978
W. Harry Clarke, Associate Professor Emeritus, M.A., George Peabody, 1963
Angelique Clay, Associate Professor, D.M.A., Kentucky, 2007
Gordon B. Cole, Associate Professor Emeritus, M.M., New Hampshire, 1976
Kate R. Covington, Associate Professor Emeritus, Ph.D., Indiana, 1982
Raleigh Dailey, Associate Professor, Ph.D., Kentucky, 2007
Richard C. Domek, Jr., Professor Emeritus, Ph.D., Indiana, 1976
Jason Dovel, Assistant Professor, D.M.A., North Texas, 2007
David G. Elliott, Associate Professor, M.M., Catholic University of America, 1968
Jonathan E. Glixon, Professor, Ph.D., Princeton, 1979
Arthur Graham, Professor Emeritus, Ed.D., Columbia, 1960
Harold R. Gray, Professor, D.M.A., Illinois, 1994
Diana R. Hallman, Associate Professor, Ph.D., City University of New York, 1995
Hubert Henderson, Professor Emeritus, Ph.D., North Carolina, 1954
Dieter Hennings, Assistant Professor, D.M.A., Eastman, 2015
Alan B. Hersh, Professor Emeritus, D.Mus., Indiana, 1971
Lori R. Hetzel, Professor, D.M.A., Michigan State, 1995
Julie Hobbs, Assistant Professor, D.M., Northwestern, 2006
Kevin Holm-Hudson, Associate Professor, D.M.A., Illinois, 1992
Sara Holroyd, Professor Emeritus, M.A., Columbia, 1951
Michael Hudson, Assistant Professor, Ph.D., Florida State, 2012
Clifford Jackson, Associate Professor Emeritus, B.A., Oberlin, 1977
Phyllis Jenness, Professor Emeritus, M.A., Kentucky, 1958
Jefferson G. Johnson, Professor, D.M.A., Colorado, 1992
Benjamin C. Karp, Professor, M.M., Indiana, 1983
Margaret Karp, Lecturer, B.M., Indiana, 1983
Bradley Kerns, Assistant Professor, M.M., Boston, 2005
Donna Kwon, Associate Professor, Ph.D., California-Berkeley, 2005
Cynthia Lawrence, Professor, M.M., Colorado, 1987
Tedrin Blair Lindsay, Lecturer, Ph.D., Kentucky, 2009
Charles H. Lord, Associate Professor Emeritus, Ph.D., Indiana, 1978
Noemi G. Lugo, Professor, D.M.A., Colorado, 1992
ToniMarie Marchioni, Assistant Professor, D.M.A. Juilliard, 2010
Daniel E. Mason, Professor, M.M., Southern California, 1977
Everett D. McCorvey, Professor, D.M.A., Alabama, 1989
Vicki McVay, Senior Lecturer, Ph.D., Kentucky, 2005
Nan McSwain, Lecturer, M.M., Kentucky, 1992
Patricia Montgomery, Associate Professor Emeritus, D.M.A., Indiana, 1979
John Nardolillo, Professor, M.M., Peabody Conservatory of Music, 1997
Miles S. Osland, Professor, M.M., Eastman School of Music, 1987
Ronald A. Pen, Professor, Ph.D., Kentucky, 1987
Schuyler W. Robinson, Professor, D.M.A., Illinois, 1972

John W. Scheib, Associate Professor, Ph.D., Wisconsin-Madison, 2002
Robert D. Schultz, Assistant Professor, Ph.D., Washington, 2009
Peter C. Simpson, Associate Professor, M.A., New Hampshire, 1975
David W. Sogin, Professor, Ph.D., Texas at Austin, 1986
Martina Vasil, Assistant Professor, M.A., Rochester, 2011
Irina Vorobieva, Professor, D.M.A., Montreal, 1997
Cecilia Hoi-Mee Chu Wang, Professor Emeritus, Ph.D., Texas Tech, 1975
Dale E. Warren, Associate Professor Emeritus, M.M., North Colorado, 1976
Scott Wright, Associate Professor, D.M.A., Arizona State, 1999
Olivia Yinger, Assistant Professor, Ph.D., Florida State, 2012

THEATRE

Nancy C. Jones, Chair

Herman D. Farrell III, Associate Professor, M.F.A., Columbia, 1994; J.D., New York University, 1989
Nelson Fields, Associate Professor, M.F.A., Iowa, 1992
Tony Hardin, Associate Professor, M.F.A., Virginia, 1999
Robert W. Haven, Associate Professor Emeritus, M.F.A., Delaware, 1992
Russell Henderson, Associate Professor, M.F.A, Trinity University-Dallas Theatre Center, 1979
John Holloway, Professor, M.F.A., Trinity University-Dallas Theatre Center, 1980
Nancy C. Jones, Associate Professor, M.F.A., Western Illinois, 1997
Geraldine Maschio, Associate Professor, Ph.D., Wisconsin-Madison, 1981
Rhoda-Gale Pollack, Professor Emeritus, Ph.D., Stanford, 1971
Stephanie Richards, Adjunct Assistant Professor, M.F.A., Iowa, 2003
Christina Ritter, Lecturer, Ph.D., Ohio State, 2007
James W. Rodgers, Professor Emeritus, Ph.D., Wayne State, 1968
Zachary Stribling, Lecturer, M.F.A., Florida State, 2003
Susie Thiel, Lecturer, M.F.A., Michigan, 2011
Michael S. Tick, Professor, Ph.D., New York University, 1997
Tracy M. Ward, Lecturer, M.F.A., Florida, 2003

COLLEGE OF HEALTH SCIENCES

Scott M. Lephart, Dean

DEPARTMENT OF CLINICAL SCIENCES

Phyllis Nash, Chair

Health Sciences Education and Research

Geza G. Bruckner, Division Director

Human Health Sciences and Clinical Leadership and Management

Lynda Bennett, Adjunct Assistant Professor, B.H.S., M.S., University of Kentucky and Northern Kentucky, 2013
Geza G. Bruckner, Professor, Ph.D., Kentucky, 1979
Ming Chih, Assistant Professor, MHA, M.S., Ph.D., Wisconsin Madison, 2013
Joseph L. Fink III,* Professor, J.D., Georgetown, 1973
Rachel Hogg, Assistant Professor, Dr. P.H., M.A., Kentucky, 2014
Karen O. Skaff, Professor, Ph.D., Columbia, 1992; Kentucky, 1995
Jami Warren, Lecturer, M.A., Ph.D, Kentucky, 2011
John Williams, Assistant Professor, Dr.P.H., Kentucky, 2007
*Joint Appointment

Clinical Nutrition

Geza G. Bruckner, Division Director

Maria G. Boosalis, Associate Professor Emeritus, Ph.D., M.P.H., R.D., L.D., Minnesota, 1984
Geza G. Bruckner, Professor, Ph.D., Kentucky, 1979
David T. Thomas, Assistant Professor, Ph.D., R.D., North Carolina Greensboro, 2009

Medical Laboratory Science

Michelle Butina, Program Director

Michelle Butina, Assistant Professor, MLS(ASCP)CM, Ph.D., Georgia, 2010
Kim Campbell, Senior Lecturer, MLS(ASCP)CM, M.S.Ed., Kentucky, 1985
Philip Campbell, Adjunct Assistant Professor, M.T. (ASCP), M.S.Ed., Kentucky, 1979
Patricia Ann Collins, Associate Professor Emeritus, M.T. (ASCP), M.S., West Virginia, 1971
Linda Gorman,*^ Associate Professor Emeritus, MLS(ASCP)CM, Ph.D., Kentucky 1996
Steve Schwarze, Assistant Professor, MLS(ASCP)CM, Ph.D., Wisconsin, 1998
E. Anne Stiene-Martin,*^ Professor Emeritus, M.T. (ASCP), Ph.D., Kentucky, 1991
Marie Vittetoe, Professor Emeritus, M.T. (ASCP), C.L.S. (NCA), Ed.D., West Virginia, 1973
*Joint Appointment
^Graduate Faculty

Physician Assistant Studies

Emery Wilson, Interim Program Director

Tamara (Tara) Bennett, Assistant Professor, M.S.P.A.S., PA-C, Kentucky, 2006
Somu Chatterjee, Assistant Professor, M.S., MPH, West Virginia
Deshana Collett, Assistant Professor, Ph.D., Kentucky, 2013
David A. Fahringer, Associate Professor, M.S.P.H., PA-C, Kentucky, 1992
Gerry A. Gairola, Professor, Ph.D., Kentucky, 1975
Sherry Grace, Adjunct Assistant Professor, M.S.P.A.S., PA-C, 2004
Sam Powdrill, Associate Professor, M.Phil., PA-C, University of London, England, 1992; North Dakota, 1999
Kevin M. Schuer, Associate Professor, M.P.H., M.S.P.A.S., PA-C, Kentucky 2005, 2007
Virginia L. Valentin, Assistant Professor, MCMS, PA-C, Barry University 2007
Emery Wilson, Professor, M.D., Kentucky 1968
Andrew Wyant, Assistant Professor, M.D., Indiana, 1993, M.Div., Asbury University 2014

DEPARTMENT OF REHABILITATION SCIENCES

Janice M. Kuperstein, Chair

Athletic Training

Carl G. Mattacola, Division Director

Timothy A. Butterfield, Associate Professor, Ph.D., ATC, University of Calgary, 2005
Phillip A. Gribble, Ph.D., ATC, Pennsylvania State, 2003
Carl G. Mattacola, Professor, Ph.D., ATC, Virginia, 1996
Tim L. Uhl, Professor, Ph.D., ATC, P.T., Virginia, 1998

Communication Sciences and Disorders

Anne D. Olson, Division Director

Mary Beth Allen, Clinical Assistant Professor, M.S., CCC-SLP, Kentucky, 2007
Richard D. Andreatta, Associate Professor, Ph.D., Indiana, 1999
Sarah Campbell, Clinical Assistant Professor, M.S., CCC-SLP, Kentucky, 2003
Gilson C. Capilouto, Professor, Ph.D., CCC-SLP, South Carolina, 2002
Jodelle F. Deem, Associate Professor, Ph.D., CCC-SLP, Memphis State, 1988
Ellen C. Hagerman, Clinical Assistant Professor, M.A., CCC-SLP, Northern Colorado, 1979
Jane O. Kleinert, Associate Professor, Ph.D., CCC-SLP, Kentucky, 2005
Joneen Lowman, Assistant Professor, Ph.D., CCC-SLP Florida State, 2003
Robert C. Marshall, Professor, Ph.D., CCC-SLP, Oklahoma, 1969
Donna Southerland Morris, Associate Professor, M.A., CCC-SLP, Eastern Kentucky, 1982
Anne D. Olson, Associate Professor, Ph.D., CCC-A, Kentucky, 2010
Judith L. Page, Associate Professor, Ph.D., CCC-SLP, Purdue, 1981
Joseph C. Stemple, Professor, Ph.D., CCC-SLP, Cincinnati, 1977
Debra Suiter, Clinical Associate Professor, Ph.D., CCC-SLP, Tennessee, 2001

Physical Therapy

Robert A. (Tony) English, Division Director

Dean P. Currier, Professor Emeritus, P.T., Ph.D., Maryland, 1971
Joan Darbee, Senior Lecturer, P.T., Ph.D., SUNY-Buffalo, 2000
Esther Dupont-Versteegden, Associate Professor, Ph.D., University of Texas Health Science Center, San Antonio, 1995
Susan Effgen, Professor, P.T., Ph.D., Georgia State, 1984
M. Lynn English, Associate Professor, P.T., D.P.T., Simmons, 2007
Robert A. (Tony) English, Associate Professor, P.T., Ph.D., Kentucky, 2008
Anne L. Harrison, Associate Professor, P.T., Ph.D., Kentucky, 2002
Charles Hazle, Associate Professor, P.T., Ph.D., Kentucky, 2009
Nathan Johnson, Assistant Professor, PT, Ph.D., Kentucky, 2012
Deborah G. Kelly, Associate Professor, P.T., M.S.Ed., DPT Arcadia, 2012
Patrick Kitzman, Associate Professor, P.T., Ph.D., Ohio State, 1994
Janice M. Kuperstein, Associate Professor, P.T., Ph.D., Kentucky, 2008
Terry R. Malone, Professor, P.T., A.T.C., Ed.D., Duke, 1985
Charles Marshall, Associate Professor, Ph.D., Louisville, 2006
Arthur J. Nitz, Professor, P.T., Ph.D., E.C.S., O.C.S., Kentucky, 1984
Brian Noehren, Associate Professor, P.T., Ph.D., Delaware, 2009
Mary Proffitt, Lecturer, P.T., D.P.T., Kentucky, 2009

COLLEGE OF MEDICINE

Frederick C. de Beer, Dean

ANATOMY AND NEUROBIOLOGY

Don M. Gash, Chair

Anders H. Andersen, Associate Professor, Ph.D., Purdue University, 1983
Guoying Bing, Professor, M.D., Ph.D., University of Rochester, 1988
Gregory Jaye Bix, Associate Professor, M.D., Ph.D., Baylor University, 1998
Luke Harry Bradley, Associate Professor, Ph.D., Ohio State University, 2001
Wayne A. Cass, Professor, Ph.D., Colorado State University, 1987
Andrew Stewart Deane, Associate Professor, Ph.D., University of Toronto, 2007
Marilyn J. Duncan, Professor, Ph.D., Worcester Polytechnic Institute, 1984
Samuel Rees Franklin, Associate Professor, Ph.D., Wake Forest University, 2006
Don M. Gash, Professor, Ph.D., Dartmouth College, 1975
James W. Geddes, Professor, Ph.D., University of Saskatchewan, 1984
Greg Allen Gerhardt, Professor, Ph.D., University of Kansas, 1983
Marilyn L. Getchell, Professor, Ph.D., Northwestern University, 1971
Brian T. Gold, Associate Professor, Ph.D., York University, 1999
Richard Charles Grondin, Associate Professor, Ph.D., Laval University, 1997
Edward Dallas Hall, Professor, Ph.D., Cornell University, 1976
April Richardson Hatcher, Associate Professor, Ph.D., Kentucky, 2009
Lothar H. Jennes, Professor Emeritus, Ph.D., University of Salzburg, 1978
Brian R. MacPherson, Professor, Ph.D., Memorial University of Newfoundland, 1978
Bruce Edward Maley, Associate Professor, Ph.D., Ohio State University, 1979
Magdalena Natalia Muchlinski, Associate Professor, Ph.D., University of Texas at Austin, 2008
David Peck, Associate Professor Emeritus, Ph.D., Johns Hopkins University, 1961
David K Powell, Assistant Professor, Ph.D., Kentucky, 2002
Jill Marie Roberts, Assistant Professor, Ph.D., University of Arizona, 2009
Stephen William Scheff, Professor, Ph.D., University of Missouri Columbia Campus, 1974
Indrapal N. Singh, Associate Professor, Ph.D., University of Hyderabad, 1984
Stephen Drew Smith, Professor Emeritus, Ph.D., Tulane University of Louisiana, 1965
Diane M. Snow, Professor, Ph.D., Case Western Reserve University, 1989
Patrick Giles Sullivan, Professor, Ph.D., Kentucky, 2000
Harold H. Traurig, Professor Emeritus, Ph.D., University of Minnesota, 1963
Linda Jo Van Eldik, Professor, Ph.D., Duke University, 1977
Chen-Guang Yu, Assistant Professor, Ph.D., M.D., Shanghai Second Medical University, 1996
Zhiming Zhang, Associate Professor, M.D., Capital Institute of Medicine, 1983

ANESTHESIOLOGY

Edwin A. Bowe, Chair

Matthew L. Baker, Assistant Professor, M.D., Wake Forest University, 2009
Wendy E. Banfi, Assistant Professor, M.D., St. George's University, 2008
Kevin R. Bauereis, Assistant Professor, M.D., Kentucky, 2010
Peter P. Bosomworth, Professor Emeritus, M.D., University of Cincinnati, 1955
Edwin Allen Bowe, Professor, M.D., University of Missouri Columbia Campus, 1975
Raeford E. Brown, Professor, M.D., University of North Carolina, 1980
Destiny Fenger Chau, Associate Professor, M.D., Kentucky, 2002
George W. Colclough, Associate Professor Emeritus, M.D., University of North Carolina, 1974
Anthony F. Dempsey, Assistant Professor, M.D., Thomas Jefferson University, 2008
Sriharsha Doddaballapur Subramanya, Assistant Professor, M.D., Bangalore, University, 1998
Johanne Dorfling, Associate Professor, M.D., University of Stellenbosch, 1979
Jeremy S. Dority, Assistant Professor, M.D., University of Wisconsin-Madison, 2007
Sanjay Dwarakanath, Assistant Professor, MBBS, Bangalore Medical College, 2001
John H. Eichhorn, Professor, M.D., Harvard-Radcliffe, 1973
Mark A. Etscheidt, Professor, Ph.D., Georgia State University, 1989
Shelly Craven Ferrell, Assistant Professor, M.D., University of Louisville, 2005
Brian A. Fischer, Assistant Professor, M.D., Ph.D., Rush University, 1999
Regina Y. Fragneto, Professor, M.D., University of Pittsburgh, 1985
Shira G. Gambrel, Assistant Professor, M.D., Louisiana State University, 2008
Jason S. Garrison, Assistant Professor, M.D., University of Chicago, 2008
Jeniffer Ronan Gerstle, Assistant Professor, M.D., University of Louisville, 2007
Jay S. Grider, Professor, D.O., Ph.D., Ohio University, 1993
Michael E. Harned, Associate Professor, M.D., Kentucky, 2004
Zaki Udin Hassan, Professor, M.B.B.S., Charing Cross & Westminster Med, 1989
Kevin Wayne Hatton, Associate Professor, M.D., Kentucky, 2002
Eugene Andrew Hessel, Professor, M.D., University of San Francisco, 1960
Henry C. Holt, Assistant Professor, M.D., Kentucky, 2011
Ivan Horvath, Associate Professor, Ph.D., University of Rochester, 1995
Oksana Klimkina, Associate Professor, M.D., First Moscow Medical University, Diploma of Physician, 1984
Lori C. Kral, Assistant Professor, M.D., East Tennessee State University, 2009
Steven C. Lasher, Assistant Professor, M.D., Kentucky, 1995
Rebecca Lynn Layton, Assistant Professor, M.D., Kentucky, 1988
Randy William Legault, Assistant Professor, D.O., Pikeville College, 2008
Julie S. Lewis, Assistant Professor, M.D., Loma Linda University, 2006
Richard Lock, Professor, M.D., Northeast Ohio University College of Medicine, 1981
Margaret Faith Lukens, Assistant Professor, M.D., Kentucky, 2003
Scott Thomas McCardle, Assistant Professor, M.D., University of Cincinnati, 2007
Kenneth Todd McCoun, Associate Professor, D.O., Pikeville College, 2001
John T. McLarney, Associate Professor, M.D., Kentucky, 1994
Judson Lee Mehl, Assistant Professor, D.O., Virginia State University, 2009
Christopher L. Montgomery, Professor, M.D., Kentucky, 1985
John Thomas Murphy, Professor, M.D., Dalhousie University, 1978
Dung D.O. Nguyen, Assistant Professor, M.D., St. George's University, 2008
Jeffrey S. Oldham, Assistant Professor, M.D., Kentucky, 2011
Dinesh Ramaiah, Associate Professor, M.D., Bangalore Medical College, 1990
Annette Rebel, Associate Professor, M.D., University Heidelberg, 1993
Arundathi MN Reddy, Associate Professor, M.B.B.S., Bangalore University, 1990
Daniel Paul Reese, Assistant Professor, M.D., University of Arkansas, 1986
Logan Q. Reeves, Assistant Professor, M.D., University of Virginia, 2010
Michael A. Rie, Associate Professor, M.D., Harvard-Radcliffe, 1966
Rosalind Ritchie-Dabney, Associate Professor, M.D., Southern Illinois University, 1992
Zbigniew Stanislaw Rogozinski, Assistant Professor, M.D., Jagellonian University, 1982
Deborah Jo Rohner, Assistant Professor, M.D., University of Cincinnati, 2007
Gregory L. Rose, Associate Professor, M.D., Kentucky, 1986
Daniel Mihai Rusu, Assistant Professor, M.D., University of Medicine Carol Davila, 1997
Randall M. Schell, Professor, M.D., Loma Linda University La Sierra, 1987
Joseph C. Shy, Assistant Professor, M.D., Marshall University, 2010
Jewell W. Sloan, Assistant Professor, Ph.D., Kentucky, 1984
Paul A. Sloan, Professor, M.D., McGill University, 1980
Benjamin J. Sloop, Assistant Professor, M.D., Eastern Virginia Medical School, 2011
Cara L. Sparks, Assistant Professor, M.D., Kentucky, 2011
Habib Srour, Assistant Professor, M.D., University of Toledo, 2010
Johannes Wessel Steyn, Assistant Professor, M.D., Kentucky, 2007
Pieter G. Steyn, Associate Professor, M.D., University of the Orange Free State, 1979
Kellie Jean Stivers, Assistant Professor, M.D., Loma Linda University La Sierra, 2009
Margaret N. van Wyk, Assistant Professor, M.D., University of Pretoria, 1993
Justin K. Wainscott, Associate Professor, M.D., University of Louisville, 2003
Elzbieta Wala, Associate Professor, Ph.D., Academy of Medicine, Krakow, 1973
Kimberly S. Winchester, Assistant Professor, M.D., Kentucky, 1985

BEHAVIORAL SCIENCE

Carl G. Leukefeld, Chair

Michael Anthony Andrykowski, Professor, Ph.D., University of Illinois-Urbana, 1984
Shanna L. Babalonis, Assistant Professor, Ph.D., Kentucky, 2010
Lee X. Blonder, Professor, Ph.D., University of Pennsylvania, 1986
Allison Mercedes Caban-Holt, Assistant Professor, Ph.D., University of Tennessee-Knoxville, 2004
Claire D. Clark, Assistant Professor, Ph.D., Emory University, 2014
Cynthia M. Cole, Associate Professor Emeritus, Ph.D., University of North Carolina at Greensboro, 1989
Jennifer Ellen Cole, Assistant Professor, Ph.D., Kentucky, 2007
Carol L. Elam, Professor, Ed.D., Kentucky, 1990
Anita F. Fernander, Associate Professor, Ph.D., University of Miami, 2000
Gilbert H. Friedell, Professor, M.D., University of Minnesota, 1949
Eugene B. Gallagher, Professor Emeritus, Ph.D., Harvard-Radcliffe, 1958
Thomas F. Garrity, Professor Emeritus, Ph.D., Duke University, 1971
John V Haley, Professor Emeritus, Ph.D., Loyola University of Chicago, 1964
Jennifer R. Havens, Associate Professor, Ph.D., Johns Hopkins University, 2004
Deborah L. Hutchinson, Instructor, Ph.D., SUNY of Buffalo, 2010
Yang Jiang, Associate Professor, Ph.D., Miami University, 1995
Thomas H. Kelly, Professor, Ph.D., University of Minnesota, 1983
Hannah Kathryn Knudsen, Associate Professor, Ph.D., University of Georgia, 2003
Janice M. Kregor, Assistant Professor, M.D., Kentucky, 1981
Carl G. Leukefeld, Professor, Ph. D, D.S.W., Catholic University of America, 1975
Joshua Anthony Lile, Associate Professor, Ph.D., Kentucky, 2002
Michelle Renee Lofwall, Associate Professor, M.D., University of Chicago, 1999
TK Logan, Professor, Ph.D., Southern Illinois University, 1994
Phyllis J. Nash, Professor Emeritus, Ed.D., West Virginia University, 1985
Garth L Olde, Professor Emeritus, Ph.D., University of Western Ontario, 1960
Raven R. Piercey, Lecturer, Ph.D., Kentucky, 2013
Erin L. Pullen, Assistant Professor, Ph.D., Kentucky, 2014
Brady Allen Reynolds, Associate Professor, Ph.D., West Virginia University, 2002
Craig R. Rush, Professor, Ph.D., University of Vermont & State Ag, 1992
Nancy E. Schoenberg, Professor, Ph.D., University of Florida, 1994
Mitzi Marie Schumacher, Professor, Ph.D., Ohio State University, 1986
Timothy A. Smith, Professor Emeritus, Ph.D., University of North Carolina at Asheville, 1963
Claire N. Snell-Rood, Assistant Professor, Ph.D., University of Virginia, 2011

William Walton Stoops, Associate Professor, Ph.D., Kentucky, 2005
Terry Dean Stratton, Associate Professor, Ph.D., Kentucky, 1999
Jamie Lawrence Studts, Associate Professor, Ph.D., Kentucky, 2001
Sharon Lynn Walsh, Professor, Ph.D., Rutgers State University Queens Campus, 1990
John Matt Webster, Associate Professor, Ph.D., Kentucky, 2001
Michael J. Wesley, Assistant Professor, Ph.D., Wake Forest University, 2011
Helen Jean C. Wiese, Associate Professor, Ph.D., University of North Carolina, 1971
John F. Wilson, Professor, Ph.D., University of Michigan, 1977

EMERGENCY MEDICINE

Roger Loyd Humphries, Chair

Brian Wayne Adkins, Associate Professor, M.D., Kentucky, 2003
Jacob O. Avila, Instructor, M.D., Loma Linda University, 2012
Rebecca Catherine Bowers, Associate Professor, M.D., Kentucky, 2000
Jonathan Michael Bronner, Assistant Professor, M.D., University of Louisville, 2011
Craig T. Carter, Associate Professor, D.O., Midwestern University Downers, 1998
John Carl Conroy, Instructor, M.D., Oregon Health Sciences University, 2011
Matthew Stewart Dawson, Associate Professor, M.D., Kentucky, 2007
Sameer M. Desai, Associate Professor, M.D., Texas A & M University, 2001
Christopher I. Doty, Associate Professor, M.D., Thomas Jefferson University, 1997
Charles A. Eckerline, Associate Professor, M.D., Kentucky, 1977
Sama Ghali, Instructor, M.D., American University of the Caribbean, Cupecoy, St. Maarten, 2010
Brian T. Hawkins, Assistant Professor, M.D., University of Tennessee-Medical, 2000
Roger L. Humphries, Professor, M.D., Kentucky, 1991
Nicholas Adam Irwin, Instructor, M.D., Medical College of Georgia, 2011
Landon A. Jones, Assistant Professor, M.D., Kentucky, 2008
Walter Charles Lubbers, Assistant Professor, M.D., University of Cincinnati, 2010
Julia E. Martin, Associate Professor, M.D., West Virginia University, 1993
James D. Moore, Assistant Professor, M.D., Kentucky, 2011
Mary Virginia Mustain, Assistant Professor, M.D., University of Mississippi Medical, 2007
Ashwin Basrur Prabhu, Assistant Professor, M.D., University of Florida, 2003
Allison Carter Rains, Assistant Professor, M.D., Kentucky, 2007
Robert L. Rogers, Professor, M.D., University of Tennessee-Knoxville, 1997
Patrick Michael Russell, Instructor, M.D., University of Nevada, 2010
William B. Sanderson, Assistant Professor, M.D., University of Texas Southwestern, 2012
Alicia Ann Shirakbari, Assistant Professor, M.D., University of Arkansas for Med Science, 1995
Harold Andrew Sloas, Assistant Professor, D.O., Nova University, 2001
Seth Tobias Stearley, Associate Professor, M.D., Indiana University, 2004
Maria Stephan, Associate Professor, M.D., University of Cincinnati, 1981
Emily C. Stover, Assistant Professor, M.D., University of Cincinnati, 2012
Michael Thomas Sweeney, Assistant Professor, M.D., University of Chicago, 2005
David Paul Turley, Assistant Professor, M.D., Marshall University, 2007
Luke Justin Wilder, Assistant Professor, M.D., St. Louis University, 2008
William F. Young, Associate Professor, M.D., Bowman-Gray School of Medicine, 1983

FAMILY AND COMMUNITY MEDICINE

Kevin A. Pearce, Chair

Brian L. Allen, Assistant Professor, M.D., Kentucky, 2004
Robert Ryland Atkins, Assistant Professor, M.D., St. Matthews University, 2008
Jonathan Russell Ballard, Assistant Professor, M.D., University of Louisville, 2009
Keisa Bennett, Associate Professor, M.D., Kentucky, 2005
William Scott Black, Associate Professor, M.D., Kentucky, 1990
Kelly Rea Burgess, Assistant Professor, M.D., Kentucky, 1995
Roberto Cardarelli, Professor, D.O., University of North Texas, 2001
Maria Gabriela Castro, Associate Professor, M.D., Medical Univ. of S. Carolina, 2003
Brian R. Clear, Instructor, M.D., American University of the Caribbean, 2012
Max A Crocker, Professor Emeritus, M.D., University of Tennessee-Medical, 1963
Richard H. Crouch, Assistant Professor, M.D., Kentucky, 1975
William Craig Denham, Assistant Professor, M.D., Kentucky, 2003
Claude Hobert Dotson, Assistant Professor, Psy.D., Spalding University, 2007
William G. Elder, Professor, Ph.D., University of Texas Southwestern, 1992
Kelly Lee Evans-Rankin, Assistant Professor, M.D., Ross University, 2006
Jaime Janeille Fields, Assistant Professor, PharM.D., Kentucky, 2002
Barbara Fleming-Phillips, Assistant Professor, M.D., Wright State University, 1982
Lisa A. Goldstein, Assistant Professor, M.D., Wake Forest University, 2004
Wanda Clark Gonsalves, Professor, M.D., Kentucky, 1984
Ginny L. Gottschalk, Assistant Professor, M.D., Kentucky, 2007
Karla Renae Groves, Assistant Professor, M.D., Kentucky, 2005
Michael Dale Hagen, Professor, M.D., University of Missouri Columbia Campus, 1975
Miranda Hollen, Assistant Professor, M.D., Kentucky, 2006
Robert G. Hosey, Professor, M.D., State University of New York, 1993
Juanita Froan Hughes, Assistant Professor, D.O., Pikeville College, 2006
Carol G. Hustedde, Assistant Professor, Ph.D., University of Wisconsin-Madison, 1987
Stacey Campbell Johnson, Assistant Professor, M.D., University of Louisville, 2002
Larry D. Jones, Assistant Professor, M.D., Kentucky, 1980
Larissa B. Kern, Assistant Professor, M.D., Kentucky, 2012
Michael R. King, Associate Professor, M.D., Kentucky, 2001
Joe E. Kingery, Assistant Professor, D.O., Pikeville College School of Osteopathic Medicine, 2006
Archana Mahesh Kudrimoti, Assistant Professor, M.B.B.S., Osmania Uni., 1992
Samuel C. Matheny, Professor, M.D., Kentucky, 1967
Alan J. Maxwell, Professor, M.D., University of Pittsburgh, 1973
Mary Flesher Meek, Assistant Professor, M.D., Kentucky, 2002
William Louis Melahn, Assistant Professor, M.D., Georgetown University, 1994
Sherri Lynn Muha, Assistant Professor, PharM.D., Kentucky, 2005
Wanda G. Noble, Assistant Professor, D.O., Pikeville College, 2011
John A. Patterson, Associate Professor, M.D., University of Tennessee-Medical, 1973
Kevin Andrew Pearce, Professor, M.D., MPH, University of Florida, 1983
Oscar O. Perez, Assistant Professor, D.O., Texas College of Osteopathic Med, 1996
Lars Eric Peterson, Assistant Professor, M.D., Ph.D., Case Western Reserve University, 2009
Jonathan Alan Piercy, Assistant Professor, M.D., Kentucky, 2002
James C. Puffer, Professor, M.D., University of California Los Angeles, 1976
Wade Matthew Rankin, Assistant Professor, D.O., Pikeville College, 2003
Angela Y. Rice, Assistant Professor, D.O., Pikeville College, 2002
Guy Roussel, Assistant Professor, M.D., Louisiana State University School of Medicine, 1979
Michael E. Samuels, Professor Emeritus, Dr.P.H., University of North Carolina, 1975
Ellsworth C. Seeley, Professor, M.D., University of Louisville, 1947
Mary B. Sheppard, Assistant Professor, M.D., Kentucky, 2012
Kenneth Morris Slone, Assistant Professor, M.D., University of Louisville, 1984
Neena E. Thomas-Eapen, Assistant Professor, MBBS, University of Kerala, 1990
Jesus Victor Tovar, Assistant Professor, M.D., University of Texas Medical, 2006
Atitaya Tahn Trimble, Assistant Professor, M.D., Kentucky, 2005
Jamie Benjamin Varney, Assistant Professor, M.D., University of Louisville, 2004
Shannon Joy Voogt, Assistant Professor, M.D., Michigan State University, 2010
Alan Stevens Wrightson, Assistant Professor, M.D., Kentucky, 1986
Stephen Wilson Wyatt, Professor, D.M.D., Kentucky, 1980
Elizabeth H. Young, Associate Professor, Dr.P.H., University of Texas Health Science Center, 1985

INTERNAL MEDICINE

David Jon Moliterno, Chair

Ahmed Abdel-Latif, Assistant Professor, M.D., Ain Shams University, 1998
David Alan Adkins, Assistant Professor, M.D., Kentucky, 1998
Melina Tatiana Aguinaga-Meza, Assistant Professor, M.D., University of San Marcos, 2001
Sadiq Ahmed, Associate Professor, M.B.B.S., University of Dhaka, 1989
Kenneth B. Ain, Professor, M.D., Brown University, 1981
Munsif Ali, Assistant Professor, M.D., Aga Khan University, 2006
Ihab M. Almagdub, Assistant Professor, M.D., University of Tripoli Medical School, Libya, 2003
Yaser Al-Solaiman, Assistant Professor, M.D., University of Aleppo, 2002
Paul Anaya, Associate Professor, M.D., Ph.D., Baylor University, 1999
James W. Anderson, Professor Emeritus, M.D., Northwestern University, 1961
Lowell Brian Anthony, Professor, M.D., Vanderbilt University, 1979
Srinivasa Reddy Appakondu, Assistant Professor, M.B.B.S., Bangalore Medical College, 1994
Beth Joleen Arnold, Instructor, M.D., University of Nebraska Medical Center, 2007
Susanne Markesbery Arnold, Professor, M.D., Kentucky, 1992
Nizar M. Attallah, Associate Professor, M.B.B.S., University of Jordan, 1998
Joseph E.W.M. Auer, Assistant Professor, M.D., Kentucky, 2005
Edwin J. Avallone, Instructor, D.O., West Virginia School of Osteopathic Medicine, 2012
Taha Ayach, Assistant Professor, M.D., Lebanese University, 2007
Alison LoAnn Bailey, Associate Professor, M.D., Kentucky, 2001
Paula Bailey, Assistant Professor, M.D., MHA, Kentucky, 2000
Siddharth A. Bale, Assistant Professor, M.D., JJM Medical College, 2007
Terrence Anthony Barrett, Professor, M.D., University of Illinois Medical C, 1983
Eric Salomon Bensadoun, Professor, M.D., McGill University, 1986
Rolando Berger, Professor, M.D., University of San Carlos, Guatemala, 1974
Deidra D. Beshear, Assistant Professor, M.D., Kentucky, 1999
David Coriell Booth, Professor, M.D., University of Texas Health Science Center, 1974
Antonio Bosch, Associate Professor, M.D., University of Wisconsin-Madison, 1993
Bruce Edward Bradley, Assistant Professor, M.D., University of the Orange Free State, 2003
Leslie B. Branch, Professor, M.D., University of North Carolina, 1965
Deborah J. Brandewie, Assistant Professor, M.D., University of Cincinnati, 1988
Jason Anthony Brandon, Assistant Professor, Ph.D., University of Central Lancashire, 2004
Dennis Christopher Bruemmer, Associate Professor, M.D., Ph.D., University of Hamburg, 1998
Ketan P. Buch, Associate Professor, M.D., Kasturba Medical College, 1991
Nausherwan K. Burki, Professor Emeritus, M.D., Ph.D., King Edward Medical College, 1962
Leigh Ann Callahan, Professor, M.D., Medical College of Georgia, 1984
Charles Larry Campbell, Professor, M.D., Michigan State University, 1996
Larry Curtis Cary, Associate Professor, M.D., Kentucky, 2004
Ana Lia Castellanos, Associate Professor, M.D., Universidad Nacional Autonoma de

Honduras, 1998
Timothy Shawn Caudill, Professor, M.D., Kentucky, 1985
Jagriti Jhamb Chadha, Assistant Professor, MBBS, University College of Medical Sciences, 2003
Romil Chadha, Assistant Professor, M.B.B.S., University College of Medical Sciences, 2003
Mara Deon Chambers, Assistant Professor, M.D., University of Louisville, 1993
Craig A. Chasen, Associate Professor, M.D., Upstate Medical Center, 1979
Robert W. Collins, Associate Professor, M.D., Kentucky, 1986
Sonia Vishin Compton, Assistant Professor, M.D., Wayne State University, 2005
Angel Oswaldo Coz-Yataco, Assistant Professor, M.D., Universidad Peruana Cayetano Heredia, 2004
Lauren Nicole Craig, Assistant Professor, M.D., Kentucky, 2011
Jeremy D. Cumberledge, Instructor, M.D., Marshall University, 2012
Yousef Heidi Darrat, Assistant Professor, M.D., University of Al Fateh, 2002
John L. Davisson, Instructor, M.D., Indiana University, 2012
Frederick C. de Beer, Professor, M.D., University of Pretoria, 1983
Willem J.S. de Villiers, Professor, M.D., Ph.D., University of Stellenbosch, 1983
Angela Tackett Dearinger, Associate Professor, M.D., Kentucky, 2001
Kristy Sheffel Deep, Associate Professor, M.D., Kentucky, 2003
Anna Christina Lacson Dela Cruz, Assistant Professor, M.D., University of Santo Tomas, 2004
Megha Mahavir Shah Desai, Assistant Professor, M.D., University of Louisville, 2004
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Rudolph M. Tovar, Assistant Professor, M.D., University of Texas Health Science Center, 2002
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Frederick Rand Ueland, Professor, M.D., Bowman-Gray School of Medicine, 1990
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OPHTHALMOLOGY AND VISUAL SCIENCES

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Jayakrishna Ambati, Professor, M.D., State University of New York, 1994
Peter James Blackburn, Assistant Professor, M.D., University of Colorado-Denver, 1997
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Bradley David Gelfand, Assistant Professor, Ph.D., University of Virginia, 2009
Eric Benjamin Higgins, Assistant Professor, M.D., Medical College of Georgia, 2006
James S. Hunsaker, Assistant Professor, OD, Southern College of Optometry, 1977
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Douglas G. Katz, Associate Professor, M.D., University of Michigan-Ann Arbor, 1994
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Sharon M. Napier, Assistant Professor, M.D., Kentucky, 1994
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Brian Jeffrey Raisler, Assistant Professor, Ph.D., University of Florida, 2003
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Kyle G. Thompson, Instructor, M.D., Pennsylvania State University, 2009
Peter John Timoney, Assistant Professor, M.D., University of Dublin, 2002
Woodford Spears VanMeter, Professor, M.D., Vanderbilt University, 1979
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ORTHOPAEDIC SURGERY

Darren L. Johnson, Chair

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Christian Christensen, Assistant Professor, M.D., Vanderbilt University, 1992
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PATHOLOGY AND LABORATORY MEDICINE

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Jenna L. Ross, Assistant Professor, M.D., University of Louisville, 1999
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Douglas Schneider, Associate Professor, M.D., University of New Mexico, 1988
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Jane Ellen Seyler, Assistant Professor, M.D., M.S., Washington University, 1973
Asha Narasimha Shenoi, Assistant Professor, M.D., University of Kerala, 2000
Lori A. Shook, Professor, M.D., Creighton University, 1983
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Carol L. Steltenkamp, Professor, M.D., MBA, University of Cincinnati, 1987
Stephanie Stockburger, Assistant Professor, M.D., Kentucky, 2008
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Mark Vranicar, Associate Professor, M.D., Loyola University of Chicago, 1992
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Carmel Wallace, Professor, M.D., Kentucky, 1975
Linda Rae Walters, Associate Professor Emeritus, M.D., Indiana University, 1962
H. David Wilson, Professor Emeritus, M.D., St Louis University, 1966
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John Andrew Yozwiak, Assistant Professor, Ph.D., Kentucky, 2003
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PHARMACOLOGY AND NUTRITIONAL SCIENCES

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James W. Flesher, Professor Emeritus, Ph.D., Loyola University of Chicago, 1958
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Jia Luo, Professor, Ph.D., University of Iowa, 1995
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Kevin Joseph Pearson, Associate Professor, Ph.D., University of Cincinnati, 2005
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PHYSICAL MEDICINE AND REHABILITATION

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PHYSIOLOGY

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Allen J. Brenzel, Associate Professor, M.D., University of Louisville, 1988
Cletus Savio Carvalho, Associate Professor, M.D., Jawaharlal Mehru University., 1990
Todd R. Cheever, Associate Professor, M.D., Kentucky, 1991
Andrew T. Cooley, Associate Professor, M.D., University of Arkansas, 1987
Kristin L. Dawson, Assistant Professor, M.D., Kentucky, 2007
Jose deLeon, Professor, M.D., University of Navarre, 1982
Fiona Mary Doherty, Assistant Professor, M.D., the Royal College of Physicians, 1985
Diane Ruth Follingstad, Professor, Ph.D., University of Colorado, 1974
Peter J. Gager, Assistant Professor, Ph.D., Rutgers University, 1998
Teresa G. Gevedon, Associate Professor, M.D., Kentucky, 1983
Brian Alan Greenlee, Assistant Professor, M.D., Marshall University, 1998
James Donald Hawthorne, Assistant Professor, M.D., Kentucky, 2010
Lon R. Hays, Professor, M.D., MBA, Kentucky, 1982
William Michael Heffron, Associate Professor, M.D., Kentucky, 1972
Kelly K. Hill, Associate Professor, M.D., Marshall University, 1986
Laurie Lee Humphries, Professor Emeritus, M.D., Emory University, 1973
Lindsey Jayne Jasinski, Assistant Professor, Ph.D., Kentucky, 2010
Hans Otto Kaak, Professor, M.D., University of Michigan, 1964
Robert Francis Kraus, Professor Emeritus, M.D., University of Wisconsin, 1955
Gentry C. LaRue, Assistant Professor, M.D., Kentucky, 1986
J. Scott Littleton, Assistant Professor, M.D., University of Louisville, 1985
Arnold M Ludwig, Professor Emeritus, M.D., University of Pennsylvania, 1958
Virginia H. Luftman, Assistant Professor, LCSW, Ph.D., Kentucky, 2009
Catherine A. Martin, Professor, M.D., Kentucky, 1976
Edward Nisbet Maxwell, Associate Professor, M.D., Kentucky, 1971
Amy Lynn Meadows, Assistant Professor, M.D., Yale University, 2008
Manish Manmadhan Nair, Assistant Professor, M.D., International American University, 2008
Matthew John Neltner, Assistant Professor, M.D., Kentucky, 2005
James C. Norton, Professor, Ph.D., University of Arizona, 1970
John D. Ranseen, Associate Professor, Ph.D., Ohio University, 1982
Abner Oliver Rayapati, Assistant Professor, M.D., Spartan Health Sciences University, 2007
Sara C. Rochester, Assistant Professor, M.D., Marshall University, 1985
Charles I. Shelton, Assistant Professor, D.O., West Virginia School of Osteopathic Medicine, 1989
Robert E. Simon, Assistant Professor, M.D., Kentucky, 1994
Mary V. Sprang, Professor, Ph.D., University of Texas at Austin, 1991
Marian Swope, Associate Professor, M.D., Kentucky, 1989

RADIATION MEDICINE

Marcus E. Randall, Chair

Prakash Aryal, Instructor, Ph.D., Kentucky, 2014
Dennis A. Cheek, Assistant Professor, Ph.D., University of Texas School Allied Health, 2005
Jonathan M Feddock, Assistant Professor, M.D., Kentucky, 2007
Ellis Lee Johnson, Associate Professor, Ph.D., Kentucky, 1993
Mahesh Ravindra Kudrimoti, Professor, M.B.B.S., Osmania Uni., 1992
Wei Luo, Assistant Professor, Ph.D., University of Oklahoma, 2002
Ronald Charles McGarry, Professor, M.D., Ph.D., University of Calgary, 1992
Janelle Arlene Molloy, Professor, Ph.D., University of Virginia, 1990
Pushpa M. Patel, Associate Professor, M.D., University of Bombay, 1973
Marcus E. Randall, Professor, M.D., University of North Carolina, 1982
Vivek M. Rangnekar, Professor, Ph.D., University of Bombay, 1983
Robin A. Reams, Assistant Professor, M.D., Kentucky, 1981
Marguerite A. Sellitti, Assistant Professor, M.D., Ph.D., State University of New York, 1988
William H. St. Clair, Professor, M.D., Ph.D., Kentucky, 1995
Robert D. Zwicker, Professor Emeritus, Ph.D., Kentucky, 1972

RADIOLOGY

Mary Elizabeth Oates, Chair

Abdulnasser Ahmed Alhajeri, Assistant Professor, M.D., Arabian Gulf University, 1999
Andres Rodriguez Ayoob, Assistant Professor, M.D., Manama, Bahrain, 1999
Francesca D. Beaman, Assistant Professor, M.D., University of Florida, 2000
Gustav Arthur Blomquist, Assistant Professor, M.D., Vanderbilt University, 2004
Michael A. Brooks, Associate Professor, M.D., University of Florida, 1997
Matthew E.L. Christy, Assistant Professor, M.D., St. Louis University, 2006
Gary R Conrad, Associate Professor, M.D., Kentucky, 1977
Billy E. Cunningham, Assistant Professor, D.O., Kirksville College of Osteopathic Medicine, 1971
Adrian Alexander Dawkins, Assistant Professor, M.B.B.S., University of the West Indies, 1999
Carol M. Dell, Assistant Professor, M.D., University of Alabama-University College, 1981
Johanne Elizabeth Dillon, Assistant Professor, M.D., Medical College of PA, 1997
David Joseph DiSantis, Professor, M.D., University of Pennsylvania, 1979
Daniel Vu Do, Assistant Professor, M.D., Louisiana State University-Shrev, 2008
Edward Joel Escott, Associate Professor, M.D., Albany Medical College, 1989
Gaby E. Gabriel, Assistant Professor, M.D., American University in Beirut, 2005
Halemane S. Ganesh, Assistant Professor, M.D., Government Medical College, 1999
Richard Dennis Gibbs, Assistant Professor, M.D., University of Cincinnati, 1988
Eduardo R. Gomez, Assistant, M.D., Loyola University of Chicago, 1981
Peter A. Hardy, Assistant Professor, Ph.D., University of Toronto, 1991
Stephen Blake Hobbs, Assistant Professor, M.D., Vanderbilt University, 2007
June Kim, Assistant Professor, M.D., Mount Sinai School of Medicine, 2003

Joseph G. King, Associate Professor, M.D., University of Alabama-University College, 1981
Steven John Krohmer, Assistant Professor, M.D., George Washington University, 2004
Stacey L. Langford, Assistant Professor, M.D., St. University of NY Upstate Medical Center, 2009
James Te-An Lee, Assistant Professor, M.D., Texas Tech University, 2004
Arthur Lieber, Professor, M.D., University of Louisville, 1953
Conor M. Lowry, Assistant Professor, M.D., St. Louis University, 2009
Douglas Edward Lukins, Assistant Professor, M.D., Indiana University, 2006
Aurora Y. Luna, Instructor, M.D., San Juan Bautista School of Medicine, 2010
Gary Louis Merhar, Associate Professor, M.D., University of Cincinnati, 1978
Justin Royse Montgomery, Assistant Professor, M.D., University of Louisville, 2006
Rashmi T. Nair, Assistant Professor, M.B.B.S., JIPMER, Pondicherry, India, 1995
David James Nickels, Assistant Professor, M.D., MBA, Kentucky, 2005
Mary Elizabeth Oates, Professor, M.D., Boston University, 1981
Kwaku K, Obeng, Assistant Professor, M.D., Temple University, 2004
Joseph W. Owen, Assistant Professor, M.D., Kentucky, 2009
Barbara Kenney Pawley, Assistant Professor, M.D., University of Louisville, 1991
Miguel A. Pereira Podriguez, Assistant Professor, M.D., Medical College of Georgia, 2009
Driss Raissi, Assistant Professor, M.D., Universidad del Pais Vasco, Spain, 2005
Flavius Daniel Raslau, Assistant Professor, M.D., U of Health Science Medical School, 2005
Ung Yun Ryo, Professor Emeritus, M.D., Ph.D., Kyung-Pook National University, 1960
Albert C Selke Jr, Professor Emeritus, M.D., University of Pennsylvania, 1959
Wei-Jen Shih, Professor Emeritus, M.D., National Defense Medical Center
School of Medicine Taipei, Taiwan, 1963
Partha Sinha, Associate Professor, M.D., University of Calcutta, 1988
Paul James Spicer, Assistant Professor, M.D., Meharry Medical College Nashville, TN, 2004
Scott D. Stevens, Associate Professor, M.D., Duke University, 1983
David V. Strain, Assistant Professor, M.D., Thomas Jefferson University, 2009
Margaret Maria Szabunio, Professor, M.D., Hahnemann Medical College, 1984
Jeremy Wayne Thacker, Assistant Professor, M.D., Kentucky, 2005
Jennifer F. True, Assistant Professor, M.D., Kentucky, 2006
Charl S. van Wyk, Assistant Professor, MBChB, University of Pretoria, 1992
Yonker Y. Wang, Assistant Professor, M.D., Harbin Medical College, 1983
Michael Alan Winkler, Assistant Professor, M.D., University of Chicago, 1998
Marianna Zagurovskaya, Assistant Professor, M.D., Almaty State Medical Institute, 1998
Jie Zhang, Associate Professor, Ph.D., University of Minnesota, 2004

SURGERY

Joseph Bertram Zwischenberger, Chair

Abulla Attum, Assistant Professor, M.D., Al-Azhar University, 1970
Cherry Ballard-Croft, Assistant Professor, Ph.D., University of South Alabama, 1998
Erik Q. Ballert, Associate Professor, M.D., University of Louisville, 2001
Maher A. Baz, Professor, M.D., American University in Beirut, 1989
Sandra Jones Beck, Associate Professor, M.D., Wright State University, 1995
Andrew C. Bernard, Associate Professor, M.D., Kentucky, 1995
Joseph Louis Bobadilla, Assistant Professor, M.D., University of Wisconsin-Madison, 2003
Anthony James Bottiggi, Assistant Professor, M.D., SUNY of Buffalo, 2000
Bernard R. Boulanger, Professor, M.D., University of Toronto, 1985
William Charles Cavatassi, Assistant Professor, M.D., W Virginia University, 2005
Phillip K. Chang, Associate Professor, M.D., Eastern Virginia Medical School, 1999
Richard P. Cochran, Assistant Professor, M.D., Emory University, 1978
Alfred Martin Cohen, Professor Emeritus, M.D., Johns Hopkins University, 1967
Ann Reynolds Connor, Assistant Professor, M.D., University of Chicago, 1979
Christopher Lee Culpepper, Assistant Professor, M.D., University of Tennessee-Medical, 2007
Michael F. Daily, Associate Professor, M.D., University of Utah, 2000
Daniel L. Davenport, Associate Professor, Ph.D., Kentucky, 2006
Sean P. Dineen, Assistant Professor, M.D., University of Louisville, 2003
John Martin Draus, Associate Professor, M.D., University of Louisville, 2002
Eric D. Endean, Professor, M.D., University of Michigan-Ann Arbor, 1980
B. Mark Evers, Professor, M.D., University of Tennessee-Medical, 1983
Victor A. Ferraris, Professor, M.D., Ph.D., Thomas Jefferson University, 1977
Roberto Gedaly, Associate Professor, M.D., Universidad Central de Venezuela, 1990
James F Glenn, Professor Emeritus, M.D., Duke University, 1952
Jesse Goddard, Instructor, M.D., St. George's University, 2007
William W Green, Professor Emeritus, Ph.D., Case Western Reserve University, 1970
Patrick F. Hagihara, Professor Emeritus, M.D., Albany Medical College, 1960
Jon S. Hourigan, Associate Professor, M.D., East Tennessee State University, 2000
Gordon Lee Hyde, Professor Emeritus, M.D., University of Michigan, 1957
Joseph A. Iocono, Associate Professor, M.D., Thomas Jefferson University, 1993
Herbert Kaufer, Professor Emeritus, M.D., University of Michigan, 1959
Paul A. Kearney, Professor, M.D., Thomas Jefferson University, 1980
Daniel Edward Kenady, Professor, M.D., Georgetown University, 1972
Cortney Youens Lee, Assistant Professor, M.D., Texas Tech University, 2004
Jing Li, Assistant Professor, Ph.D., Harbin Medical Col., 1999
James Yhi Liau, Assistant Professor, M.D., Kentucky, 2004
Amy L. Lipscomb, Associate Professor, M.D., West Virginia University, 1999
Angela Lee Mahan, Assistant Professor, M.D., University of Louisville, 2006
Francesc Marti, Assistant Professor, Ph.D., University of Barcelona, 1995
Jeremiah Thomas Martin, Assistant Professor, M.D., the Royal College of Surgeons, 2003
Erin C. Maynard, Assistant Professor, M.D., Ohio State University, 2006
Patrick C. McGrath, Professor, M.D., University of Illinois Medical C, 1980
David J. Minion, Professor, M.D., Indiana University, 1989
Timothy W. Mullett, Professor, M.D., University of Florida, 1983
Melissa R. Newcomb, Assistant Professor, M.D., Kentucky, 2008
Christopher D. Nicholas, Assistant Professor, M.D., University of Iowa, 1995
Nathan T. Orr, Assistant Professor, M.D., University of Texas Southwestern, 2008
Jitesh Arvind Patel, Assistant Professor, M.D., U of Med & Dent of NJ RW Johnson, 2003
Levi David Procter, Assistant Professor, M.D., Kentucky, 2006
Samuel J. Pruden, Instructor, M.D., University of Louisville, 1997
Andrew R. Pulito, Professor, M.D., Columbia University School of General, 1969
Hassan K. Reda, Associate Professor, M.D., American University in Beirut, 1995
Brian D. Rinker, Associate Professor, M.D., Yale University, 1996
Anna Kure Rockich, Assistant Professor, PharM.D., Kentucky, 1998
John Scott Roth, Professor, M.D., Virginia Commonwealth University-Acade, 1993
Ana Ruzic, Assistant Professor, M.D., Kentucky, 2005
Piotr G. Rychahou, Assistant Professor, M.D., Foreign Institution, 2002
Sibu P. Saha, Professor, M.D., MBA, University of Rajshahi, 1966
Hiroshi Saito, Associate Professor, Ph.D., University of Tokyo, 1987
Michael E. Sekela, Professor, M.D., Yeshiva University, 1981
Alexis E. Shafii, Associate Professor, M.D., University of South Florida, 2002
Malay Bipin Shah, Assistant Professor, M.D., Medical College of Ohio, 2003
James H. Shoptaw, Assistant Professor, M.D., Medical College of Georgia, 1989
Sean C. Skinner, Assistant Professor, M.D., Ross University, 1999
David A. Sloan, Professor, M.D., McGill University, 1977
Marlene Elena Starr, Assistant Professor, Ph.D., University of Texas Medical, 2011
Daniel H. Stewart, Associate Professor, M.D., W Virginia University, 1980
Louis A. Suarez, Assistant Professor, M.D., University of Illinois Medical College, 1974
Cynthia Leigh Talley, Assistant Professor, M.D., University of Tennessee-Medical, 2004
Paul B. Tessmann, Assistant Professor, M.D., University of North Dakota, 2003
Stuart Tobin, Associate Professor, M.D., University of Missouri Columbia Campus, 1971
Brian Keith Tucker, Assistant Professor, D.O., Pikeville College, 2002
Ching-Wei D. Tzeng, Assistant Professor, M.D., University of Alabama-University College, 2003
Henry C. Vasconez, Professor, M.D., Central University of Ecuador, 1978
Dongfang Wang, Associate Professor, M.D., Ph.D., Hubei University, 1984
Qingding Wang, Assistant Professor, M.D., Ph.D., Institute of Beijing Pharmacology and Toxicology, 1994
Heidi L Weiss, Professor, Ph.D., South Carolina, 1993
John Emil Wennergren, Instructor, M.D., University of Colorado-Denver, 2009
Lesley Wong, Associate Professor, M.D., Cornell University, 1982
Theodore Scott Wright, Assistant Professor, M.D., University of Virginia, 1995
Eleftherios S. Xenos, Associate Professor, M.D., University of Athens, 1989
Joseph Bertram Zwischenberger, Professor, M.D., Kentucky, 1977

TOXICOLOGY AND CANCER BIOLOGY

Mary Vore, Chair

Luksana Chaiswing, Assistant Professor, Ph.D., Mahidol University, 2004
Min Chen, Assistant Professor, Ph.D., University of Texas Medical, 2011
Whei-Mei T. Fan, Professor, Ph.D., University of California-Davis, 1983
Jian Fu, Associate Professor, Ph.D., University of Alabama-University College, 2001
Chandra Gary Gairola, Professor Emeritus, Ph.D., University of Illinois-Urbana, 1969
Liya Gu, Associate Professor, Ph.D., Wayne State University, 1992
Richard Masato Higashi, Professor, Ph.D., University of California-Davis, 1987
Tadahide Izumi, Associate Professor, Ph.D., Kyoto University, 1993
Davy Jones, Professor, Ph.D., University of California-Davis, 1982
Andrew Nicholas Lane, Professor, Ph.D., University College London, London, England, 1979
Guo-Min Li, Professor, Ph.D., Wayne State University, 1991
Ying Liang, Assistant Professor, M.D., Kentucky, 2005
Amrita Machwe, Assistant Professor, Ph.D., University of Calgary, 1995
Isabel Mellon, Associate Professor, Ph.D., University of Illinois Medical C, 1984
David Keith Orren, Associate Professor, Ph.D., University of North Carolina, 1991
Christian Michael Paumi, Assistant Professor, Ph.D., Wake Forest University, 2003
Xianglin Shi, Professor, Ph.D., West Virginia University, 1989
Daret K. St. Clair, Professor, Ph.D., University of Iowa, 1984
Nathan Lane Vanderford, Assistant Professor, Ph.D., Kentucky, 2008
Mary Vore, Professor, Ph.D., Vanderbilt University, 1972
Zhigang Wang, Professor, Ph.D., University of Texas at Austin, 1989
Qiou Wei, Assistant Professor, Ph.D., University of South Dakota, 2005
Hsin-Sheng Yang, Associate Professor, Ph.D., Arizona State University, 1994
Zhuo Zhang, Associate Professor, Ph.D., West Virginia University, 2002

UROLOGY

Stephen Edward Strup, Chair

Katie N. Ballert, Associate Professor, M.D., University of Louisville, 2001
Jason Robert Bylund, Assistant Professor, M.D., Kentucky, 2005
Jon Stanley Demos, Associate Professor, M.D., Kentucky, 1975
Deborah R. Erickson, Professor, M.D., University of Missouri Columbia Campus, 1984
Shubham Gupta, Assistant Professor, M.B.B.S., All-India Ins. of Medical Science, 2005
Andrew C. James, Assistant Professor, M.D., University of Arkansas at Little Rock, 2007
Lewis J. Johnson, Instructor, D.O., Kansas City University of Medicine and Biosciences, 2007
Natasha Kyprianou, Professor, Ph.D., University of Wales, 1986
Bruce Allan Lucas, Professor, M.D., Duke University, 1965
J. William McRoberts, Professor Emeritus, M.D., Cornell University, 1959
David M. Preston, Assistant Professor, M.D., Emory University, 1990
Randall G. Rowland, Professor Emeritus, M.D., Ph.D., Northwestern University Medical School, 1972
Stephen Edward Strup, Professor, M.D., Indiana Central University, 1988
Ramakrishna Venkatesh, Professor, M.B.B.S., Bangalore Medical College, 1988
Ali M. Ziada, Associate Professor, M.D., Kasr ElAini Cairo University, Cairo, Egypt, 1991

COLLEGE OF NURSING

E. Janie Heath, Dean

Mollie E. Aleshire, Assistant Clinical Professor, D.N.P., Kentucky, 2010
Kacy T. Allen-Bryant, Lecturer, M.S.N., Kentucky, 2006
Debra G. Anderson, Associate Professor, Ph.D., Oregon, 1993
Kristin B. Ashford, Associate Professor, Ph.D., Kentucky, 2007
Ruth Assell, Associate Professor Emerita, M.S., Colorado, 1966
Leslie M. Beebe, Lecturer, M.S.N., Kentucky, 1988
Ruth D. Berry, Assistant Clinical Professor Emerita, M.S.N., Wayne State, 1964
Martha J. Biddle, Assistant Professor, Ph.D., Kentucky, 2011
Dorothy A. Brockopp, Professor Emerita, Ph.D., SUNY-Buffalo, 1982
Patricia V. Burkhart, Professor, Ph.D., Pittsburgh, 1996
Karen M. Butler, Associate Professor, D.N.P., Kentucky, 2006
Cathy A. Catlett, Lecturer, M.S.N., McKendree, 2009
Norma J. Christman, Associate Professor Emerita, Ph.D., Wayne State, 1980
Misook L. Chung, Associate Professor, Ph.D., Kentucky, 2001
Tammy L. Courtney, Lecturer, M.S.N., Indiana Wesleyan, 2015
Jennifer B. Cowley, Senior Lecturer, M.S.N., Kentucky, 1987
Amanda D. Culp-Roche, Clinical Instructor, M.S.N., Kentucky, 2009
Judith A. Daniels, Assistant Clinical Professor, Ph.D., Kentucky, 2004
Audrey Darville, Associate Clinical Professor, Ph.D., Kentucky, 2012
Rebecca L. Dekker, Assistant Professor, Ph.D., Kentucky, 2010
Jennifer L. Dent, Lecturer, M.S.N., Eastern Kentucky, 2011
Claudia M. Diebold, Senior Lecturer Emerita, M.S.N., Arkansas, 1993
Peggy El-Mallakh, Assistant Professor, Ph.D., Kentucky, 2005
Amanda Fallin, Assistant Research Professor, Ph.D., Kentucky, 2011
Lillian J. Findlay, Assistant Professor, Ph.D., Kentucky, 2012
Juanita Fleming, Professor Emerita, Ph.D., Catholic University, 1969
Janet L. Forren, Assistant Professor, Ph.D., Kentucky, 2009
Susan K. Frazier, Associate Professor, Ph.D., Ohio State, 1996
Stephanie J. Fugate, Clinical Instructor, M.S.N., Kentucky, 2007
Beatrice Gaunder, Associate Professor Emerita, M.S.N., SUNY-Buffalo, 1973; M.S.Ed., Niagara, 1973
Evelyn Geller, Associate Professor Emerita, M.S.N., Catholic University, 1963; M.Ed., Columbia, 1972
Carrie M. Gordy, Assistant Clinical Professor, M.S.N., Kentucky, 1994
Margaret R. Grier, Professor Emerita, Ph.D., Texas Woman's University, 1975
Ellen J. Hahn, Professor, Ph.D., Indiana, 1991
Julia J. Hall, Lecturer, M.S.N., Kentucky, 2004
Lynne A. Hall, Professor Emerita, Dr.P.H., North Carolina-Chapel Hill, 1983
Debra C. Hampton, Assistant Professor, Ph.D., Cincinnati, 1996
Frances Hardin-Fanning, Assistant Professor, Ph.D., Kentucky, 2010
Melanie Hardin-Pierce, Associate Professor, D.N.P., Kentucky, 2006
Jenna Hatcher, Associate Professor, Ph.D., Kentucky, 2006
E. Janie Heath, Professor, Ph.D., George Mason, 2005
Angela B. Hensley, Clinical Instructor, D.N.P., Cincinnati, 2013
Margaret Hickman, Associate Professor Emerita, Ed.D., Ball State, 1982
Patricia B. Howard, Professor, Ph.D., Kentucky, 1992
Dianna D. Inman, Assistant Professor, D.N.P., Arizona State, 2009
Lynne A. Jensen, Associate Clinical Professor, Ph.D., Kentucky, 2007
Mikael Jones,* Clinical Assistant Professor, Pharm.D., Florida, 2002
Thomas H. Kelly,* Associate Dean for Research, Ph.D., Minnesota, 1983
Lynn A. Kelso, Assistant Clinical Professor, M.S.N., Case Western Reserve, 1991
Sarah E. Kercsmar,* Lecturer, Ph.D., Kentucky, 2007
Nancy R. Kloha, Assistant Clinical Professor, D.N.P., Kentucky, 2011
Paula R. Kral, Lecturer, M.S.N., Kentucky, 1986
Whitney L. Kurtz-Ogilvie, Lecturer, M.F.A., School of the Art Institute of Chicago, 2005
Gretchen LaGodna, Professor Emerita, Ph.D., Kentucky, 1975
Terry A. Lennie, Professor, Ph.D., Wisconsin-Madison, 1993
Ana Maria Linares, Assistant Professor, D.N.S., Universidad Autonoma de Nuevo Leon, Mexico, 2006
Sharon E. Lock, Professor, Ph.D., South Carolina-Columbia, 1990
Wanda Lovitz, Clinical Instructor, M.S.N., Bellarmine, 1998
Regina C. Lowry, Senior Lecturer Emerita, Ph.D., Kentucky, 2007
Joanne M. Matthews, Assistant Clinical Professor, D.N.P., Kentucky, 2012
Sheila D. Melander, Professor, Ph.D., Alabama-Birmingham, 1990
Debra K. Moser, Professor, D.N.Sc., California-Los Angeles, 1992
Gia T. Mudd-Martin, Associate Professor, Ph.D., Texas Health Science Center at Houston, 2007
Chizimuzo T.C. Okoli, Assistant Professor, Ph.D., Kentucky, 2005
Ann R. Peden, Professor Emerita, D.S.N., Alabama-Birmingham, 1991
Mary K. Rayens, Professor, Ph.D., Kentucky, 1993
Deborah B. Reed, Professor, Ph.D., Kentucky, 1996
Carol Riker, Associate Professor Emerita, M.S.N., Kentucky, 1974
Kay Robinson, Associate Professor Emerita, D.S.N., Alabama-Birmingham, 1995
Graham D. Rowles,* Professor, Ph.D., Clark, 1976
Barbara A. Sachs, Professor Emerita, Ph.D., Wayne State, 1981
Kathryn Sallee, Associate Professor Emerita, M.N., Emory, 1971
Elizabeth G. Salt, Associate Professor, Ph.D., Kentucky, 2009
Laura C. Schrader, Lecturer, M.S.N., Kentucky, 2000
Leslie K. Scott, Associate Professor, Ph.D., Kentucky, 2004
Juliann G. Sebastian, Professor Emerita, Ph.D., Kentucky, 1994
Sharon L. Sheahan, Associate Professor Emerita, Ph.D., Kentucky, 1990
Marcia K. Stanhope, Professor Emerita, D.S.N., Alabama-Birmingham, 1981
Ruth R. Staten, Associate Professor Emerita, Ph.D., Kentucky, 1996
Karen A. Stefaniak, Adjunct Assistant Professor, Ph.D., Kentucky, 1998
Carol L. Thompson, Professor, Ph.D., Case Western Reserve, 1989; D.N.P., Tennessee Health Science Center, 2009
Elizabeth Gressle Tovar, Associate Professor, Ph.D., Texas Medical Branch at Galveston, 2007
Kathleen D. Wagner, Lecturer Emerita, Ed.D., Kentucky, 2006
Lee Anne Walmsley, Lecturer, Ph.D., Kentucky, 2015
Sherry Warden, Associate Professor Emerita, Ph.D., Kentucky, 1990
Nora E. Warshawsky, Assistant Professor, Ph.D., North Carolina-Chapel Hill, 2011
J. Darlene Welsh, Associate Professor, Ph.D., Kentucky, 2006
Jo Ann Wever, Associate Professor Emerita, M.S.N., Kentucky, 1976
Amanda T. Wiggins, Lecturer, Ph.D., Kentucky, 2013
Carolyn A. Williams, Professor, Dean Emerita, Ph.D., North Carolina-Chapel Hill, 1969
Jessica L. Wilson, Assistant Clinical Professor, Ph.D., Kentucky, 2012
John F. Wilson,* Professor, Ph.D., Michigan, 1977
Cheryl D. Witt, Lecturer, M.S.N., Cincinnati, 2013
Rebecca B. Yarrison,* Assistant Clinical Professor, Ph.D., Oklahoma, 2009
Louise Zegeer, Professor Emerita, M.S.N., Case Western Reserve, 1959

*Joint Appointment

COLLEGE OF PHARMACY

Kelly M. Smith, Interim Dean

PHARMACY PRACTICE AND SCIENCE

Aimee G. Adams, Adjunct Assistant Professor, Pharm.D., Cincinnati, 1994
Val R. Adams, Associate Professor, Pharm.D., Texas at Austin (jointly w/ UT Health Science Center at San Antonio), 1993
Harrison Bachmeier, Adjunct Assistant Professor, Pharm.D., Florida, 2011
Abby M. Bailey, Adjunct Assistant Professor, Pharm.D., Kentucky, 2011
Regan Baum, Adjunct Assistant Professor, Pharm.D., Kentucky, 2012
Karen M. Blumenschein, Associate Professor, Pharm.D., Kentucky, 1991
Ralph E. Bouvette, Adjunct Associate Professor, Ph.D., J.D., Kentucky, 1991
Sara Brouse, Adjunct Associate Professor, Missouri-Kansas City Cam, 1997
Kimberley L. Brantley-Hite, Adjunct Assistant Professor, MH PHAR, Ohio State, 1989
Jeffrey Cain, Adjunct Assistant Professor, Ph.D., Kentucky, 2007
Christina Carracedo, Adjunct Assistant Professor, Florida, 2011
Timothy M. Clifford, Adjunct Associate Professor, Pharm.D., Kentucky, 1998
Aaron M. Cook, Adjunct Associate Professor, Pharm.D., Kentucky, 2000
George A. Davis, Adjunct Associate Professor, Pharm.D., Arkansas at Little Rock 1993
Holly S. Divine, Clinical Associate Professor, Pharm.D., Kentucky, 1998
Jessie Dunne, Adjunct Assistant Professor, Pharm.D., Iowa, 2005
David J. Feola, Associate Professor, Pharm.D., Kentucky, 1997
Joseph L. Fink III, Professor, J.D., Georgetown, 1973
Alexander H. Flannery, Adjunct Assistant Professor, Pharm.D., Kentucky, 2011
Jeremy Flynn, Adjunct Associate Professor, Pharm.D., Kentucky, 1999
Brian Gardner, Adjunct Assistant Professor, Pharm.D., Kentucky, 1999
Daniel Grantz, Adjunct Assistant Professor, Pharm.D, Kentucky, 2004
Jimmi C. Hatton, Professor, Pharm.D., Kentucky, 1984

Mikael Jones, Clinical Associate Professor, Pharm.D., Florida, 2002
Shelley "Mandy" Jones, Clinical Assistant Professor, Pharm.D., Florida, 2002
Scott E. Kincaid, Adjunct Assistant Professor, Pharm.D., West Virginia, 2005
Robert J. Kuhn, Professor, Pharm.D, Texas at Austin, 1984
Matthew T. Lane, Clinical Associate Professor, Pharm.D., Kentucky, 1993
Amber Lawson, Adjunct Assistant Professor, Pharm.D., Kentucky, 2002
Noelle R. Leung, Adjunct Assistant Professor, Pharm.D., Kentucky, 2009
Katie Long, Adjunct Assistant Professor, Pharm.D., Kentucky, 2011
Melanie Mabins, Clinical Assistant Professor, Pharm.D., Kentucky, 2004
Tracy Macaulay, Adjunct Associate Professor, Pharm.D., South Carolina, 2003
Barbara L. Magnuson, Adjunct Associate Professor, Pharm.D., Kentucky, 1990
Craig A. Martin, Clinical Associate Professor, Pharm.D., Kentucky, 1999
Tera McIntosh, Clinical Assistant Professor, Pharm.D., Kentucky, 2001
Christopher M. Miller, Clinical Assistant Professor, Pharm.D., Kentucky, 2003
Trenika R. Mitchell, Clinical Assistant Professor, Pharm.D., Mississippi, 2004
Ion "Adi" Mitrache, Research Assistant Professor, M.D., "Iuliu Hattieganu", Cluj-Napaco, Romania, 1999
Daniela Moga, Assistant Professor, Ph.D., M.D., Iowa, 2012
Komal Pandya, Adjunct Assistant Professor, Pharm.D., California, 2009
Sara Parli, Adjunct Assistant Professor, Pharm.D., Kentucky, 2010
Mary M. Piascik, Professor, Ph.D., Ohio State, 1978
Anne Policastri, Clinical Assistant Professor, Pharm.D., Kentucky, 1982
Kenneth E. Record, Associate Professor, Pharm.D., Kentucky, 1978
Patricia E. Rippetoe Freeman, Clinical Associate Professor, Ph.D., Kentucky, 1991
Kenneth B. Roberts, Professor, Ph.D., Mississippi, 1975
Frank Romanelli, Professor, Pharm.D., Kentucky, 1996
Melody Ryan, Professor, Pharm.D., Kentucky, 1993
Kelly M. Smith, Professor, Pharm.D., Georgia, 1993
Stephanie Sutphin, Adjunct Assistant Professor, Pharm.D., Kentucky, 1995
Jeffery C. Talbert, Professor, Ph.D., Texas A & M, 1995
Melissa Thompson Bastin, Adjunct Assistant Professor, Pharm.D., South Carolina, 2001
Daniel P. Wermeling, Professor, Pharm.D., Kentucky, 1983
P. S. Winstead, Adjunct Assistant Professor, Pharm.D., Kentucky, 1999

PHARMACEUTICAL SCIENCES

Bradley D. Anderson, Professor, Ph.D., Kansas, 1978
Younsoo Bae, Associate Professor, Ph.D., Tokyo, 2005
Björn Bauer, Associate Professor, Ph.D., University of Heidelberg, 2002
Esther P. Black, Associate Professor, Ph.D., Florida, 1997
Paul M. Bummer, Associate Professor, Ph.D., Wisconsin-Madison, 1987
Lisa Cassis, Joint Professor, R.Ph., West Virginia; Ph.D., West Virginia, 1984
Joe Chappell, Professor, Ph.D., California, Santa Cruz, 1981
Patrick P. Deluca, Professor Emeritus, Ph.D., Temple, 1963
George Digenis, Professor Emeritus, Ph.D., Wisconsin, 1964
Linda P. Dwoskin, Professor, Ph.D., Minnesota, 1983
Sylvie Garneau-Tsodikova, Associate Professor, Ph.D., Alberta, 2003
Gregory A. Graf, Associate Professor, Ph.D., Kentucky, 2000
Peixuan Guo, Professor, Ph.D., Minnesota, 1987
Farzin Haque, Research Assistant Professor, Ph.D., Purdue, 2008
Kyung Bo Kim, Associate Professor, Ph.D., Ohio State, 1997
Wooin Lee, Adjunct Assistant Professor, Ph.D., SUNY at Buffalo, 2002
Markos Leggas, Associate Professor, Ph.D., Tennessee-Medical, 2004
Robert A. Lodder, Professor, Ph.D., Indiana, 1988
Charles D. Loftin, Associate Professor, Ph.D., North Carolina, 1995
William C. Lubawy, Professor Emeritus, Ph.D., Ohio State, 1972
Patrick J. McNamara, Professor, Ph.D., SUNY at Buffalo, 1979
Eric Munson, Professor, Ph.D., Texas A&M, 1993
Kimberly Nixon, Associate Professor, Ph.D., Texas at Austin, 2000
Daniel Pack, Professor, Ph.D., California Institute of Technology, 1997
James R. Pauly, Professor, Ph.D., Marquette, 1986
Hui Peng, Research Assistant Professor, M.D., Tongi Medeical College of Huazhong University of Science and Technology, 1992
Todd D. Porter, Associate Professor, Ph.D., Illinois-Chicago, 1981
Jurgen Rohr, Professor, Ph.D., University of Gottingen, 1984
Dan Shu, Research Associate Professor, M.D., Tongji Medical University China, 1990
Shanteri Singh, Research Assistant Professor, Tata Institute of Fundamental Research, India, 1996
Hsin-Hsiung Tai, Professor, Ph.D., Wisconsin-Madison, 1970
Jon Thorson, Professor, Ph.D., Minnesota, 1993
Timothy Tracy, Professor, Ph.D., Purdue, 1988
Oleg Tsodikov, Associate Professor, Ph.D., Wisconsin-Madison, 1998
Meenakshi Upreti, Research Assistant Professor, Jawaharlal Nehru University, India, 2003
Steven Van Lanen, Associate Professor, Ph.D., Portland State, 2003
Sarah Walsh, Joint Professor, Ph.D., Rutgers, 1990
Dave Watt, Joint Professor, Ph.D., Harvard, 1972
Robert A. Yokel, Professor, Ph.D., Minnesota, 1973
Chang-Guo Zhan, Professor, Ph.D., Notre Dame, 1998
Hui Zhang, Research Assistant Professor, Ph.D., Delaware, 2004
Fang Zheng, Research Associate Professor, Huazhong University of Science and Technology, China, 1993

COLLEGE OF PUBLIC HEALTH

Dean to be announced

Erin Abner, Assistant Professor, Ph.D., Kentucky, 2013
Linda Alexander, Associate Professor, Ed.D., Virginia, 1985
Mary Anglin,* Associate Professor, Ph.D., New School for Social Research, 1990
Chike Anyaegbunam,* Associate Professor, Ph.D., Iowa, 1994
Paula Arnett, Assistant Professor, Dr.P.H., Kentucky, 2011
Henrietta Bada-Elizey,* Professor, M.D., Santo Tomas, 1969
Tyrone Borders, Professor, Ph.D., Iowa, 1999
Gail Brion,* Associate Professor, Ph.D., Colorado, 1995
Steven R. Browning, Associate Professor, Ph.D., North Carolina, 1994
Terry Bunn, Associate Professor, Ph.D., Cornell, 2001
Heather Bush, Associate Professor, Ph.D., Kentucky, 2006
Eli Capilouto, Professor, Ph.D., Harvard, 1991
Kathryn Cardarelli, Associate Professor, Ph.D., Texas, 2004
Roberto Cardarelli,* Professor, D.O., North Texas, 2001
Angela Carman, Assistant Professor, DrPH, Kentucky, 2012
Craig Carter,* Professor, Ph.D., Texas A&M, 1993
Richard J. Charnigo, Professor, Ph.D., Case Western, 2003
Li Chen, Assistant Professor, Ph.D., North Carolina, 2009
Lorie Chesnut, Assistant Professor, Ph.D., Alabama, 2012
W. Jay Christian, Assistant Professor, Ph.D., Kentucky, 2013
Richard R. Clayton, Professor Emeritus, Ph.D., Tennessee, 1972
Ann Coker,* Professor, Ph.D., North Carolina, 1989
Tommy Collins, Instructor, B.A., Alice Lloyd, 1988
Julia F. Costich, Associate Professor, J.D., Kentucky, 1993
Sarah Cprek, Instructor, M.P.H., Kentucky, 2014
Richard A. Crosby, Professor, Ph.D., Indiana, 1998
Larry Crouch, Professor, Ph.D., Southern Illinois, 1981
Jennifer Daddysman, Instructor, M.S., Kentucky, 2014
Paul Dassow,* Assistant Professor, M.D., Washington, 1990
Angela Dearinger,* Assistant Professor, M.D., Kentucky, 2001
Mark Dignan,* Professor, Ph.D., Tennessee, 1977
Michael Dobbs,* Assistant Professor, M.D., Kentucky, 1998
Emily Dressler, Assistant Professor, Ph.D., Medical University of South Carolina, 2010
Eric Durbin, Assistant Professor, Dr.P.H., Kentucky, 2012
Katherine Eddens, Assistant Professor, Ph.D., Washington, 2012
Sally Ellingson, Assistant Professor, Ph.D., Tennessee, 2014
David Fardo, Assistant Professor, Ph.D., Harvard, 2008
Steven T. Fleming, Professor, Ph.D., Michigan, 1989
Tamas Gal, Assistant Professor, Ph.D., Maryland-Baltimore, 2011
Wenqi Gan, Assistant Professor, Ph.D., British Columbia, 2012
Larry Gray, Instructor, M.H.A., Kentucky, 1995
Charles H. Griffith,* Professor, M.D., Vanderbilt, 1988
Ellen J. Hahn,* Professor, D.N.S., Indiana, 1992
Kathi Harp, Assistant Professor, Ph.D., Kentucky, 2013
Nancy Harrington,* Associate Professor, Ph.D., Kentucky, 1992
Jennifer Havens*, Assistant Professor, Ph.D., 2004; M.P.H. 2001, Johns Hopkins
James Holsinger Jr., Professor, Ph.D., Duke, 1968
Anna Hoover, Assistant Professor, Ph.D., Kentucky, 2012
Claudia Maria Hopenhayn, Associate Professor, Ph.D., California-Berkeley, 1996
Bin Huang, Assistant Professor, Dr.P.H., Kentucky, 2009
Elizabeth Hunter, Assistant Professor, Ph.D., Kentucky, 2005
Richard Ingram, Assistant Professor, Dr.P.H., Kentucky
Julie Jacobs, Instructor, M.P.H., Saint Louis, 2010
Nancy Johnson, Assistant Professor, Dr.P.H., Kentucky, 2005
Tisha K. Johnson, Assistant Professor (part-time), M.D., Ohio 2002; M.P.H., Kentucky, 2013
Venkata Kavuluru, Assistant Professor, Ph.D., Kentucky, 2009
Sujin Kim, Associate Professor, Ph.D., Pittsburgh, 2003
Richard J. Kryscio,* Professor, Ph.D., SUNY at Buffalo, 1971
Joel M. Lee, Professor Emeritus, Dr. P.H., Texas, 1979
Carl Leukefeld,* Professor, D.S.W., Catholic University of America, 1975
Jing Li,* Assistant Professor, M.D., Tianjin China, 1997
Cezar Mamaril, Assistant Professor, Ph.D., Kentucky, 2012
David Mannino, Professor, M.D., Thomas Jefferson, 1981
Kristen Mark,* Assistant Professor, Ph.D., Indiana, 2012
Samuel Matheny,* Professor, M.D., Kentucky, 1963
Glen Mays, Professor, Ph.D., North Carolina, 1996
Margaret McGladrey, Instructor, M.A., Kentucky, 2011
Radhakrishnan Nagarajan, Associate Professor, Ph.D., Arkansas-Little Rock, 2001
David Nash,* Professor, Ed.D., West Virginia, 1984
Melody Noland,* Professor, Ph.D., Maryland, 1981

Kim Northrip,* Assistant Professor, M.D., Medical College of Virginia, 2001
Betty J. Ouyang, Assistant Professor (part-time), M.D., St. George 2005; M.P.H., Kentucky, 2014
Kevin A. Pearce,* Professor, M.D., Florida, 1983
William G. Pfeifle, Professor, Ed.D., Kentucky, 1977
Barbara A. Phillips,* Professor, M.D., Kentucky, 1977
Susan Pollack,* Assistant Professor, M.D., East Virginia, 1984
Timothy Scott Prince, Associate Professor, M.D., Emory, 1986
Lawrence Prybil, Professor, Ph.D., Iowa, 1970
Ted P. Raybould,* Professor, D.M.D., Kentucky, 1981; G.P.R., Kentucky, 1985
Mary K. Rayens,* Associate Professor, Ph.D., Kentucky, 1993
Deborah B. Reed,* Professor, Ph.D., Kentucky, 1996
Martha Riddell, Assistant Professor, Dr.P.H., Kentucky, 1999
Graham D. Rowles, Professor, Ph.D., Clark, 1976
Thomas W. Samuel, Professor Emeritus, J.D., Tennessee, 1976
Wayne Sanderson, Professor, Ph.D., North Carolina, 1997
Nancy E. Schoenberg,* Professor, Ph.D., Texas at Austin
F. Douglas Scutchfield, Professor, M.D., Kentucky, 1966
Brent J. Shelton, Associate Professor, Ph.D., North Carolina, 1998
Michael Singleton, Assistant Professor, Ph.D., Kentucky, 2015
Svetla Slavova, Assistant Professor, Ph.D., Kentucky, 2008
Michael Smith, Instructor, Ph.D., Loyola University Chicago, 1986
Amanda Sokan, Assistant Professor (part-time), Ph.D., Kentucky 2011; M.H.A., Kentucky, 2006
Susan E. Spengler, Assistant Professor, M.D., Medical College of PA, 1991
Ramona Stone, Associate Professor, Ph.D., Louisville, 2001
Christina Studts, Assistant Professor, Ph.D., Louisville, 2008
Mark Swanson, Associate Professor, Ph.D., Florida, 2001
Jeffrey Talbert*, Associate Professor, Ph.D., Texas A&M, 1995
Thomas C. Tucker, Associate Professor, M.P.H., Michigan, 1982; Ph.D., Kentucky, 2001
Kimberly Tumlin, Associate Professor (part-time), Ph.D., Kentucky, 2004
Robin Vanderpool, Associate Professor, Dr.P.H., Kentucky, 2006
Olga Vsevolozhskaya, Assistant Professor, Ph.D., Montana State, 2013
Sarah Wackerbarth, Associate Professor, Ph.D., Wisconsin, 1997
Sabrina Walsh, Assistant Professor, Dr.P.H., Kentucky, 2008
Chi Wang, Assistant Professor, Ph.D., Johns Hopkins, 2009
John Watkins, Professor, Ph.D., Colorado, 1986
Heidi Weiss*, Professor, Ph.D., South Carolina, 1993
Hefei Wen, Assistant Professor, Ph.D., Emory, 2015
Philip Westgate, Assistant Professor, Ph.D., Michigan-Ann Arbor, 2011
Corinne Williams, Associate Professor, Sc.D., Harvard School of Public Health, 2006
Mark Williams, Professor, M.D., Emory, 1985
April Young, Assistant Professor, Ph.D., Emory, 2013
James Zembrodt,* Instructor, M.B.A., Kentucky, 1992
*Joint Appointment

COLLEGE OF SOCIAL WORK

James "Ike" Adams, Dean

James Adams, Professor & Dean, Ph.D., Minnesota, 1979
Kalea Benner, Assistant Professor, Ph.D., Missouri, 2009
Sarabeth Biermann, Lecturer, Ph.D., Kentucky, 2012
Ann Callahan, Lecturer, Ph.D., Tennessee, Knoxville, 2004
Julie Cerel, Associate Professor, Ph.D., Ohio State, 2001
Patricia Cook-Craig, Associate Professor, Ph.D., North Carolina, 2006
Carlton Craig, Associate Professor, Ph.D., North Carolina, 2003
Chris Flaherty, Associate Professor, Ph.D., Tennessee, Knoxville, 2001
Janet P. Ford, Associate Professor, Ph.D., Case Western Reserve, 1986
Jarod Giger, Assistant Professor, Ph.D., Missouri, 2010
Theodore M. Godlaski, Clinical Associate Professor, M.Div., St. Mary's Theological Seminary, 1972
Doris Kay Hoffman, Professor, Ph.D., Wayne State, 1979
Blake Jones, Lecturer, Ph.D., Kentucky 2004
Diane Loeffler, Senior Lecturer, Ph.D., Kentucky, 2006
Justin Miller, Assistant Professor, Ph.D., Louisville, 2013
Melanie D. Otis, Associate Professor, Ph.D., Kentucky, 1999
Stephanie Ratliff, Clinical Instructor, M.S.W., Kentucky, 1997
David D. Royse, Professor, Ph.D., Ohio State, 1980
Rebecca L. Sanford, Clinical Instructor, M.S.W., Case Western Reserve, 2005
Melissa Slone, Clinical Instructor, M.S.W., Kentucky, 2008
Marie Antoinette Sossou, Associate Professor, Ph.D., Denver, 2003
Teresa Stivers, Clinical Instructor, M.S.W., Kentucky, 1977
Richard D. Sutphen, Associate Professor, Ph.D., Georgia, 1993
Michele Tindall, Associate Professor, Ph.D., Kentucky, 2004
Pamela L. Weeks, Clinical Associate Professor, J.D., Kentucky, 1989
Amanda West, Assistant Professor, Ph.D., Utah, 2014
Melissa D. Whitaker, Clinical Instructor, M.S.W., Kentucky, 2010

THE GRADUATE SCHOOL

Susan Carvalho, Interim Dean

JAMES W. MARTIN SCHOOL OF PUBLIC POLICY AND ADMINISTRATION

Merlin M. Hackbart, Interim Director

Philip K. Berger, Professor Emeritus, Ph.D., Texas Christian, 1969
Jack Blanton,** Adjunct Professor, Ed.D., Kentucky
Glenn C. Blomquist,* Endowed Chair, Ph.D., Chicago, 1977
Karen Blumenschein,* Associate Professor, Ph.D., Kentucky, 1991
Rebecca Bromley-Trujillo, Assistant Professor, Ph.D., Michigan State, 2011,
J.S. Butler, Professor, Ph.D., Cornell, 1982
Mike Clark,** Adjunct Professor, Ph.D.
Dwight Denison, Professor, Ph.D., Kentucky, 1997
Joseph L. Fink III,* Professor, J.D., Georgetown, 1973
Richard C. Fording,* Associate Professor, Ph.D., Florida State, 1997
David Freshwater,* Professor, Ph.D., Michigan State, 1977
Bryan Gibson,**, Lecturer, Ph.D., Kentucky, 2013.
Donald Gross,* Professor, Ph.D., Iowa, 1976
Merlin M. Hackbart,* Professor, Ph.D., Kansas State, 1968
Greg Hager,** Adjunct Professor, Ph.D., North Carolina-Chapel Hill, 1995
David Hamilton,* Associate Professor, Ph.D., Iowa, 1985.
David Hulse,* Endowed Chair, Ph.D., Pennsylvania State, 1992
William Hoyt,* Professor, Ph.D., Wisconsin, 1986
Edward T. Jennings, Jr., Professor, Ph.D., Washington-St. Louis, 1977
Doo-Oak Kim, Lecturer, Ph.D., Hanyang University, 1992.
Mark Peffley,* Professor, Ph.D., Minnesota, 1984
Nicolai Petrovsky, Assistant Professor, Ph.D., Texas A&M, 2009
Keith Schnackenbert, Assistant Professor, Ph.D.
Jeffrey C. Talbert,* Associate Professor, Texas A&M, 1995
John Thelin* Professor, Ph.D., California, 1973.
Eugenia F. Toma, Endowed Chair, Ph.D., Virginia Polytechnic Institute, 1977
Richard Waterman,* Professor, Ph.D., Houston, 1986
David Wildasin, Endowed Chair, Ph.D., Iowa, 1976
Virginia C. Wilson,** Adjunct Professor, Ph.D., Kentucky, 1993
Aaron Yelowitz,* Associate Professor, Massachusetts Institute of Technology, 1994
James Ziliak,* Endowed Chair, Ph.D., Indiana University
*Joint Appointment
**Adjunct Appointment

GERONTOLOGY

Graham Rowles, Director

David T. R. Berry,* Professor, Ph.D., Florida, 1985
Lee X. Blonder,* Professor, Ph.D., Pennsylvania, 1986
Subbarao Bondada,* Professor, Ph.D., Bombay, 1976
Linda H. Chen,* Professor, Ph.D., Louisville, 1964
Moon Choi,* Assistant Professor, Ph.D., Case Western Reserve, 2010
Deborah D. Danner,* Research Assistant Professor, Ph.D., Kentucky, 1993
Steven Estus, Associate Professor, Ph.D., Case Western, 1989
James W. Geddes,* Professor, Ph.D., University of Saskatchewan, 1984
Lawrence Gottlob, Associate Professor, Arizona State, 1995
Anne L. Harrison,* Associate Professor, Ph.D., Kentucky, 2002
Robert G. Henry,* Associate Professor, D.M.D., Kentucky, 1981
Karin N. Westlund High,* Professor, Ph.D., University of Texas Medical Branch, 1981
Amy F. Hosier, Assistant Professor, Ph.D., Kentucky, 2006
Beth Hunter, Assistant Professor, Ph.D., OTR/L, Kentucky, 2005
Yang Jiang, Assistant Professor, Ph.D., Miami, 1995
Hyungsoo Kim, Associate Professor, Ph.D., Kyotou University, Japan, 2000
Chris Norris, Associate Professor, Ph.D., Virginia, 1998
L. Creed Pettigrew,* Associate Professor, M.D., Texas at Galveston, 1980
Graham D. Rowles, Professor, Ph.D., Clark, 1976
Hiroshi Saito,* Associate Professor, Ph.D., University of Tokyo, Japan, 1987
Stephen W. Scheff,* Professor, Ph.D., Missouri, 1974
Frederick A. Schmitt,* Professor, Ph.D., Akron, 1982
Nancy E. Schoenberg,* Professor, Ph.D., Florida 1994
Mitzi M. Schumacher,* Professor, Ph.D., Ohio, 1986
Charles D. Smith,* Associate Professor, M.D., Tulane, 1979
Michael Smith,* Adjunct Assistant Professor, Ph.D., Loyola, 1978
Nikiforos Stamatiadis,* Professor, Ph.D., Michigan State, 1990
Joseph Stemple, Professor, Ph.D., Cincinnati, 1977
Nancy J. Stiles,* Associate Professor, M.D., Texas, 1986
Sarah Wackerbarth,* Associate Professor, Ph.D., Wisconsin, 1997
John F. Watkins, Professor, Ph.D., Colorado, 1986
Elaine M. Wittenberg-Lyles,* Associate Professor, Ph.D., Oklahoma, 2004
*Joint Appointment

PATTERSON SCHOOL OF DIPLOMACY AND INTERNATIONAL COMMERCE

Ambassador Carey Cavanaugh, Director

Carey Cavanaugh, Professor
John E. Charalambakis, Adjunct Professor
Stacy Closson, Assistant Professor (Ph.D., London School of Economics, 2007)
Robert Farley, Senior Lecturer
George Herring, Professor Emeritus
Ying-Juan Rogers, Adjunct Professor (M.A., Kentucky 1992)
Karen Mingst, Lockwood Chair Professor
Kathleen Montgomery, Associate Professor (Ph.D., Penn State, 1998)
Anupam Ray, Visiting Professor of Diplomatic Practice (MPA, Panjab University, 2002)
George McDade Staples, Adjunct Professor
John Stempel, Professor Emeritus
Max Wise, Adjunct Professor

Associated Faculty

James C. Albisetti, Department of History
Horace Bartilow, Department of Political Science
Emily Beaulieu, Department of Political Science
Douglas A. Boyd, College of Communications
Paul Chamberlin, Department of History
Francie Chassen-Lopez, Department of History
Abby Cordova, Department of Political Science
Robert Dahlstrom, Department of Marketing
Dwight Denison, Martin School of Public Administration
Wally Ferrier, School of Management
John Garen, Department of Economics
A. L. Goldman, College of Law
Beth Goldstein, College of Education
Gordon Holbein, School of Management
Claudia Hopenhayn, College of Public Health
Hsain Ilahiane, Department of Anthropology
Jane Jensen, College of Education
P. P. Karan, Department of Geography
Mark Kightinger, College of Law
Donald Mullineaux, Department of Finance
Angelos Pagoulatos, Department of Agricultural Economics
Karen Petrone, Department of History
Nikolai Petrovsky, Martin School of Public Administration
Michael Reed, Department of Agricultural Economics
Susan Roberts, Department of Geography
Jerry R. Skees, Department of Agricultural Economics
Steve Vasek, College of Law

HONORS PROGRAM

Franciso Humberto Andrade, Professor, Ph.D., Texas at San Antonio, 1994
Ben Arnold, Professor, Ph.D., Kentucky, 1986
Rayma Beal, Associate Professor Emeritus, Ed.D., Cincinnati, 1985
Lee X. Blonder, Professor, Ph.D., Univ of Pennsylvania, 1986
Luke Harry Bradley, Associate Professor, Ph. D., Ohio State University, The, 2001
Claire D. Clark, Assistant Professor, Ph.D., Emory University, 2014
Rolf Joseph Craven, Associate Professor, Ph.D., North Carolina, 1996
Sarah Elizabeth D'Orazio, Associate Professor, Ph.D., Univ of Miami, 1995
Rebecca L. Dekker, Assistant Professor, Ph.D., Kentucky, 2010
Brian Patrick DeLisle, Assistant Professor, Ph.D., Kentucky, 2001
Florin Despa, Associate Professor, Ph.D., Institute of Physics, Bucharest, 1997
Sanda Despa, Associate Professor, Ph.D., Limburgs Universitair Centrum, 2000
Marilyn J. Duncan, Professor, Ph.D., Worcester Polytechnic Institute, 1984
Herman D. Farrell III, Associate Professor, M.F.A., Columbia, 1994; J.D., New York University, 1989
Walter C. Foreman, Associate Professor, Ph.D., Washington, 1974
Beth Garvy, Professor, Ph.D., Michigan State, 1991
Don M. Gash, Professor, Ph.D., Dartmouth, 1975
Jonathon Glixon, Professor, Ph.D., Princeton, 1979
Belinda Rae Goodwin, Assistant Professor, M.F.A, Winthrop, 2006
Philip R. Harling, Professor, Ph.D., Princeton, 1992
Kyra Hunting, Assistant Professor, Ph.D., Wisconsin, 2014
Jane Jensen, Associate Professor, Ph.D., Indiana, 1997
Yang Jiang, Associate Professor, Ph.D., Miami University, 1995
Sarah E. Kercsmar, Lecturer, Ph.D., Kentucky, 2007
Michael W. Kilgore, Associate Professor, Ph.D., Texas Tech University, 1990; Oliver Leaman, Professor, Ph.D., Cambridge, 1979
Harry LeVine, Associate Professor, Ph.D., Johns Hopkins, 1975
Isabel Mellon, Associate Professor, Ph.D., University of Illinois Medical C, 1984
Michael D. Mendenhall, Associate Professor, Ph.D., Wisconsin-Madison, 1985
David M. Olster, Professor, Ph.D., Chicago, 1985
David Keith Orren, Associate Professor, Ph.D., Univ of North Carolina, 1991
Ok-Kyong Park-Sarge, Associate Professor, Ph.D., Chicago, 1994
M. Sara Rosenthal, Associate Professor, Ph.D., University of Toronto, 2002
Leland "Buck" Ryan, Associate Professor, M.A., Missouri-Columbia, 1990
Michael Samers, Associate Professor, Ph.D., Oxford, 1997
Jonathan Satin, Professor, Ph.D., Emory, 1989
Mitzi Marie Schumacher, Professor, Ph.D., Ohio State, 1986
F. Douglas Scutchfield, Professor, M.D., Kentucky, 1966
Diane M. Snow, Professor, Ph. D., Case Western Reserve University, 1989
Dan N. Stone, Gatton Endowed Professor, Ph.D., Texas, 1987
Paolo Visona, Adjunct Associate Professor, Ph.D., Michigan, 1985
Thomas E. Wallace, M.D., Illinois, 1976; J.D., Georgia State, 1990
Zhigang Wang, Professor, Ph.D., Texas at Austin, 1989
Melinda Elizabeth Wilson, Associate Professor, Ph.D., Loyola University of Chicago, 1997
Helen Jean Wiese, Associate Professor, Ph.D., North Carolina, 1971

UNIVERSITY OF KENTUCKY LIBRARIES

Terry Birdwhistell, Dean

Robert Aken, Librarian I, M.A., Kentucky, 1979; M.S.L.S., Kentucky, 1983
Stephanie Aken, Librarian I, M.S.L.S., Kentucky, 1975
Bernadette Baldini, Librarian I Emerita, M.S.L.S., Kentucky, 1974
Jennifer A. Bartlett, Librarian II, M.L.S., Indiana, 1994; M.A., Murray State, 2007
Kerri A. Baunach, Librarian I, M.L.I.S., South Carolina-Columbia, 1998; M.A., Smith, 2000
James Birchfield, Librarian I Emeritus, Ph.D., Florida State, 1976; M.S.L.S., Florida State, 1977
Terry Birdwhistell, Librarian I, M.A.L.S., Kentucky, 1978; Ed.D., Kentucky, 1994
Katherine J. Black, Librarian I Emerita, M.S.L.S., Kentucky, 1978; M.A., Kentucky, 1996
Karl-Heinz Boewe, Librarian I Emeritus, Ph.D., Rice, 1969; M.A., Missouri, 1974
Lewis Bowling, Librarian II Emeritus, D.A., Northern Colorado, 1982; M.A.L.S., Iowa, 1988
Lynne Bowman, Librarian I, M.S.L.S., Kentucky, 1978
Douglas A. Boyd, Librarian II, Ph.D., Indiana, 2003
Rick Brewer, Librarian II, M.S.L.S., Kentucky, 1994
Ruth E. Bryan, Librarian III, M.A., North Carolina State, 2000; M.A., New School for Social Research, 1996
Jane Bryant, Librarian II Emerita, M.S.L.S., Kentucky, 1984
Gillian Buckland, Librarian II Emerita, M.S.L.S., Kentucky, 1989
Sue Burch, Librarian I Emerita, M.S.L.S., Kentucky, 1982
James Burgett, Librarian I Emeritus, Ph.D., Minnesota, 1988; M.L.S., Kentucky, 1992
Teresa Burgett, Librarian II Emerita, M.S.L.S., Kentucky, 1978
Carla Cantagallo, Librarian II, M.S.L.S., Kentucky, 1988
Bradley Carrington, Librarian II Emeritus, M.Ln., Emory, 1985
Janette Carver, Librarian II, M.S.L.S., Kentucky, 1982
Cindy Cline, Librarian II, M.S.L.S., Kentucky, 1987
Mary Congleton, Librarian II, M.S.L.I.S., Tennessee, 1988
Bonnie J. Cox, Librarian I Emerita, M.A., Kentucky, 1969; M.S.L.S., Kentucky, 1986
Frank Davis, Librarian II, M.S.L.S., Wayne State, 1988
Laura Davison, Librarian II, M.S.L.S., Kentucky, 1990
Susan Foster-Harper, Librarian II, M.S.L.S., Kentucky, 1998
Beth Fuchs, Librarian III, M.L.S., Texas at Austin, 2004
Stacey C. Greenwell, Librarian I, M.S.L.S., Kentucky, 1998; Ed.D., Kentucky, 2013
Antoinette Greider, Librarian I, M.A.L.S., Kentucky, 1973
Barbara Hale, Librarian I, M.S.L.S., Kentucky, 1982
Gracie Hale, Librarian II, M.S.L.S., Kentucky, 1990
Faith Harders, Librarian I, M.A., Chicago, 1970; M.A.L.S., Chicago, 1974
Thomas Hecker, Librarian II, M.L.S., Pittsburgh, 1982
Tagalie Heister, Librarian II, M.S.L.S., Kentucky, 1975
Jon P. Hesseldenz, Librarian II, M.A., Kentucky, 1993; M.L.S., Kentucky, 2002
Paula Hickner, Librarian I, M.L.S., Indiana, 1986; M.M., Indiana, 1987
Beverly Hilton, Librarian I, M.L.S., Maryland, 1975
Kazuko Hioki, Librarian II, M.L.I.S., Texas at Austin, 2000
Adrian Ho, Librarian III, M.L.S., McGill, 1997
Gordon Hogg, Librarian I, M.S.L.S., Catholic University, 1983
Mark Ingram, Librarian II, M.A., Kentucky, 1975; M.S.L.S., Kentucky, 1979
Julene Jones, Librarian IV, M.L.S., Kentucky, 2003
Reinette Jones, Librarian I, M.S.L.S., Kentucky, 1988
Roxanna Jones, Librarian II, M.S.L.S., Kentucky, 1978
Jason Keinsley, Librarian II, M.I.S., Indiana, 2001; M.S., Norwich, 2006
Tari Keller, Librarian I, M.Ed., Miami, 1975; M.L.S., Indiana, 1977
Gail Kennedy, Librarian I, M.S.L.S., Kentucky, 1974
Elizabeth G. Kraemer, Librarian I, M.L.S., Kentucky, 1998
Shawn D. Livingston, Librarian I, M.S.L.S., Kentucky, 1993
Kathryn Lybarger, Librarian II, M.S., Kentucky, 1999; M.L.S., Kentucky, 2007
William Marshall, Jr., Librarian I Emeritus, M.A., Kent, 1973; M.L.S., Kent, 1973
Heath C. Martin, Librarian III, M.L.S., CUNY-Queens, 2003; M.A., Illinois State, 2000
Sandra McAninch, Librarian I, M.S.L.S., North Carolina, 1973
Mary McLaren, Librarian I Emerita, M.L.S., Pittsburgh, 1969
Lillian Mesner, Librarian II Emerita, M.L.S., Maryland, 1970

Mary Molinaro, Librarian I, M.L.S., Ball State, 1981
Valerie E. Perry, Librarian I, M.S.L.S., Kentucky, 1994
Russell Powell, Librarian I Emeritus, M.L.S., Pittsburgh, 1966
Rebecca Ryder, Librarian I Emerita, M.S.L.S., Kentucky, 1992
Judy Sackett, Librarian I, M.A.L.S., Denver, 1969
Deirdre Scaggs, Librarian I, M.L.I.S., Pittsburgh, 2003
Catherine Seago, Librarian I, M.A., Kentucky, 1985
Marsha Seamans, Librarian I, M.L.S., Indiana, 1988
Ebba Sexton, Librarian II Emerita, M.S.L.S., Kentucky, 1978
Robert M. Shapiro II, Librarian III, M.A.L.S., Kentucky, 2010
Deborah K. Sharp, Librarian II, M.S.L.S., Kentucky, 1983
Margaret Shaw, Librarian I, M.L.S., Kentucky, 1979
Susan K. Smith, Librarian II, M.L.S., Pittsburgh, 1981
Charles A. Spears, Librarian II Emeritus, B.G.S., Kentucky, 1974
Mary Jo Staggs Neel, Librarian II, M.S.L.S., Kentucky, 1994
Janet Stith, Librarian I Emerita, M.S.L.S., Kentucky, 1971; M.A., West Virginia, 1971
Jeffrey S. Suchanek, Librarian II, M.A., Youngstown State, 1983
Mary Beth Thomson, Librarian I, M.L.I.S., Louisiana State, 1990
Mary Vass, Librarian I Emerita, M.A., Virginia Tech, 1979; M.S.L.S., North Carolina-Chapel Hill, 1984
Mary Vaughn, Librarian II, M.S.L.S., Louisiana State, 1986
Sarah Vaughn, Librarian II, M.S.L.S., Kentucky 1982
Kelly Vickery, Librarian II, M.L.S., Kentucky, 1998
Eric C. Weig, Librarian I, M.A.L.S., Iowa, 1997
Mary Welch, Librarian I Emerita, M.S.L.S., Kentucky, 1970
Laura Whayne, Librarian I, M.L.S., Denver, 1978; M.A., Kansas, 1989
Paul Willis, Librarian I Emeritus, M.L.S., Maryland, 1966; J.D., Kentucky, 1969
Patricia Wilson, Librarian I Emerita, M.S.L.S., Kentucky, 1988
Judith Wiza, Librarian I, M.A.L.S., Wisconsin-Madison, 1977; M.A., Wisconsin-Madison, 1978

COLLEGE OF LAW LIBRARY

Patricia Alvayay, Library Manager, M.L.I.S., Syracuse University School of Information, 2010
Tina M. Brooks, Librarian III, J.D., Nebraska, 2009; M.S.I.S., Texas at Austin, 2011
James M. Donovan, Director and Associate Professor of Law, Ph.D., Tulane, 1994; J.D., Loyola University New Orleans, 2003; M.L.I.S., Louisiana State, 1989
Karen E. Nuckolls, Librarian II, M.S.L.S., Wayne State, 1974
Franklin L. Runge, Librarian III, J.D., Northeastern, 2003; M.L.S., Indiana, 2010
Beau B. Steenken, Librarian III, J.D., Texas at Austin, 2003; M.S.I.S., Texas at Austin, 2010
Ryan A. Valentin, Librarian II, J.D., Oregon, 2004; M.S., Florida State, 2007

Policy on Residency

13 KAR 2:045.

DETERMINATION OF RESIDENCY STATUS FOR ADMISSION AND TUITION ASSESSMENT PURPOSES.

RELATES TO: KRS Chapter 13B, 164.020, 164.030, 164A.330(6)

STATUTORY AUTHORITY: KRS 164.020(8)

NECESSITY, FUNCTION, AND CONFORMITY: KRS 164.020(8) requires the Council on Postsecondary Education to determine tuition and approve the minimum qualifications for admission to a state postsecondary education institution and authorizes the Council to set different tuition amounts for residents of Kentucky and for nonresidents. This administrative regulation establishes the procedure and guidelines for determining the residency status of a student who is seeking admission to, or who is enrolled at, a state-supported postsecondary education institution.

Section 1. Definitions.

(1) "Academic term" means a division of the school year during which a course of studies is offered, and includes a semester, quarter, or single consolidated summer term as defined by the institution.

(2) "Continuous enrollment" means enrollment in a state-supported postsecondary education institution at the same degree level for consecutive terms, excluding summer term, since the beginning of the period for which continuous enrollment is claimed unless a sequence of continuous enrollment is broken due to extenuating circumstances beyond the student's control, including serious personal illness or injury, or illness or death of a parent.

(3) "Degree level" means enrollment in a course or program that could result in the award of a:

(a) Certificate, diploma, or other program award at an institution;

(b) Baccalaureate degree or lower, including enrollment in a course by a nondegree-seeking postbaccalaureate student;

(c) Graduate degree or graduate certification other than a first-professional degree in law, medicine, dentistry, or "Pharm. D"; or

(d) Professional degree in law, medicine, dentistry, or "Pharm. D".

(4) "Dependent person" means a person who cannot demonstrate financial independence from parents or persons other than a spouse and who does not meet the criteria for independence established in Section 5 of this administrative regulation.

(5) "Determination of residency status" means the decision of a postsecondary education institution that may include a formal hearing that results in the classification of a person as a Kentucky resident or as a nonresident for admission and tuition assessment purposes.

(6) "Domicile" means a person's true, fixed, and permanent home and is the place where the person intends to remain indefinitely, and to which the person expects to return if absent without intending to establish a new domicile elsewhere.

(7) "Full-time employment" means continuous employment for at least forty-eight (48) weeks at an average of at least thirty (30) hours per week.

(8) "Independent person" means a person who demonstrates financial independence from parents or persons other than a spouse and who meets the criteria for independence established in Section 5 of this administrative regulation.

(9) "Institution" means an entity defined by KRS 164.001(12) if the type of institution is not expressly stated and includes the Kentucky Virtual University, the Council on Postsecondary Education, and the Kentucky Higher Education Assistance Authority.

(10) "Kentucky resident" means a person determined by an institution for tuition purpose to be domiciled in and a resident of Kentucky as determined by this administrative regulation.

(11) "Nonresident" means a person who:

(a) Is domiciled outside by Kentucky;

(b) Currently maintains legal residence outside Kentucky; or

(c) Is not a Kentucky resident as determined by this administrative regulation.

(12) "Parent" means one (1) of the following:

(a) A person's father or mother; or

(b) A court-appointed legal guardian if:

1. The guardianship is recognized by an appropriate court within the United States;
2. There was a relinquishment of the rights of the parents; and
3. The guardianship was not established primarily to confer Kentucky residency on the person.

(13) "Preponderance of the evidence" means the greater weight of evidence or evidence that is more credible and convincing to the mind.

(14) "Residence" means the place of abode of a person and the place where the person is physically present most of the time for a noneducational purpose in accordance with Section 3 of this administrative regulation.

(15) "Student financial aid" means all forms of payments to a student if one (1) condition of receiving the payment is the enrollment of the student at an institution, and includes student employment by the institution or a graduate assistantship.

(16) "Sustenance" means living expenses including room, board, maintenance, transportation, and educational expenses including tuition, fees, books, and supplies.

Section 2. Scope.

(1) State-supported postsecondary education institutions were established and are maintained by the Commonwealth of Kentucky primarily for the benefit of qualified residents of Kentucky. The substantial commitment of public resources to postsecondary education is predicated on the proposition that the state benefits significantly from the existence of an educated citizenry. As a matter of policy, access to postsecondary education shall be provided so far as feasible at reasonable cost to a qualified individual who is domiciled in Kentucky and who is a resident of Kentucky.

(2) The Council on Postsecondary Education may require a student who is neither domiciled in nor a resident of Kentucky to meet higher admission standards and to pay a higher level of tuition than resident students.

(3) This administrative regulation shall apply to all student residency determinations regardless of circumstances, including residency determinations made by the state-supported institutions for prospective and currently-enrolled students; the Southern Regional Education Board for contract spaces; reciprocity agreements, if appropriate; the Kentucky Virtual University; academic common market programs; the Kentucky Educational Excellence Scholarship Program; and other state student financial aid programs, as appropriate.

Section 3. Determination of Residency Status; General Rules.

(1) A determination of residency shall include:

(a) An initial determination of residency status by an institution during the admission process or upon enrollment in an institution for a specific academic term or for admission into a specific academic program;

(b) A reconsideration of a determination of residency status by an institution based upon a changed circumstance; or

(c) A formal hearing conducted by an institution upon request of a student after other administrative procedures have been completed.

(2) An initial determination of residency status shall be based upon:

(a) The facts in existence when the credentials established by an institution for admission for a specific academic term have been received and during the period of review by the institution;

(b) Information derived from admissions materials;

(c) If applicable, other materials required by an institution and consistent with this administrative regulation; and

(d) Other information available to the institution from any source.

(3) An individual seeking a determination of Kentucky residency status shall demonstrate that status by a preponderance of the evidence.

(4) A determination of residency status shall be based upon verifiable circumstances or actions.

(5) Evidence and information cited as the basis for Kentucky domicile and residency shall accompany the application for a determination of residency status.

(6) A student classified as a nonresident shall retain that status until the student is officially reclassified by an institution.

(7) A student may apply for a review of a determination of residency status once for each academic term.

(8) If an institution has information that a student's residency status may be incorrect, the institution shall review and determine the student's correct residency status.

(9) If the Council on Postsecondary Education has information that an institution's determination of residency status for a student may be incorrect, it may require the institution to review the circumstances and report the results of that review.

(10) An institution shall impose a penalty or sanction against a student who gives incorrect or misleading information to an institutional official, including payment of nonresident tuition for each academic term for which resident tuition was assessed based on an improper determination of residency status. The penalty or sanction may also include:

(a) Student discipline by the institution through a policy written and disseminated to students; or

(b) Criminal prosecution.

Section 4. Presumptions Regarding Residency Status.

(1) In making a determination of residency status, it shall be presumed that a person is a nonresident if:

(a) A person is, or seeks to be, an undergraduate student and admissions records show the student to be a graduate of an out-of-state high school within five (5) years prior to a request for a determination of residency status;

(b) A person's admissions records indicate the student's residence to be outside of Kentucky at the time of application for admission;

(c) A person moves to Kentucky primarily for the purpose of enrollment in an institution;

(d) A person moves to Kentucky and within twelve (12) months enrolls at an institution more than half time;

(e) A person has a continuous absence of one (1) year from Kentucky; or

(f) A person attended an out-of-state higher education institution during the past academic year and paid in-state tuition at that institution.

(2) A presumption arising from subsection (1) of this section shall only be overcome by preponderance of evidence sufficient to demonstrate that a person is domiciled in and is a resident of Kentucky.

Section 5. Determination of Whether a Student is Dependent or Independent.

(1) In a determination of residency status, an institution shall first determine whether a student is dependent or independent. This provision is predicated on the assumption that a dependent person lacks the financial ability to live independently of the person upon whom the student is dependent and therefore lacks the ability to form the requisite intent to establish domicile. A determination that a student is independent shall be one (1) step in the overall determination of whether a student is or is not a resident of Kentucky.

(2) In determining the dependent or independent status of a person, the following information shall be considered as well as other relevant information available at the time the determination is made:

(a) 1. Whether the person has been claimed as a dependent on the federal or state tax returns of a parent or other person for the year preceding the date of application for a determination of residency status; or

2. Whether the person is no longer claimed by a parent or other person as a dependent or as an exemption for federal and state tax purposes; and

(b) Whether the person has financial earnings and resources independent of a person other than an independent spouse necessary to provide for the person's own sustenance.

(3) An individual who enrolls at an institution immediately following graduation from high school and remains enrolled shall be presumed to be a dependent person unless the contrary is evident from the information submitted.

(4) Domicile may be inferred from the student's permanent address, parent's mailing address, or location of high school of graduation.

(5) Marriage to an independent person domiciled in and who is a resident of Kentucky shall be a factor considered by an institution in determining whether a student is dependent or independent.

(6) Financial assistance from or a loan made by a parent or family member other than an independent spouse, if used for sustenance of the student:

(a) Shall not be considered in establishing a student as independent; and

(b) Shall be a factor in establishing that a student is dependent.

Section 6. Effect of a Determination of Dependent Status on a Determination of Residency Status.

(1) The effect of a determination that a person is dependent shall be:

(a) The domicile and residency of a dependent person shall be the same as either parent. The domicile and residency of the parent shall be determined in the same manner as the domicile and residency of an independent person; and

(b) The domicile and residency of a dependent person whose parents are divorced, separated, or otherwise living apart shall be Kentucky if either parent is domiciled in and is a resident of Kentucky regardless of which parent has legal custody or is entitled to claim that person as a dependent pursuant to federal or Kentucky income tax provisions.

(2) If the parent or parents of a dependent person are Kentucky residents and are domiciled in Kentucky but subsequently move from the state:

(a) The dependent person shall be considered a resident of Kentucky while in continuous enrollment at the degree level in which currently enrolled; and

(b) The dependent person's residency status shall be reassessed [reassumed] if continuous enrollment is broken or the current degree level is completed.

Section 7. Member of Armed Forces of the United States, Spouse and Dependents; Effect on a Determination of Residency Status.

(1) A member, spouse, or dependent of a member whose domicile and residency was Kentucky at the time of induction into the Armed Forces of the United States, and who maintains Kentucky as home of record and permanent address, shall be entitled to Kentucky residency status:

(a) During the member's time of active service; or

(b) If the member returns to this state within six (6) months of the date of the member's discharge from active duty.

(2) (a) A member of the armed services on active duty for more than thirty (30) days and who has a permanent duty station in Kentucky shall be classified as a Kentucky resident and shall be entitled to in-state tuition as shall the spouse or a dependent child of the member.

(b) A member, spouse, or dependent of a member shall not lose Kentucky residency status if the member is transferred on military orders while the member, spouse, or dependent requesting the status is in continuous enrollment at the degree level in which currently enrolled.

(3) (a) Membership in the National Guard or civilian employment at a military base alone shall not qualify a person for Kentucky residency status under the provisions of subsections (1) and (2) of this section. If a member of the Kentucky National Guard is on active duty status for a period of not less than thirty (30) days, the member shall be considered a Kentucky resident, as shall the spouse of a dependent child of the member.

(4) A person's residency status established pursuant to this section shall be reassessed if the qualifying condition is terminated.

Section 8. Status of Nonresident Aliens; Visas and Immigration.

(1) (a) A person holding a permanent residency visa or classified as a political refugee shall establish domicile and residency in the same manner as another person.

(b) Time spent in Kentucky and progress made in fulfilling the conditions of domicile and residency prior to obtaining permanent residency status shall be considered in establishing Kentucky domicile and residency.

(2) A person holding a nonimmigrant visa with designation A, E, G, H-1, H-4 if accompanying a person with an H-1 visa, I, K, L, N, R, shall establish domicile and residency the same as another person.

(3) (a) An independent person holding a nonimmigrant visa with designation B, C, D, F, H-2, H-3, H-4 if accompanying a person with an H-2 or H-3 visa, J, M, O, P, Q, S, TD, or TN shall not be classified as a Kentucky resident, because that person does not have the capacity to remain in Kentucky indefinitely and therefore cannot form the requisite intent necessary to establish domicile as defined in Section 1(6) of this administrative regulation.

(b) A dependent person holding a visa as described in paragraph (a) of this subsection, but who is a dependent of a parent holding a visa as described in subsection (2) of this section, shall be considered as holding the visa of the parent.

(c) A dependent person holding a visa described in subsection (2) of this section or paragraph (a) of this subsection, if a parent is a citizen of the United States and is a resident of and domiciled in Kentucky, shall be a resident of Kentucky for the purposes of this administrative regulation.

(4) A person shall be a Kentucky resident for the purpose of this administrative regulation if the person graduated from a Kentucky high school and:

(a) Is an undocumented alien;

(b) Holds a visa listed in subsections (2) or (3)(a) of this section; or

(c) Is a dependent of a person who holds a visa listed in subsections (2) or (3)(a) of this section.

(5) (a) Except as provided in paragraph (b) of this subsection, a person who has petitioned the federal government to reclassify visa status shall continue to be ineligible until the petition has been decided by the federal government.

(b) A person who has petitioned the federal government to reclassify his or her visa status based on marriage to a Kentucky resident and who can demonstrate that the petition has been filed and acknowledged by the federal government, may establish Kentucky domicile and residency at that time.

Section 9. Beneficiaries of a Kentucky Educational Savings Plan Trust.

A beneficiary of a Kentucky Educational Savings Plan Trust shall be granted residency status if the beneficiary meets the requirements of KRS 164A.330(6).

Section 10. Criteria Used in a Determination of Residency Status.

(1) (a) A determination of Kentucky domicile and residency shall be based upon verifiable circumstances or actions.

(b) A single fact shall not be paramount, and each situation shall be evaluated to identify those facts essential to the determination of domicile and residency.

(c) A person shall not be determined to be a Kentucky resident by the performance of an act that is incidental to fulfilling an educational purpose or by an act performed as a matter of convenience.

(d) Mere physical presence in Kentucky, including living with a relative or friend, shall not be sufficient evidence of domicile and residency.

(e) A student or prospective student shall respond to all requests for information regarding domicile or residency requested by an institution.

(2) The following facts, although not conclusive, shall have probative value in their entirety and shall be individually weighted, appropriate to the facts and circumstances in each determination of residency:

(a) Acceptance of an offer of full-time employment or transfer to an employer in Kentucky or contiguous area while maintaining residence and domicile in Kentucky;

(b) Continuous physical presence in Kentucky while in a nonstudent status for the twelve (12) months immediately preceding the start of the academic term for which a classification of Kentucky residency is sought;

(c) 1. Filing a Kentucky resident income tax return for the calendar year preceding the date of application for a change in residency status; or

2. Payment of Kentucky withholding taxes while employed during the calendar year for which a change in classification is sought;

(d) Full-time employment of at least one (1) year while living in Kentucky;

(e) Attendance as a full-time, nonresident student at an out-of-state institution based on a determination by that school that the person is a resident of Kentucky;

(f) Abandonment of a former domicile or residence and establishing domicile and residency in Kentucky with application to or attendance at an institution following and incidental to the change in domicile and residency;

(g) Obtaining licensing or certification for a professional and occupational purpose in Kentucky;

(h) Payment of real property taxes in Kentucky;

(i) Ownership of real property in Kentucky, if the property was used by the student as a residence preceding the date of application for a determination of residency status;

(j) Marriage of an independent student to a person who was domiciled in and a resident of Kentucky prior to the marriage; and

(k) The extent to which a student is dependent on student financial aid in order to provide basic sustenance.

(3) Except as provided in subsection (4) of this section, the following facts, because of the ease and convenience in completing them, shall have limited probative value in a determination that a person is domiciled in and is a resident of Kentucky:

(a) Kentucky automobile registration;

(b) Kentucky driver's license;

(c) Registration as a Kentucky voter;

(d) Long-term lease of at least twelve (12) consecutive months of noncollegiate housing; and

(e) Continued presence in Kentucky during academic breaks.

(4) The absence of a fact contained in subsection (3) of this section shall have significant probative value in determining that a student is not domiciled in or is not a resident of Kentucky.

Section 11. Effect of a Change in Circumstances on Residency Status.

(1) If a person becomes independent or if the residency status of a parent or parents of a dependent person changes, an institution shall reassess residency either upon a request by the student or a review initiated by the institution.

(2) Upon transfer to a Kentucky institution, a student's residency status shall be assessed by the receiving institution.

(3) A reconsideration of a determination of residency status for a dependent person shall be subject to the provisions for continuous enrollment, if applicable.

Section 12. Student Responsibilities.

(1) A student shall report under the proper residency classification, which includes the following actions:

(a) Raising a question concerning residency classification;

(b) Making application for change of residency classification with the designated office or person at the institution; and

(c) Notifying the designated office or person at the institution immediately upon a change in residency.

(2) If a student fails to notify an institutional official of a change in residency, an institutional official may investigate and evaluate the student's residency status.

(3) (a) If a student fails to provide, by the date specified by the institution, information required by an institution in a determination of residency status, the student shall be notified by the institution that the review has been canceled and that a determination has been made.

(b) Notification shall be made by registered mail, return receipt requested.

(c) Notification shall be made within ten (10) calendar days after the deadline for receipt of materials has passed.

(4) (a) The formal hearing conducted by an institution and the final recommended order shall be a final administrative action with no appeal to the Council on Postsecondary Education.

(b) A formal administrative hearing conducted by the Council on Postsecondary Education for residency determinations related to eligibility for the Academic Common Market and Regional Contract Programs shall be conducted pursuant to the provisions of KRS Chapter 13B and 13 KAR 2:070. The recommended order issued by the President of the Council shall be a final administrative action.

(5) A student shall not be entitled to appeal a determination of residency status if the determination made by an institution is because a student has failed to meet published deadlines for the submission of information as set forth in subsection (3) of this section. A student may request a review of a determination of residency status in a subsequent academic term.

Section 13. Institutional Responsibilities.

Each institution shall:

(1) Provide for an administrative appeals process that includes a residency appeals officer to consider student appeals of an initial residency determination and which shall include a provision of fourteen (14) days for the student to appeal the residency appeals officer's determination;

(2) Establish a residency review committee to consider appeals of residency determinations by the residency appeals officer. The residency review committee shall make a determination of student residency status and notify the student in writing within forty-five (45) days after receipt of the student appeal;

(3) Establish a formal hearing process as described in Section 14 of this administrative regulation; and

(4) Establish written policies and procedures for administering the responsibilities established in subsections (1), (2), and (3) of this section and that are:

(a) Approved by the institution's governing board;

(b) Made available to all students; and

(c) Filed with the council.

Section 14. Formal Institutional Hearing.

(1) A student who appeals a determination of residency by a residency review committee shall be granted a formal hearing by an institution if the request is made by a student in writing within fourteen (14) calendar days after notification of a determination by a residency review committee.

(2) If a request for a formal hearing is received, an institution shall appoint a hearing officer to conduct a formal hearing. The hearing officer shall:

(a) Be a person not involved in determinations of residency at an institution except for formal hearings; and

(b) Not be an employee in the same organizational unit as the residency appeals officer.

(3) An institution shall have written procedures for the conduct of a formal hearing that have been adopted by the board of trustees or regents, as appropriate, and that provide for:

(a) A hearing officer to make a recommendation on a residency appeal;

(b) Guarantees of due process to a student that include:

1. The right of a student to be represented by legal counsel; and

2. The right of a student to present information and to present testimony and information in support of a claim of Kentucky residency; and

(c) A recommendation to be issued by the hearing officer.

(4) An institution's formal hearing procedures shall be filed with the Council on Postsecondary Education and shall be available to a student requesting a formal hearing.

Section 15. Cost of Formal Hearings.

(1) An institution shall pay the cost for all residency determinations including the cost of a formal hearing.

(2) A student shall pay for the cost of all legal representation in support of the student's claim of residency.

(17 Ky.R. 2557; eff. 4-5-1991; Am. 22 Ky.R. 1656; 1988; eff. 5-16-1996; 23 Ky.R. 3380; 3797; 4099; eff. 6-16-1997; 24 Ky.R. 2136; 2705; 25 Ky.R. 51; eff. 7-13-1998; 25 Ky.R. 2177; 2577; 2827; eff. 6-7-1999; 749; 1238; eff. 11-12-2002; 36 Ky.R. 1083; 1951; 2033-M; eff. 4-2-2010; Tam eff. 11-20-2014.)

Revised Effective November 20, 2014

For further information about residency, please contact the Office of Undergraduate Admission and University Registrar, Funkhouser Building, University of Kentucky, Lexington, KY 40506-0054.

Policy subject to change without notice.

Drug-Free Policy

Policy Statement as a Drug-Free Institution

The University of Kentucky is committed to providing a healthy and safe environment for its students, faculty and staff. The University has defined conduct in relation to the unlawful possession, use, dispensation, distribution or manufacture of alcohol or illicit drugs. Conduct which is violative of this definition poses unacceptable risks and disregard for the health, safety, and welfare of members of the University community and shall result in disciplinary action up to and including suspension or termination.

As a recipient of federal grants and contracts, the University of Kentucky gives this notice to students, faculty and staff that it is in compliance with and shall continue to be in compliance with the Drug-Free Workplace Act of 1988 and the Drug-Free Schools and Communities Act Amendment of 1989. Students, faculty and staff are herein notified of the standards of conduct which shall be applicable while on University of Kentucky property, on University business, and/or at University sponsored activities.

Standards of Conduct

By University regulations, by federal law, by state law, and, in some instances, by local ordinance, students, faculty and staff are prohibited from the **unlawful** possession, use, dispensation, distribution, or manufacture of illicit drugs on University property, on University business and/or at University sponsored activities.

Under University regulations, students, faculty and staff are required to abide by state laws concerning alcoholic beverages. Basically, Kentucky laws state that if one is under the age of 21, it is unlawful to:

(1) possess or consume alcoholic beverages,

(2) misrepresent one's age for the purpose of purchasing alcoholic beverages, or

(3) use a fake ID in an attempt to purchase alcoholic beverages.

No matter what one's age, Kentucky law states that it is unlawful to:

(1) procure any alcoholic beverages for anyone under 21 years of age or

(2) drink or to be drunk in a public place.

University campuses and buildings are considered as public places for purposes of these laws, except for a facility licensed to serve alcoholic beverages, and except for a facility used as a private residence, unless University regulations state otherwise.

Ordinances of the Lexington-Fayette Urban County Government basically parallel the state laws.

Any member of the University student body, faculty, or staff who violates these defined standards of conduct shall be subject to appropriate disciplinary action up to and including suspension and/or termination. The specifically defined standards of conduct, the disciplinary procedures, and the appropriate sanctions are detailed in the codes of student conduct and in the Administrative Regulations (AR 6:4, HRP&P 13, HRP&P 14 and Human Resource Policy & Procedures Numbers 13.0 and 14.0).

In addition, it is a violation of state law to operate a motor vehicle while under the influence of any substance which may impair one's driving ability (drugs or alcoholic beverages).

Sanctions

Under University regulation, students who violate this standard of conduct are subject to disciplinary action from a minimum of a warning to a maximum of suspension from the University. Students who reside in University Housing are subject to further disciplinary action which may vary from a warning to termination of their housing contract.

Faculty and staff are subject to disciplinary action from a minimum of a warning to a maximum of termination from University employment.

Under state and federal drug laws, the gravity of the sanction depends on the classification of the controlled substance, the particular activity involved (possession or trafficking which includes manufacture, sale and possession with intent to sell), and whether or not multiple convictions are involved.

Specific penalties under federal and state laws for trafficking in various controlled substances are outlined in Appendix A to this policy.

Notice of Drug-Related Conviction

In compliance with the Federal Drug-Free Workplace Act of 1988, **any** employee shall notify the immediate supervisor if the employee is convicted of a criminal drug offense occurring in the workplace or while on University business within five (5) days of the conviction. The University shall take appropriate sanction and remedies in accordance within its policies. The provisions of this section are applicable to students who are employees of the University. If the employee is under a federal contract or grant, the University shall notify the contracting or granting agency of the conviction and of its actions. This section of this policy is also applicable to students who receive a Pell grant (federal grant).

Health Risks

The scope and impact of health risks from alcohol and drug abuse are both alarming and well-documented, ranging from mood-altering to life-threatening, with consequences that extend beyond the individual to family, organizations and society at large. The University of Kentucky, therefore, conducts regular programs to educate its students, faculty and staff that consumption and use of drugs may alter behavior, distort perception, impair thinking, impede judgment, and lead to physical or psychological dependence.

Alcohol and/or drugs and/or drug abuse may lead to the deterioration of physical health by causing or contributing to various health conditions including but not limited to fatigue, nausea, personal injury, insomnia, pathological organ damage, some forms of cancer, pancreatitis, heart attack, respiratory depression, birth defects, convulsions, coma, and even death. Alcohol and drug abuse may also result in deterioration of mental health by causing or contributing to various conditions such as increased aggression, hallucinations, depression, disorientation, and psychosis.

A detailed list of the effects and health risks associated with the use of many specific drugs appears as Appendix B to this policy.

Alcohol consumption causes a number of marked changes in behavior. Even low doses significantly impair the judgment and coordination required to drive a car safely, increasing the likelihood that the driver will be involved in an accident.

Low to moderate doses of alcohol also increases the incidence of a variety of aggressive acts, including spouse and child abuse.

Moderate to high doses of alcohol cause marked impairments in higher mental functions, severely altering a person's ability to learn and remember information.

Very high doses cause respiratory depression and death. If combined with other depressants of the central nervous system, much lower doses of alcohol will produce the effects just described.

Repeated use of alcohol can lead to dependence. Sudden cessation of alcohol intake is likely to produce withdrawal symptoms, including severe anxiety, tremors, hallucinations, and convulsions. Alcohol withdrawal can be life-threatening. Long-term consumption of large quantities of alcohol, particularly when combined with poor nutrition, can also lead to permanent damage to vital organs such as the brain and the liver.

Mothers who drink alcohol during pregnancy may give birth to infants with fetal alcohol syndrome. These infants have irreversible physical abnormalities and mental retardation. In addition, research indicates that children of alcoholic parents are at greater risk than other youngsters of becoming alcoholics.

Training and Counseling Resources

Continuous efforts are made to make students, faculty and staff aware of the on-campus and off-campus programs which provide information and professional services on matters related to the abuse of alcohol and drugs.

Lists of sources for information and counseling for students are published in the *Kernel* regularly. Students are encouraged to contact the Dean of Students and/or the Office of Residence Life for information and appropriate referral.

Counseling is provided by such areas as the University Health Services Counseling Center, Educational, School, and Counseling Psychology, the Medical Student Support Services program (MS3), and an In-resident counselor in the residence halls system.

For faculty and staff the Employee Assistance Program, REFER, specifically provides information as to resources available to employees.

Other counseling, treatment, and rehabilitation services are available in the Lexington community as well as communities throughout the state in which College of Agriculture employees are located.

- Comprehensive Care Centers offer both counseling and treatment. (Visit **www.bluegrass.org** for locations and contact information.)
- In the Lexington area, the number for Alcoholics Anonymous (AA) is 859-225-1212. (Check local telephone directory for listings.)
- The Chrysalis House Inc. (859) 977-2501 offers long term, half-way house residential treatment for recovering chemically dependent women.
- University of Kentucky Family Center 859-257-7755.
- REFER Program 859-257-1467.

Many other services are available and may be located by looking in the local telephone directory yellow pages under "Social Services" or "Alcohol Abuse & Addiction – Information & Treatment" or in the section at the front of the telephone directory. Services may also be located by searching online.

Policy Review

This policy statement and any revisions thereto shall be distributed annually to students and employees. Distribution shall be the responsibility of the Vice President for Student Affairs and the Associate Vice President for Human Resources.

Annual Review Policy – The Vice President for Student Affairs and the Associate Vice President for Human Resources shall review and interpret policies and procedures relevant to this policy statement. These two administrators shall jointly be responsible for maintaining records of the annual review of the policy statement.

– Appendices appear on next page –

Appendix A

Federal Trafficking Penalties Schedules I, II, III, IV and V (except Marijuana)

CSA	PENALTY		Quantity	DRUG (SCHEDULE)	Quantity	PENALTY	
	2nd Offense	1st Offense				1st Offense	2nd Offense
I and II	Not less than 10 years. Not more than life. If death or serious injury, not less than life imprisonment. Fine of not more than $8 million individual, $50 million if not an individual.	Not less than 5 years and not more than 40 years. If death or serious injury, not less than 20 years or more than life. Fine of not more than $5 million if an individual, $25 million if not an individual.	5-49 gms pure or 50-499 gms mixture	METHAMPHETAMINE (II)	50 gms or more pure or 500 gms or more mixture	Not less than 10 years and not more than life. If death or serious injury, not less than 20 years, or more than life. Fine of not more than $10 million if an individual, $50 million if other not an individual.	Not less than 20 years and not more than life. If death or serious injury, life imprisonment. Fine of not more than $20 million if an individual, $75 million if not an individual. Same fines with 2 or more prior offenses.
			100-999 gms mixture	HEROIN (I)	1 kg or more mixture		
			500-4,999 gms mixture	COCAINE (II)	5 kgs or more mixture		
			28-279 gms mixture	COCAINE BASE (II)	280 gms or more mixture		
			10-99 gms pure or 100-999 gms mixture	PCP (II)	100 gms or more pure or 1 kg or more mixture		
			1 - 9 gms mixture	LSD (I)	10 gms or more mixture		
			40-399 gms mixture	FENTANYL (IV)	400 gms or more mixture		
			10-99 gms mixture	FENTANYL ANALOGUE (I)	100 gms or more mixture		

	DRUG	Quantity	First Offense	Second Offense
II	Others	Any	Not more than 20 years. If death or serious injury, not less than 20 years or more than life. Fine $1 million if an individual, $5 million if not an individual.	Not more than 30 years. If death or serious injury, life imprisonment. Fine $2 million if an individual, $10 million if not an individual.
	Gamma Hydroxybutric Acid (GHB)	Any		
	Flunitrazepam	1 gm or more		
III	All	Any	Not more than 10 years. If death or serious injury, not more than 15 years. Fine not more than $500,000 if an individual, $2.5 million if not an individual.	Not more than 20 years. If death or serious injury, not more than 30 years. Fine not more than $1 million if an individual, $5 million if not an individual.
IV	All	Any	Not more than 5 years. Fine not more than $250,000 if an individual, $1 million if not an individual.	Not more than 10 years. Fine not more than $500,000 if an individual, $2 million if not an individual.
	Flunitrazepam	less than 1 gm		
V	All	Any	Not more than 1 year. Fine not more than $100,000 if an individual, $250,000 if not an individual.	Not more than 4 years. Fine not more than $200,000 if an individual, $500,000 if not an individual.

Appendix A

As of July 1, 2012

Federal Trafficking Penalties – Marijuana (Schedule I)

Quantity	Description	First Offense	Second Offense*
1,000 kg or more mixture or 1,000 or more plants	**Marijuana** mixture containing detectable quantity*	Not less than 10 years, not more than life. If death or serious injury, not less than 20 years, or more than life. Fine not more than $4 million individual, $10 million other than individual.	Not less than 20 years, not more than life. If death or serious injury, life imprisonment. Fine not more than $20 million individual, $75 million other than individual.
100 kg to 999 kg mixture, or 100-999 plants	**Marijuana** mixture containing detectable quantity*	Not less than 5 years, not more than 40 years. If death or serious injury, not less than 20 years, or more than life. Fine not more than $2 million individual, $5 million other than individual.	Not less than 10 years, not more than life. If death or serious injury, life imprisonment. Fine not more than $8 million individual, $50 million other than individual.
50-99 kg mixture or 50 to 99 plants	**Marijuana**	Not more than 20 years. If death or serious injury, not less than 20 years, or more than life. Fine not more than $1 million individual, $5 million other than individual.	Not more than 30 years. If death or serious injury, life imprisonment. Fine not more than $2 million individual, $10 million other than individual.
more than 10 kg	**Hashish**		
more than 1 kg	**Hashish Oil**		
1-49 plants/less than 50 kg	**Marijuana**	Not more than 5 years. Fine not more than $250,000 individual, $1 million other than individual.	Not more than 10 years. Fine not more than $500,000 individual, $2 million other than individual.
10 kg or less	**Hashish**		
1 kg or less	**Hashish Oil**		

*Includes Hashish and Hashish Oil

(Marijuana is a Schedule I Controlled Substance.)

*The minimum sentence for a violation after two or more prior convictions for a felony drug offense have become final is a mandatory term of life imprisonment without release and a fine of up to $8 million if an individual and $20 million if other than individual.

Appendix B

Controlled Substances – *Uses & Effects*

DRUGS CSA SCHEDULES	COMMON NAMES OR STREET NAMES	MEDICAL USES	DEPENDENCE Physical	DEPENDENCE Psycho-logical	TOLERANCE	DURATION (Hours)	USUAL METHODS OF ADMINIS-TRATION	POSSIBLE EFFECTS	EFFECTS OF OVERDOSE	WITHDRAWAL SYNDROME
NARCOTICS										
Opium II III V	Dover' Powder, Big O, Black Pill	Analgesic, antidiarrheal	High	High	Yes	3-6	Oral, smoked	Euphoria, drowsiness, respiratory depression, constricted pupils, nausea	Slow and shallow breathing, clammy skin, convulsions, coma, possible death	Watery eyes, runny nose, yawning, loss of appetite, irritability, tremors, panic, cramps, nausea, chills and sweating
Morphine II III	Morphine, MS-Contin, Roxanol, Roxanol-SR	Analgesic, antitussive	High	High	Yes	3-6	Oral, smoked, injected			
Codeine II III V	Tylenol w/Cod., Empirin w/Cod., Robitussan A-C, Florinal w/Cod.	Analgesic, antitussive	Moderate	Moderate	Yes	3-6	Oral, injected			
Heroin I	Diacetylmorphine, Horse, Smack, Black Tar	None	High	High	Yes	3-6	Injected, sniffed, smoked			
Oxycodone II	OxyContin, Hillbilly Heroin, Roxy, Oxy	Analgesic	High	High	Yes	3-6	Oral, injected			
Meperidine (Pethidine) II	Demarol, Mepergan	Analgesic	High	High	Yes	3-6	Oral, injected			
Methadone II	Dolophine, Methadone, Methadose	Analgesic	High	High-Low	Yes	12-24	Oral, injected			
Other Narcotics I II III IV V	Numorphan, Percodan, Percocet, Tylox, Tussionex, Fentanyl, Darvon, Lomotil, Talwin[2]	Analgesic, antidiarrheal, antitussive	High-Low	High-Low	Yes	Variable	Oral, injected			
DEPRESSANTS										
Chloral Hydrate IV	Noctec	Hypnotic	Moderate	Moderate	Yes	5-8	Oral	Slurred speech, disorientation, drunken behavior without odor of alcohol	Shallow respiration, clammy skin, dilated pupils, weak and rapid pulse, coma, possible death	Anxiety, insomnia, tremors, delirium, convulsions, possible death
Barbiturates II III IV	Block Buster, Red & Blues, and/or Yellow Jackets	Anesthetic, anticonvulsant, sedative, hypnotic, veterinary euthanasia agent	High-Low	High-Low	Yes	1-16	Oral			
Benzodiazepines IV	Valium, Xanax, Klonopin, Benzos, Downers	Antianxiety, anticonvulsant, sedative, hypnotic	Low	Low	Yes	4-8	Oral			
GHB I III	Easy Lay, Liquid Ecstacy and Scoop	Sedative, hypnotic	High	High	Yes	4-8	Oral			
Rohypnol IV	Ruffies, Roaches and Forget-Me-Pill	Sedative, hypnotic	High	Moderate	Yes	4-8	Oral			
Other Depressants III IV	Equanil, Miltown, Noludar, Placidyl, Valmid	Antianxiety, sedative, hypnotic	Moderate	Moderate	Yes	4-8	Oral			
STIMULANTS										
Cocaine[1] II	Coke, Flake, Snow, Crack	Local anesthetic	Possible	High	Yes	1-2	Sniffed, smoked, injection	Increased alertness, excitation, euphoria, increased pulse rate & blood pressure, insomnia, loss of appetite	Agitation, increase in body temperature, hallucina-tions, convulsions, possible death	Apathy, long periods of sleep, irritability, depression, disorientation
Amphetamines II	Dexedrine, Obetrol, Adderall	Attention deficit disorders, narcolepsy, weight control	Possible	High	Yes	2-4	Oral, injected			
Methamphetamine II	Crank, Meth, Poor Man's Cocaine, Desoxyn	Weight control	Possible	High	Yes	2-4	Oral, injected			
Methylphenidate II	Ritalin	Attention deficit disorders, narcolepsy	Possible	Moderate	Yes	2-4	Oral, injected			
Other Stimulants III IV	Adipex, Cylert, Didrex, Ionamin, Melliet, Plegine, Sancrex, Tenuate, Tepanil, Prelu-2	Weight control	Possible	High	Yes	2-4	Oral, injected			
HALLUCINOGENS										
LSD I	Acid, Microdot	None	None	Unknown	Yes	8-12	Oral	Illusions and hallucinations, poor perception of time and distance	Longer, more intense "trip" episodes, psychosis, possible death	Withdrawal syndrome not reported
Mescaline & Peyote I	Mexc, Buttons, Cactus	None	None	Unknown	Yes	8-12	Oral			
K2 I	Spice, Bliss, Black Mamba, Fake Weed	None	Unknown	Unknown	Yes	Variable	Oral, injected			
MDMA I	Ecstacy, Adam, Disco Biscuit, E	None	Unknown	High	Yes	Days	Smoked, oral, injected			
Psilocybin I	Magic Mushroom, Mushrooms, Shrooms	None	Unknown	High	Yes	Days	Smoked, oral, injected			
Other Hallucinogens I	Butotenine, Ibogaine, DMT, DET, Psilocybin, Psilocyn	None	None	Unknown	Possible	Variable	Smoked, oral, injected, sniffed			
CANNABIS										
Marijuana, Cannabis I	Pot, Acapulco, Gold, Grass, Reefer, Sinsemila, Thai, Sticks	None	Unknown	Moderate	Yes	2-4	Sniffed, oral	Euphoria, relaxed inhibitions, increased appetite, disoriented behavior	Fatigue, paranoia, possible psychosis	Insomnia, hyperactivity, and decreased appetite occasionally reported
Tetrahydrocannabinol I II	THC, Marinol	Cancer Chemotherapy antinauseant	Unknown	Moderate	Yes	2-4	Smoked, oral			
Hashish I	Hash	None	Unknown	Moderate	Yes	2-4	Smoked, oral			
Hashish Oil I	Hash Oil	None	Unknown	Moderate	Yes	2-4	Smoked, oral			

[1] *Designated a narcotic under the CSA* [2] *Not designated a narcotic under the CSA*

Course Descriptions

A&S Arts and Sciences

A&S 100 SPECIAL INTRODUCTORY COURSE: TITLE TO BE ASSIGNED. (1-6)
This course permits the offering at the introductory level of special courses of an interdisciplinary, topical, or experimental nature. Each proposal must be approved by the Dean of the College of Arts and Sciences. A particular title may be offered at most three times under the A&S 100 number. Students may not repeat under the same title. May be repeated to a maximum of 12 credits. Prereq: Will be set by instructor.

A&S 101 SPECIAL INTRODUCTORY COURSE: TITLE TO BE ASSIGNED. (1-6)
This course permits the offering at the introductory level of special courses of an interdisciplinary, topical or experimental nature. Each proposal must be approved by the Dean of the College of Arts and Sciences. A particular title may be offered at most twice under the A&S 101 number. Students may not repeat under the same title. Offered pass/fail only. May be repeated to a maximum of 12 credits. Prereq: Will be set by instructor.

A&S 103 BASIC INSTRUCTION IN LESS COMMONLY TAUGHT LANGUAGES I (Subtitle required). (3-5)
This course provides elementary language instruction with an emphasis upon the spoken language of everyday use where appropriate. Writing and the elements of grammar are gradually introduced. Students may not repeat this course under the same subtitle. Prereq: Will be set by instructor.

A&S 104 BASIC INSTRUCTION IN LESS COMMONLY TAUGHT LANGUAGES II (Subtitle required). (3-5)
A continuation of A&S 103. Students may not repeat this course under the same subtitle. Prereq: A&S 103.

A&S 110-A&S 119 SPECIAL INTRODUCTORY COURSE IN THE HUMANITIES (Subtitle required) (1-6)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the Humanities requirement in the College of Arts and Sciences. Each pilot or experimental course must be approved by the department chair and by the Dean of the College of Arts and Sciences; a particular title may be offered no more than three times under this course number. Open to all university students, subject to controlled enrollment or prerequisites as set by the instructor. May be repeated under different subtitles up to 12 SCH.

A&S 120-A&S 129 SPECIAL INTRODUCTORY COURSE IN THE NATURAL, PHYSICAL, OR MATHEMATICAL SCIENCES (Subtitle required) (1-6)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the Natural, Physical, or Mathematical Sciences requirement in the College of Arts and Sciences. Each pilot or experimental course must be approved by the department chair and by the Dean of the College of Arts and Sciences; a particular title may be offered no more than three times under this course number. Open to all university students, subject to controlled enrollment or prerequisites as set by the instructor. May be repeated under different subtitles up to 12 SCH.

A&S 130-A&S 139 SPECIAL INTRODUCTORY COURSE IN THE SOCIAL SCIENCES (Subtitle required) (1-6)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the Social Sciences requirement in the College of Arts and Sciences. Each pilot or experimental course must be approved by the department chair and by the Dean of the College of Arts and Sciences; a particular title may be offered no more than three times under this course number. Open to all university students, subject to controlled enrollment or prerequisites as set by the instructor. May be repeated under different subtitles up to 12 SCH.

A&S 150 YOUR CAREER AND ACADEMIC JOURNEY. (2)
This course simplifies the complex process of choosing a major by leading students through personal, academic and occupational information searches. It offers a natural progression for decision making by using thought-provoking self-exploratory activities. Whether choosing or changing a major, the discovery process examines different perspectives, such as relating interests, skills and values to academic fields of study. Once specific academic alternatives are identified, a search of occupational information helps students examine the career possibilities that specifically relate to the majors they are considering.

A&S 203 INTERMEDIATE INSTRUCTION IN LESS COMMONLY TAUGHT LANGUAGES I (Subtitle required). (3-5)
This course provides intermediate instruction in a less commonly taught language. Development of speaking, listening, reading, and writing skills, as appropriate, will be stressed. Students may not repeat this course under the same subtitle. Prereq: A&S 104 in the same language or permission of instructor.

A&S 300 SPECIAL COURSE (Subtitle required). (1-6)
Interdisciplinary, topical or experimental courses to be approved by the Dean of the College of Arts and Sciences. A particular course may be offered at most three times under the A&S 300 number, and no A&S 300 course may be given for more than six credits per semester. Open to all University students, subject to such limits or prerequisites as set by the instructor. May be repeated to a maximum of 12 credit hours under different subtitles.

#A&S 306 SPIRIT CHEMISTRY. (3)
In this course, students will explore the production of distilled spirits. The production of distilled spirits involves three basic steps: selection and processing of a carbohydrate (starch or sugar), fermentation of the carbohydrate to produce ethanol and distillation of the ethanol. In these processes, substances are produced and concentrated in the ethanol that create the unique flavors and fragrances associated with the individual spirit. Seven distilled spirits (moonshine, vodka, gin, rum, tequila, bourbon and scotch) will be discussed in detail. Prereq: Credit hours sufficient to be considered a junior or permission of the instructor.

A&S 310-A&S 319 SPECIAL COURSE IN HUMANITIES (Subtitle required). (1-6)
An interdisciplinary, topical, or experimental course which may be used toward partial fulfillment of the Humanities requirement in the College of Arts and Sciences. Each pilot or experimental course must be approved by the department chair and by the Dean of the College of Arts and Sciences; a particular title may be offered no more than three times under this course number. Open to all university students, subject to controlled enrollment or prerequisites as set by the instructor. May be repeated under different subtitles up to 12 SCH.

A&S 320-A&S 329 SPECIAL COURSE IN NATURAL, PHYSICAL, OR MATHEMATICAL SCIENCES (Subtitle required). (1-6)
An interdisciplinary, topical, or experimental course which may be used toward partial fulfillment of the Natural, Physical, or Mathematical Sciences requirement in the College of Arts and Sciences. Each pilot or experimental course must be approved by the department chair and by the Dean of the College of Arts and Sciences; a particular title may be offered no more than three times under this course number. Open to all university students, subject to controlled enrollment or prerequisites as set by the instructor. May be repeated under different subtitles up to 12 SCH.

A&S 330-A&S 339 SPECIAL COURSE IN SOCIAL SCIENCES (Subtitle required). (1-6)
An interdisciplinary, topical, or experimental course which may be used toward partial fulfillment of the Social Sciences requirement in the College of Arts and Sciences. Each pilot or experimental course must be approved by the department chair and by the Dean of the College of Arts and Sciences; a particular title may be offered no more than three times under this course number. Open to all university students, subject to controlled enrollment or prerequisites as set by the instructor. May be repeated under different subtitles up to 12 SCH.

A&S 350 PERSONAL STRENGTHS AND YOUR CAREER DEVELOPMENT. (3)
This course is designed to introduce students to the fundamentals of planning and organizing career development strategies. Emphasis is placed on identification of individual goals, assessment of talents/strengths and values, exploration of career options, analysis of the job market, effective use of employment search tools (e.g., résumés, cover letters, and interviewing), and management of career pathways. Stresses the value of the arts and sciences degree in the labor market and develops job search skills that will be useful throughout life. Prereq: Sophomore standing (30+ credits) or higher.

A&S 500 SPECIAL COURSE (Subtitle required). (1-6)
Interdisciplinary, topical, or experimental courses to be approved by the Dean of the College of Arts and Sciences and the Dean of the Graduate School. A particular course may be offered at most three times under the A&S 500 number. Open to all university students, subject to such limitations or prerequisites as set by the instructor. May be repeated to a maximum of six credits under different subtitles. Prereq: As specified by the instructor.

A-E Art Education

A-E 120 PATHWAYS TO CREATIVITY IN THE VISUAL ARTS. (3)
Students will be challenged to think creatively, expand cognitive development, perception, self-expression, and sensory awareness through research and rich studio experiences. Aesthetic knowledge and skills will provide students with a pathway to learning in art that integrates prior knowledge with new experiences which enhance creative learning through discovery, discussion, and collaboration.

A-E 200 WORKSHOP IN DESIGN EDUCATION FOR ELEMENTARY TEACHERS. (3)
A lecture-laboratory course that explores and analyzes concepts in the visual arts and examines how these concepts might be used to improve and enhance learning opportunities in the visual arts and in various disciplines for elementary students.

#A-E 300 INTRODUCTION TO ART EDUCATION. (3)
This course provides an introduction to the art teaching profession with particular emphases on developing the creative, critical, collaborative, and communicative skills that are required in art teaching situations. Opportunities to gain skills will be provided through participation in group-generated projects and leadership activities. Students will engage in personal reflection and critical analysis of the teaching/learning process through journal-keeping, teacher portfolio development and creative research.

***A-E 362 FIELD EXPERIENCES IN ART EDUCATION. (1-3)**
A-E 362 is the first course in the Art Education professional education sequence. It gives the art education candidate the opportunity for a variety of planned experiences in the schools and other educational and community settings. Candidates will learn to identify standards and unbridled learning tools in school settings, and will develop a variety of products to demonstrate Art Education learning outcomes. 64 field experience hours are required for A-E 362. Prereq: Admission to the Teacher Education Program (TEP).

A-E 395 INDEPENDENT WORK: ART EDUCATION. (1-3)
Supervised individual research, practicum, and field experience leading to the development of art education curriculum theory, and teaching techniques appropriate for various populations and conditions. A learning contract will be submitted to both the department and to the office of the dean at the time of registration. May be repeated to a maximum of six credits. Prereq: Major and consent of instructor.

A-E 399 EXPERIENTIAL EDUCATION. (1-15)
Development of personally motivated and planned projects and internships in art education and interdisciplinary program activities outside the academic classroom experience, encompassing recreation, general education, adult education, special education, state programs, and group field experiences and workshops. May be repeated to a maximum of 15 credits. (Approval of Fine Arts dean required for more than six credits per semester.) Prereq: Recommendation of art faculty member and department chairman; completion of departmental learning agreement.

A-E 515 INTRODUCTION TO ART THERAPY. (3)
An examination of various historical and contemporary conceptions of the therapeutic function and value of art from an art education perspective. The impact of art experience on emotional, intellectual and behavioral development and/or rehabilitation will be explored through readings, discussions, guest lectures, and lab experiences. Lecture, two hours per week; laboratory, two hours per week. Prereq: PSY 331 and major or consent of instructor.

A-E 538 ADVANCED ARTS AND CRAFTS IN THE ELEMENTARY SCHOOL. (3)
Planned to give the elementary teacher an understanding of teaching methods involved in, and construction of, art activities which would enrich the classroom program.

A-E 545 TOPICAL STUDIES IN ART EDUCATION (Subtitle required). (3)
Intensive study and analysis of a designated topic, issue or development in the philosophy, history, or methodology of art education in community and public school settings. May be repeated to a maximum of six credits. Prereq: Art education major or consent of the instructor.

A-E 550 COMMUNITY ART EDUCATION. (3)
An examination of community arts organizations and the role they play in identifying and interpreting the diverse artistic make-up of the community. The course will provide students with the tools to define, locate, and research community organizations as potential sites for art programming.

A-E 560 MUSEUM EDUCATION. (3)
An examination of educational techniques and practices of learning in a museum setting. The course will focus on educational theories, learning styles and techniques, audiences, educational materials and outreach strategies that will prepare students for successful professional careers in museum education.

A-E 576 ART IN MIDDLE SCHOOLS. (3)
Centering on the study of perceptual and aesthetic development of middle school adolescents, this course provides field and practicum experiences that utilize methods and materials appropriate to the teaching of art in the middle school. Topics include: curriculum design, lesson planning, teaching skills, classroom safety and assessment. Lecture, demonstrations, micro-teaching, laboratory and studio experiences are integrated into the class design. Prereq: Major in art education, admission to the Teacher Education Program (TEP), or consent of instructor.

A-E 577 ART IN SECONDARY SCHOOLS. (3)
This course provides students with an overview of the secondary school in American education and explores the history, theory, techniques and contemporary issues of teaching art in the secondary schools. Skills in the planning of multicultural activities and the teaching and evaluation of secondary art experiences are stressed. Full class instruction, video, micro-teaching, laboratory and studio experiences are incorporated into class design. Prereq: Major in art education, admission to the Teacher Education Program (TEP).

A-E 578 ART IN ELEMENTARY SCHOOLS. (3)
Focusing on the study of perceptual and aesthetic development of elementary age children, this course provides field and practicum experiences that utilize methods and materials appropriate to the teaching of art in the elementary school. Topics include: curriculum design, lesson planning, teaching skills, classroom safety and assessment. Lecture, demonstrations, micro-teaching, laboratory and studio experiences are integrated into the class design. Prereq: Major in art education, admission to the Teacher Education Program (TEP).

A-E 579 ARTS AND HUMANITIES IN ART EDUCATION. (3)
Inquiry into the relationship of current philosophies of art education and aesthetics; a consolidation of art education ideas with a formation of criteria for making value judgments; the development of a personal viewpoint consistent with education and art as humanistic endeavors. Prereq: Major in art education, admission to the Teacher Education Program (TEP).

A-E 645 TOPICAL RESEARCH IN ART EDUCATION (Subtitle required). (3)
Advanced study and research of a designated topic, issue, or development in the philosophy, history, or methodology of art education in community and public school settings. May be repeated for a maximum of nine credits. Prereq: Graduate standing in department.

A-E 665 ISSUES IN ART EDUCATION. (3)
This course is built within the context of the Advanced Preparation Programs in Teacher Leader Programs in Art Education. Each week one or two topics representing issues facing the arts in K - 12 education will be assigned to candidates. Selected candidates are expected to research these topics and post their thoughts on them on blackboard. Fellow candidates are expected to research the topics as well and provide cogent responses to the postings of the selected candidates. The class meets once per week through adobe connect for examination and analysis of the assigned topics. Prereq: Candidates must be enrolled in one of the Advanced Teacher Leader Programs in Art Education to take this course or by instructor permission.

A-E 670 SCHOOL AND COMMUNITY ART. (3)
Analysis of the social function of art; organization of school and community related programs in art; case studies of existing programs. Field experience, educational involvement. Lectures and demonstrations. Prereq: Major in Art Education or consent of instructor.

A-E 675 AESTHETICS AND DESIGN. (3)
Aesthetics and Design focuses on advancing aesthetic awareness, developing an understanding of the principles of visual design, and the application of aesthetic design to human-computer interaction in order to integrate an artistic approach to the examination of technological innovation.

A-E 680 HISTORY OF ART EDUCATION. (3)
A-E 680 is a survey of general education practices from classical times to the present. The class will examine the teaching of art in European schools and its influence on American art education. The course will analyze the birth of American art education and significant events related to art in the schools from the 19th to the 21st century.

A-E 685 ACTION RESEARCH IN ART EDUCATION. (3)
This course is built within the context of the Advance Teacher Leader program. All students in this course are expected to integrate the design elements of their curriculum contract into their activities, field experiences, research, and action research projects. Prereq: Students must be enrolled in one of the Advanced Teacher Leader Programs in Art Education to take this course or by instructor permission.

A-E 686 TEACHER LEADERSHIP IN ART EDUCATION. (3)
This course is built within the context of the Advanced Preparation Programs in Teacher Leader Programs in Art Education. All candidates in this course are expected to integrate the design elements of their curriculum contract into their activities, field experiences, research, and action research projects. This course must be repeated for a minimum of two times for a total of six hours but can be repeated for no more than three times for a total of nine credits. Prereq: Candidates must be enrolled in one of the Advanced Preparation Teacher Leader Programs in Art Education to take this course. Candidates must also have completed A-E 685 Action Research in Art Education as a prerequisite.

***A-E 695 INDEPENDENT WORK: ART EDUCATION. (1-3)**
Supervised individual research, experimental practicum, and the initiation of field programs leading to the discovery and development of new knowledge in art education theory and method. A formal learning contract between student and supervising faculty member is required. May be repeated to a maximum of six credit hours. Prereq: Graduate standing in the department and consent of instructor.

A-E 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

A-H Art History

A-H 101 INTRODUCTION TO VISUAL STUDIES. (3)
The course introduces students to the concepts and techniques of visual literacy. It explores a full spectrum of man-made visual forms encountered by contemporary Americans from architecture and works of art to graphic novels, advertisements, television programs and films, photos and the Internet.

†A-H 102 INTRODUCTION TO ASIAN ART.

†A-H 103 WORLD ART.

A-H 104 AFRICAN ART AND ITS GLOBAL IMPACT. (3)
Visual arts of the African continent (sculpture, painting, architecture, body arts, textiles, installations and performance) are presented in their historical and regional context. Lectures compare and contrast the arts of diverse African cultures, and evaluate the influences of African art works and artists upon European and American cultural histories. Discussions focus upon

KEY: # = new course * = course changed † = course dropped

the skills needed to observe, describe and analyze art forms and the social relationships they help to create.

***A-H 105 WORLD ART BEFORE 1400. (3)**
An introduction to the visual arts of civilizations prior to the Renaissance. Students will become familiar with selected monuments from cultures in Africa, Asia, the Pacific, the Americas and Europe, and will be able to evaluate the development of artistic practices within a tradition or comparatively between traditions.

***A-H 106 RENAISSANCE TO MODERN ART. (3)**
An introduction to the history of European art and its legacy from the Middle Ages to the present. Students will become familiar with major works and monuments and develop an understanding of how art has functioned and evolved in the European tradition. As an introduction to the discipline of art history, the class develops a student's ability to describe and analyze art and architecture using sophisticated terminology, and enables a student to connect works of art to specific social and historical contexts.

A-H 300 TOPICS IN ART HISTORY AND VISUAL STUDIES (Subtitle required). (3)
According to the subtitle, this course examines topics in art history and visual studies that are explicitly not limited by geographical location and/or period in history. Topics might be defined by subject matter, artistic practices and traditions, genres, and other comparable categories within art history and visual studies. May be repeated under a different subtitle for a maximum of six credits. Prereq: At least one Art History and Visual Studies course at the 100-level recommended.

A-H 301 CROSS-CULTURAL TOPICS IN ART HISTORY AND VISUAL STUDIES (Subtitle required). (3)
Depending on the subtitle, this course compares images and/or artifacts produced either in different cultural contexts or as a result of intercultural contacts and interchange. May be repeated under a different subtitle to a maximum of six credits. Prereq: At least one Art History and Visual Studies course at the 100-level recommended.

#A-H 304 AFRICAN ART AND ITS GLOBAL IMPACT. (3)
Throughout history, visual arts from the African continent (architecture, sculpture, painting, body arts, textiles, photography and performance) have inspired artists from around the world. This course examines a selection of specific African art works that have shaped European and American cultural histories, and created a global modernity. The earliest examples include ancient rock art, and the most recent are comprised of installations and digital works made by African artists working abroad. Prereq: A-H 105 recommended.

A-H 308 STUDIES IN AFRICAN ARTS (Subtitle required). (3)
Depending on the subtitle, the course will focus upon arts connected to a particular period, theme, medium, or region of Africa and the African Diaspora, or examine a specific set of images, themes, theoretical positions or media originating from, or associated with, the African continent. May be repeated under a different subtitle to a maximum of six credits. Prereq: A-H 104 recommended.

***A-H 310 ASIAN ART AND CULTURE (Subtitle required). (3)**
Depending on subtitle, a study of the art production of a particular medium, theme, period, or region in East Asia. May be repeated under a different subtitle to a maximum of six credits. Prereq: A-H 105 recommended.

A-H 311 THE ARTS AS SOFT POWER: THE JAPANESE TEA CEREMONY. (3)
The term "soft power" was coined by Joseph Nye, a U.S. scholar of international relations. It is used to describe forms of influence used as alternatives to "hard power" – coercive acts such as war, threats, or economic sanctions. This course will investigate how soft power was used as a tool of diplomacy thousands of years before the term was invented, and explore examples of how it is used at the beginning of the 21st century. The course then will examine the Japanese tea ceremony (known as chanoyu or chado) and its domestic use as soft power among Japanese warlords in the late sixteenth century, its adoption as a way to modernize Japanese women in the nineteenth century, and its role in shaping Japan's international image in the twentieth century. Prereq: Sophomore standing or permission of the instructor.

A-H 314 ANCIENT (Subtitle required). (3)
Study of the arts and visual cultures of the Ancient World. According to subtitles, focus may be on selected periods or media of artistic and visual production, in the context of political, social and cultural developments, from Bronze Age through the Roman Empire under Constantine. May be repeated under a different subtitle to a maximum of six credits. Prereq: A-H 105 recommended. (Same as CLA 314.)

A-H 323 MEDIEVAL (Subtitle required). (3)
Considers the interrelationships of art and architecture with religion, literature, politics, and other expressive forms as they shape and are shaped by medieval patrons and artists between the fourth and fifteenth century C.E., according to subtitle. May be repeated under a different subtitle to a maximum of six credits. Prereq: A-H 105 recommended.

A-H 334 REFRAMING RENAISSANCE ART. (3)
An exploration of Renaissance artistic production as a European phenomenon of dynamic interchange between European artistic centers, artists, and trade in works of art. Besides painting, sculpture, and architecture, the study of Renaissance visual culture is expanded to include prints and the decorative arts. While the achievements of individual artists are considered, focus is placed on the values and motives of the patrons as well as the purposes and functions of art works. Prereq: Sophomore standing or permission of the instructor.

A-H 335 EARLY MODERN ART AND VISUAL CULTURE, 1400-1700 (Subtitle required). (3)
According to the subtitle, this course examines various aspects of the social, political, cultural, and aesthetic contexts of European art and visual culture. Issues of production and reception, style and function, artist and viewer, and European interactions with non-European cultures will be considered. May be repeated under a different subtitle to a maximum of six credits. Prereq: A-H 101 or A-H 106 recommended.

A-H 339 ART AND VISUAL CULTURE 1700-1840 (Subtitle required). (3)
Study of specific developments, problems, and issues pertaining to art, art practice, and art theory between 1700 and 1840. May be repeated under a different subtitle to a maximum of six credits. Prereq: A-H 106 recommended.

A-H 340 ART AND VISUAL CULTURE 1840-1914 (Subtitle required). (3)
Study of specific developments, problems, and issues pertaining to art, art practice, and art theory between 1840 and 1914. May be repeated under a different subtitle to a maximum of six credits. Prereq: A-H 106 recommended.

A-H 341 20TH CENTURY (Subtitle required). (3)
Depending on subtitle, this course examines aspects of 20th century art in its social, political, and aesthetic contexts. May be repeated under a different subtitle for a maximum of six credits. Prereq: A-H 106 recommended.

***A-H 342 AMERICAN ART & VISUAL STUDIES (Subtitle required). (3)**
According to the subtitle, this course examines various aspects of American art & visual culture in their social, political, and aesthetic contexts between the 18th and the early 21st centuries. Topics range from the traditional fine arts media to photography, advertising, film, and various forms of popular culture. May be repeated under a different subtitle to a maximum of six credit hours. Prereq: A-H 101 or A-H 106 recommended.

A-H 343 HISTORY OF PHOTOGRAPHY. (3)
Chronological survey of the history of photography from its inception to the present day. Emphasis on fine art photography, the work and contributions of its practitioners, the relationship of photography to other art forms, general issues within the medium. Prereq: A-H 106 recommended.

***A-H 350 CONTEMPORARY ART AND VISUAL STUDIES (Subtitle required). (3)**
According to the subtitle, this course examines various aspects of art and visual culture in their social, political, theoretical, and aesthetic contexts after 1965. May be repeated under a different subtitle to a maximum of six credit hours. Prereq: A-H 101 or A-H 106 recommended.

A-H 360 VISUAL CULTURE OF POLITICS. (3)
The course examines specific instances of visual political discourse across a range of historic periods, cultural contexts, political positions, and media. Although a significant portion of the historic part of the course focuses on works of art and architecture, the course also examines popular print culture and political use of mass media from film to television and Internet. Some of the themes covered in the course are: symbols and symbolism of political power, imagery of specific political values, emotional appeal, political propaganda, politics of gender and race, and visual strategies of political opposition and resistance.

A-H 399 EXPERIENTIAL EDUCATION IN ART HISTORY AND VISUAL STUDIES. (1-15)
A community-based or field-based experience in Art History. A formal learning contract among student, field supervisor, and supervising faculty member required. May be repeated to a maximum of 15 hours. Prereq: Any 100-level course in Art History and Visual Studies.

A-H 407 ART HISTORY HONORS THESIS. (3)
Faculty-sponsored research projects for art history majors, leading to an Honors Thesis. Topics to be determined. Prereq: A-H major and CFA learning contract approved by faculty member.

A-H 501 MUSEUM STUDIES I: INTRODUCTION. (3)
An introduction to museology and the museum profession as related to a particular exhibition project. Intended for advanced students in arts related professions. Seminar format, coordinated with the University of Kentucky Art Museum staff. Prereq: Major in art history or arts administration (with art history emphasis), or consent of instructor.

A-H 502 MUSEUM STUDIES II: INTERNSHIP. (3)
A supervised internship in a professional museum setting that builds upon Museum Studies I. The focus may be on a single aspect or several areas of museum activity: administration, curatorship, education, registration and collection management, design, development, public relations, etc. Laboratory, 10 hours per week. May be repeated to a maximum of 9 credits within different contexts. Prereq: Completion of A-H 501 with a grade of B or better.

†A-H 503 ART HISTORY THROUGH THE ART OBJECT (Subtitle required).

A-H 504 PRACTICAL ISSUES IN ART HISTORY (Subtitle required). (3)
This course examines art from a practical perspective. It introduces various disciplines that relate to the understanding of art, such as materials, formats, handling, display, storage, conservation, and connoisseurship. In this course, students will have the opportunity to engage firsthand with artworks, meanwhile deepening their knowledge of the background and context of the types of art examined. May be repeated under a different subtitle to a maximum of six credits. Prereq: Junior standing and at least one course in Art History and Visual Studies.

A-H 524 THEORY AND METHODS. (3)
According to the subtitle, the seminar will focus on different theoretical and methodological issues pertaining to art and visual studies. May be repeated under a different subtitle to a maximum of six credits. Prereq: Junior standing or permission of the instructor.

A-H 525 STUDIES IN GENRES AND MEDIA (Subtitle required). (3)
Study of a particular genre (type of subject, such as still life) or a particular medium (type of object, such as the icon) in the history of art. May be repeated to a maximum of 6 credits when identified by a different subtitle. Prereq: Junior standing.

A-H 526 ART AND THE ARTIST IN SOCIETY (Subtitle required). (3)
Art historical study of a topic or period with particular emphasis on artists and the social and cultural context of their roles in the production of visual art forms. May be repeated to a maximum of 6 credits when identified by a different subtitle. Prereq: Junior standing.

A-H 527 INTERDISCIPLINARY APPROACHES (Subtitle required). (3)
Study of artistic and other visual production of a period, geographical location, theme, or medium, with emphasis on its interdisciplinary connections. Depending on the topic, readings and research may engage with a wide variety of disciplines, for example, literature, music, theater, history, political science, philosophy, classics, anthropology, etc. May be repeated under a different subtitle to a maximum of six credits. Prereq: Junior standing or permission of instructor.

A-H 528 TOPICAL SEMINAR IN ART HISTORY AND VISUAL STUDIES (Subtitle required). (3)
An in-depth study of works of art and visual culture, the study of a specific period, geographic location, medium, or theme, or the study of ideas and/or institutions related to the use of art and other forms of visual expression in society. May be repeated under a different subtitle to a maximum of six credits. Prereq: Junior standing.

A-H 529 TOPICAL SEMINAR IN ARCHITECTURAL OR DESIGN HISTORY (Subtitle required). (3)
According to subtitles, seminar will focus on developments, problems, or issues in architectural or design history. Subtitle required. May be repeated to a maximum of six credits when identified by different subtitles. Prereq: Junior standing.

A-H 555 METHODS IN ART HISTORY AND VISUAL STUDIES. (3)
A seminar that reviews basic research methods used by scholars in art history, visual studies, and related fields. In addition to becoming familiar with a range of methodological approaches to the study of objects, environments, and images, students develop and refine the practical skills needed to conduct and present their research. Prereq: Junior status and at least two courses in Art History and Visual Studies at the 300-level, or permission of the instructor.

A-H 592 AESTHETICS. (3)
Problems of method in aesthetics; major types of aesthetic theory. Aesthetic materials of the arts, in literature, music, and the space arts. Form and types of form. Meaning in the arts. Interrelations of the arts. (Same as PHI 592.)

A-H 598 COORDINATE STUDY IN ART HISTORY AND VISUAL STUDIES. (3)
Course number for those students wishing to do advanced work on a special subject in conjunction with a regularly scheduled 300-level course in Art History and Visual Studies not previously taken by the student. May be repeated to a maximum of nine credits. Prereq: Two courses in Art History and Visual Studies or permission of the instructor.

A-H 599 EXPERIENTIAL EDUCATION IN ART HISTORY AND VISUAL STUDIES. (1-9)
Internship with a university, community, state, regional or national organization that provides practical work experience related to art history and/or visual studies. The internship is identified by the student, conducted under the supervision of the on-site supervisor, and evaluated by a faculty advisor. Students must file a learning contract with the College of Fine Arts to register for the course. May be repeated to a maximum of nine credits. Prereq: Two art history courses at the 500-level, or graduate status, or permission of the instructor.

†A-H 603 THE ART OBJECT: (Subtitle required).

A-H 604 PRACTICAL PROBLEMS IN ART HISTORY: (Subtitle required). (3)
A seminar that examines art from a practical perspective. It introduces various disciplines that relate to the understanding of art, such as materials, formats, handling, display, storage, conservation, and connoisseurship. Students engage firsthand with artworks, meanwhile deepening their knowledge of the background and context of the types of art examined. May be repeated under a different subtitle to a maximum of six credits. Prereq: Graduate status or permission of the instructor.

A-H 624 THEORY AND METHODS: (Subtitle required). (3)
According to the subtitle, the seminar will focus on different theoretical and methodological issues pertaining to art and visual studies. May be repeated under a different subtitle to a maximum of six credits. Prereq: Graduate status or permission of the instructor.

A-H 625 PROBLEMS IN GENRES AND MEDIA: (Subtitle required). (3)
Study of a particular genre (type of subject), such as still life) or a particular medium (type of object, such as the icon) in the history of art. May be repeated to a maximum of six credits when identified by a different subtitle. Prereq: Graduate standing.

A-H 626 THE ARTIST IN SOCIETY: (Subtitle required). (3)
Art historical study of a topic or period with particular emphasis on artists and the social and cultural context of their roles in the production of visual art forms. May be repeated to a maximum of six credits when identified by a different subtitle. Prereq: Graduate standing.

A-H 627 INTERDISCIPLINARY PROBLEMS: (Subtitle required). (3)
Seminar that focuses on the artistic and other visual production of a period, geographical location, theme, or medium with an emphasis on its interdisciplinary connections. Depending on the topic, readings and research may engage with a wide variety of disciplines, for example, literature, music, theater, history, political science, philosophy, classics, anthropology, etc. May be repeated under a different subtitle to a maximum of six credits. Prereq: Graduate status or permission of the instructor.

A-H 628 ART HISTORY AND VISUAL STUDIES TOPICAL SEMINAR: (Subtitle required). (3)
In-depth study of works of art and visual culture, the study of a specific period, geographic location, medium or theme, or the study of ideas and/or institutions related to the use of art and other forms of visual expression in society. May be repeated under a different subtitle to a maximum of six credits. Prereq: Graduate status or permission of the instructor.

A-H 629 ART HISTORY TOPICAL SEMINAR IN ARCHITECTURAL OR DESIGN HISTORY (Subtitle required). (3)
According to subtitles, seminar will focus on developments, problems or issues in architectural or design history. May be repeated to a maximum of six credits when identified by different subtitles. Prereq: Graduate standing.

A-H 655 ADVANCED RESEARCH METHODS IN ART HISTORY AND VISUAL STUDIES. (3)
This course practices research methods used by scholars in art history, visual studies, and related fields. In addition to becoming familiar with a selection of methodological approaches to the study of art and images, graduate students will refine the practical skills to conduct and present their own research. Prereq: Graduate status in SAVS.

#A-H 738 MASTER'S PORTFOLIO PREPARATION. (1-3)
Plan B candidates for the M.A. in Art History may use this course number to execute and receive credit for a plan of preparation for the M.A. non-Thesis Portfolio. College of Fine Arts Learning Contract required.

A-H 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

A-H 768 THESIS FORMULATION AND PREPARATION IN ART HISTORY. (3)
Independent study for art history graduate students to formulate and prepare master's thesis under the direction of their thesis advisor. A formal learning contract between student and thesis advisor is required. May be repeated to a maximum of six credits. Prereq: Art history graduate student completing thesis option (Option A).

A-H 780 INDEPENDENT WORK: ART HISTORY. (1-3)
Supervised and sustained individual research and interpretation in the history of art leading to the discovery and demonstration of new knowledge. A formal learning contract between student and supervising faculty member required. May be repeated to a maximum of six credits. Prereq: Graduate standing in the department, 18 credits in art history and consent of instructor.

A-S Art Studio

A-S 001 FOUNDATION EXHIBITION. (0)
An annual exhibition where all first-year Foundation students will select and exhibit one of their works created in a course at UK during their first year. Students will be required to select their own work, present it professionally, and provide an accompanying artist's statement. The exhibition will occur each spring semester. Grade: P or F. Prereq or concur: A-S 101, A-S 102 and A-S 130.

A-S 101 CREATIVITY PRACTICES IN ART STUDIO. (1)
This seminar course for incoming Art Studio and Art Education majors is designed to develop creative strategies and orient students to the Department and University. Through discussion, in-class exercises, and out-of-class assignments, students will gain knowledge of arts-related resources and programming at UK and in the local community. Students will acquire skills for a sustained career in the visual arts, including an introduction to professional practices and portfolio development. Art Studio and Art Education Majors only; no prerequisites.

A-S 102 TWO-DIMENSIONAL SURFACE. (3)
A broad, cross-disciplinary studio course exploring design elements and principles as the basic means of organizing two-dimensional space. Each student develops the ability to form strategies, concepts and ideas to enhance creativity and articulate personal expression.

A-S 103 THREE-DIMENSIONAL FORM. (3)
A broad, cross-disciplinary studio course exploring the elements and principles of designing in the round. Basic concepts involving three-dimensional design in visual art will be explored through discussion and the creation of spatial forms. Special emphasis will be given to the creative process in problem solving.

A-S 130 DRAWING. (3)
A broad, cross-disciplinary studio course exploring the visual language of drawing through observation. Students learn the mechanisms of visual perception, how individual components of a drawing relate to the organization of the composition as a whole. Each student develops not only observational skills rooted in traditional drawing media for realistic renderings, but also gradually builds strategies, concepts, and ideas for abstract expression.

A-S 200 INTRODUCTION TO DIGITAL ART, SPACE AND TIME. (3)
This course provides fundamental instruction in digital media as a creative tool. Students will learn the basics of digital collage, video editing and sound design. An overview of historical and contemporary digital art practice will be presented as well as elements of designs and composition. Four studio hours and one 50-minute lecture per week.

A-S 201 PROFESSIONAL PRACTICES IN ART STUDIO. (1)
This course is designed to assist Art Studio and Art Education majors in developing practical skills needed to create a successful, professional practice in the visual arts. Students are required to prepare a portfolio emphasizing written, oral, and visual presentation and documentation skills. The course will include developing resumes, artist and biographical statements, community engagement, networking, and locating exhibition opportunities. Art Studio and Art Education majors only. Prereq: A-S 101, A-S 102, A-S 103, A-S 130, and A-S 200; or consent of instructor.

A-S 245 INTRODUCTION TO WEB DESIGN. (3)
An introductory level course designed to prepare students to create web pages. Emphasis is on creating functional and aesthetic web content within the current design parameters of the Internet. Navigation strategies, directory structures and familiarity with networks is stressed. Nine studio hours per week.

A-S 270 CERAMICS FOR NON-MAJORS. (3)
This is a studio course that explores the arts and creativity through the discipline of ceramics. An overview of historical and contemporary ceramic art practices will be presented as well as the basics of design and composition. Using hand building and wheel throwing techniques, students will explore the sculptural and functional potential of clay as an object-making media. No prerequisites.

A-S 280 INTRODUCTION TO PHOTOGRAPHIC LITERACY. (3)
Students are introduced to photography, through both the study of its history and the practice of making photographs. The historical portion will focus on both photographic literacy and aesthetics. The practice will take students through various styles, genres and technical aspects of the medium.

A-S 300 DIGITAL PHOTOGRAPHY. (3)
A-S 300 is an introductory course in digital photography as a creative tool. The primary emphasis is the practice of photography as fine art. This course also provides a thorough background in basic techniques that students may apply to any photographic discipline as well as historical and theoretical approaches to photography. Students receive technical instruction in the DSLR camera, lens choice, exposure controls, digital workflow, processing of digital files, output and presentation. Students must have a DSLR camera. Studio 9 hours per week.

A-S 305 STUDIO LIGHTING. (3)
A-S 305, Studio Lighting is an introductory course in lighting control in photography. This course provides a thorough background in basic techniques that students may apply to any discipline, with its primary emphasis upon the practice of the medium as a fine art. Students will receive technical instruction in types of lighting, exposure controls, lighting styles and working in a photographic lighting studio. Prereq: A-S 300 or consent of instructor.

A-S 310 PAINTING I. (3)
Concentrated painting experience stressing enlargement of formal understanding and personal expression. Prereq: A-S 102 and A-S 130.

A-S 311 PAINTING II. (3)
A continuation of A-S 310. Prereq: A-S 310 and consent of the instructor.

A-S 320 PRINTMEDIA: SCREENPRINT/RELIEF. (3)
Students will learn the skills necessary to create screen and relief prints. Curriculum will focus on building a working knowledge of how both analog and digital stencils can be used to create editionable images. Undertaking several projects in each medium students will explore the use of printmaking as both a fine art and graphic medium. Prereq: A-S 130 or consent of instructor.

A-S 321 PRINTMEDIA: INTAGLIO/LITHOGRAPHY. (3)
Students will learn the skills necessary to create Lithography and Intaglio prints. Curriculum will focus on building a working knowledge of how both analog and digital stencils can be used to create edition able images. Undertaking several projects in each medium students will explore the use of printmaking as both a fine art and graphic medium. Prereq: A-S 130 or consent of instructor.

A-S 322 SCREEN PRINTING. (3)
Intensive studio experience in serigraph printmaking processes and history relevant to contemporary practices in the medium. Six studio hours per week. Prereq: A-S 320.

A-S 330 INTERMEDIATE DRAWING. (3)
Continued studio experience in two-dimensional representation and abstraction using a variety of drawing materials and processes. When offered in the fall, emphasis will be on the human figure. When offered in the spring, course content will cover a broad range of traditional and experimental subjects including landscape, still lifes, collage, and mixing words with images. May be repeated to a maximum of six credits. Nine studio hours per week. Prereq: A-S 102 or consent of instructor.

A-S 331 EXPLORATION OF HUMAN FORM. (3)
Students strengthen drawing skills through observation and in experimentation with process and strategy. Students gain a better understanding of design and composition in relationship to overall outcome of drawing and explore a range of drawing materials. Prereq: A-S 102 and A-S 130.

A-S 340 INTRODUCTION TO GRAPHIC DESIGN, MEANING AND IMAGE. (3)
An introductory digital-media studio course in graphic design. Emphasis will be placed on the study of typography, illustration, and layout design, as well as the social, political, and historical impact of graphic design. Technical and theoretical issues pertinent to the field will be presented.

A-S 341 GRAPHIC DESIGN: LAYOUT. (3)
Students prepare professional quality assignments in lettering, pictogram systems, logos, and corporate identity design, line art, and cartoons for advertising illustration, as well as solutions for posters, billboards, folders, storyboards, and cover illustration. Nine studio hours per week. Prereq: A-S 340 (with a grade of B or better) and Portfolio Review.

A-S 345 WEB DESIGN. (3)
An intermediate level course designed to prepare students to create web pages. Emphasis is on creating functional and aesthetic web content within the current design parameters of the internet. Navigation strategies, directory structures and familiarity with networks is stressed. Nine studio hours per week. Prereq: A-S 200 or consent of instructor.

A-S 346 DIGITAL VIDEO. (3)
An intermediate level course in which students learn advanced video compositing methods, image control and key effects in the digital world specific to the Final Cut Pro or like environments. Basic and advanced titling and graphic animation are explored as well as storyboarding, sound design and title effects. This course explores various video editing styles. Work is collaborative and individual. Nine studio hours per week. Prereq: A-S 200 or consent of instructor.

A-S 347 MULTIMEDIA (Subtitle required). (3)
An intermediate level course that allows students to explore a variety of programming environments. Programming topics may include video, audio and/or still images with net based or physical installation based output. This class builds on students' previous experiences with digital media production and introduces programming to their tool pallet. Fundamentals of computer programming are presented, supplemented by historical readings and discussions of art theory dealing with the use of digital technologies in artistic context. Nine studio hours per week. May be repeated to a maximum of nine hours when identified under a different subtitle. Prereq: A-S 200 or consent of instructor.

A-S 348 CIRCUITS & BITS: INTRODUCTION TO HARDWARE AND SOFTWARE TOPICS IN ARTS. (3)
A broad, cross-disciplinary, intermedia studio course designed to teach students custom software creation and electronics fabrication in an art environment. Technical information is presented in conjunction with art historical and theoretical issues. Students will be introduced to a skill-set needed to create interactive artworks. Prereq: A-S 200, or junior standing (or above) in the College of Design, or consent of the instructor.

***A-S 350 FIBER I. (3)**
Introductory studio experience to the design and fabrication of woven and non-woven fiber art in two or three dimensions; emphasis on color, structure and related aesthetic values. Nine studio hours per week. May be repeatable up to six credit hours when identified under a different subtitle. Prereq: A-S 102 or A-S 103 or consent of instructor.

***A-S 351 FIBER II. (3)**
Continuation of A-S 350, emphasis on developing perceptual and technical skills toward increasing aesthetic involvement in two or three dimensions with woven and non-woven fiber and fabric. Nine studio hours per week. May be repeatable up to six credit hours when identified under a different subtitle. Prereq: A-S 350 or consent of instructor.

***A-S 355 INTRODUCTION TO SCULPTURE. (3)**
Emphasis is placed on learning diverse 3D techniques, tools and materials as students create sculptures dealing with movement, emotions, narrative and non-objective/abstract subject matters. Sculptural concepts are explored through individual research, critical discussions and art production. Students experiment with mixed-media, and surface finishing. Prereq: A-S 103.

***A-S 360 INTRODUCTION TO HOT METALS: FABRICATION. (3)**
Art Studio 360 is an introductory course in metal working skills, techniques and processes for producing sculptural forms based on traditional and contemporary ideas. Primary emphasis is placed on metal shop orientation: fabrication, forging and non-traditional materials and surfaces. Sculptural concepts are explored through individual research, critical discussions and art production. Prereq: A-S 103 or consent of instructor.

***A-S 361 INTRODUCTION TO HOT METALS: CASTING. (3)**
Art Studio 361 is an introductory course in metal working skills, techniques and processes for producing sculptural forms based on traditional and contemporary ideas. Primary emphasis is placed on metal shop orientation: casting and non-traditional materials and surfaces. Sculptural concepts are explored through individual research, critical discussions and art production. Prereq: A-S 103 or consent of instructor.

A-S 370 CERAMICS I. (3)
Introductory studio experience to a variety of ceramic materials and processes. Nine studio hours per week. Prereq: A-S 103 or consent of instructor.

A-S 371 CERAMICS II. (3)
A continuation of A-S 370. Nine studio hours per week. Prereq: A-S 370 or consent of instructor.

A-S 380 BLACK & WHITE DARKROOM PHOTOGRAPHY. (3)
A-S 380 is an introductory course in photography. Although it provides a thorough background in basic techniques that students may apply to any discipline, its primary emphasis is upon the practice of the medium as a fine art. Students receive technical instruction in camera and lens construction, exposure controls, processing of black and white negatives and prints, and presentation. Studio, nine hours per week.

A-S 381 ADVANCED BLACK & WHITE DARKROOM PHOTOGRAPHY. (3)
A-S 381 is a continuation of A-S 380. The emphasis is upon refining visual perception and basic photographic skills with an introduction to some of the more advanced techniques of black and white photography. Students receive technical instruction in the Zone System, archival processing, toning, and presentation. Studio, nine hours per week. Prereq: A-S 380 or consent of instructor.

A-S 384 COLOR PHOTOGRAPHY I. (3)
A-S 384 is an introductory course in color photography. The emphasis is upon the unique qualities of color photography relating to visual perception. Students receive technical instruction in negative and transparency film development and printing. Studio, nine hours per week. Prereq: A-S 380 or consent of instructor.

A-S 385 DIGITAL METHODS FOR PHOTOGRAPHY. (3)
An intermediate level course designed to help students integrate traditional silver-based photography processes with new digital computer imaging tools such as Adobe Photoshop or like program. Students are required to produce original photographic imagery for use in creating digital artwork output to printed material with inkjet printers. Advanced methods of input and output calibration, as well as advanced methods of image manipulation, are covered. Emphasis is placed on the aesthetics and ethics of digital photographic art and creating meaningful and effective images. Nine studio hours per week. Prereq: A-S 200 and A-S 380 or A-S 300 or permission of instructor.

A-S 386 NONSILVER PHOTOGRAPHY I. (3)
A-S 386 is an introductory course in nonsilver photography. The emphasis is upon the unique qualities of nonsilver photography relating to visual perception. Students receive technical instruction in the use of orthochromatic films, half-tone separations, cyanotypes, Van Dyke brown prints, and gum-bichromate prints. Studio, nine hours per week. Prereq: A-S 380 or consent of instructor.

#A-S 387 TOPICS IN PHOTOGRAPHY (Subtitle required). (3)
An intermediate level course that allows students to explore a variety of lens based or photographic artistic topics. This class builds on students' previous experiences with photographic media. The class is supplemented by historical readings and discussion of art theory dealing with the use of photographic technology in an artistic context. Six studio hours per week. May be repeated to a maximum of nine credit hours when identified under a different subtitle. Prereq: Will be designated with subtitle or consent of instructor.

A-S 390 TOPICAL STUDIES (Subtitle required). (3)
Studio investigation of art forms, processes, and topics not specially treated in the regular studio course of study. Topics announced in schedule book for each semester. Nine studio hours per week. May be repeated to a maximum of 12 credits when identified by different course subtitles. Prereq: To be specified as appropriate when topic is identified.

A-S 395 INDEPENDENT WORK: ART STUDIO. (1-3)
Supervised individual work in Art Studio. A learning contract will be submitted both to the department and the office of the dean at the time of registration. May be repeated to a maximum of nine credits. Prereq: Art major, senior standing, grade-point average of 3.0 within the department and consent of instructor.

A-S 396 WORKSHOP (Subtitle required). (1-6)
Workshops in a variety of media dealing with supervised investigation of Art-Studio problems. Studio, 3-18 hours per week. May be repeated to a maximum of nine credits when identified by different subtitles. Prereq: Consent of instructor.

A-S 398 COORDINATED STUDIES IN ART STUDIO. (3)
Supervised independent study in conjunction with regularly scheduled upper-division classes. Coordinate study credits may not be attached to any upper-division course in which the student is concurrently enrolled. Studio, nine hours per week. May be repeated to a maximum of nine credits. Prereq: Art major, junior standing or above, grade-point average of 3.0 in the department.

A-S 399 EXPERIENTIAL EDUCATION. (1-15)
Off-campus studio experience outside the academic environment leading to significant professional growth. A formal learning contract among student, field supervisor and the department. Studio hours per week by arrangement. May be repeated to a maximum of 15 credits. Prereq: Upper division standing; written statement of objective, recommendation of a studio faculty member and the approval of the department chairperson and the Office of Experiential Education.

A-S 480 PROFESSIONAL PRACTICES IN PHOTOGRAPHY. (3)
A-S 480 is a seminar style class that looks at the business side of photography. Through this class students will look at different careers and business practices in the photography world. Students will work through exercises in goal setting, financial management, networking, branding, portfolio design and much more. This class is broad enough for students to feel prepared to enter numerous photographic fields after graduation. Prereq: Any two photography 300 level or above classes.

A-S 490 SENIOR SEMINAR. (1)
Readings and discussions in art. Selection, preparation, and presentation of senior exhibitions and portfolios. To be taken during the student's final semester of study. Two lecture hours per week. Prereq: Senior standing in Department of Art.

A-S 510 PAINTING III. (3)
Supervised individual development in painting. Nine studio hours per week. Prereq: A-S 311 or consent of instructor.

A-S 511 PAINTING IV. (3)
Continuation of A-S 510; emphasis on professional awareness and development. May be repeated to a maximum of six credits. Nine studio hours per week. Prereq: A-S 510 or consent of instructor.

A-S 520 PRINTMEDIA: TOPICS (Subtitle required). (3)
This course will explore and discuss contemporary and future directions in print media. Students will combine traditional, digital, and post-digital matrices to create works that merge print with installation, design, animation, book-arts, or other mixed-media methods. Prereq: A-S 320 or A-S 321 or consent of instructor.

A-S 521 PRINTMEDIA: CONTEMPORARY PRACTICES. (3)
Students will utilize knowledge from previous print courses to develop specific projects and research that develops a professional body of work and studio practice. Prereq: A-S 520 or consent of instructor.

A-S 530 ADVANCED DRAWING. (3)
Supervised individual development in drawing. When offered in the Fall, emphasis will be on the human figure. When offered in the Spring, students may select from a broad range of traditional and experimental subjects. May be repeated to a maximum of six credits. Nine studio hours per week. Prereq: A-S 330 or consent of instructor.

A-S 540 GRAPHIC DESIGN: PUBLICATION DESIGN. (3)
Students develop innovative concepts in advertising layout and design through brochures, direct mailers, magazine and newspaper ads. Contemporary techniques in design and production emphasized. Printing techniques, and paper selection introduced as design elements. Nine studio hours per week. Prereq: A-S 341 (with a grade of B or better) and Portfolio Review.

A-S 541 GRAPHIC DESIGN: ADVANCED DESIGN. (3)
Provides an opportunity for the advanced study of artistic and technical solutions for graphic design problems. Prospecting for employment, working conditions, avenues for advancement, pricing work, and the legal responsibilities of the artist-designer to the client-agency discussed. Students conclude this course with the presentation of a portfolio demonstrating their ability to do quality work which meets the highest professional standards. Nine studio hours per week. Prereq: A-S 540 (with a grade of B or better) and Portfolio Review.

A-S 546 INTERMEDIA STUDIO (Subtitle required). (3)
An advanced course focusing on a specific area of Intermedia art production, i.e. video, installation, robotics, or digital techniques, emphasizing personal development of theoretical and skill-based foundation. May be repeated to a maximum of six credits when identified by the same subtitle and nine credits when identified by different subtitles. Nine studio hours per week. Prereq: A-S 200 and either A-S 346 or A-S 347 or consent of instructor, or graduate enrollment.

#A-S 547 ADVANCED DIGITAL PROJECTS. (3)
An advanced course that allows digital media students to propose and create large-scale, in-depth projects such as short films, video installations, a complete animation, web-based research projects, etc. that require time and focus to produce. Independently driven projects will be developed in the classroom setting. 3 credit hours, may be repeated up to 9 hours. Prereq: Consent of instructor.

A-S 550 FIBER III. (3)
Supervised individual development in fiber. Nine studio hours per week. Prereq: A-S 351 or consent of instructor.

A-S 551 FIBER IV. (3)
Continuation of A-S 550; emphasis on professional awareness and development. May be repeated to a maximum of six credits. Nine studio hours per week. Prereq: A-S 550 or consent of instructor.

***A-S 560 ADVANCED HOT METALS: FABRICATION. (3)**
Art Studio 560 is an advanced level course, continuing metal working skills, techniques and processes for producing sculptural forms based on traditional and contemporary ideas. Primary emphasis is placed on metal shop orientation: fabrication, forging and non-traditional materials and surfaces. Sculptural concepts are explored through individual research, critical discussions and art production. Prereq: A-S 360 or consent of instructor.

***A-S 561 ADVANCE HOT METALS: CASTING. (3)**
Art Studio 561 is an advance course in metal working skills, techniques and processes for production sculpture forms based on traditional and contemporary ideas. Primary emphasis is placed on metal shop orientation: casting and non-traditional materials and surfaces. Sculptural concepts are explored through individual research, critical discussions and art production. Prereq: A-S 361 or consent of instructor.

A-S 570 CERAMICS III. (3)
Supervised individual development in ceramics. Nine studio hours per week. Prereq: A-S 371 or consent of instructor.

A-S 571 CERAMICS IV. (3)
Continuation of A-S 570; emphasis on professional awareness and development. May be repeated to a maximum of six credits. Nine studio hours per week. Prereq: A-S 570 or consent of instructor.

A-S 580 PHOTOGRAPHY PROJECTS I. (3)
A-S 580 is a photography based project course. The emphasis of this course is on the expansion of photographic techniques, self-expression, and long-term project development. Prereq: Any of the following: A-S 381, A-S 384, A-S 385, A-S 386, A-S 305 or consent of instructor.

A-S 581 PHOTOGRAPHY PROJECTS II. (3)
A-S 581 is a continuation of A-S 580. The emphasis of this course is advanced exploration and experimentation of photographic techniques, self-expression, and long-term project development in preparation for student's future success in independent research. May be repeated to a maximum of six credits. Prereq: A-S 580 or consent of instructor.

A-S 584 COLOR PHOTOGRAPHY II. (3)
A-S 584 is a continuation of A-S 384. The emphasis is upon advanced color photographic processes and continued acquisition of skills for self-expression through the medium. May be repeated to a maximum of six credits. Studio, nine hours per week. Prereq: A-S 384 or consent of instructor.

A-S 586 NONSILVER PHOTOGRAPHY II. (3)
A-S 586 is a continuation of A-S 386. The emphasis is upon advanced nonsilver photographic processes and continued acquisition of skills for self-expression through the various media. May be repeated to a maximum of six credits. Studio, nine hours per week. Prereq: A-S 386 or consent of instructor.

#A-S 587 ADVANCED TOPICS IN PHOTOGRAPHY (Subtitle required). (3)
An advanced course focusing on a specific area or topic of lens based or photographic arts emphasizing personal development of theoretical, conceptual and technical skills. Six studio hours per week. May be repeated to a maximum of nine credit hours when identified under a different subtitle. Prereq: Will be designated with subtitle or consent of instructor.

A-S 596 WORKSHOP. (1-6)
Workshops in a variety of media dealing with supervised investigation of advanced art studio problems. Prereq: Consent of instructor.

A-S 610 PAINTING V. (3)
Advanced studio investigation of current ideas in painting. Exploration of contemporary and traditional procedures, materials, and issues in a context of a group discussion and review. May be repeated to a maximum of nine credits. Prereq: Graduate standing in the department and approval of the instructor.

A-S 611 PAINTING VI. (3)
Continued studio investigation of current ideas in painting, with increased concentration on critical group discussions of student work and readings in contemporary art. May be repeated to a maximum of nine credits. Studio, nine hours. Prereq: A-S 610 and consent of instructor.

A-S 620 PRINTMAKING V. (3)
Advanced studio investigation of current ideas in printmaking. Exploration of contemporary and traditional procedures, materials, and issues. May be repeated to a maximum of nine credits. Studio, nine hours. Prereq: Graduate standing in the department and consent of the instructor.

A-S 621 PRINTMAKING VI. (3)
Continued advanced studio investigation of current ideas in printmaking. Increased concentration of technical and aesthetic development in preparation for entry into the professional environment. May be repeated to a maximum of nine credits. Studio, nine hours. Prereq: A-S 620.

A-S 630 GRADUATE DRAWING. (3)
Supervised studio course in graduate-level drawing and mixed media works on paper or other two-dimensional surfaces. Emphasis will be placed on personal style, its identification, definition and further development in the context of contemporary drawing. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: Twelve credits in upper division studio work and consent of instructor.

A-S 646 ADVANCED INTERMEDIA STUDIO (Subtitle required). (3)
A studio course specially designed for graduate students emphasizing sustained individual, technical and theoretical work in the area of Intermedia. May be repeated to a maximum of nine credits when identified by the same subtitle. Nine studio hours. Prereq: A-S 200 and either A-S 346 or A-S 347 or consent of instructor, or graduate enrollment.

A-S 650 FIBER V. (3)
In this supervised graduate studio course in fiber, emphasis will be placed on personal style, its identification, definition, and further development in the context of major directions in the fiber arts. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: 12 credits in upper division studio work and consent of instructor.

A-S 651 FIBER VI. (3)
Continued advanced studio investigation of current ideas in the fiber arts. Increased concentration on technical and aesthetic development, professional readings, and group discussion. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: A-S 650.

A-S 660 SCULPTURE V. (3)
In this supervised studio course in graduate sculpture, emphasis will be placed on personal style, its identification, definition, and further development in the context of modern sculpture. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: 12 credits in upper division studio work and consent of instructor.

A-S 661 SCULPTURE VI. (3)
Continued advanced studio investigation of current ideas in sculpture. Increased concentration on technical and aesthetic development, professional readings, and group discussion. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: A-S 660.

A-S 670 CERAMICS V. (3)
In this supervised studio course in graduate ceramics, emphasis will be placed on personal style, its identification, definition, and further development in the context of direction in modern ceramics. Studio, nine hours per week. May be repeated to a maximum of nine credits. Prereq: 12 credits in upper division studio work and consent of instructor.

A-S 671 CERAMICS VI. (3)
Continued advanced studio investigation of current ideas in ceramics, increased concentration on technical and aesthetic development, professional readings, and group discussions. Studio, nine hours per week. May be repeated to a maximum of nine credits. Prereq: A-S 670.

A-S 680 PHOTOGRAPHY V. (3)
A-S 680 is a continuation of A-S 581. In this supervised studio course in graduate photography, emphasis will be placed on personal style, its identification, definition, and further development in the context of major directions in photography. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: A-S 581 and consent of instructor.

A-S 681 PHOTOGRAPHY VI. (3)
A-S 681 is a continuation of A-S 680. The emphasis will be upon continued advanced studio investigation of current ideas in photography with increased concentration on technical and aesthetic development, professional readings, and group discussion. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: A-S 680 and consent of instructor.

#A-S 687 GRADUATE TOPICS IN PHOTOGRAPHY (Subtitle Required). (3)
A studio course specially designed for graduate students emphasizing sustained individual, technical and theoretical work in a specified topical area of lens based or photographic arts. May be repeated to a maximum of nine credits when identified under a different subtitle. Six studio hours. Prereq: Graduate standing.

A-S 710 PROBLEMS IN PAINTING. (3)
Sustained individual projects focusing on problems and experimental work in the technical and theoretical aspects of painting. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: Twelve credits in upper division studio work and consent of instructor.

A-S 720 PROBLEMS IN PRINTMAKING. (3)
Sustained individual projects focusing on problems and experimental work in the technical and theoretical aspects of printmaking. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: Twelve credits in upper division studio work and consent of instructor.

A-S 730 PROBLEMS IN DRAWING. (3)
Sustained individual projects focusing on problems and experimental work in the technical and theoretical aspects of drawing. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: Twelve credits in upper division studio work and consent of instructor.

A-S 740 PROBLEMS IN FIBER. (3)
Sustained individual problems and experimental work in the technical and theoretical problems of fiber. May be repeated two times to a maximum of nine credits. Nine studio hours per week. Prereq: Twelve credits in upper division studio work and consent of instructor.

A-S 750 PROBLEMS IN SCULPTURE. (3)
Sustained individual problems and experimental work in the technical and theoretical problems of sculpture. May be repeated to a maximum of nine credits. Nine studio hours per week. Prereq: 12 credits in upper division studio work and consent of instructor.

A-S 767 M.F.A. STUDIO THESIS PROJECT. (1-6)
Independent research and preparation for the M.F.A. thesis exhibition. For the student working in a highly technical medium or process, the preparation of a correlated written thesis under close guidance will be the outcome. The student will be expected to know the standard forms for photographic records and the preparation of a professional portfolio. May be repeated to a maximum of six credits. Prereq: Normally taken during final semester for graduate study.

A-S 770 PROBLEMS IN CERAMICS. (3)
Sustained individual problems and experimental work in the technical and theoretical problems of ceramics. May be repeated two times for a maximum of nine credits. Nine studio hours per week. Prereq: 12 credits in upper division studio work and consent of instructor.

A-S 777 PROBLEMS IN INTERMEDIA. (3)
A studio course specially designed for independent graduate research emphasizing individual, technical and theoretical work in the area of Intermedia. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: Twelve credits in upper division studio work and consent of instructor.

A-S 779 PROBLEMS IN PHOTOGRAPHY. (3)
A-S 779 emphasizes sustained individual problems and experimental work in the technical and theoretical problems of photography. May be repeated to a maximum of nine credits. Studio, nine hours per week. Prereq: Twelve credits in upper division studio work and consent of instructor.

A-S 780 PROBLEMS IN DESIGN. (3)
Sustained individual problems and experimental work in the technical and theoretical problems of design. May be repeated two times for a maximum of nine credits. Nine studio hours per week. Prereq: 12 credits in upper division studio work and consent of instructor.

A-S 793 GRADUATE STUDIO SEMINAR. (3)
A studio seminar for graduate students in the studio area, in all areas of concentration. Lectures, discussion and criticism will focus on current formal and theoretical problems in the arts. Emphasis will be placed on the integration of concepts and practices arising in the different fields in the visual arts with critical discourse through monthly group critiques. Required of M.F.A. candidates every Fall semester of their residency. May be repeated to a total of 12 credits. Prereq: Graduate standing in the department.

A-S 795 INDEPENDENT RESEARCH. (1-3)
Advanced studio investigation of art forms, processes, and topics not specially treated in the regular curriculum. May be repeated to a maximum of nine credits. Studio, three hours per week per credit. Prereq: Twelve credits in upper division studio work and consent of instructor.

AAD Arts Administration

†AAD 101 ARTS ADMINISTRATION PROFESSIONS.

***AAD 150 EXPLORING ARTS ADMINISTRATION. (3)**
Exploring Arts Administration introduces the field of arts administration to students interested in investigating the connections between art, artists, and audiences through participation in class discussions, engagement with guest lectures, and attendance of arts events. The questions that drive this inquiring include: What is the work of the arts in society? What intellectual inquiry will guide me within the profession? What are the organizational structures that present the arts? And how do I begin to participate within the profession?

***AAD 200 ARTS ADMINISTRATION COMMUNICATIONS. (3)**
Arts Administration Communications guides students to master the primary writing styles and communication skills in the field of arts administration that they will be using throughout the remainder of their arts administration courses and into their careers. The course introduces students to different communication styles and dynamic processes through comprehending concepts and practicing skills in verbal, nonverbal, written, visual, listening, and new media communications. In addition, internal and external communication systems and styles are emphasized through concepts and practices in interpersonal, team, organizational, and community communications. Furthermore, communication issues and cultural diversity in communication styles will be explored in this course. Prereq: Completion of CIS 110 or WRD 110.

***AAD 250 DIGITAL DESIGN FOR ARTS ADMINISTRATORS I. (3)**
Effective visual communication has become vital for business in today's global market. AAD 250: Digital Design for Arts Administrations I will explore the powerful graphic and visual design programs of Adobe Photoshop, InDesign, Illustrator and iMovie. Students will develop an 'eye' for design through the exploration of advanced design software, advanced design elements, and peer critiques. Students will demonstrate basic design skills through design projects for both print and the web. Prereq: Enrollment limited to AAD pre-majors prior to add/drop.

***AAD 260 DIGITAL DESIGN FOR ARTS ADMINISTRATORS II. (3)**
A successful organization will have a beautiful and creative online presence through the digital realms of blogging, eNewsletters, and website design. In AAD 260: Digital Design for Arts Administrators II, students will explore topics such as branding, marketing, color theory, and digital analytics. Specifically, students will learn the process of designing, building and maintaining a website that meets an organization's needs. The course will also examine the legal, philosophical, societal and technological issues relevant to delivering information in the 21st century. Prereq: Completion of AAD 200, AAD 250, CIS/WRD 111 or CIS/WRD 112, or consent of the instructor.

#AAD 299 ARTS ADMINISTRATION INTERNSHIP ORIENTATION. (1)
All students in Arts Administration are required to complete 6 credit hours of internship work. Internships provide an experiential learning opportunity for students to experience real-world circumstances in the arts. AAD 299: Arts Administration Internship Orientation is designed to prepare students for their internship experience. Topics include searching for an internship, resume and cover letter construction, interviewing skills, and professionalism in the work place. Students must complete AAD 299 before they may register for internship hours. Prereq: Completion of AAD 150, 200, and 250, or consent of instructor.

#AAD 300 MANAGEMENT AND PLANNING FOR THE ARTS. (3)
Arts organizations are inherently collaborative. Arts administration students need to understand the concepts and theories of leadership, management and followership in order to contribute effectively in the ever-changing and adaptive environment of arts organizations. AAD 300: Management and Planning for the Arts will explore the principles of arts management, management theory and practice, organizational structure, organizational culture and communication, decision-making and accountability, human resource management and volunteer administration, and ethics and social responsibility. Additionally, students will study the various approaches to conducting strategic planning, using SWOT analysis, as well as identification of strategic issues and the formulation of strategic plans. Prereq: AAD 150 and AAD 200.

***AAD 310 MARKETING FOR THE ARTS. (3)**
Connecting and communicating with current and prospective arts audiences is essential for ensuring a strong future for the arts. AAD 310: Marketing for the Arts offers an overview of marketing, advertising, and promotion for visual and performing arts institutions. Students will learn practical strategies and solutions for building audiences for the arts through market research, marketing principles, and communication techniques. Topics include audience development, market segmentation, positioning strategies, marketing plans, media coverage, and promotion techniques. Prereq: Completion of AAD 200, AAD 250, CIS/WRD 111 or CIS/WRD 112, or consent of instructor.

***AAD 320 FUNDRAISING FOR THE ARTS. (3)**
In the United States, a significant amount of nonprofit arts organizations' income comes from unearned revenue through fundraising. Without substantial knowledge and skills specific to fundraising in the nonprofit sector, arts organizations may not be able to sustain themselves long-term. This course prepares students to understand the function of fundraising in arts organizations and helps them pursue careers in fundraising and development within the nonprofit arts sector. Furthermore, this course will guide students through the key theories, principles, processes, and programs of fundraising. Prereq: Completion of AAD 200, AAD 250, CIS/WRD 111 or CIS/WRD 112, or consent of instructor.

***AAD 350 FINANCIAL MANAGEMENT FOR ARTS ORGANIZATIONS I. (3)**
Financial management is a core function within the management of cultural and arts organizations. It is the foundation upon which the resources (human, physical and financial) of any organization are maintained and monitored. In the nonprofit sector, the relationship of "mission to money" is an important conceptual framework, and must be understood by arts managers. Financial analysis is an essential requisite for sound strategic planning and governance, and managers of nonprofit arts organizations are the source of financial information. AAD 350: Financial Management for Arts Organizations I is the first of two courses that will guide students through the key conceptual areas of financial management. Part I includes understanding the basic principles of accounting, legal reporting requirements, reading financial statements and interpreting performance measurements. Prereq: Completion of AAD 200, AAD 300 and UK Core Quantitative and Statistical requirements or consent of the instructor.

#AAD 370 FINANCIAL MANAGEMENT FOR ARTS ORGANIZATIONS II. (3)
Financial management is a core function within the management of cultural and arts organizations. It is the foundation upon which the resources (human, physical, and financial) of any organization are maintained and monitored. In the nonprofit sector, the relationship of "mission to money" is an important conceptual framework, and must be understood by arts managers. Financial analysis is an essential requisite for sound strategic planning and governance, and managers of nonprofit arts organizations are the source of financial information. AAD 370: Financial Management for Arts Organizations II is the second of the two financial management courses that will guide students through the key conceptual areas of financial management. Part II includes creating mission-driven budgets, developing cost-benefit analyses, managing cash flow, endowment and capital management, and understanding the use and purpose of economic impact studies. Prereq: AAD 350.

#AAD 390 PROGRAMMING AND EVENT PLANNING. (3)
Arts programming and events are at the core of all arts and cultural organizations. AAD 390: Programming and Event Planning will prepare students for planning and implementing arts programs and events by considering organizational mission and vision; planning processes and logistics; collaboration and individual responsibilities; marketing and fundraising strategies, budget management; and evaluation. Students will be introduced to relevant programming theory and research methodologies for planning and evaluating arts programs. Prereq: AAD 310 and AAD 320, or consent of instructor.

AAD 399 ARTS ADMINISTRATION PRACTICUM. (1)
Under the supervision of a faculty member, students complete on-campus arts administration service projects. At least one of the two projects must be in service to the student's primary art discipline's department or school. Examples of projects might include conducting a publicity campaign for an event, working on a fundraiser, producing a publication, conducting research, updating a website, etc. Pass/fail option only. Learning contract required. Prereq: Arts Administration major or consent of instructor.

AAD 402 TOPICS IN ARTS ADMINISTRATION (Subtitle required). (3)
A seminar which covers special topics in arts administration. May be repeated to a maximum of 12 credits when identified by different subtitles. Prereq: Completion of AAD 200, AAD 202 and one of the following: CIS 111 or WRD 111, or consent of instructor.

#AAD 410 ARTS ENTREPRENEURSHIP. (3)
Beginning at the point of invention, Arts Entrepreneurship will move from the sketch of a shared creative idea and create impact upon our community through original arts programming built upon a shared mission. Driven by the shared belief that creativity is the seed of hope, "Art

in Unlikely Places" connects inspiring artists to those most in need of the transformative powers of the arts – orphans, prisoners, the ailing, the impoverished, the elderly, and the distraught, sharing beauty with those whose lives might otherwise be absent of the hope experienced in the artistic moment. Prereq: Completion of AAD 300, AAD 390 and one or more of the following: AAD 310 and AAD 320, or consent of instructor. Students enrolled in the Certificate in Innovation and Entrepreneurial Thinking may enroll without the prerequisite courses.

***AAD 420 ARTS ADMINISTRATION: PRACTICES, POLICIES AND THE LAW. (3)**
Artists and arts administrators are required to work within current cultural, business and legal environments. Thus, students in AAD 420 Arts Administration: Practices, Policies and the Law will discuss cultural policy, management and legal issues that affect the arts, arts organizations and artists. Topics include cultural policy, funding, advocacy, arts and community, First Amendment rights, intellectual property, organizational structure, contracts, labor unions and employee relations. Students will analyze contemporary and historical case studies to expose the cultural, legal and business issues that frame the arts in today's society. Prereq: Completion of AAD 200 and AAD 300, or consent of instructor.

***AAD 450 ARTS ADMINISTRATION SENIOR SEMINAR. (3)**
As an advanced seminar course, this course prepares students to enter the job market or pursue graduate studies. It builds upon the other courses in the curriculum as well as practicum and internship experiences. During the course, students will work to revise and prepare electronic portfolios based on written and graphic materials prepared throughout their degree program. Additionally, students will write and critique cover letters and resumes and prepare for job interviews and negotiations. Prereq: Completion of all pre-major requirements, all 200 level AAD courses, AAD 300, AAD 310, AAD 320 and AAD 350. The course should be completed in the final year of a student's BA program.

***AAD 499 INTERNSHIP IN ARTS ADMINISTRATION. (3)**
AAD 499: Internship in Arts Administration is designed to provide each student with the opportunity to utilize classroom knowledge in a practical/real-world setting with the support of both an on-site supervisor and a faculty advisor. The internship experience allows students to develop skills and knowledge beyond the classroom. May be repeatable for a maximum of 12 credit hours. Prereq: Completion of AAD 299. Controlled enrollment; Arts Administration Learning Contract is required.

AAD 520 THE ARTS AND ARTISTS IN SOCIETY. (3)
The arts and artists have influenced concepts of love, war, religion, race, ethnicity and gender and helped societies face problems, celebrate accomplishments, mourn losses, beautify environments and drive economies. The course will investigate the intersection of arts and civic life. Through writing research papers, exploring topics including the intrinsic and extrinsic value of the arts, and through analyzing social, economic and political trends, students will learn the role of the arts and artists in historical and contemporary society. Prereq: Undergraduate Arts Administration students: senior status.

***AAD 540 SEMINAR IN ARTS ADMINISTRATION (Subtitle required). (3)**
A seminar which covers special topics in arts administration. May be repeated to a maximum of 9 credits when identified by different subtitles.

AAD 600 ARTS ADMINISTRATION TECHNOLOGIES. (3)
From brochures to web sites to video, arts organizations are investing more time and resources in effectively communicating with the public. As such, arts administrators must be skilled in utilizing current technology to convey messages. In this course, students will learn a variety of software applications that will aid in the successful creation of print materials, web sites, video and other multi-media presentations. Additionally, the course will introduce concepts of design principles and relevant theories.

AAD 610 FINANCIAL MANAGEMENT FOR ARTS ORGANIZATIONS. (3)
Financial management is a central function of successful arts management. It is the foundation in which human, physical and financial resources are maintained and monitored. In the nonprofit sector, the relationship of "mission to money" is a key conceptual framework that must be understood by arts managers. Arts managers are the source of financial information to both internal and external stakeholders and successful financial analysis is essential for sound strategic planning and governance. This course guides students through key topics of financial management including accounting practices, interpreting financial statements, creating mission-driven budgets, analyzing cash-flow, developing cost-benefit analyses and managing investments.

AAD 620 MANAGEMENT AND LEADERSHIP IN THE ARTS. (3)
People are the basis of arts organizations. Understanding the factors that determine individual actions and interactions, being able to solve problems, capitalize on new opportunities and reach goals is necessary for being a successful leader in a work environment. As such, this course focuses on the planned, systematic process in which applied organizational theory and behavioral science principles and practices are introduced into organizations, toward the goal of increasing organizational and individual effectiveness. The course prepares students to organize and motivate people within an arts organization, manage social environments, and execute strategic change. Topics explored include organizational design, decision-making, conflict resolution, designing effective reward systems, team building, and organizational dynamics and culture. Additionally, students will focus on reflecting upon their own leadership skills and abilities.

AAD 630 MARKETING RESEARCH AND PLANNING FOR ARTS ORGANIZATIONS. (3)
Arts managers are consistently faced with the challenge of connecting arts offerings with an audience. Understanding the possible markets and developing strategies to reach the desired audience are part of every arts organization's primary administrative activities. Throughout this course, students will explore theories and frameworks crucial to the marketing function including product development, market research, consumer behavior, brand development, pricing strategies and promotion techniques. Students will utilize the knowledge to analyze marketing strategies, investigate consumer behavior and conduct primary and secondary marketing research for an arts organization. Prereq: AAD 600.

***AAD 640 PRINCIPLES OF FUNDRAISING. (3)**
Most nonprofit organizations earn more than half of their annual revenue from fundraising activities, involving contributions from businesses, foundations, government and individuals. This course will examine how each of these entities are identified, contacted, courted, asked and ultimately convinced to contribute. Students will learn practical fundraising techniques such as how to identify government and foundation granting programs, how to write successful grants to those programs, how to identify potential individual donors and solicit their contributions, and how to identify and carry out special events that lead to contributions from a variety of donors. The philosophies and theories that underlie the concept of charitable giving will also be examined, as will the ethical considerations inherent in the fundraising process. Prereq: AAD 600, AAD 610, or consent of instructor.

AAD 650 THE ARTS AND THE LAW. (3)
How does art interact with law? How does law impact artistic creation? How can arts administrators ensure that their organization legally protects itself? Understanding the legal environment in which arts organizations exist and artists create empowers arts administrators to make sound and reasoned decisions. Throughout this course, students will be exposed to a variety of legal topics related to artistic creation and the managing of arts organizations. The course will provide historical and contemporary introduction to the laws and policies, both in the United States and internationally, related to intellectual property, First Amendment, cultural property, human resource management, labor relations, immigration and cultural exchange, and contract development and enforcement.

AAD 660 SOCIAL AND CULTURAL ENTREPRENEURIALISM. (3)
Utilizing entrepreneurial concepts, social entrepreneurs use innovative solutions in order to achieve social change. Social entrepreneurialism is a burgeoning field that is garnering attention from investors, philanthropists, foundations and nonprofit leaders in order to achieve meaningful social returns while maintaining financially viable organizations. This course introduces students to the field of social entrepreneurship and explores how to start, grow and maintain successful mission-driven cultural ventures.

#AAD 695 INDEPENDENT STUDY IN ARTS ADMINISTRATION. (1-6)
Supervised individual work in Arts Administration. Restricted to majors. A learning contract with project clearly defined must be approved by supervising faculty member, program director, and site supervisor (if required). May be taken up to 6 credits. Prereq: Restricted to majors.

AAD 699 INTERNSHIP IN ARTS ADMINISTRATION. (3)
Students without substantial work experience in the field of Arts Administration are required to complete three credit hours of internships in order to graduate, and must work at least 50 hours for each credit hour earned. While students are ultimately responsible for finding and completing their internships, students do receive ample support and assistance from Program faculty throughout the process. The activities to be carried out during internships must be mutually agreed upon by the student, their faculty supervisor and the host organization supervisor. Most internships are completed during the summer between the student's first and second year in the program. However, internships can also be completed during spring and fall semesters, or the summer after students have completed their regular course work.

***AAD 730 MARKETING STRATEGIES AND APPLICATIONS FOR ARTS ORGANIZATIONS. (3)**
Effective implementation of a marketing plan and marketing strategies brings an audience and arts organization together. In AAD 730: Marketing Strategies and Applications for Arts Organizations, students will learn the components and construction of a strategic integrated marketing communications plan. The process will allow students to make reasoned and sound marketing decisions for an arts organization based on marketing research conducted in AAD 630: Marketing Research and Planning for Arts Organizations. Additionally, students will utilize their skills in writing, graphic design, and communications to create effective marketing messages in a variety of mediums. Prereq: AAD 630.

AAD 740 FUNDRAISING TECHNIQUES. (3)
This course will explore how the basic techniques examined in AAD 640 Principles of Fundraising are organized into sophisticated annual and capital campaigns. Emphasis will be placed on goal setting, message development, use of outside consultants, prospect identification, pre-campaign testing, campaign execution, and donor follow-up. The course will also cover how these campaigns are supported by planned giving methods, databases and web-based applications, as well as related legal and ethical issues. Prereq: AAD 640.

AAD 750 CAPSTONE COURSE IN ARTS ADMINISTRATION. (3)
As the final course in the graduate program in Arts Administration, students will demonstrate their knowledge of the field through the completion of a significant research project. Students will design an independent study utilizing recognized research methodology under the guidance of their faculty advisor and graduate committee. The research findings, conclusions and recommendations will be presented as both a formal research paper and oral presentation.

AAS African American Studies

AAS 168 ALL THAT SPEAK OF JAZZ: AN INTELLECTUAL INQUIRY INTO JAZZ AND DEMOCRACY (3)
This course is a hybrid cultural studies seminar and creative composition course that explores jazz theory as a philosophical artistic practice rooted in American democracy. It investigates jazz aesthetics as a literary, visual, and musical art form, and it examines theories of jazz composition as philosophical statements in direct conversation with the principles of U.S. democracy. The course also explores the philosophical and aesthetic connections of jazz literature to surrealist and existentialist artistic movements in modern and postmodern cultural contexts. Artists to be discussed include James Baldwin, Harryette Mullen, and others. The theoretical aspects of this course will demonstrate how jazz has been a source of inspiration for a variety of twentieth-century literatures and theoretical practices. The readings include selections of fiction, poetry, drama, and essays with emphasis on jazz literary modes, creative trends, and political connotations specific to African American literature and culture. (Same as ENG 168.)

AAS 200 INTRODUCTION TO AFRICAN-AMERICAN STUDIES. (3)
An interdisciplinary course which establishes the intellectual context for an examination of the African-American experience; it introduces students to the various approaches scholars use to analyze that experience. This course employs a topical framework which permits focus on issues reflecting the diversity and richness of African-American experience across geographic boundaries.

AAS 235 INEQUALITIES IN SOCIETY. (3)
This course seeks to promote an understanding of inequalities in American society by considering them in the context of the social origins, development, and persistence of inequalities in the United States and other societies. Bases of inequality that may be considered include race/ethnicity, class/status, gender/sexuality, age, political and regional differences as these relate to politics, social justice, community engagement, and/or public policy. Prereq: SOC 101 or CLD 102. (Same as SOC 235.)

#AAS 253 HISTORY OF PRE-COLONIAL AFRICA. (3)
This course examines the early history of Africa, from human evolution to colonization by European powers in the late 19th century. Topics include: the development of states from kinship based forms of political organization, the political, cultural, and social transformations that accompanied African conversion to Islam, a close examination of oral epic poetry as a window into medieval empire-building in the Sahel, an extended conversation about the role of Africa in the transatlantic slave trade, and a discussion of the dilemmas faced by African rulers in the era of partition on conquest by European powers. Successful students will gain a thorough introduction to the major developments in the early history of Africa, which will serve as a solid foundation for further coursework in African history and other African studies courses. (Same as HIS 253.)

***AAS 254 HISTORY OF COLONIAL AND POSTCOLONIAL AFRICA. (3)**
This course is a survey of the history of Africa from the onset of colonial rule in the 1880s to the present. Its main objective is to introduce students to some of the major socio-political and economic developments that made Africa what it is today. The course will explore themes such as the European conquest of Africa and Africans' responses, African nationalism and struggles for independence, as well as post-colonial African politics and economic (under)development. (Same as HIS 254.)

AAS 260 AFRICAN AMERICAN HISTORY TO 1865. (3)
A study of the Black experience in America through the Civil War. An examination of the African heritage, slavery, and the growth of Black institutions. (Same as HIS 260.)

AAS 261 AFRICAN AMERICAN HISTORY 1865-PRESENT. (3)
This course traces the Black experience from Reconstruction to the Civil Rights Movement of the 1960's. The rise of segregation and the ghetto and aspects of race relations are examined. (Same as HIS 261.)

AAS 263 AFRICAN AND CARIBBEAN LITERATURE AND CULTURE OF FRENCH EXPRESSION IN TRANSLATION (Subtitle required). (3)
This course treats major cultural questions concerning the exchange between Africa and the Caribbean in terms of historical, sociological, political, and literary events. No knowledge of French is required. (Same as FR 263.)

AAS 264 INTRODUCTION TO BLACK WRITERS. (3)
An introduction to written and oral works by Black authors of Africa, the Caribbean, and the United States. The course includes writers such as Chinua Achebe (Africa), Wilson Harris (Caribbean), and Toni Morrison (USA), as well as others from the diverse field of literature written by African-American authors and authors of color worldwide. Attention will be paid to student writing, particularly to devising a thesis, crafting an argument, and learning how to use supporting evidence. See departmental listings for different offerings per semester. Offers UK Core Credit for Intellectual Inquiry in the Humanities. Does not fulfill ENG premajor requirement. Can be taken for ENG Major Elective credit. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 264. Prereq: Graduation Writing Requirement Course – credit is awarded to students meeting the GWR prerequisite. (Same as ENG 260.)

AAS 300 HISTORY OF JAZZ. (3)
A listening survey course covering the chronological evolution of jazz from its West African and European roots, through its germination in America, to the present. Emphasis will be on the various styles and functions of jazz, particularly as they have been affected by changing social-cultural patterns during the twentieth century. (Same as MUS 300.)

AAS 326 PEOPLE AND CULTURES OF SUB-SAHARAN AFRICA. (3)
A survey of indigenous societies and cultures of Africa south of the Sahara, with special attention to their adaptation of colonialism and post-colonial national development. Prereq: Sophomore standing or higher. (Same as ANT 326.)

AAS 328 GEOGRAPHY OF THE MIDDLE EAST AND NORTH AFRICA. (3)
A comprehensive regional overview, emphasizing cultural adaptation to desert environments. The interrelationships among religions, cultures, and the physical environment will be examined, along with the region's position and influence in the global system. Prereq: GEO 152, GEO 160, GEO 172, or consent of instructor. (Same as GEO 328.)

AAS 336 GEOGRAPHY OF SUB-SAHARAN AFRICA. (3)
This course focuses on the cultural and environmental geographies of the subcontinent, rural landscapes and cultures and environmental problems, the historical geography of precolonial and colonial Africa, and the social geography of contemporary economic development. Prereq: GEO 130 and 152, 160, or 172. (Same as GEO 336.)

AAS 360 RACE AND SPORTS IN AMERICA. (3)
This reading seminar examines the history of race and sport in America. (Same as HIS 360.)

AAS 384 BLACK THEATRE WORKSHOP. (3)
A workshop that explores the history, literature and performance of theater artists of the African diaspora. (Same as TA 384.)

AAS 400 SPECIAL TOPICS IN AFRICAN-AMERICAN STUDIES (Subtitle required). (3)
Detailed investigation of a particular topic in African-American Studies, with emphasis both on content and existing research. Topics will vary from semester to semester and are announced the preceding semester. May be repeated to a maximum of six credits when identified by a different subtitle. Prereq: Twelve hours of African-American Studies minor courses, including AAS 200.

AAS 401 INDEPENDENT READING AND RESEARCH IN AFRICAN-AMERICAN STUDIES. (3)
For African-American Studies minors. The student pursues a course of reading and research under the guidance of a staff member, completes a major research project, and takes an examination. A written contract defining the area of study is negotiated between student and instructor at the beginning of the course. May be repeated to a maximum of six credits. Prereq: African-American Studies minor, 12 hours of African-American Studies minor courses, including AAS 200.

AAS 417G SURVEY OF SUB-SAHARAN POLITICS. (3)
A survey of sub-Saharan government and politics intended to give the student broad knowledge about the setting of African politics, precolonial African political systems, the political legacies of major European colonial powers, and problems of political development. Prereq: PS 210 or 212. (Same as PS 417G.)

AAS 420 AFRICAN-AMERICAN RELIGIOUS EXPERIENCE. (3)
This course explores and examines how African Americans shaped and fashioned their religion to meet their own peculiar needs as they responded to historical occurrences.

AAS 432 RACE AND ETHNIC RELATIONS. (3)
Analysis of relationships between racial and ethnic groups and the behavioral products thereof. Sources and consequences of prejudice and discrimination. Situation and prospects of minorities. Strategies of change and tension reduction. Prereq: Six hours of social science or consent of instructor. (Same as SOC 432.)

***AAS 433 TOPICS IN SOCIAL INEQUALITIES (Subtitle required). (3)**
A sociological study of topics relevant to social inequalities and stratification. May be repeated under different subtitles to a maximum of six credits. Prereq: Six hours of social science or consent of instructor. (Same as SOC 435.)

AAS 471 RACE, ETHNICITY AND POLITICS. (3)
An examination of the role that race and ethnicity play in the political arena. Students will explore the nature of race, racism, and ethnocentrism, as well as their impact on political institutions and public policy. Particular attention will be given to elections, public opinion, mass media and social movements in the United States. (Same as PS 471.)

AAS 523 SOCIAL PERSPECTIVES ON RACISM AND ETHNIC PREJUDICES IN AMERICA. (2-3)
The course is designed to provide the knowledge needed in understanding the dynamics of institutional racism from a broader perspective of five specific ethnic minorities in rural and urban America. Particular emphasis is placed upon planned community change and strategies pertinent to minority group communities. Students who wish to make a special, in-depth study of one of the specified content areas may take this course for one additional credit. Prereq: Consent of instructor. (Same as SW 523.)

AAS 535 ADVANCED TOPICS IN SOCIAL INEQUALITIES (Subtitle required). (3)
A sociological study of topics relevant to social inequalities and stratification. May be repeated to a maximum of six credits under different subtitles. Prereq: Graduate student status; undergraduates with consent of instructor only. (Same as SOC 535.)

AAS 550 EDUCATION IN A CULTURALLY DIVERSE SOCIETY. (3)
This course assists future educators in developing strategies to create an equitable teaching/learning environment where all students are validated, stimulated, and nurtured. Course participants explore the rationale for their current belief systems and perceptions of other cultures; investigate how and why their personal attitudes, behaviors, and expectations affect the academic and social development of children and youth, and examine contemporary educational issues. (Same as EDC 550.)

AAS 587 THE CIVIL RIGHTS MOVEMENT IN THE U.S. SINCE 1930. (3)
This course will focus on the struggle for African American equality in the U.S. during the mid twentieth century. It will examine key civil rights issues, events, strategies, leaders and organizations on both the local and national levels. Using historical documents and documentary film presentations this course will discuss the status of race relations in America over the past fifty years. (Same as HIS 587.)

AAS 601 THEORIES, PERSPECTIVES, TRENDS AND ISSUES IN MULTICULTURAL EDUCATION. (3)
This course provides students with a critical analysis of multicultural education theories, perspectives, current issues, and trends. Students will develop the competencies needed to write scholarly literature reviews, identify areas in multicultural education needing further research studies, and submit papers for review and presentation at professional meetings. Prereq: Graduate standing, EDP 557 or consent of instructor. (Same as EDC 601.)

AAS 616 MULTICULTURAL PSYCHOLOGY. (3)
This course is designed to increase one's sensitivity to and respect for individual differences. Models, frameworks, techniques and experiential exercises are presented to increase one's skill level in working with persons from racially and ethnically diverse backgrounds. Prereq: EDP 600 or equivalent or consent of instructor. (Same as EDP 616.)

AAS 635 SEMINAR IN SOCIAL INEQUALITIES. (3)
This course provides a graduate-level introduction to sociological theory and research on social inequalities and stratification. It includes both classic and contemporary works on topics such as political economy, the state, domination, democracy, work, poverty, welfare, resistance, class, race, ethnicities, and gender. The course serves as a foundational course for graduate students with interests in social inequalities, and is required for Sociology graduate students seeking a specialization in this area. Prereq: SOC 650 or SOC 651 or consent of instructor. (Same as SOC 635.)

AAS 654 READINGS IN MODERN AFRICAN-AMERICAN HISTORY. (3)
Introduces graduate students to the historical literature on 20th century African-American history and major historiographical issues. (Same as HIS 654.)

AAS 656 BLACK AMERICAN LITERATURE. (3)
An in-depth study of black American literature, with concentration on major texts by major black writers. (Same as ENG 656.)

AAS 657 RACE RELATIONS IN THE UNITED STATES. (3)
This seminar focuses on the African American experience in the United States from Reconstruction to the present. Using primary documents and secondary readings, this course will examine the construction of race relations and the individuals, organizations, events, and issues significant to the shaping of the black experience. (Same as HIS 657.)

AAS 720 SOCIAL WORK PERSPECTIVES ON HUMAN AND CULTURAL DIVERSITY. (2)
This second required course in the human behavior and social environment sequence builds upon the foundation course. The focus of this course is upon the effects of discrimination and oppression experienced by diverse population groups with special attention to the effects of racism, sexism, ageism, classism and geography upon vulnerable groups; and upon institutionalized societal and cultural themes in diversity; with implications for social work practice. Prereq: SW 620 or advanced standing in the MSW program. (Same as SW 720.)

ABT Agricultural Biotechnology

ABT 101 INTRODUCTION TO BIOTECHNOLOGY. (1)
An introduction to biotechnology: historical perspectives, current applications and future directions. The course will consist of informal lectures and interactive discussions led by Biotechnology faculty and visiting professionals. The course will also orient students to the educational/career opportunities in Biotechnology and assist them in developing a focus for their individualized degree programs. Lecture, two hours per week. Prereq: First year or first semester transfer students in Agricultural Biotechnology. [*Offered in fall only.*]

ABT 120 GENETICS AND SOCIETY. (3)
This course is designed for science and non-science majors, giving students an understanding of how genetics influences and impacts our social fabric on a daily basis, and equipping students with a sufficient understanding to participate in the policy debates that are impacting our lives. The course will introduce students to the basic concepts of genetics and to the modern methodologies of molecular genetics. The course will also educate students in the process of scientific discovery and empower students with the knowledge and critical thinking skills necessary to evaluate the present and future impact of genetics on society. While the course is intended for first semester freshmen, students at all class standings are welcome to enroll. [*Offered in spring only.*]

ABT 201 SCIENTIFIC METHOD IN BIOTECHNOLOGY. (1)
A course designed to acquaint students with the common experimental methods used in agricultural biotechnology. Students will be presented with several case studies which demonstrate basic scientific reasoning and experimental strategies. The students will then use their understanding of basic scientific methods and agricultural systems to critically evaluate work from the current scientific literature. Each student will be required to provide a written and oral evaluation of a research project in some aspect of agricultural biotechnology. The class will provide the students with the basic skills needed for preparing their own research proposals. Prereq: ABT 101 and enrollment in the Agricultural Biotechnology degree program or consent of instructor. [*Offered in fall only.*]

ABT 301 WRITING AND PRESENTATIONS IN THE LIFE SCIENCES. (2)
The goals of this course are to expose students to current scientific literature in the life sciences, develop skills for the evaluation of primary research literature and presentations, prepare students to write an independent research proposal, and develop oral communication skills. Student participation is a key component of activities, and students are required to provide both oral and written evaluations of research publications, presentations, and proposals. A major part of the course involves students developing, writing, and presenting an independent research proposal in coordination with a research mentor. This course should be taken prior to ABT 395 or ABT 399, and students must identify a research mentor early during the semester. Prereq: Agricultural Biotechnology major or consent of instructor. [*Offered in fall and spring.*]

ABT 360 GENETICS. (3)
The basic principles of heredity as currently understood from evidence accumulated in classical, cytogenetic, molecular, and quantitative genetic experiments. Emphasis is placed on a thorough understanding of genetic principles and the relationship of genetics to all biological disciplines. Prereq: Six credits in biological sciences and one course in general chemistry. (Same as ASC/ENT 360.) [*Offered in fall only.*]

ABT 361 GENETICS LAB ONLINE. (1)
Analysis and interpretation of genetics problems using interactive computer programs. Prereq: ABT/ASC/ENT 360 (should be taken concurrently).

ABT 395 INDEPENDENT STUDY IN BIOTECHNOLOGY. (1-4)
Independent study in biotechnology under the supervision of a faculty member. May be repeated to a maximum of six credits. Prereq: Agricultural Biotechnology major and consent of appropriate instructor before registration. [*Offered in fall, spring and summer II.*]

ABT 399 EXPERIENTIAL LEARNING IN BIOTECHNOLOGY. (1-6)
An internship in biotechnology under the supervision of a faculty member. May be repeated for a maximum of six credits. Prereq: Consent of the instructor, chairperson for the Agricultural Biotechnology degree program and completion of a learning contract before registration. [*Offered in fall, spring and summer II.*]

***ABT 460 INTRODUCTION TO MOLECULAR GENETICS. (3)**
Molecular genetics is the study of the biochemical basis of heredity and focuses on the structure and expression of DNA at the molecular and cellular level. The course will provide a detailed understanding of the biochemical events involved in genome replication, prokaryotic and eukaryotic transcription, and translation of DNA, as well as RNA processing, recombination and the theoretical underpinnings of genetic engineering. Prereq: ABT/ENT 360 or BIO 304 or consent of instructor. (Same as ENT 460.) [*Offered in spring only.*]

ABT 461 INTRODUCTION TO POPULATION GENETICS. (3)
This survey course examines the population dynamics and equilibria of genes in nuclei, chloroplasts and mitochondria. Emphasis will be on biological relevance (in plants, animals, and micro-organisms), but some theoretical derivations will also be introduced. Prereq: ABT 360 (or equivalent) and one course in probability/statistics. (Same as BIO/ENT/FOR 461.) [*Offered in spring only.*]

***ABT 495 EXPERIMENTAL METHODS IN BIOTECHNOLOGY. (4)**
A laboratory techniques course designed to give students the technical skills and understanding necessary to critically examine biological systems at the molecular level. The course will emphasize the principles of chemistry, biochemistry and molecular biology as applied to a model system for laboratory investigations. Laboratory, nine hours per week. Prereq: ABT/ENT 360 or BIO 304, Agricultural Biotechnology major or consent of instructor. [*Offered in fall and spring.*]

#ABT 505 EVOLUTION IN AGRICULTURE, MEDICINE AND CONSERVATION BIOLOGY. (3)
An introduction to modern evolutionary theory with emphasis on its application to current problems in agriculture, the biomedical sciences, and conservation biology. Prereq: Genetics (ABT 360, BIO 304 or equivalent introductory genetics course). (Same as ENT 505.)

ACC Accounting

ACC 201 FINANCIAL ACCOUNTING I. (3)
This course is designed to provide an introduction to financial accounting from the users' perspectives. Its primary purposes are to promote understanding of financial accounting information for decision making purposes and to focus on financial accounting's role in communicating business results. Prereq: Successful completion of 27 semester credit hours.

ACC 202 MANAGERIAL USES OF ACCOUNTING INFORMATION. (3)
An introduction to the use of accounting data within an organization to analyze and solve problems and to make planning and control decisions. Prereq: ACC 201 or BE 161 and BE 162.

ACC 211 FINANCIAL ACCOUNTING LAB. (1)
A laboratory-based approach to introductory financial accounting applications, with the primary focus on the accounting cycle. The primary objective is to promote an understanding of how accounting information is identified, recorded, and processed for financial reporting. Prereq: ACC 201. Enrollment priority will be given to accounting and finance majors.

ACC 221 ACCOUNTING FUNDAMENTALS I. (2)
Examines the basic principles/concepts which govern the recording/reporting of accounting data. Studies the language of accounting and the accounting cycle. Establishes a framework for understanding how data is transformed into the accounting statements and how these statements are used by decision makers. This course is specifically designed to help prepare prospective MBA students for the economics and business classes and will not satisfy ANY undergraduate degree requirement. Prereq: Acceptance into MBA program, other graduate program or consent of instructor.

ACC 222 ACCOUNTING FUNDAMENTALS II. (2)
Examines the preparation and use of accounting information for management decision making. Provides an understanding of various traditional and contemporary management accounting techniques used to combine and analyze data within a company. This course is specifically designed to help prepare prospective MBA students for the economics and business classes and will not satisfy ANY undergraduate degree requirement. Prereq: Acceptance into MBA program, other graduate program or consent of instructor.

ACC 300 FINANCIAL ACCOUNTING II. (3)
This course is designed for non-accounting majors to provide expanded study of the impact of relevant financial accounting issues on the users of financial reporting. Topics may include financial statements; income recognition; cash and receivables; inventories; operational assets; investments; intangible assets; current liabilities; long-term liabilities emphasizing leases, pensions, postretirement benefits, and bonds; financial instruments; accounting for income taxes; and owner's equity. Not open to Accounting majors. Prereq: ACC 201 and ACC 202.

ACC 301 INTERMEDIATE ACCOUNTING I. (3)
This course is the first of a two-course financial accounting series, providing in-depth study of the accounting cycle, conceptual framework of financial accounting, valuation of balance sheet accounts, recognition of revenues, matching of expenses, and the reporting of the financial condition, operating results, and cash flows of an entity. Prereq: A grade of C or better in ACC 201 and ACC 202 or consent of the Director of the School of Accountancy.

ACC 302 INTERMEDIATE ACCOUNTING II. (3)
This course is the second of a two-course financial accounting series, providing an in-depth study of the accounting cycle, conceptual framework of financial accounting, valuation of balance sheet accounts, recognition of revenues, matching of expenses, and the reporting of the financial condition, operating results, and cash flows of an entity. Prereq: ACC 301 or consent of the Director of the School of Accountancy.

ACC 324 ACCOUNTING INFORMATION SYSTEMS. (3)
This course focuses on two major components of accounting information systems: conceptual models and physical implementation. Accounting systems are studied from an accounting cycles perspective, emphasizing the nature and relevance of accounting internal controls and the relationship of accounting systems to the functional areas of accounting. Using contemporary information technology, students analyze, design, and implement accounting systems along with relevant internal control structures. Prereq: A grade of C or better in ACC 201 and ACC 202 or consent of the Director of the School of Accountancy.

ACC 395 INDIVIDUAL WORK IN ACCOUNTING. (1-6)
Students confer individually with the instructor. Written paper usually expected and filed in chairperson's office. May be repeated to a maximum of six credits. Prereq: GPA of 3.0 in major, approval of instructor and chairperson.

ACC 399 INTERNSHIP IN ACCOUNTING. (1)
A course designed for undergraduate accounting students who, through the Accounting Internship Director, have secured full-time, salaried, career-related positions under the supervision of a sponsoring employer. Enrollment in the course constitutes full-time status. Course may be taken on a pass-fail basis only and for no more than two consecutive semesters, repeated to a maximum of three credits. Prereq: Junior standing in accounting and approval of the Accounting Internship Director.

ACC 403 AUDITING. (3)
This course examines the attest function in accounting. Emphasis is placed on audit standards and objectives, including the evaluation of internal control structures for the purpose of determining relevant auditing procedures. Prereq: ACC 301 and ACC 324 or consent of the Director of the School of Accountancy.

ACC 407 CONCEPTS OF INCOME TAXATION. (3)
A study of the federal income tax structure with emphasis upon the conceptual foundations of taxation relating to the three types of taxpayers: businesses, individuals, and estates and trusts. Prereq: Junior standing and ACC 202 or consent of the Director of the School of Accountancy.

ACC 410 NOT-FOR-PROFIT AND GOVERNMENTAL ACCOUNTING. (3)
This course examines accounting topics specific to not-for-profit entities and various governmental units. Emphasis is placed on the recording of usual transactions, form and content of reports, and analysis of external reports. Prereq: ACC 302 or consent of the Director of the School of Accountancy.

ACC 418 COST MANAGEMENT. (3)
Traditional and contemporary concepts and techniques that provide accounting information for management decision making at both strategic and operational levels. Topics include the costing of products and services; project and activity analysis; planning and control methods; and performance measurement. Prereq: ACC 301 or consent of the Director of the School of Accountancy.

ACC 507 ADVANCED TOPICS IN TAXATION. (3)
A study of advanced topics in taxation, including corporate taxation, accounting for income taxes, and international tax. Prereq: ACC 302 and ACC 407 or consent of the Director of the School of Accountancy.

ACC 508 CONTROLLERSHIP. (3)
A comprehensive study of the controller's objectives, responsibilities, functions, organizational roles, etc. Prereq: ACC 418.

ACC 516 ADVANCED TOPICS IN FINANCIAL REPORTING. (3)
A comprehensive study of financial accounting and reporting issues involving business combinations, partnerships, foreign currency transactions, not-for-profit accounting and other current accounting issues. Prereq: ACC 302 or consent of the Director of the School of Accountancy.

ACC 555 FORENSIC ACCOUNTING AND FRAUD EXAMINATION. (3)
This course will cover the principles and methodology of fraud detection and deterrence. The course includes such topics as skimming, cash larceny, check tampering, register disbursement schemes, billing schemes, payroll and expense reimbursement schemes, non-cash misappropriations, corruption, fraudulent financial statements, and interviewing witnesses. Prereq: ACC 301 or consent of the Director of the School of Accountancy.

ACC 590 SPECIAL TOPICS IN ACCOUNTING: (Subtitle required). (3)
Readings, projects, lectures and/or discussion to illuminate current topics of special interest or concern in accounting. May be repeated to a maximum of twelve credits. May not be repeated under the same title. Prereq: Consent of instructor.

ACC 600 INQUIRY, COMMUNICATION, AND LEADERSHIP IN ACCOUNTING. (3)
This course is designed to develop the inquiry, communication, and leadership skills that are key determinants of success for many not-for-profit, business, and accounting professionals. The course uses readings, in-class exercises, case analyses, small group work, and oral presentations as vehicles for developing these skills. Class modules focus on accounting relevant professional inquiry, oral persuasion, communication, leadership, and teambuilding skills. Class sessions will include participation by and leadership from business, not-for-profit, and accounting professionals. Prereq: Admission to MSACC program, or consent of the Director of Graduate Studies.

ACC 601 RESEARCH IN ACCOUNTING THEORY. (3)
Critical examination of accounting concepts and standards. Study of current problems and contemporary developments reflected in accounting literature and reports. Prereq: Admission to MSACC program, or consent of the Director of Graduate Studies.

ACC 603 ATTEST FUNCTION. (3)
A critical examination of contemporary professional attestation theory and practice including a comprehensive review of AICPA audit case studies, statements on audit procedure, and their application in simulated business situations. Prereq: ACC 403 and admission to MSACC program, or consent of the Director of Graduate Studies.

#ACC 605 INTERNAL AUDITING. (3)
This course provides students an understanding of the internal audit profession and the internal audit process. Topics that will be included in this course are: the professional practices framework for internal auditing, organizational governance, risk and control issues, and experience in conducting internal audit engagements. It provides the basic preparation for students to take positions in auditing, compliance, risk management and process improvement. Prereq: Graduate standing.

ACC 610 NOT-FOR-PROFIT AND REGULATORY ACCOUNTING. (3)
A study of the contemporary issues in the area of not-for-profit and regulatory accounting. Prereq: ACC 410G or consent of instructor.

ACC 617 SELECTED TOPICS IN TAXATION. (3)
A study of selected topics in taxation, including partnership taxation, tax research, and other tax topics. Prereq: ACC 507 and admission to MSACC program, or consent of the Director of Graduate Studies.

ACC 619 INDEPENDENT STUDY IN ACCOUNTING. (1-3)
Designed for students undertaking special studies to be conducted in regular consultation with the instructor. Prereq: Consent of instructor.

ACC 621 UNDERSTANDING FINANCIAL STATEMENTS. (3)
Financial statements communicate information about a business and its operations. Students will gain an understanding of the information being communicated (or not communicated) by the business entity. Emphasis is on the uses of information, rather than its preparation. Prereq: Admission to MSACC program or consent of DGS.

ACC 624 ENTERPRISE INFORMATION AND CONTROL SYSTEMS. (3)
The course simultaneously examines two issues related to enterprise information systems development: 1) methodologies for designing and implementing information systems, and 2) assessment of enterprise risk and internal control systems. Case analyses and "real world" projects are used to accomplish the course objectives. Current computer technologies, including relational database systems and internet data processing, are integrated into the course content. Prereq: ACC 324, ACC 403 and admission to MSACC program, or consent of the Director of Graduate Studies.

ACC 627 CORPORATE TAXATION. (3)
A detailed study of income taxation of corporations and shareholders. Prereq: ACC 507 and admission to MSACC program, or consent of the Director of Graduate Studies.

***ACC 628 FINANCIAL/MANAGERIAL ACCOUNTING. (3)**
A study of the application of accounting information and services in the recognition or solution of management problems in business. Prereq: Graduate standing in the MBA program, ACC 202, or ACC 221 and ACC 222, or its equivalent, and MA 123 or its equivalent. Course credit will not be given to students in the MSACC program.

ACC 637 TAXATION OF FLOW-THROUGH ENTITIES. (3)
A detailed study of the income taxation of flow-through entities, including Partnerships, S corporations, and limited liability companies. Prereq: ACC 507 and admission to MSACC program, or consent of the Director of Graduate Studies.

ACC 647 MULTIJURISDICTIONAL TAXATION. (3)
A study of the taxation of taxpayers located in two or more tax jurisdictions. The course involves two major categories, international taxation and state and local taxation. Prereq: ACC 507 and admission to MSACC program, or consent of the Director of Graduate Studies.

ACC 691 ADVANCED TOPICS IN ACCOUNTING (Subtitle required). (3)
Readings, projects, lecture, and/or discussion to illuminate current topics of special interest or concern in accounting. May not be repeated under the same title. A particular topic may be offered at most three times under the ACC 691 number. Prereq: Admission to MSACC program or consent of DGS.

ACC 700 TOPICAL SEMINAR IN ACCOUNTING RESEARCH (Subtitle required). (1-3)
An advanced seminar on selected topics such as cross-disciplinary research on behavioral decision-making, research using archival data, and analytical models in accounting. May be repeated to a maximum of eighteen credits. Prereq: Doctoral student status in business administration.

ACC 790 DOCTORAL COLLOQUIUM – ACCOUNTANCY. (1-2)
This course provides professional socialization for Ph.D. students in accountancy. Topics include research, teaching, and service, transition, preparation for a career as a professor, and special research topics, including lectures by noted scholars.

ACC 795 INDEPENDENT STUDY IN ACCOUNTING. (1-6)
Designed for students undertaking special studies to be conducted in regular consultation with instructor. May be repeated to a total of 12 credit hours. Prereq: Consent of instructor.

AEC Agricultural Economics

AEC 101 THE ECONOMICS OF FOOD AND AGRICULTURE. (3)
An introduction to the field of agricultural economics and some of the basic tools and concepts of decision making. Concepts are illustrated in terms of selected current social and economic issues including the role of agriculture in both a national and international dimension. Students who have completed ECO 201 are not eligible to take AEC 101 without the consent of the instructor.

AEC 201 INTRODUCTION TO FARM AND NATURAL RESOURCE FINANCE. (3)
This course provides an introduction to basic concepts used in financial analysis that can be applied to farms and small agriculturally-related businesses. It provides an overview of basic financial statements and their role in business planning. These tools will be applied to case studies of farms, agribusiness, and forestry firms. Prereq: MA 123 and ECO 201 or ECO 202 or AEC 101.

AEC 300 TOPICS IN AGRICULTURAL ECONOMICS (Subtitle required). (1-3)
Study in special topics in agricultural economics. May be repeated under a different subtitle to a maximum of fifteen credits. Lecture, one to three hours; laboratory, zero to six hours per week. Prereq: ECO 201. [*Offered in fall and spring.*]

AEC 301 CAREER READINESS FOR AGRICULTURAL ECONOMICS. (1)
This course examines post-graduate opportunities, expectations, and strategies in agricultural economics. Students will explore information relevant to writing resumes, completing job applications, and participating in job interviews. Prereq: Junior standing and a C or better in AEC 302, AEC 303 and/or AEC 305. [*Offered in fall and spring.*]

AEC 302 AGRICULTURAL MANAGEMENT PRINCIPLES. (4)
A comprehensive study of economic principles and management tools useful in farm and agribusiness decision making. Utilizes a systems approach to the planning, implementation and control of the agricultural business. Specific attention to application of management and decision theory, economic principles used in decision making, and risk management strategies. Emphasis on planning the future course of the business, acquiring and managing the necessary resources, and establishing physical and financial control over the business. Lab incorporates microeconomic applications of management principles developed in lectures. Prereq: "C" or better in ECO 201. [*Offered in fall and spring.*]

AEC 303 MICROECONOMIC CONCEPTS IN AGRICULTURAL ECONOMICS. (3)
Emphasis on the development of theoretical models of production and consumption economics and application of these models to problems. The importance of concepts of marginality to managers and consumers is emphasized. Role of risk and uncertainty in resource allocation is outlined. Prereq: "C" or better in ECO 201 and "C" or better in MA 123 or MA 113. [*Offered in fall and spring.*]

AEC 304 MACROECONOMIC CONCEPTS IN AGRICULTURAL ECONOMICS. (3)
This course addresses the concern that U.S. farmers and the food industry are increasingly affected by macroeconomic forces and general conditions in the national economy. Interdependencies between agriculture, farm size, rural economic well-being and key macroeconomic variables including interest rates, foreign exchange rates and the rate of inflation will be examined. Prereq: AEC 101, ECO 202.

AEC 305 FOOD AND AGRICULTURAL MARKETING PRINCIPLES. (3)
Analysis of the market's role in determining prices and coordinating productive activities in the food and agricultural systems. Prereq: "C" or better in ECO 201. [*Offered in fall and spring.*]

#AEC 306 TECHNICAL COMMUNICATION IN ECONOMICS. (2)
This course examines how to create and distribute original economic ideas in written and oral forms using appropriate digital technologies. Prereq: ECO 201; CIS/WRD 110 and 111 or equivalent; 30 credit hours of coursework. AEC 305 is a co-requisite (recommended) or prerequisite. This course fully satisfies the University's graduation composition and communication requirement (GCCR) for AGEC majors. To receive GCCR credit, students must earn an average (weighted) of "C" or better on all GCCR assignments.

AEC 309 INTERNATIONAL AGRICULTURE, WORLD FOOD NEEDS AND U.S. TRADE IN AGRICULTURAL PRODUCTS. (3)
Present and projected world food/population balance by geographic regions; food production and world trade in agricultural products with an emphasis upon the implications for U.S. agriculture; an introduction to agricultural development problems of the less developed nations of Latin America, Africa, and Asia. Prereq: "C" or better in ECO 201. [*Offered in fall only.*]

AEC 311 LIVESTOCK AND MEAT MARKETING. (3)
Provides students with a unique and practical overview of the economics of the livestock and meat marketing system. Topics will include general marketing, price forecasting, price risk management, decision making, and capital investment analysis. Prereq: AEC 305. [*Offered in fall only.*]

AEC 313 TOBACCO MARKETING. (1)
Analysis of the structure of the production and marketing system for tobacco including institutions and public regulation. Application of marketing methods and principles to tobacco. Lecture, three hours per week for one-third of the semester. Prereq: AEC 305.

AEC 314 GRAIN MARKETING. (1)
Study of production and utilization of grain by areas of the world, the marketing systems for grain, and the application of economic and marketing principles to the pricing and movement of grain. Prereq: AEC 305, AEC 321. [*Offered in fall only.*]

AEC 316 COOPERATIVE MANAGEMENT AND MARKETING. (1)
This course provides knowledge about the unique features of cooperatives and their role in a market economy and examines the structure organization, finance, management, and operations of cooperative organizations. Prereq: AEC 305. [*Offered in fall only.*]

AEC 317 MARKETING HORTICULTURAL PRODUCTS. (1)
This course examines the market structure and institutions associated with horticultural and nursery product markets within the context of formulating and evaluating alternative, firm-specific marketing strategies. Prereq: AEC 305. [*Offered in fall only.*]

AEC 320 AGRICULTURE PRODUCT MARKETING AND SALES. (3)
This course examines marketing activities within the U.S. food system. Sector performance is considered as well as the competitive behavior of firms within various agricultural market channels. Firm level marketing principles, methods, and strategies are considered, with a special focus on developing effective sales programs for agricultural products. Prereq: AEC 305. [*Offered in fall and spring.*]

AEC 321 AGRICULTURAL FUTURES MARKETS. (3)
The mechanics, theory, and practical application of hedging as related to agricultural commodities. The historical development of futures markets, functions of the futures markets,

and the role of the speculator will also be explored. Prereq: AEC 303 and AEC 305. [*Offered in spring only.*]

AEC 324 AGRICULTURAL LAW. (3)
A study of legislation, administrative regulations, constitutions and court cases that have economic ramifications on agricultural and rural life. Prereq: "C" or better in ECO 201. [*Offered in fall and spring.*]

AEC 325 EQUINE LAW. (3)
This course examines equine law from tort and contractual perspectives dealing with basics of liability, purchase and sale, entity formation, constitutional and tax issues. Following the class, students should be able to recognize when it is necessary to retain a lawyer, but are not expected to be able to act as a lawyer. Prereq: "C" or better in ECO 201. [*Offered in spring only.*]

AEC 326 PRINCIPLES OF ENVIRONMENTAL LAW. (3)
Provides a basic knowledge of the principles of United States environmental law. Addresses the framework of the American Legal system as it applies to environmental regulation. Covers the sources of environmental law and reviews major federal environmental statutes and judicial decisions addressing specific issues. Prereq: "C" or better in ECO 201. [*Offered in fall and spring.*]

AEC 340 HUMAN RESOURCE MANAGEMENT IN AGRICULTURE. (3)
An overview of the management of the human resource in an agricultural context. Major components will include the acquisition, training, motivation, compensation, performance evaluation, and retention of the agricultural labor force. Other topics include the legal and taxation components of hired labor and working with a multi-cultural and multi-generational work force. Prereq: ECO 201. [*Offered in spring only.*]

AEC 395 INDEPENDENT RESEARCH IN AGRICULTURAL ECONOMICS. (1-3)
Directed independent study of a selected problem. May be repeated to a maximum of six credits. Prereq: Consent of instructor or director of undergraduate studies and completion of a proposed plan of learning objectives and outcomes prior to registration. The student must have completed 60 credit hours prior to registering for AEC 395 and the student must earn a C or better in one of the following courses: AEC 303, AEC 302, or AEC 305. [*Offered in fall, spring and summer.*]

AEC 396 INTERNATIONAL STUDIES IN AGRICULTURAL ECONOMICS. (1)
The student will participate in a university-approved study abroad program or in an approved international study tour through the College of Agriculture or through additional international opportunities pre-approved by the director of undergraduate studies. [*Offered in spring only.*]

AEC 399 EXPERIENTIAL LEARNING IN AGRICULTURAL ECONOMICS. (1-6)
A field or community-based experience in the application of economics to agricultural or rural problems. May be repeated; a maximum of six credits allowed. Pass-fail only. Credit not available for the Agricultural Economics Major Requirements. Prereq: Nine hours in agricultural economics or economics, permission of instructor and department chairperson, and completion of learning agreement prior to registration. [*Offered in fall, spring and summer.*]

AEC 422 AGRIBUSINESS MANAGEMENT. (3)
Examines and analyzes decision-making tools and problem-solving techniques available to agribusiness managers. Provides learning experience in addressing contemporary economic, marketing and management issues through case study analyses, selected readings and computerized business simulations. Prereq: AEC 303, AEC 305, FIN 300, MGT 301, MKT 300, and senior standing in Agricultural Economics. [*Offered in fall and spring.*]

AEC 425 FOREST MANAGEMENT. (4)
The principles of sustained yield forest management, management objectives, forest regulation, allowable cut, and timing of timber harvests. Students will identify management objectives from various properties and ownership types and integrate scientific knowledge and both timber and non-timber considerations with landowner objectives to derive management decisions. Prereq: Completion of the Spring Field Semester (FOR 355, 356, 357, 358, and 359) or consent of instructor. (Same as FOR 425.) [*Offered in fall only.*]

AEC 441G AGRICULTURAL FINANCIAL MANAGEMENT. (3)
Applies micro agricultural finance to farm and other agricultural business firms. Reviews elementary mathematics of finance and the objectives of financial management. Uses financial statements, cash flow analysis, financial leverage and other elements in applying the theory of capital investment for making management decisions. Prereq: AEC 303 and FIN 300. [*Offered in spring only.*]

AEC 445G INTRODUCTION TO RESOURCE AND ENVIRONMENTAL ECONOMICS. (3)
Economic analysis of the problems of assuring resource availability and environmental quality. Theoretical concepts and empirical tools for evaluating resource and environmental policy. Prereq: "C" or better in ECO 201 or consent of the instructor. [*Offered in fall and spring.*]

AEC 471 INTERNATIONAL TRADE. (3)
This is advanced economic course in international trade. The first part of the course covers the basics of why countries trade, what explains the pattern of trade that we observe and what are the effects of trade on welfare and the distribution of income. The second part of the course covers issues concerning trade policy and looks at the positive and normative effects of trade policy and trade agreements as well as investigating topics of current interest. While the focus of the course is on theory, students will also be exposed to many applications of the theory as a means of both explaining the economic intuition and encouraging students to analyze the world around them from an economic perspective. Prereq: ECO 401 or equivalent. (Same as ECO 471.) [*Offered in fall and spring.*]

AEC 479 PUBLIC ECONOMICS. (3)
An application of economic analysis to the study of the role of government. Emphasis is on the reasons for and the effects of government intervention in the economy. Topics covered include: market failure, public goods and externalities, welfare policy, voting and public choice, taxation, public debt and cost-benefit analysis. Prereq: ECO 401 or equivalent. Agricultural Economics majors may substitute AEC 303 for this prerequisite. (Same as ECO 479.) [*Offered in fall and spring.*]

AEC 483 REGIONAL ECONOMICS. (3)
This course presents an economic approach to the study of regions. The emphasis is on the role of spatial relationships in economic activity. Topics considered include market area analysis, location theory, economic base and input-output analysis as well as regional economic development. Prereq: AEC 303. [*Offered in fall only.*]

AEC 490 QUANTITATIVE METHODS AND PRICE ANALYSIS. (3)
An integration of current issues in Agricultural Economics with oral and written communications, problem solving, and research. Major emphasis is on a senior paper and oral presentation. Prereq: AEC 302, 303, 305, ECO 391 and senior standing in Agricultural Economics. [*Offered in fall only.*]

AEC 503 PRICE THEORY AND APPLICATIONS. (3)
This course uses calculus to develop core concepts in microeconomics and show how they can be applied to agricultural and natural resource issues. A central objective of this course is to link mathematical techniques with economic analysis to show students that calculus provides an efficient way to study producer and consumer behavior. Prereq: AEC 303 and MA 113. [*Offered in fall only.*]

AEC 510 INTERNATIONAL TRADE AND AGRICULTURAL MARKETING. (3)
A study of institutional, economic and cultural factors that influence aggregate agricultural trade and exports of individual agribusinesses. Macro issues of agricultural trade policies are examined along with elements of international marketing for agricultural products. Prereq: AEC 303 (or equivalent) and AEC 305. [*Offered in fall only.*]

AEC 531 AGRICULTURAL PRICE ANALYSIS. (3)
The course links calculus-based microeconomic theory, industry-specific pricing systems, and empirical analysis of agricultural and food markets ranging from farm inputs to the consumer level. Students gain experience with tools and techniques used in empirical analysis of supply and demand. Prereq: AEC 503 and (ECO 391 or STA 570). [*Offered in spring only.*]

AEC 532 AGRICULTURAL AND FOOD POLICY. (3)
This course surveys a variety of current public policies that influence the agricultural and rural economies. Students are exposed to the conflicting views of those concerned with food and agricultural policy issues in an international economy. Economic principles are used to evaluate alternatives in terms of the general welfare of society. Prereq: AEC 303 and AEC 305. [*Offered in spring only.*]

AEC 545 RESOURCE AND ENVIRONMENTAL ECONOMICS. (3)
This is an advanced level course focused on economic analysis. It will help students frame natural resource and environmental problems so that they can be analyzed and solved. Major topic areas include water resources, fisheries, energy (and other non-renewable resources), agriculture, and pollution. Policy instruments such as pricing, emission fees, and tradable permits will be covered in detail. Prereq: AEC 303 or AEC 445G or consent of instructor. (Same as NRE 545.) [*Offered in fall only.*]

AEC 580 SPECIAL PROBLEMS IN AGRICULTURAL ECONOMICS. (1-3)
Directed independent study of a selected problem. May be repeated to a maximum of six credits. Prereq: Consent of instructor, director of undergraduate or graduate studies and completion of a proposed plan of learning objectives and outcomes prior to registration. [*Offered in fall, spring and summer.*]

AEC 590 INTRODUCTION TO QUANTITATIVE ECONOMICS I. (3)
An introduction to mathematical approaches to economic theory. Emphasis on linear models, constrained optimization, and techniques used in comparative statics. Prereq: ECO 401 and MA 113, or consent of instructor. (Same as ECO 590.) [*Offered in fall only.*]

AEC 606 ADVANCED AGRICULTURAL MARKETING. (3)
A critical examination of objectives and results of various types of research in market organization, marketing functions, price analysis, markets over time, space and form, market information, commodity promotion programs, quality standards, and macroeconomic linkages to marketing. Prereq: AEC 624 and ECO 601 (may be concurrent). [*Offered in fall only.*]

AEC 610 INTERNATIONAL TRADE IN AGRICULTURAL PRODUCTS. (3)
This course analytically examines current empirical research in the area of agricultural trade. Prereq: ECO 601, AEC 624 and ECO 671. [*Offered in spring only.*]

AEC 620 ADVANCED PRODUCTION ECONOMICS I. (3)
An advanced treatment of production economics with emphasis on flexible product and factor price situations, factor demand functions, multiple product production, and poly-periodic production theory. Prereq: ECO 601. [*Offered in fall only.*]

AEC 622 ADVANCED AGRIBUSINESS MANAGEMENT STRATEGIES. (3)
This course integrates knowledge of economics, econometrics, business administration, finance, accounting, marketing, decision making, and research methodology. The focus is on

analytical skills and scholarly academic research. Prereq: AEC 422, ECO 601 or AEC 603, an introductory course in econometrics, or consent of instructor. [*Offered in spring only.*]

AEC 624 ADVANCED QUANTITATIVE METHODS IN AGRICULTURAL ECONOMICS. (3)
This course uses statistical tools to model agricultural and economic systems. Subjects covered include: (1) the classical linear regression model, (2) statistical hypotheses tests, and (3) estimation techniques for single and simultaneous equation models. Prereq: ECO 391, STA 291 and MA 113. [*Offered in spring only.*]

AEC 626 AGRICULTURE AND ECONOMIC DEVELOPMENT. (3)
Analytical consideration of the role of agriculture in economic development in relation to overall development strategy at various stages of growth. Theoretical and policy issues of particular relevance to the agricultural development in underdeveloped agrarian economies with various resource, social, political and economic systems. Prereq: ECO 473G or consent of instructor. (Same as ECO 674.) [*Offered in spring only.*]

AEC 640 ADVANCED AGRICULTURAL POLICY. (3)
This course focuses on development of a framework to analyze alternate paradigms of the political economy. The framework focuses on the role of institutions that modify behavior of decision makers. Agricultural and food policies are evaluated in terms of the efficient use of resources and the general welfare of society. Prereq: ECO 601 or AEC 503. [*Offered in spring only.*]

AEC 645 NATURAL RESOURCE ECONOMICS. (3)
Economic analysis of natural resource use and environmental issues. Discussion of criteria for public decision making, welfare economics, market failure, benefit-cost analysis, and benefit estimation, as applied to natural resources and the environment. Prereq: ECO 590 and ECO 601.

AEC 646 INTERTEMPORAL ALLOCATION OF NATURAL RESOURCES. (3)
This course teaches the application of economic theory to the analysis of solutions for current and prospective natural resource problems. Such understanding will be geared toward fashioning, selecting and implementing planning associated with land, water, air, biological and other natural resources and conservation of the natural environment in serving the needs and desires of citizens. Prereq: ECO 660 and AEC 590.

AEC 653 LOCAL ECONOMIC DEVELOPMENT. (3)
The course develops the capacity to employ the theories, practices and philosophies of economic development as applied to local areas. The primary geographic focus of the course is the rural south-east of the United States, but examples will be drawn from rural areas in other developed countries. Prereq: Graduate status in agricultural economics, public administration, economics, or consent of instructor. (Same as PA 653.) [*Offered in spring only.*]

AEC 661 PROGRAMMING MODELS IN AGRICULTURAL ECONOMICS. (3)
A study of some programming models useful in agricultural economics; includes an examination of the structure of the models themselves, economic interpretation of their components and their use in research in agricultural economics. Prereq: MA 416G and either AEC 620 or ECO 601. [*Offered in fall only.*]

AEC 662 QUANTITATIVE METHODS IN RENEWABLE AND NONRENEWABLE RESOURCE MANAGEMENT. (3)
Application of dynamic optimization methods to renewable and nonrenewable resource management. Includes problem formulation, mathematical problem solving, Matlab programming, simulations and optimal policies analysis. Case examples are used to demonstrate applicability and problem formulation in finance and general and partial equilibrium. Prereq: MA 113 and MA 162 or equivalent, and AEC 661 or equivalent. (Same as FOR 662.)

***AEC 691 SOCIOLOGY OF FOOD AND AGRICULTURE. (3)**
This seminar will analyze the transformation of agriculture and the food system in the historical context of increased globalization. Emphasis is given to key historical transitions, changing social relations surrounding production and consumption of food, and shifts in regulations and policy at the local, national, and/or international levels. Such emphases provide a framework for understanding the historical roots and future prospects for the socioeconomic problems confronting contemporary U.S. and global agriculture and food economies. Prereq: Graduate standing, or consent of instructor. (Same as CLD/SOC 691.)

AEC 724 APPLIED ECONOMETRICS. (3)
This course introduces students to the econometric models, estimation procedures, and model applications in the literature. The course includes an overview of different econometric models, model estimations using Stata and SAS, discussion of agricultural and applied economics papers applying these models, and writing mini projects and a term paper with econometric applications. Topics include discrete and limited dependent variable models, panel data models, time-series models, instrumental variables, survival analysis, spatial econometrics and other special topics. Prereq: ECO 703 or consent of instructor. [*Offered in spring only.*]

AEC 745 ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS. (3)
This course is a graduate-level survey of environmental and natural resource economics. Students will use mathematical models and econometric analysis to address topics including externalities and other market failures, environmental policies, management of renewable and nonrenewable resources, and non-market valuation. Prereq: ECO 701 and 703 (or equivalent courses), or consent of instructor. (Same as ECO 726.) [*Offered in fall only.*]

AEC 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed. [*Offered in fall, spring and summer.*]

AEC 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

AEC 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended. [*Offered in fall, spring and summer.*]

AEC 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours. Prereq: Consent of adviser and chairperson of department. [*Offered in fall, spring and summer.*]

AEC 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely. Prereq: Consent of adviser and chairperson of department.

AEC 780 SPECIAL PROBLEMS IN AGRICULTURAL ECONOMICS. (1-3)
Open to graduate students who have the necessary training and ability to conduct research on a selected problem. May be repeated three times for a total of nine credits. Prereq: Consent of instructor and departmental chairperson. [*Offered in fall, spring and summer.*]

AEC 790 RESEARCH WORK IN AGRICULTURE ECONOMICS. (3-9)
Independent research under the direction of a faculty members and the Director of Graduate Studies. Prereq: Successful completion of written portion of AEC qualifying exam and permission of Director of Graduate Studies. [*Offered in fall, spring and summer.*]

AEC 796 SEMINAR (Subtitle required). (3)
An extended original investigation of a specific topic designed to give students experience in methods of research and an intensive study of a particular subject in the field of agricultural economics. May be repeated to a maximum of six credits under different subtitles. Prereq: Ph.D. applicant or candidate. [*Offered in fall and spring.*]

AED Agricultural Education

AED 110 INTRODUCTION TO CAREER AND TECHNICAL EDUCATION. (3)
The history, status, philosophy, and objectives of career and technical education in relation to general education. (Same as FCS 110.)

AED 362 FIELD EXPERIENCES IN CAREER AND TECHNICAL EDUCATION. (3)
Supervised experiences in schools and other agencies. Required of all Career and Technical Education majors. Includes observation, participation, experience, field trips, inspection of programs, and professional organizations. Prereq: Majors only. (Same as FCS 362.)

AED 371 ADVISING A CAREER AND TECHNICAL STUDENT ORGANIZATION. (3)
This course is designed to assist students in developing skills and competencies needed to plan, implement, advise, and evaluate a Career and Technical Student Organization as part of the total CTE program. (Same as FCS 371.)

AED 395 SPECIAL PROBLEMS IN CAREER AND TECHNICAL EDUCATION. (1-3)
Directed independent study of a selected problem in the field of career and technical education under the supervision of a faculty member. May be repeated to a maximum of 6 credit hours. Prereq: Consent of appropriate instructor. (Same as FCS 395.)

AED 399 EXPERIENTIAL LEARNING IN CAREER AND TECHNICAL EDUCATION. (1-3)
A field based learning experience in career and technical education under the supervision of a faculty member. Student must complete a learning contract which outlines the requirements agreed to by the student for successful completion of the course. Prereq: Consent of appropriate instructor. (Same as FCS 399.)

AED 580 FOUNDATIONS OF TEACHING CAREER AND TECHNICAL EDUCATION. (3)
Course focuses on the foundation of teacher development including: effective teacher characteristics, principles of teaching and learning, and preparation of lesson plans. Prereq: Admission into the Teacher Education Program. (Same as FCS 580.)

AED 583 DESIGNING CURRICULUM AND ASSESSMENT IN CAREER AND TECHNICAL EDUCATION. (3)
Instructional methodology course focused on analyzing the principles of teaching and learning to design curriculum, instruction, and assessment for formal and non-formal educational settings. (Same as FCS 583.)

AED 586 METHODS OF TEACHING CAREER AND TECHNICAL EDUCATION. (3)
Development of teaching competencies with emphasis on: discussion, demonstration, problem-solving, cooperative learning, service learning methods. Prereq: Admission into the Teacher Education Program and AED/FCS 580. (Same as FCS 586.)

AED 592 TEACHING EXPERIENCE IN CAREER AND TECHNICAL EDUCATION. (12)
Supervised experience in teaching Career and Technical Education. Requires observation, lesson plan development, and incorporation of effective teaching methods and strategies. Regularly scheduled seminars included as an integral part of course. Prereq: Admission into the Teacher Education Program and successful completion of AED/FCS 580 and AED/FCS 586. (Same as FCS 592.)

AED 671 YOUTH ORGANIZATIONS IN CAREER AND TECHNICAL EDUCATION. (3)
A study of the underlying philosophy and principles for organizing and advising youth organizations in career and technical education. Emphasis on activities that will enrich and motivate the instructional programs, and develop leadership, cooperation and citizenship. (Same as FCS 671.)

AED 686 INSTRUCTIONAL ASSESSMENT IN CAREER AND TECHNICAL EDUCATION. (3)
Instructional assessment of learning and achievement in Career and Technical Education middle and high school classrooms is addressed. Focus is placed on test writing, measurement and student achievement. (Same as FCS 686.)

AED 695 SPECIAL PROBLEMS IN CAREER AND TECHNICAL EDUCATION. (3)
An independent work course for students interested in career and technical education. Students make individual investigations and report on special problems. (Same as FCS 695.)

AED 799 RESEARCH IN CAREER AND TECHNICAL EDUCATION. (1-3)
Individual research of importance to career and technical education. May be repeated to a maximum of nine credits. (Same as FCS 799.)

AEN Agricultural Engineering

AEN 103 BASIC PRINCIPLES OF SURVEYING. (2)
General use of surveying equipment, development of topographic maps, layout of engineering systems, earthwork computations, and introduction to boundary surveys for Agriculture students. This course is not available for credit to persons who have received credit in another introductory surveying course. Lecture, one hour; laboratory, three hours. Prereq: A course in trigonometry, enrollment in the College of Agriculture and/or consent of instructor.

***AEN 220 PRINCIPLES OF INTERNAL COMBUSTION ENGINES. (3)**
Principles of selection of internal combustion engines. Operating principles of internal combustion engines including fuel injection, ignition, lubrication, and maintenance. Power transmission application and efficiency are considered. Lecture, two hours per week; lab, two hours per week. (Same as TSM 220.)

***AEN 252 FABRICATION AND CONSTRUCTION FOR TECHNICAL SYSTEMS. (3)**
Lecture, 1 hour; laboratory 4 hours. Wood and metal work, including reading engineering drawings, welding, power woodworking tools, soldering and pipe work. Prereq: Major in agricultural education, or Individualized Agriculture Curriculum (TSM), or a minor in TSM, or consent of instructor. (Same as TSM 252.)

***AEN 263 AGRICULTURAL SAFETY AND HEALTH. (3)**
The course provides an overview of major safety and health hazards in agricultural production (farms) and of the basic approaches to prevention of agricultural injuries and illnesses.

***AEN 340 PRINCIPLES OF FOOD ENGINEERING. (4)**
The functional requirements and principles of operation of systems for the handling and processing of food and agricultural products are studied. The areas covered are mass and energy balances, fluid mechanics, heat transfer, refrigeration, food freezing, evaporation, drying and special topics such as extrusion and microwave heating. Prereq: Junior standing and completion of PHY 211 and MA 123 or MA 113 or MA 137 in Food Science curriculum. (Same as TSM 340.)

#AEN 341 BREWING SCIENCE AND TECHNOLOGY. (3)
Introduction to the science and technology associated with the brewing of beer. Topics will include the history of beer, varieties of beer, and production of beer. Within the discussions about the production of beer, the effect of raw materials, processing, microbiology, and storage on the taste and appearance of the beer will be studied. The class will also cover beer appreciation and sensory perception, which will complement the discussions of science and technology in the production of beer. Prereq: All students must be 21 by the first day of class.

AEN 461G BIOMETEOROLOGY. (3)
An introduction to the impact and relationship of the atmosphere on living organisms. Emphasis on the practical application of meteorology to everyday problems within the biosphere. Weather analysis, interpretation, psychometrics of the atmosphere, and the impact of weather and climate on animals, plants and man are discussed. Lecture, two hours; laboratory, two hours per week. Prereq: Junior, Senior, or Graduate standing. (Same as TSM 461G.)

AEN 462 RESIDENTIAL AND COMMERCIAL IRRIGATION DESIGN. (3)
The utilization of hydraulic principles in the design, assimilation, installation and operation of residential and commercial irrigation systems in applications which emphasize water conservation, nutrient management and environmental protection. Lecture, two hours; laboratory, two hours per week. Prereq: Consent of instructor.

AEN 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

AFS Air Force Studies

AFS 111 AEROSPACE STUDIES I. (1)
A course designed to provide the student with a basic understanding of the nature and principles of war, national power, and the Department of Defense role in the organization of national security. The student also develops leadership abilities by participating in a military organization, the cadet corps, which offers a wide variety of situations demanding effective leadership.

AFS 112 LEADERSHIP LABORATORY I. (1)
A course designed for development of basic skills required to be a manager, including communications, human relations, and administration of equal opportunity. Credit will not be granted toward the hours requirements for the degree. Pass/fail only. Coreq: AFS 111.

AFS 113 AEROSPACE STUDIES I. (1)
A course designed to provide the student with a basic understanding of the contribution of aerospace power to the total U.S. strategic offensive and defensive military posture. The student also develops leadership abilities by participating in a military organization, the cadet corps, which offers a wide variety of situations demanding effective leadership. Prereq: AFS 111.

AFS 114 LEADERSHIP LABORATORY I. (1)
A continuation of AFS 113. A course designed to develop managerial skills including superior/subordinate relationships, communications, customs and courtesies, basic drill movements and career progression requirements. Credit will not be granted toward the hours requirements for the degree. Pass/fail only. Coreq: AFS 113.

AFS 211 AEROSPACE STUDIES II. (1)
Introduces the study of air power from a historical perspective; focuses on the development of air power into a primary element of national security. Leadership experience is continued through active participation in the cadet corps. Lecture, one hour; leadership laboratory, one hour. Prereq: AFS 111, 113 or PAS approval.

AFS 212 LEADERSHIP LABORATORY II. (1)
A course designed for development of advanced skills required to be a manager/leader, including leadership styles, public speaking, group dynamics, motivation and preparation for field training. Credit will not be granted toward the hours requirements for the degree. Pass/fail only. Coreq: AFS 211.

AFS 213 AEROSPACE STUDIES II. (1)
Provides a foundation for understanding how air power has been employed in military and non-military operations to support national objectives. Examines the changing mission of the defense establishment, with particular emphasis on the United States Air Force. Leadership experience is continued through participation in the cadet corps. Lecture, one hour; leadership laboratory, one hour per week. Prereq: AFS 111, 113 or PAS approval.

AFS 214 LEADERSHIP LABORATORY II. (1)
A continuation of AFS 213. A course designed to develop supervisory management skills to include communications, techniques of critique, social actions, personnel evaluation procedures, problem solving, role playing and field training preparation. Credit will not be granted toward the hours requirements for the degree. Pass/fail only. Coreq: AFS 213.

AFS 311 AEROSPACE STUDIES III. (3)
A study of management functions with emphasis on the individual as a manager in an Air Force environment. Individual motivational and behavioral process, communication, and group dynamics are included to provide a foundation for the development of professional skills as an Air Force Officer. Students refine their leadership and managerial abilities by organizing and managing a quasi-military unit. Prereq: Acceptance into POC or approval of PAS.

AFS 312 LEADERSHIP LABORATORY IIIA. (1)
A course designed and focused on developing advanced leadership skills. Students fill the mid-level management function within the cadet corps. The course involves the planning and controlling of military activities of the cadet corps, and the preparation and presentation of briefings and other written and oral communications. Pass/Fail only. Coreq: AFS 311.

AFS 313 AEROSPACE STUDIES III. (3)
A study of leadership with specific emphasis on the Air Force leader. Includes theoretical, professional and communicative aspects. In addition, military justice and administrative law

are discussed within the context of the military organization. Students continue to develop and refine their leadership abilities by organizing and managing a military unit, the cadet corps, which offers a wide variety of situations requiring effective leadership. Prereq: AFS 311.

AFS 314 LEADERSHIP LABORATORY III. (1)
Laboratory to accompany AFS 313. Pass/fail only. Coreq: AFS 313.

AFS 395 INDEPENDENT AEROSPACE STUDIES. (2-6)
A study of an advanced problem on a subject area in aeronautical science under the guidance of a departmental staff member. One discussion per week; term paper is required. May not be repeated. Prereq: Senior standing in the AFROTC Program, and 3.0 standing in Aerospace Studies.

AFS 411 AEROSPACE STUDIES IVA. (3)
A study of the military profession, civil-military interaction, communicative skills, framework of defense policy, and formulation of defense strategy. Students refine their leadership abilities by organizing and managing a military unit, the cadet corps, which offers a wide variety of situations requiring effective leadership. Prereq: AFS 313, or approval of PAS.

AFS 412 LEADERSHIP LABORATORY IVA. (1)
A course designed and focused on developing advanced leadership skills. Students fill the top level management function within the cadet corps. The course involves the planning and controlling of military activities of the cadet corps, and the preparation and presentation of briefings and other written and oral communications. The lab also includes practice of leadership techniques aimed at motivating and instructing cadets in the lower three levels. Pass/Fail only. Laboratory, two hours per week. Coreq: AFS 411.

AFS 413 AEROSPACE STUDIES IVB. (3)
Continues the study of strategy and the management of conflict, formulation and implementation of U.S. defense policy, defense organization, and case studies in defense policy making. Students also refine their leadership abilities by organizing and managing a military unit, the cadet corps, which offers a wide variety of situations requiring effective leadership. Prereq: AFS 411 or approval of PAS.

AFS 414 LEADERSHIP LABORATORY IVB. (1)
A continuation of AFS 412. A course designed and focused on developing advanced leadership skills. Students fill the top level management function within the cadet corps. The course involves the planning and controlling of military activities of the cadet corps, and the preparation and presentation of briefings and other written and oral communications. The lab also includes practice of leadership techniques aimed at motivating and instructing cadets in the lower three levels. Pass/Fail only. Laboratory, two hours per week. Coreq: AFS 413.

AHP Allied Health Professions

AHP 840 ETHICS IN HEALTH PRACTICE. (2)
A study of selected ethical issues that arise in the practice of health professionals. The health professional's obligations to patients, colleagues, employing institutions, and the community will be considered, and relevant case studies will be analyzed.

AIS Arabic and Islamic Studies

AIS 101 ELEMENTARY MODERN STANDARD ARABIC. (4)
An introduction to the standard written language of the Arab World. Initial emphasis upon the phonology and script, followed by gradual coverage of the grammar, with exercises in reading, writing, pronunciation, and vocabulary building.

AIS 102 ELEMENTARY MODERN STANDARD ARABIC. (4)
Continuation of AIS 101. Prereq: AIS 101.

AIS 201 INTERMEDIATE MODERN STANDARD ARABIC. (3)
A continuation of AIS 102, stressing comprehension of written and oral material, the ability to read Arabic aloud and to compose written material, and the ability to speak. Prereq: AIS 102.

AIS 202 INTERMEDIATE MODERN STANDARD ARABIC. (3)
A continuation of AIS 201, stressing comprehension of written and oral material, the ability to read Arabic aloud and to compose written material, and the ability to speak. Prereq: AIS 201.

***AIS 228 ISLAMIC CIVILIZATION.** (3)
This course is an introduction to the religion of Islam and the classical era of the Islamic civilization. A great deal of time will be spent on the life of Muhammad (570-632) and basic beliefs, rituals and practices. The course will also explore aspects of the history of Islamic civilization from the time of Muhammad to around the 17th century, including science, art theology and law.

AIS 301 COLLOQUIAL ARABIC I. (3)
Provides advanced skills in developing linguistic and communicative skills in colloquial Arabic based on Egyptian Arabic that is widely understood throughout the Arab world. Introduces aspects of Egyptian cultural life. Designed for those who have some experience with Standard Arabic. Prereq: AIS 202 or consent of instructor.

AIS 302 COLLOQUIAL ARABIC II. (3)
A continuation of AIS 301. Prereq: AIS 301 or consent of instructor.

#AIS 311 ARABIC FOR BUSINESS AND MEDIA I. (3)
This course is designed to meet the needs of intermediate-level students of Arabic as well as members of the business community who wish to learn Arabic for professional purposes. The topics cover travel, social, and business interactions. The course also introduces and engages with a variety of current, authentic and primary Arabic materials through the language of the newspapers, magazines, Internet news sites, and TV news. Some of the media topics that will be covered are meetings and conferences, elections, and demonstrations and social protest. By the end of this course, the students will be at a mid-intermediate level of proficiency in Arabic. Prereq: To enroll in this course, students should have completed four semesters of Arabic (AIS 101, AIS 102, AIS 201, and AIS 202). Alternatively, the students should seek the approval of the course instructor.

#AIS 312 ARABIC FOR BUSINESS AND MEDIA II. (3)
This course builds on and expands the business, travel, and social topics covered in AIS 311 through additional and more complex situations and interactions, such as shopping, going around town, at the sales office, at the post office, at the bank, renting and buying a house and a lot of land. The course also expands on the media topics covered in the first part of this course, in terms of both variety and difficulty. Some of the new topics will be elections, conflict and terrorism, business, cultural and social news. The course will take the students to a high-intermediate level of proficiency in Arabic. Prereq: To enroll in this course, students should have completed five semesters of Arabic (AIS 101, AIS 102, AIS 201, AIS 202, and AIS 311). Alternatively, the students should seek the approval of the course instructor.

#AIS 320 MODERN ARABIC LITERATURE AND FILM IN TRANSLATION. (3)
This course introduces students to major Arab writers, poets, and film makers through some of their primary novels, novellas, poems, and films with a focus on the heart of the Arab world.

AIS 330 ISLAMIC CIVILIZATION II. (3)
The Islamic world's response to westernization and the resultant reassertion of its cultural role in the modern world.

AIS 331 CLASSICAL ARABIC LITERATURE (in English). (3)
Reading from some of the major works of Arabic literature (poetry and prose) of the 6th-14th centuries which are an integral part of the Arab cultural heritage, e.g., the Mu'allaqat, Koran, Ibn Ishaq's Sirah; al-Tabari's Ta'rikh; Abu'l Faraj's Kitab al-Aghani; al-Ghazzali's Ihya; al-Hariri's Maqamat; and Ibn Khaldun's Muqaddimah.

AIS 338 WOMEN AND ISLAM. (3)
A survey of women's issues related to Islam and contemporary Muslim culture including the perception of women in Islam, the role and rights of women in Islam, female circumcision, honor killing women's dress. The course will discuss the viewpoints of the Muslim traditionalists, modernists, western feminists and the emerging Islamic feminists.

AIS 340 FUNDAMENTALISM AND REFORM IN ISLAM. (3)
This course focuses on the revival of Islam in the 20th century and the various responses of Islam to modernism and western political and intellectual domination. Particular attention will be given to the rise of militant Islam and the terrorist attacks of 9/11. The original writings of major thinkers will be read and discussed.

#AIS 345 ISLAMIC MYSTICISM. (3)
This course is an overview of Islamic spirituality, which refers to the spiritual aspects within basic Islamic texts and general Islamic practices, and Islamic mysticism, which refers to the concepts and practices of Sufism. Throughout the entire course, poems from Rumi, the greatest of the Sufi poets, will be read and discussed. The purpose of the course is to expose students to the ideas and practices of Islamic spirituality and mysticism, the history of Sufism and in a lesser extent the debate between Sufism and normative Islam.

AIS 395 INDEPENDENT WORK IN ARABIC/ISLAMIC STUDIES. (1-3)
Students who have the proper qualifications may undertake a special problem in reading and research. May be repeated to a maximum of six credits. (Recommended.)

#AIS 410 THEOLOGY AND LAW IN ISLAM. (3)
This course provides an historical and thematic overview of theology and law (Shari'ah or Fiqh) in Islam. The main concepts of Islamic theology are introduced, comparing them to Christian thought and taking into account contemporary issues. The section on law covers the historical development of the classical legal schools and the main concepts of Islamic legal philosophy. Prereq: Islamic Civilization I or the permission of the instructor.

#AIS 430 ISLAM IN AMERICA. (3)
This course is an overview of the Muslim experience in America with special emphasis on the issues facing Muslims as they seek to adjust and find their space in America, especially in the wake of 9/11.

AIS 435 TOPICS IN ISLAMIC STUDIES (Subtitle required). (3)
Variable in content, this course focuses on important texts and issues in Islamic history, religion, literature, and philosophy. May be repeated to a maximum of six credits under different subtitles.

AIS 440 INTRODUCTION TO THE QURAN. (3)
An introduction to the disciplines of knowledge related to the Quran, its major themes, style of presentation, and relevance to contemporary societies and issues.

AIS 442 ARABIC READING I. (3)
Advanced skills in speaking, reading, and analyzing selected texts from traditional and modern Arabic literature using formal spoken and written Arabic. Introduction to the use of Arabic computer software. Prereq: AIS 202 or equivalent.

AIS 443 ARABIC READING II. (3)
Continuation of AIS 442 with emphasis on Modern Arabic Short Stories. Prereq: AIS 442 or equivalent.

AIS 495G ADVANCED INDEPENDENT WORK IN ARABIC/ISLAMIC STUDIES. (1-3)
Independent research in Russian and Eastern Studies on an advanced level for undergraduate and graduate students. Students will be required to establish a written contract with the relevant faculty member describing the tasks to be completed in the course. May be repeated to a maximum of six credits, or a total of six credits of AIS 395 and 495G.

AMS American Military Studies

BASIC COURSES

AMS 101 INTRODUCTION TO THE ARMY. (2)
This introductory level course is designed to give students an appreciation for the role the Army currently plays in our society. The course covers the history of the Army and the roles and relationships of the Army within our society. The course also covers some of the basic skills necessary for today's leaders to include oral presentation, time management, map reading, basic rifle marksmanship and squad tactics. Prereq: Must be concurrent with AMS 250.

AMS 102 INTRODUCTION TO LEADERSHIP. (2)
This course is designed to acquaint the student with the fundamental skills necessary to be a leader, both in military and civilian context. Course also covers basic military map reading skills. Prereq: Must be concurrent with AMS 250.

AMS 201 AMERICAN MILITARY HISTORY. (2)
Study of the development of the U.S. from a military perspective. Pre-parallel development of technology and warfare; and emphasis on the evaluation of military leadership from the historically tested principles of warfare from the Civil War to the present.

AMS 202 EFFECTIVE MILITARY COMMUNICATIONS. (2)
This course provides instruction and practical experience in the art of speaking and writing in the Army style. Students will demonstrate competency through a series of oral presentations and writing assignments. Small unit tactics and map reading skills will also be used in the implementation of the oral presentations.

AMS 211 ADVANCED LEADERSHIP I. (2)
This course focuses on both theoretical and practical aspects of leadership. Students will examine topics such as written and oral communication, effective listening, assertiveness, personality, adult development, motivation, and organizational culture and change. Prereq: AMS 101 and 102, or consent of instructor. Must be taken concurrent with AMS 250.

AMS 212 ADVANCED LEADERSHIP II. (2)
This course focuses principally on officership, providing an extensive examination of the unique purpose, roles, and obligations of commissioned officers. It includes a detailed investigation of the origin or our institutional values and their practical application in decision making and leadership. Prereq: AMS 101, 102 and 211, or consent of the instructor. Must be taken concurrent with AMS 250.

AMS 250 BASIC MILITARY SCIENCE LAB. (1)
A hands-on practicum which exposes the student to the military skills required for basic technical and tactical competence to enter the Advanced Course. Laboratory, two hours per week and two week-end exercises. May be repeated to a maximum of four credits.

ADVANCED COURSES

AMS 301 LEADERSHIP AND MANAGEMENT I. (3)
Course of study in development of basic skills required to function as a manager; study of leadership styles, group dynamics, communications, motivation and military instruction methods; and school of the soldier and exercise of command. Prereq: AMS 101, 102, graduate or undergraduate student (male or female), successful completion of basic course or basic camp, physically fit to pursue program; consent of PMS. Must be taken concurrent with AMS 350.

AMS 302 ADVANCED TACTICS. (3)
Small unit tactics and communications, organization and mission of combat arms units; leadership and the exercise of command. Prereq: AMS 101, 102, graduate or undergraduate student (male or female), successful completion of basic course or basic camp, physically fit to pursue program; consent of PMS. Must be taken concurrent with AMS 350.

AMS 320 ADVANCED STUDIES IN AMERICAN MILITARY HISTORY. (3)
This course will furnish upper level UK ROTC Cadets, and qualified History majors or minors with the methodological tools and materials needed to gain a more detailed understanding of American Military History and to put together a major research paper. AMS/HIS 320 will emphasize basic research skills: understanding historiographical debates within a military framework, developing effective note taking, outlining techniques, picking a feasible research topic, finding useful primary sources and drawing inferences from them, examining American military campaigns and leaders in order to complete a battle analysis, and short research assignments. Prereq: Consent of instructor (Same as HIS 320.)

AMS 341 LEADERSHIP AND MANAGEMENT II. (3)
An advanced study of logistics, operations, military administrations, personnel management, military justice, world change and military implications, service orientation and leadership training. Prereq: AMS 301, 302. Must be taken concurrent with AMS 350.

AMS 342 COMMAND MANAGEMENT. (3)
An advanced study of logistics, operations, military administration, personnel management, military justice, world change and military implications, service orientation and leadership training. Prereq: AMS 301, 302. Must be taken concurrent with AMS 350.

AMS 350 ADVANCED MILITARY SCIENCE LAB. (1)
A hands-on practicum which exposes the student to the military skills required for advanced technical and tactical competence as an Army officer. The course affords junior and senior cadets opportunities to develop and refine their leadership style and abilities under differing constraints and environments. Laboratory, two hours per week and two weekend exercises. May be repeated to a maximum of four credits. Prereq: AMS 250, AMS 101, AMS 201 and AMS 202. Concurrent: AMS 301, 302, 341 or 342.

AMS 395 INDEPENDENT STUDY IN LEADERSHIP. (1-2)
Advanced study in leadership. Students are under guidance and confer individually with faculty on approved topic(s). A written report or paper is expected and will be filed in the chairperson's office. May be repeated to a maximum of four credits. Prereq: Completion of AMS 302 and approval of PMS.

AN Analytics

AN 250 BUSINESS DATA ANALYSIS. (3)
Business Data Analysis is a course in applied business decision making. It uses Excel to organize, summarize, and analyze data and to interpret the results of such analysis. It is an introduction to the process of transforming raw data into results to support common business decisions. The course will emphasize hands-on problem solving in a business context rather than on the specific techniques. Prereq: MA 113, MA 123, MA 137 or equivalent.

AN 300 ANALYZING BUSINESS OPERATIONS. (3)
To be well-prepared, a business graduate must appreciate the nature and importance of an enterprise's operations. This core business course introduces underlying concepts and basic analytical techniques essential for managing a firm's manufacturing and service operations. Operations decisions focus on how to plan, control, and coordinate the organizational resources and processes concerned with producing and distributing goods and/or services. This course emphasizes quantitative and technology-based analyses of real decision problems involving such operations issues as quality control, capacity planning, location analysis, layout analysis, inventory management, forecasting, and project management within a business firm. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics.

AN 303 SUPPLY CHAIN MANAGEMENT. (3)
The study of supply chain management involves the management of key business processes, the flow of goods and information, and relationships with fellow members of the supply chain. This course will introduce students to the terminology, concepts, and skills related to supply chain management. Students will develop an understanding of the complexities associated with the physical movement of goods and information, and how they affect the mission of the firm. Discussions will address the various processes and activities within an organization and how they interface with other members of the supply chain. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Non B&E Upper Division undergraduate students may be enrolled with the consent of the instructor. (Same as MKT 303.)

AN 306 ANALYTICS: MODELS AND METHODS. (3)
Analytical activities are rapidly expanding in businesses, government and not-for-profit organizations. For the modern enterprise, problems in practically every domain are being formulated as models, which are then used to analyze data – producing explanations and predictions to help solve these problems. Using potentially vast volumes of data, these models are implemented and solved via computers – generating solutions that must then be interpreted and appropriately applied in decisional processes. This course leads students through the steps of model formulation, solution, interpretation, and application in such crucial decision domains as investment, scheduling, production, inventory, and logistics. It furnishes hand-on experiences with such widely used modeling techniques as linear programming, network flow programming, and multiple-objective decision modeling. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Non-B&E Upper Division undergraduate students may be enrolled with the consent of the instructor. (Same as MKT 306.)

AN 320 BUSINESS COMPUTING SYSTEMS. (3)
This course investigates how business firms use computing systems to facilitate effective and efficient business processes – thereby improving individual and organizational productivity and competitiveness. The course is geared toward non-technical professionals who seek an overall understanding of how firms design and deploy computer-based solutions to organizational problems. Using cases and hands-on exercises as pedagogical tools, the course furnishes a business applications-oriented view of various computing technologies, such as communi-

cation networks, databases, decision support systems, and enterprise systems. The course also addresses ethical and global management issues arising from the worldwide deployment and use of such systems by modern, global business firms. Prereq: CS 101 or MOS Certification. Open only to Business Minors; not available for credit to Business and Economics Majors.

AN 322 INFORMATION SYSTEMS IN THE MODERN ENTERPRISE. (3)
This course provides an introduction to the uses of information systems in the management of organizations. Recognizing that modern organizations rely on such systems, it is geared toward aspiring professionals who need to understand both how these systems contribute to their organizations and how they can participate in the realization in value from these systems. The course covers basic systems concepts; socio-technical issues; emerging hardware, software, and telecommunications infrastructure technologies; systems analysis and design, database management; system implementation; project management; and systems management. It also introduces such applications as decision support, knowledge management, and e-business with an emphasis on relevant managerial problems within both local and global contexts. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Non-B&E Upper Division undergraduate students may be enrolled with the consent of the instructor.

AN 324 DATA BASE MANAGEMENT. (3)
Databases are the backbone of information systems. Almost every modern organization uses database technology to support its routine operations such as inventory management, customer relationship management, human resources management, and electronic commerce. Database technology is also the foundation of data-driven decision-making that has permeated the business world. With the proliferation of data-driven decision-making and end-user computing, understanding database technologies is necessary for business students to remain competent in the modern business environment. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Non B&E Upper Division undergraduate students may be enrolled with the consent of the instructor. (Same as MKT 324.)

AN 390 SPECIAL TOPICS IN ANALYTICS. (3)
This course number gives faculty members the flexibility to teach various special topics of interest to students, subject to contemporary student demand and faculty availability. The special topics are concerned with techniques, technologies, and applications related to analytics. The offerings include, but are not limited to, such courses as Supply Chain Management, Enterprise Systems, Electronic Commerce, Systems Analysis & Design, Data Mining, Data Warehouse & Database Management, Online Analytical Processing, Knowledge Management Systems, and Programming Languages. While a student may take as many distinct DIS 390 courses as are offered, only two or these can be counted as electives. A student may not repeat a special topics course under the same title. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Non-B&E Upper Division undergraduate students may be enrolled with the consent of the instructor.

AN 395 INDIVIDUAL WORK IN ANALYTICS. (1-3)
This individually customized course enables the student to independently study a topic of personal interest that is not ordinarily covered in the standard curriculum. The student confers with a willing, qualified instructor to design the course – including the course scope, learning methods, timetable, milestones, deliverables, and evaluation metrics. Typically, a final written report or paper is required. To ensure progress, the student stays in contact with the instructor throughout the course of independent study. Examples of prior individual work include: Lean Logistics, Website Design & Implementation, Enterprise Resources Planning, Materials Requirement Planning, Lot Sizing, Advanced Six Sigma, Programming in Java, and Database Design. A course of independent study may not be requested/offered for material that is already covered in the normal curriculum, except under extenuating circumstances. May be repeated to a maximum of six credits. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Approval of Instructor and DSIS Director of Undergraduate Studies.

AN 403G PRODUCTION AND INVENTORY SYSTEMS. (3)
This course is an advanced introduction to the complexities of managing production and inventory systems. An enterprise's success in today's highly-competitive, often-global business environment, depends on effectively managing its production activities and the related inventories at various production-process stages. Because such decisions are invariably tied to demand forecasts, the course begins with an examination of forecasting. Students are then led through the topics of production planning, master scheduling, material-requirements & manufacturing-resources planning, production activity control, capacity management, and sequencing & scheduling. The course culminates with coverage of contemporary trends toward just-in-time manufacturing systems and lean manufacturing systems. Applications of analogous systems and principles in the service sector are also addressed throughout the course. Prereq: Completion of all college pre-major requirements and admission to Upper Division or graduate student status in Business and Economics. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor. (Same as MKT 403.)

AN 406G PRODUCTIVITY AND QUALITY MANAGEMENT. (3)
This course is an advanced treatment of two related concepts that are vital to the success of an enterprise: quality and productivity. As a key ingredient of competitive strategy, quality encompasses many attributes of a product or service – such as its design, its features, fit and finish, durability, safety, and customer treatment. In highly competitive settings, a firm that achieves and sustains high quality levels for its goods and/or services, while remaining at least as efficient as competitors in processes used to produce these outputs, tends to outperform its competitors. Beginning with an examination of connections between quality and productivity, this course examines their underlying philosophic, strategic, and human issues. The coverage includes emergent practices for continuous improvement including Kaizen, Six Sigma, customer relationship management, and strategic planning. Prereq: Completion of all college pre-major requirements and admission to Upper Division or Graduate Student status in Business and Economics. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor. (Same as MKT 406.)

AN 420G DATA MINING. (3)
Data mining is concerned with tools and techniques to help a data/business analyst numerically and visually explore vast data sets, classify data, predict outcomes, or identify associations, patterns, and exceptional events. In practical terms, such capabilities allow firms to better segment markets, evaluate and classify stocks, identify prospective customers, foretell contingencies and catastrophes, identify defaulters and fraudulent transactions, measure churn, identify threats, perform service requests, bundle goods and services, recognize how events (e.g., purchases) are likely to unfold over time, and so on. Such capabilities often make the difference between survival and demise in today's increasingly global, increasingly competitive, and increasingly volatile business settings. Prereq: Completion of all college pre-major requirements and admission to Upper Division or graduate student status in Business and Economics. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor. (Same as MKT 420.)

AN 440G TOPICS IN ANALYTICS. (3)
This course covers contemporary topics in enterprise data, analysis, and decision making. Past coverage has included Data Mining, Data Communications, and Valuation of Information. The topics covered would also be valuable to students from programs such as Computer Science, Telecommunications, Statistics and Engineering. Prereq: Completion of all college pre-major requirements and admission to Upper Division or Graduate Student status in Business and Economics. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor. (Same as MKT 440.)

AN 450G ANALYTICS TECHNOLOGIES. (3)
This course develops computing skills relevant to the construction, maintenance, and usage of systems for analytics. It does so by combining the facets of technology (e.g., advanced spreadsheet computing), realistic workplace decision making, and decision support system development into a capstone experience. Prior courses introduce students to analytical techniques commonly used in organizational decision making, as well as current information technologies. This course combines students' abilities in both areas within an advanced software context. Specifically, the course enhances students' abilities in developing computer-based systems that employ analytical techniques for the purpose of aiding organizational decision makers. Prereq: Senior standing or graduate student status in the College of Business and Economics. B&E undergraduate students must have completed 9 of the 18 credits required for an Analytics major. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor.

ANA Anatomy and Neurobiology

ANA 109 ANATOMY AND PHYSIOLOGY FOR NURSING I. (4)
Basic anatomy and physiology integrated to prepare freshman students for nursing. Lecture 3 hours, laboratory 1 hour. (**This course will have a laboratory fee.**)

ANA 110 ANATOMY AND PHYSIOLOGY FOR NURSING II. (4)
Basic anatomy and physiology integrated to prepare freshman students for nursing. Lecture 3 hours, laboratory 1 hour. (**This course will have a laboratory fee.**) Prereq: Successful completion of ANA 109 with a C or better.

ANA 209 PRINCIPLES OF HUMAN ANATOMY. (3)
The structure of the human body will be examined at various levels: cellular, tissues and organ systems. The gross anatomical arrangement of the body will be studied in a system-by-system format relating structure to function and the fundamentals of human embryology/malformation with adult anatomy. The central nervous system will be emphasized. Prereq: Introductory biology or zoology.

#ANA 305 INTRODUCTION TO NEUROSCIENCE TECHNIQUES. (4)
This introductory laboratory course will provide students with practical knowledge and hands-on experience in basic behavioral, anatomical and physiological techniques used by laboratory scientists in the investigation of the nervous system. It is designed as a gateway to independent research experiences in working neuroscience laboratories. Prereq: BIO 302 Introduction to Neuroscience or equivalent. (Same as BIO/PSY 305.)

ANA 309 AN INTRODUCTION TO REGIONAL ANATOMY. (5)
This course is designed to serve as a transition between systems-based undergraduate anatomy and regionally-based medical professional anatomy. The human body will be taught in an online format, including modules for independent study, weekly virtual team-based learning sessions, and formal course and practical examinations. Anatomical organization will be presented in a regional format so that students can assimilate the bones, muscles, vasculature, innervations, and lymphatic pattern for each region of the body, similar to the pedagogical approach used in medical professional programs. Prereq: ANA 209 and mastery of the Second Life program.

ANA 395 INDEPENDENT RESEARCH IN ANATOMY AND NEUROBIOLOGY. (1-3)
Independent research with faculty members. May be repeated to a maximum of 12 credits. Laboratory, three to nine hours per week. Prereq: Biology or psychology majors with sophomore, junior, or senior standing and consent of a faculty member.

#ANA 410G NEUROBIOLOGY OF BRAIN AND SPINAL CORD DISORDERS. (3)
ANA 410G is a multidisciplinary discussion of neurodegenerative diseases and neurologic disorders. The course objective is to provide an in depth understanding of the basic science and clinical symptoms of selected neurologic disorders and neurodegenerative diseases, current treatment strategies and new approaches for treatment and potential cure of these devastating illnesses. Included are such topics as the 1) subcellular and molecular basis of the diseases, 2) the role of genetics in aging and neurodegeneration, 3) mechanisms of cell death, and 4) the cellular/molecular basis of neurodegenerative diseases and neurologic disorders. The format of the course will consist of a series of formal lectures and informal discussion sessions. Reference materials will be recent review articles. Graduate students taking the course will present studies from the primary medical literature in a journal club format and will also prepare a paper examining one disorder in detail. This course will be of interest to advanced students from a variety of disciplines whose interests concern brain and spinal cord disorders. Prereq: For undergraduate students: BIO 302 or PSY 312 or consent of course directors. For graduate students: Enrollment in a graduate program in biomedical sciences, gerontological sciences or consent of one of the course directors.

#ANA 417G FUNCTIONAL HUMAN NEUROANATOMY. (3)
This course provides an introductory level of understanding of human central nervous system (CNS) anatomy and function. Lecture topics will explore the CNS based on structures that make up functional systems (e.g., motor, sensory, visual, etc.), how these systems interact, and examples of how a loss of function results in disease conditions. Prereq: BIO 302 Introduction to Neuroscience.

#ANA 442 MOLECULAR AND CELLULAR NEUROBIOLOGY. (3)
This 3 credit hour course is designed to be an introductory course for undergraduate students aimed at providing an overview of major principles and techniques associated with cellular and molecular neurobiology. Subject matter is intended to range from molecular mechanisms underlying neuronal signaling and cellular function to how these properties are invoked across simple networks, neural systems and behavior. Prereq: BIO 152 or an equivalent; BIO 302 or PSY 312, or consent of course director.

ANA 503 INDEPENDENT WORK IN ANATOMY. (3)
Reading and laboratory work in a defined area of anatomy are carried out under the direct supervision of one staff member. Hours of discussion and laboratory work by individual arrangement. May be repeated to a maximum of 12 credits. Prereq: An introductory course in biology, zoology, or botany and consent of instructor.

ANA 511 INTRODUCTION TO HUMAN ANATOMY. (5)
The principles of organization of the human body are presented. Gross anatomy lectures initially follow a systemic plan. This is succeeded by a regional presentation. Several methods of studying anatomy are utilized. These include radiology, palpation of living structures, and the demonstration of prosected fresh and fixed materials. Prereq: Some background in biology, including one or more such courses as biology, zoology, botany, comparative anatomy or embryology, and enrollment in the College of Medicine or a graduate program in the biomedical sciences. In addition, students from graduate programs outside of anatomy must obtain the consent of the course director before registration.

ANA 512 MICROSCOPY AND ULTRASTRUCTURE. (4)
The organization of cells, tissues and organs are presented through lectures and in the laboratory, through the microscopic study of histological sections and illustrations. Prereq: Some background in biology, including one or more such courses as biology, zoology, botany, histological techniques, comparative anatomy or embryology and enrollment in the College of Medicine or a graduate program in the biomedical sciences. In addition, students from graduate programs outside of anatomy must obtain the consent of the course director before registration.

ANA 516 SELECTED TOPICS IN ADVANCED NEUROSCIENCE. (3)
ANA 516 will cover advanced topics in neuroscience. Topics include: neural pathways, development, neuroanatomy, neurobiochemistry, neuropharmacology, neural imaging and molecular neuroscience. Laboratory experiences will be used to complement lectures. Prereq: ANA 511, 512, 513; PGY 511; and enrollment in the College of Medicine or a graduate program in the bio-medical sciences. In addition, students from graduate programs outside of anatomy must obtain the consent of the course director before registration.

ANA 530 COMBINED HISTOLOGY AND SPECIAL ORAL MICROANATOMY. (5)
An analysis of the histological structure and organization of the human body, including an especially detailed treatment of the tissues and organs related to the oral cavity. Prereq: Admission to the College of Dentistry or some background in biology and consent of instructor.

ANA 532 SYSTEMIC HUMAN ANATOMY. (2)
A presentation at the gross-anatomical level of the structure and organization of the several organ systems that constitute the human body. Prereq: Admission to the College of Dentistry.

ANA 534 DENTAL GROSS ANATOMY AND EMBRYOLOGY. (6)
Study of human gross and developmental anatomy with particular emphasis on functional anatomy of the head and neck. Lecture/laboratory course, with dissection being an essential component of the laboratory portion. 140 hours. Prereq: Admission to the College of Dentistry. (Same as OBI 815.)

ANA 536 HUMAN EMBRYOLOGY, AN ABBREVIATED COURSE. (2)
A concise presentation of developmental mechanisms, early development of the embryo, and subsequent development of selected systems and regions of the body. Lecture, one hour. Prereq: Admission to the College of Dentistry.

ANA 538 DENTAL NEUROANATOMY. (2)
Study of human dental neuroanatomy with emphasis on functional neuroanatomy of central nervous system, especially related to cranial nerves 5, 7, 9, and 10, pain, and long tracts. Lecture, one hour per week. Prereq: Admission to the College of Dentistry. (Same as OBI 817.)

ANA 600 SEMINAR IN ANATOMY. (1)
A weekly seminar devoted to presentation and discussion of classic and new research in the field. May be repeated to a maximum of four credits. Prereq: Admission to the anatomy graduate program or permission of the course director.

ANA 605 NEUROBIOLOGY OF CNS INJURY AND REPAIR. (3)
The objective of the course will be to provide a general overview of the current state of knowledge concerning the pathophysiology and therapeutic approaches to central nervous system injury. The course will provide a strong working background concerning the issues, techniques and frontiers of neurotrauma therapeutic discovery research aimed at reducing acute post-traumatic neurodegeneration in the injured brain or spinal cord or enabling regeneration and repair. This course is a graduate level course intended for students who are in their second or subsequent years of graduate study and who are pursuing focused research training in neurotrauma research. No special prerequisites, other than graduate standing, are necessary. However, a background in neuroanatomy and neurophysiology is highly recommended. Prereq: Permission of instructor. (Same as PGY 605.)

ANA 609 EDUCATIONAL STRATEGIES IN THE ANATOMICAL SCIENCES. (3)
This course informs on and examines multiple aspects of teaching the Anatomical Sciences. Classroom and laboratory issues, teaching theory, portfolio development and presentation strategies are among the topics covered. Prereq: Admission to the graduate certificate program in the Anatomical Sciences or the permission of the course director.

ANA 611 REGIONAL HUMAN ANATOMY. (5)
Functional human anatomy covering all regions of the body utilizing dissection techniques with an emphasis on cross-sectional anatomy and normal morphology. Lecture, four hours; laboratory, four hours per week. Prereq: Enrollment in the PAS Program of the College of Allied Health or a graduate program in the biomedical sciences (by consent of course director only).

ANA 612 BIOLOGY OF AGING. (3)
A multidisciplinary discussion of how the process of aging affects biological systems. Coverage will be quite broad and includes topics such as subcellular and cellular aging, genetics, immunology, anatomy and physiology, animal model of aging, etc. Prereq: Enrollment in the doctoral program in Gerontology or a biomedical science department or consent of instructor. (Same as BIO/GRN/PGY 612.)

ANA 618 MOLECULAR NEUROBIOLOGY. (4)
This course provides knowledge base and analytical skills in the field of molecular neurobiology. An in-depth introduction to current technologies, their rationale and limitations, will be the focus to address normal brain function and neuropathological conditions. Prereq: BCH 501, 502, NEU 605, or consent of instructor. (Same as BIO/MI/PGY 618.)

ANA 625 INTRODUCTION TO FUNCTIONAL MRI. (1)
Hands-on course for practitioners interested in acquiring functional MRI technique(s) as a research tool. Prereq: (1) Introductory statistics (e.g. PSY 610, STA 503, STA 570). (2) Permission of instructor.

ANA 629 TECHNIQUES OF ANATOMICAL RESEARCH. (2)
The objective of this course is the familiarization of students with research techniques in anatomy. The relationship will be tutorial. Students will work under the direction of given staff members for determined periods of time, usually on a problem. The exact length of time will depend upon the student's purposes, progress and the techniques. The problem may be new research or a repetition of previous work. May be repeated to a maximum of four hours. Prereq: Previous senior college or graduate level work in biology and consent of instructor.

ANA 631 ADVANCED HUMAN ANATOMY. (3-5)
The objective of this course is to meet individual student needs for increased knowledge in particular areas of gross human morphology. Investigations of problems involving gross morphology will be carried out. One or several defined areas of the body will be studied in considerable detail by dissection, by intensive use of the pertinent literature, by the use of visual aids, prosected materials and other appropriate learning aids. Prereq: A background in gross human anatomy equivalent to a medical school course in regional anatomy and consent of course director and/or Director of Graduate Studies in Anatomy and Neurobiology.

ANA 633 ADVANCED DEVELOPMENTAL ANATOMY. (2-5)
This is a detailed study of intra-uterine development, both normal and abnormal, usually arranged as a tutorial or small seminar series. Enrollment limited to 10 students. Prereq: ANA 511 or 811 and ANA 513 or their equivalents; or consent of instructor.

ANA 636 ADVANCED NEUROANATOMY. (3-5)
The objectives include specific and detailed correlation of microscopic and ultrastructural morphology of structures in the nervous system with function of these structures. Emphasis

will be placed on structure-function relationships, neurotransmitters, chemical constituents of the nervous system, neuronal as well as non-neuronal cells, plasticity of the nervous system and developmental biology. The detailed content and emphasis will depend on both the background and goals of the students. Depending on number of credits a student registers for, and the topic and course orientation, laboratory work, library work, written and/or oral presentations may be a course requirement. Prereq: ANA 511, 512, 513, 516, or equivalents, or consent of instructor.

ANA 638 DEVELOPMENTAL NEUROBIOLOGY. (3)
An explanation of the processes which contribute to the development of the nervous system. Neurophysiological, cell biological and molecular approaches to cell differentiation, neuronal pathfinding and synapse formation and stabilization will be explored and discussed. Examples will be drawn from both vertebrate and invertebrate preparations. Prereq: BIO 535 or consent of instructor. (Same as BIO/PGY/PSY 638.)

ANA 655 INTRODUCTION TO MAGNETIC RESONANCE IMAGING. (3)
Survey of basic concepts and applications in magnetic resonance imaging: physics and chemistry, basic mathematical foundations, workings of a modern MRI scanner, image reconstruction, biology with emphasis on neurobiology, medical applications in the brain and heart. Covers basic functional imaging and spectroscopy. Prereq: Undergraduate major in a science or engineering discipline.

ANA 660 BIOLOGY OF REPRODUCTION. (3)
Advanced study of current topics in reproductive biology. The course is comprised equally of student-led discussions and lectures given by faculty with research expertise in selected topics. Readings will be taken from current and classic literature. Topics covered include (but are not limited to) molecular and cellular endocrinology, hormone receptors and mechanism of action, reproductive neuroendocrinology, reproductive behavior, gametogenesis, fertilization, sexual differentiation, puberty, menopause and environmental effects on reproduction. Emphasis will be placed on the analysis and understanding of the experimental basis for current concepts in reproductive biology. Prereq: ASC/PGY 601 and ASC 364 or BIO/PGY 502 or consent of instructor. (Same as ASC 660 and PGY 660).

ANA 662 ULTRASTRUCTURAL ANATOMY. (2-5)
The objectives of this course are to advance the students' knowledge of the submicroscopic structure of cells and tissues. Correlation of intra- and extracellular morphology and function will be emphasized. Students will do detailed laboratory work in the techniques of electron microscopy. Depending on the number of credits a student registers for, and the topic and course orientation, laboratory work, library work, written and/or oral presentations may be a course requirement. Prereq: ANA 512, previous work in microscopy including histology or cytology, or equivalents, and consent of instructor.

ANA 710 AGING OF THE NERVOUS SYSTEM. (3)
This course will examine the alterations in the brain that occur with aging and in neurodegenerative disorders such as Alzheimer's disease. The emphasis will be on human aging although the relevance of animal models to studies of human aging will be a recurrent theme. The course will examine aging at several levels, including molecular, cellular, organismic, and behavioral. A strong background in the basic sciences in encouraged. (Same as GRN/PGY/PHA 710.)

ANA 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

ANA 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

ANA 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

ANA 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ANA 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

ANA 780 SPECIAL TOPICS IN NEUROBIOLOGY. (1-3)
A lecture/seminar course offered based on contemporary topics in neurobiology. Course is designed to offer different emphasis in a given year and to cover timely topics. Prereq: Consent of the course director.

ANA 790 RESEARCH IN ANATOMY. (1-12)
Individualized laboratory and research experience under the supervision of a faculty member. May be repeated to a maximum of 12 credits. Prereq: Consent of the instructor.

ANA 801 HISTOLOGY FOR PHYSICAL THERAPY STUDENTS. (1)
A survey of selected basic and specialized mammalian tissues most commonly involved in diseases treated by physical therapists. The course provides information required for understanding the cellular mechanisms behind the various diseases and the rationale for subsequent treatment. Prereq: Admission to the College of Allied Health.

ANA 802 NEUROANATOMY FOR PHYSICAL THERAPY STUDENTS. (2)
A concise account of the functional anatomy of the central nervous system. The anatomical organization is correlated with physiological activity. Emphasis is placed upon the morphological basis for progressively higher levels of control of activity from the simple reflex to voluntary motor activities controlled by the cerebral cortex. This type of knowledge is required for proper understanding and performance of physical therapy technicians in the treatment of medical and surgical disease.

ANA 811 HUMAN ANATOMY FOR ALLIED HEALTH PROFESSIONS. (5)
A dissection-based gross anatomy course designed to present the principles of the human body in a regional format with special emphasis on functional/clinical anatomical relationships. Prereq: Enrollment in the PT program of the College of Allied Health Professions.

ANA 814 HUMAN STRUCTURE/GROSS ANATOMY. (6)
The course consists of lecture, small group, laboratory, and palpation exercises that provide a basic understanding of anatomical principles, organization and development. Anatomical structures are introduced as a basis for future functional correlates and principles are taught via laboratory discussions, prosections, disections, films and skeletal materials. Lecture, 20 hours per week. Prereq: Admission to Medical School (first year). (Same as MD 814.)

ANA 815 FIRST-YEAR ELECTIVE, ANATOMY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Anatomy and Neurobiology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

ANA 825 SECOND-YEAR ELECTIVE, ANATOMY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Anatomy and Neurobiology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

ANA 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his/her fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or by the permission of the Student Progress and Promotions Committee.

Approved elective:
ANA 850 APPLIED HUMAN ANATOMY

ANS Anesthesiology

ANS 815 FIRST-YEAR ELECTIVE, ANESTHESIOLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Anesthesiology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

ANS 825 SECOND-YEAR ELECTIVE, ANESTHESIOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Anesthesiology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

ANS 842 ADVANCED CLINICAL PHARMACOLOGY AND ANESTHESIOLOGY. (4)
This course uses lectures, interactive small groups, and firsthand experience to introduce anesthesiology as it relates to pharmacology and physiology. The course also teaches pharmacology and therapeutics utilizing clinical cases. Students develop their own personal formularies during the course. Laboratory, 40 hours per week. Prereq: Admission to fourth year of medical curriculum. (Same as PHA 842 and MD 842).

ANS 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
ANS 850 CLINICAL CLERKSHIP IN ANESTHESIOLOGY
ANS 851 CRITICAL CARE UNIT
ANS 852 RESEARCH IN ANESTHESIOLOGY
ANS 853 CLINICAL CLERKSHIP IN PAIN MANAGEMENT
ANS 890 ANESTHESIOLOGY OFF-SITE

ANT Anthropology

***ANT 101 WHAT MAKES US HUMAN? INTRO TO ANTHROPOLOGY. (3)**
This course explores what it means to be human by studying human cultures, past and present. Students will develop an understanding of anthropology that emphasizes the concepts and methods of the major sub-fields, i.e., cultural, biological, archaeology, and linguistics.

ANT 102 ARCHAEOLOGY: MYSTERIES AND CONTROVERSIES. (3)
Scientific archaeology has a problem: fringe ideas about mysteries of the past attract more interest than scholarly accounts of these same mysteries. In discussing the "mysterious" side of archaeology, this course asks why consideration of the past invites some of the most bizarre speculations about human life. Why do fringe theories about lost civilizations, intergalactic interactions, and mysterious technologies gain more popularity than mainstream theories? Why should serious archaeologists and students pay any attention to such "wacko" ideas? To answer these questions, this course attends to two kinds of controversies: fantastic claims in the past (such as the Myth of the Moundbuilders and the Shroud of Turin) and debates in the present (such as the cultural affiliation of Kennewick Man and uses of archaeology to promote discrimination).

ANT 103 SPORTS, CULTURE, AND SOCIETY. (3)
From little league baseball to the world of college and professional sports and the numerous ESPN channels that track them, it is clear that sports play a significant role in our culture and society and yet, we often take for granted this significance. This course introduces students to the anthropology of sports through an examination of the rituals, political and economic dimensions, and social and cultural meanings of sports from around the globe in both the past and the present.

ANT 130 INTRODUCTION TO COMPARATIVE RELIGION. (3)
Comparative study of major world and selected regional religions with emphasis on analysis of belief, ritual, artistic expression and social organization. Eastern and Western religions are considered. (Same as RS 130.)

ANT 160 CULTURAL DIVERSITY IN THE MODERN WORLD. (3)
Directed at non-majors, this course is intended to introduce the student to the diversity of human cultural experience in the contemporary world. Goals of the course include gaining an appreciation for the common humanity and uniqueness of all cultures; to gain a sensitivity toward stereotypes and ethnocentrism, and to understand the distinctions between "race," ethnicity and racism. The course features extended descriptions of the cultural dynamics of the culture(s) with which the instructor has worked.

ANT 220 INTRODUCTION TO CULTURAL ANTHROPOLOGY. (3)
The study of the lifeways and beliefs of different peoples. The objectives of the course are to foster an appreciation for the variety of cultural traditions found throughout the world, and to introduce students to anthropological concepts and methods of inquiry.

ANT 221 NATIVE PEOPLE OF NORTH AMERICA. (3)
This is a survey of the aboriginal Native American cultures of North America and of the impact of four centuries of British, French, Spanish, and Russian contact on Native American societies. Particular emphasis is placed on comparing and contrasting cultural characteristics of Native American groups living in ecologically diverse regions of North America. The course will include consideration of the status of Native Americans in present-day North America.

ANT 222 MIDDLE EAST CULTURES. (3)
As part of the General Education curriculum, this course falls under the "Global Dynamics" category of the broad area of "Citizenship." This course will explore some of the cultures, and aspects of culture, found in the broad region of the Middle East and North Africa. Exploration will be rooted in anthropological research and perspective, and organized around rubrics including kinship, gender, religion, and cultural performance.

ANT 225 CULTURE, ENVIRONMENT AND GLOBAL ISSUES. (3)
A fundamental part of human experience is interacting with our physical surroundings, but in the globalized ecosystem of our planet, our interactions with the physical world increasingly include distant places rather than just the surroundings we see from our door step. This course aims to develop students' awareness, knowledge and ability to reflect on how human behavior intersects with global environments. To do so, it applies an anthropological interpretive framework to topics that link human lifestyles, the environment and global issues. Prereq: Freshman or sophomore standing only.

ANT 230 INTRODUCTION TO BIOLOGICAL ANTHROPOLOGY. (3)
This course explores the ways in which biology, the environment and culture come together to form the human condition. Topics include human genetics, human evolution, primate behavior, contemporary human variation and applied biological anthropology, including forensics, child growth and human nutrition. This course includes a laboratory component.

ANT 240 INTRODUCTION TO ARCHAEOLOGY. (3)
Introduces the theories, techniques, and strategies used by archaeologists to recover and interpret information about past cultures.

ANT 241 ORIGINS OF OLD WORLD CIVILIZATION. (3)
This course explores the rise of civilizations in the Old World through archaeology and history. The course examines theories of civilization and state formation and case studies that demonstrate how states arose. Concentrates on regions that produced some of the earliest and most complex societies on the planet: Mesopotamia, Egypt, the Indus Valley, China, and Europe. Comparing and contrasting these great societies will show how each was influenced by its unique social, cultural and environmental surroundings. The course also examines the origins of agriculture, writing, art, trade, mathematics, astronomy and religion in Africa, Asia, and Europe.

ANT 242 ORIGINS OF NEW WORLD CIVILIZATION. (3)
This course discusses warfare, commerce, social organization, political diplomacy, disease, demographics, religion, and environmental degradation among the ancient peoples of the Americas as revealed by archaeological, art historical, and textual data. Students will gain an appreciation of the diversity of human life in the New World as well as an understanding of the tremendous cultural achievements of the Inca, the Aztec, the Maya, and their neighbors. We will use the concept of complexity as a framework for comparing different societies and for contextualizing the relevance of ancient civilizations for understanding global processes in the contemporary world.

ANT 245 FOOD CULTURE AND SOCIETY. (3)
This course is designed for students in anthropology, food and nutrition, agriculture and environmental studies. It explores food in terms of human food systems. Human food systems include the knowledge, values, and practices used to produce, distribute, process, exchange and consume food. These are embedded in culture and operate within societies. Thus, why we eat, what we eat, when, where and with whom we eat, how and where we obtain our food, how we prepare it, and distribute it in specific ways may vary as a function of the culture in which we live, our place of residence and our location within society. We will explore these issues through the lectures, readings, videos and discussions to gain a better understanding of the complexity of food-related behaviors among people around the world.

ANT 251 GLOBAL HEALTH: CULTURE, PATHOLOGIES AND SOCIAL INEQUALITIES. (3)
What are the relationships between globalization, development, social justice and health? How do different global health interventions influence how people provide and seek out solutions to chronic and emergency health problems? This course explores contemporary global health issues from an anthropological perspective. Participants examine health effects of economic collapse, disasters and socio-political changes in industrialized and developing countries. We also study the growing global health industry from a social science perspective to evaluate the strengths and limitations of international aid, humanitarian interventions and NGOs for the wellbeing of individuals and communities. Topics include chronic and infectious diseases, environmental disasters, pharmaceuticals and the traffic in human organs. Course materials include texts from anthropology, mass media, documentaries, blogs and Twitter feeds. This course will be of interest to students in anthropology and the social sciences, International Studies, pre-med students and those who are interested in pursuing advanced degrees or professional careers in development and policy.

ANT 301 HISTORY OF ANTHROPOLOGICAL THEORY. (3)
The purpose of this course is to acquaint the undergraduate student with the history of the development of anthropological ideas from their precursors in thought about human nature and behavior beginning with ethnographic and philosophical literature from Greek and Roman civilization, and ending with discussion of current emphases in anthropological theory. The course will provide anthropology majors with the foundations they need to master this area of disciplinary knowledge.

***ANT 302 ETHNOGRAPHIC METHODS: DOING ANTHROPOLOGY. (3)**
Introduction to qualitative research methods in cultural anthropology, with a focus on participant-observation, interviewing, collaborative methods, ethnographic writing, and other techniques.

ANT 303 TOPICS IN THE ANTHROPOLOGY OF FOOD AND NUTRITION: (Subtitle required). (3)
This course focuses on food and nutrition through the lens of anthropology. Topics will vary, but each semester the course will provide insight into an aspect of food and nutrition that is relevant to present-day concerns in regional, national, and/or global context. Nutrition is one of the most critical health issues in the U.S. and globally as people struggle with both undernutrition and overnutrition and the long-term consequences of both to human well-being. At the same time, it is important to recognize that food is embedded in cultural, social and political-economic contexts that serve to foster and maintain cultural and social identity, and/or in which food is a commodity to be bought, sold and traded for economic profit and/or political gain.

ANT 311 ANTHROPOLOGY OF GLOBALIZATION. (3)
This course explores the ways in which differences in factors such as nationality, ethnicity, age, gender, class and occupation shape experiences of globalization. We will analyze and interpret rapidly changing patterns of global production, consumption, politics, resistance, adaptation, and identity construction around the world.

ANT 320 ANDEAN CIVILIZATION. (3)
A study of the Inca and other pre-Hispanic civilizations of highland South America in terms of their origins, their development, and their material, social, and intellectual achievements.

ANT 321 INTRODUCTION TO JAPANESE CULTURE, MEIJI (1868) TO PRESENT. (3)
General introduction to Japanese culture from Meiji Restoration (1868) to the present. Topics include: nation-building, Japan and the West, Japan and Asia (for the Meiji period 1868-1912); gender construction and class formation, urbanization and mass culture (for the Taisho period 1912-1926); and Japanese colonialism, WWII, A-bomb, the U.S. occupation, postwar recovery, popular culture, and globalization (for the Showa period 1926-1989 and beyond). (Same as JPN 321.)

ANT 322 ANCIENT MEXICAN CIVILIZATIONS. (3)
The course provides a study of the Aztec and the related cultures of the New World. It provides a detailed discussion of pre-Columbian subsistence practices, economy, religion, and politics by tracing the development of ancient Mesoamerican civilization from its earliest beginnings to the Spanish conquest.

ANT 324 CONTEMPORARY LATIN AMERICAN CULTURES. (3)
This course is a detailed survey of societies and cultures of contemporary Latin America, utilizing contributions from anthropological research. Prereq: Introductory social science course.

ANT 325 LANGUAGE AND CULTURE. (3)
This course is an introduction to linguistic anthropology. The course reviews the basic principles of linguistic analysis and examines the ways in which linguistic structures interact with and reflect cultural variation. (Same as LIN 325.)

ANT 326 PEOPLE AND CULTURES OF SUB-SAHARAN AFRICA. (3)
A survey of indigenous societies and cultures of Africa south of the Sahara, with special attention to their adaptation of colonialism and post-colonial national development. Prereq: Sophomore standing or higher. (Same as AAS 326.)

ANT 327 CULTURE AND SOCIETIES OF INDIA AND SOUTH ASIA. (3)
This course considers the interrelationships between the various religious, political and philosophical traditions and practices of India and South Asia in the context of their shared cultural, historic, structural, geographic and demographic ties.

ANT 328 THE ANCIENT MAYA. (3)
This course uses archaeology, epigraphy, ethnohistory and ethnographic analogy to explore the origin, florescence and decline of the ancient Maya (1000 BC to 1500 AD). The class ties economics, politics, social organization, and religion into a holistic understanding of the ancient Maya world.

ANT 329 CULTURES AND SOCIETIES OF EURASIA AND EASTERN EUROPE: SOCIALISM AND POST-SOCIALIST CHANGE. (3)
This course provides an anthropological study of cultures and societies of Eurasia and Eastern Europe. The course considers the demise of Soviet socialism and the emergence of democracy and market economies. We examine how people experience political, cultural and economic transformations in their social relations and in their everyday lives.

ANT 330 NORTH AMERICAN CULTURES. (3)
This course uses readings, films, and music to explore the plurality of peoples and cultures in North America – with particular attention to the US. We will look at youth cultures as sites of creativity and resistance, examine perennial problems in social equality, consider the similarities and differences between urban and rural ways of life, and explore environmental concerns as an integral part of making and sustaining culture.

ANT 331 ANTHROPOLOGY OF NORTH AFRICA. (3)
This is a survey course of North Africa as a cultural area. Countries included in any given semester will vary. North Africa is Islamic and is often considered to be part of the Middle East but has a distinct history and culture of its own. Course content will include cultural, social, historical, economic, religious, and political perspectives on this important region. Ethnicity and the impact of colonialism will be discussed. Other important segments will examine gender status and roles, family and marriage, sociopolitical organization, the life course of males and females, and aging.

ANT 332 HUMAN EVOLUTION. (3)
Basic concepts and theory of evolution will be reviewed and applied to the study of fossil humans. The evidence for the evolution of humans and their primate relatives will be studied, with attention paid to alternate interpretations of the data. Prereq: ANT 230 or BIO 150.

ANT 333 CONTEMPORARY HUMAN VARIATION. (3)
This course focuses on human variation resulting from adaptation to a wide range of environments and the stresses inherent in each. It explores how humans respond/have responded to natural stresses, e.g., cold, heat, aridity and altitude, and human-made stresses, e.g., poverty, malnutrition and chemical pollution.

ANT 335 RELIGION IN EVERYDAY LIFE. (3)
Directed at non-majors (with no anthropology prerequisite), this course is intended to introduce the student to the diversity and unity of religious beliefs and practices in everyday life throughout the world through the lens of the social science anthropology. This includes the study of religions both textual and non-textual, large-scale and small-scale. The course content will include ethnographic materials as well as an examination of various methods and theoretical approaches used in anthropology in the cross-cultural study of religion. Questions that are addressed in this course include: Why do humans have/need religion? What is "religion"? Where, when, and how did "religion" evolve as a cultural universal in the human species? We will examine the basic components of religious beliefs and practices and how they are integrated into human life both individually and in communities. Students will think critically about the social organization of religion and impact of religion on society. Other areas of discussion will include: religious specialists, sacred places, religion and adaptation, religion and gender, and politics and religion. This course is much more than a typical survey of world religions and will specifically encourage the cross-cultural comparative perspective of a significant feature of all human groups.

ANT 338 ECONOMIC ANTHROPOLOGY. (3)
A comparative ethnographic, theoretical, and historical exploration of the socio-cultural constitution of economic practices. Students will examine different approaches to questions of human nature, choice, values and morality. The course explores power and social life in diverse cultures through a topical focus on peasants, markets, gifts, commodities, consumption and systems of production. The course provides a foundation for applying anthropological knowledge to real-world situations and the material is readily applied to archaeology, international business and social science.

ANT 339 HUMAN RIGHTS IN GLOBAL PERSPECTIVE. (3)
This class discusses theoretical debates on human rights within the discipline of anthropology and contrasts these approaches to those of other disciplines. Once students acquire this foundation, they apply their knowledge to a human rights problem of their own choice. They identify a researchable question about human rights and use appropriate evidence and methods to substantiate their claims. Students will also learn through experience the ethic dimensions of research and how research can have an important impact on society.

ANT 340 DEVELOPMENT AND CHANGE IN THE THIRD WORLD. (3)
This course introduces the student to how anthropologists approach the study and practice of economic development. It explores cross-culturally how local populations have responded to development; the different topics of development anthropology, such as agriculture and rural development; and the ways anthropological knowledge is applied in addressing development problems.

#ANT 341 APPALACHIAN ENGLISH. (3)
The Appalachian Mountains, which range from New York to Mississippi, making up part of the landscape of 13 different states, are known to many Americans as being home to a unique cultural and linguistic experience. In this course, we will examine the extent to which this uniqueness is true, considering the nature of many myths and stereotypes that exist about this variety. We will discuss certain lexical, phonetic, syntactic, and other linguistic features that set this variety apart from other American varieties while also noting the features the speech of Appalachia shares with others. We will examine the history, origins, and development of English in Appalachia and address issues of identity, education, and standardness with respect to the English of Appalachia. (Same as APP/LIN 311.)

ANT 342 NORTH AMERICAN ARCHAEOLOGY. (3)
This course focuses on the origin and growth of prehistoric American Indian cultures north of Mexico as revealed by archaeological data.

ANT 350 TOPICS IN ANTHROPOLOGY (Subtitle required). (3)
Discussion, reading and writing focusing on specific topics in anthropology. May be repeated to a maximum of nine credits under different subtitle.

ANT 351 SPECIAL TOPICS IN ARCHAEOLOGY (Subtitle required). (3)
Discussion, reading and writing focusing on specific topics in archaeology. May be repeated up to a maximum of twelve credits under a different subtitle.

ANT 352 SPECIAL TOPICS IN CULTURAL ANTHROPOLOGY (Subtitle required). (3)
Discussion, reading and writing focusing on specific topics in cultural anthropology. May be repeated up to a maximum of twelve credits under a different subtitle.

ANT 353 SPECIAL TOPICS IN PHYSICAL OR BIOLOGICAL ANTHROPOLOGY (Subtitle required). (3)
Discussion, reading and writing focusing on specific topics in physical or biological anthropology. May be repeated up to a maximum of twelve credits under a different subtitle.

ANT 375 ECOLOGY AND SOCIAL PRACTICE. (3)
This course provides a broad survey of theoretical and historical issues in the link between humans and their environment. Throughout the semester, students will read about and discuss the many ways humans interact with their physical surroundings. Students will examine human cultural adaptation to different ecological settings, with an overall concern of finding general principles that apply to the many human lifestyles on the planet.

ANT 399 FIELD BASED/COMMUNITY BASED EDUCATION IN ANTHROPOLOGY. (1-15)
A community-based or field-based experience in Anthropology under the supervision of a faculty member. May be repeated to a maximum of 15 credits. Pass-fail only. Prereq: Permission of instructor and departmental chairperson; completion of departmental learning agreement.

ANT 401 GENDER ROLES IN CROSS-CULTURAL PERSPECTIVE. (3)
Explores the theoretical and substantive basis for contemporary thinking about gender from an anthropological perspective. Gender content is explored in several cultures representing all levels of sociocultural complexity.

ANT 429 SURVEY OF MEDICAL ANTHROPOLOGY. (3)
This course provides a survey of health, disease, and healing in non-Western and Western societies. An examination of major theoretical perspectives in medical anthropology.

ANT 432 ANTHROPOLOGY OF EASTERN EUROPE AND RUSSIA. (3)
An anthropological approach to the cultural, political, and economic experiences of people living under state socialism and through its demise. We ask how everyday life and social relations in this region are being affected by emerging market relations and democracy. Reading include ethnographic studies and the works of essayists, fiction writers, and scholars from the region. Prereq: ANT 160 or ANT 220.

ANT 433 SOCIAL ORGANIZATION. (3)
This course provides an overview of how anthropologists approach the study of social organization. The class will provide historical and conceptual background to the study of social organization, and explore a range of organizational forms from rural households to complex communities.

ANT 435 CULTURES AND POLITICS OF REPRODUCTION. (3)
This course takes a cross-cultural approach to understanding the ways reproduction and associated phenomena (such as family formations and the social use of technologies) comprise arenas where social relations become created and challenged. Ethnographic case studies will explore cross-cultural constructions of the body (sexuality, anatomy and physiology), parenthood, and kinship relations; and students will examine the ways the state, social movements, legal/medical experts, and lay persons struggle to appropriate reproductive potentials for their own needs. Prereq: ANT 220 or WS 201 or permission of instructor.

ANT 440 ANTHROPOLOGICAL PERSPECTIVES ON CHILD GROWTH. (3)
This course examines basic concepts of child growth and development, the evolutionary pattern of human growth and comparative patterns of human growth across populations. Taking a biocultural approach, it explores the many influences that facilitate or constrain child growth, including poverty, gender ideology, nutrition, and illness, focusing especially on social inequality. Taking a child-centered approach, the course also focuses on the lives of children, how children cope with the circumstances of their lives, and the effect of those circumstances on their well-being.

ANT 450 SYMBOLS AND CULTURE. (3)
Examines the way in which symbolic systems create the meanings through which we experience life. The course will explore symbols and symboling behavior from a humanistic perspective, and will present examples of non-Western symbolic systems. Prereq: ANT 220, or consent of instructor.

ANT 470G REGIONAL AMERICAN ETHNOGRAPHY. (3)
The ethnography of a selected North American or South American culture area or group. Both historical and contemporary cultures will be considered, e.g., Appalachia, Northwest Coast Indians, Urban American, etc. May be repeated to a maximum of six credits.

ANT 506 SOCIOLINGUISTICS. (3)
This course is an advanced survey of current areas of research in sociolinguistics. Topics include dialectology, language variation and change, interactional sociolinguistics, language and gender, bilingualism, and language contact. Prereq LIN/ENG 211, ANT 220, SOC 101 or graduate standing. (Same as LIN/SOC 506.)

ANT 507 LINGUISTIC ANTHROPOLOGY. (3)
This course is an advanced survey of current areas of research in linguistic anthropology. Topics include language and thought, cultural differences in linguistic interaction, the ethnography of communication, ritual uses of language, language and identity and cultural poetics. Prereq LIN/ ENG 211, or ANT 220, or consent of instructor. (Same as LIN 507.)

ANT 515 PHONOLOGICAL ANALYSIS. (3)
This course is an investigation of the systematic properties of speech sounds in natural languages. It compares current theoretical approaches to the analysis of individual features and sounds as well as larger prosodic units, and identifies the dimensions of typological variation in the phonological domain. Discussion includes extensive reference to languages other than English. Prereq: ENG/LIN 211 or equivalent. (Same as LIN 515.)

ANT 516 GRAMMATICAL TYPOLOGY. (3)
This course examines the typological classification of languages according to their morphological and syntactic characteristics. Course work includes practical training in the writing of grammatical descriptions and in the elicitation, transcription, and analysis of data from a non-Western language. Discussion includes extensive reference to languages other than English. Prereq: ENG/LIN 211 or equivalent. (Same as LIN 516.)

ANT 519 HISTORICAL LINGUISTICS. (3)
This course studies the historical development of language through time and space, examining the internal mechanisms and external influences involved in language change. Change will be examined at all levels: orthographic, phonetic, phonological, morphological, syntactic, semantic, and lexical. The course will also investigate a variety of topics related to the phenomenon of language change: language classification; comparative linguistics; the reconstruction of linguistic systems; the social context of language change. Through study of these issues, students will gain insights into historical language varieties and writing systems; relationships among the world's languages; and the origins of the sounds, words, and structures of the languages we speak today. Prereq: LIN 211. (Same as LIN 519.)

ANT 525 APPLIED ANTHROPOLOGY. (3)
Principles of policy research and intervention in cultural anthropology with attention to the theoretical and ethical basis of such research and intervention. Intervention techniques considered include research and development anthropology, action anthropology, community development, community advocacy anthropology and culture brokerage. Prereq: Nine hours of cultural anthropology or consent of instructor.

#ANT 530 ELITES IN CROSS-CULTURAL PERSPECTIVE. (3)
This course examines elites in different areas of the world paying special attention to what defines them as power holders, their sub-cultures, histories, strategies of class reproduction, and relations to subaltern groups. The class will also explore the critical perspectives gained from studying up, as well as the theoretical and methodological difficulties of doing this kind of work.

ANT 532 ANTHROPOLOGY OF THE STATE. (3)
This course offers an anthropological examination of the state in historical, cross-cultural perspective. We will cover such topics as modern state and imperial practices and institutions, state and non-state actors, resistance, citizenship and globalization. Prereq: Nine hours of cultural anthropology or consent of instructor.

ANT 534 SOCIOLOGY OF APPALACHIA. (3)
A sociological study of selected social issues facing Appalachian communities, with an emphasis on placing regional political economy, society and culture in a global context. Prereq: Sociology, Anthropology or CLD senior major or minor; Appalachian Studies minor; graduate student status; or consent of instructor. (Same as CLD/SOC 534.)

ANT 541 ARCHAEOLOGICAL METHOD AND THEORY. (3)
Examines the concepts, aims and methodology of archaeology as a scientific discipline within the social sciences. Attention given to the basic principles and recent advances of archaeological fieldwork and post-field analysis. Prereq: ANT 240 and six hours of cultural anthropology or archaeology courses, or consent of instructor.

ANT 543 CULTURAL RESOURCE MANAGEMENT. (3)
Introduction to the theory and practice of culture resource management as it has developed in the historic preservation movement in the United States. The history of preservation is covered along with the development of the contemporary legal tools. The implications of these for the field evaluation of sites is presented. Prereq: Nine hours cultural anthropology or archaeology, or consent of instructor.

ANT 545 HISTORICAL ARCHAEOLOGY. (3)
Historical archaeology applies archaeological methods and techniques to the remains of societies having written histories. The course introduces students to the history and theoretical development of the discipline, and to the variety of the data sources used by historical archaeologists. Particular attention is given to the ways in which historical archaeologists use material culture to address research issues of interest in anthropology, history, and other relevant disciplines. Prereq: ANT 240.

ANT 555 EASTERN NORTH AMERICAN ARCHAEOLOGY. (3)
Detailed analysis of prehistoric cultures of eastern United States with emphasis on interpretation of prehistory in Ohio River Valley. Prereq: ANT 240 and six hours of archaeology or cultural anthropology, or consent of instructor.

ANT 580 ADVANCED TOPICS IN ANTHROPOLOGY. (3)
Selected topics of theoretical or methodological importance in anthropology, with special attention to topics of contemporary relevance. Refer to Schedule of Classes for topics. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

ANT 581 INDEPENDENT WORK IN ANTHROPOLOGY. (1-4)
May be repeated three times to a maximum of 12 credits. Prereq: Major in anthropology, standing of 3.0 in the department and consent of instructor.

ANT 582 SENIOR INTEGRATIVE SEMINAR. (3)
Seminar focusing on current issues in anthropology. Purpose is to provide a format in which advanced undergraduates can integrate knowledge acquired in previous anthropological course work and evaluate the contribution of the different anthropological subdisciplines to understanding contemporary problems. Emphasis placed on oral and written communication. Prereq: Major in anthropology; senior standing.

ANT 585 FIELD LABORATORY IN ARCHAEOLOGICAL RESEARCH. (3-6)
Practical supervised training in-field in archaeological research methods and techniques, problem analysis, field laboratory procedures, recording methods. Laboratory, 20 to 40 hours per week. May be repeated to a maximum of 12 credits. Prereq: Consent of instructor.

ANT 600 PRACTICUM IN TEACHING ANTHROPOLOGY. (1)
Guided practical experience in teaching, supplemented with group discussions of teaching practice and selected reading on lecture technique, course development, test writing and other skills for participation in the professoriate. May be repeated to a maximum of three credits. Prereq: Graduate status in anthropology or consent of instructor.

ANT 601 THEORIES AND CONCEPTS IN ANTHROPOLOGY. (3)
This course is an intensive examination of the theoretical perspective in anthropology. While attention will be given to the historical foundations of anthropological theory, emphasis will be placed on contemporary concerns in anthropology as illustrated through the contributions of selected theorists. Prereq: Admission to Graduate Program or approval of instructor.

ANT 602 SEMINAR IN CULTURE CHANGE. (3)
An in-depth discussion of the theory and method of the various approaches to the study of long-term culture change in past and present societies. This course stresses interdisciplinary problem-oriented research on a specific theme of culture change. Emphasis also is placed on the development of writing skills, oral presentations, professional standards or performance in research and communication, and critical thinking. Prereq: Admission to the Anthropology graduate program and ANT 601; consent of instructor.

ANT 603 HUMAN BIOLOGY IN CONTEXT OF SOCIOCULTURAL CHANGE. (3)
This course explores the relationship between society, culture, and human biology. Its thematic focus will be how cultural ideologies and social organization play out with respect to the biology of human groups, both archaeological and contemporary populations. We will pay special attention to issues of class, gender and ethnicity and focus on demographic and health-related

issues. Current issues in biological anthropology, including critical analysis of evolutionary/adaptation theory and the concept of "race" in contemporary human populations will also be addressed. Prereq: First-year graduate standing in Anthropology, or permission of instructor.

ANT 604 SOCIAL ORGANIZATION, KINSHIP AND IDENTITIES. (3)
Social organization is a core component of anthropology. This seminar encompasses both historical and contemporary approaches to this central focus of the discipline. It includes the major theoretical approaches to the study of social organization and examines key concepts such as kinship and collective identity. Topics include how human groups are defined, organized, perpetuated, and change; as well as the role of individuals in broader social structures. Prereq: Graduate standing in Anthropology.

ANT 608 ANTHROPOLOGY OF FOOD AND NUTRITION. (3)
This graduate seminar explores food as fundamental to human existence in a variety of ways. We eat to maintain life – and the nutritional characteristics of human diets shape the development and health of individuals and populations. But, for the most part, humans do not eat nutrients, humans eat food, and food consumption and production is an intensely cultural, social and political activity. We will explore food and nutrition from all these perspectives. In addition to theorizing food and nutrition, we will become familiar with the methods most often used by national and global scholars and practitioners for assessing dietary and nutritional status of individuals and populations. Prereq: Graduate standing in Anthropology or permission of instructor.

ANT 610 HISTORY OF THEORY IN ANTHROPOLOGY. (3)
This course aims to give graduate students a firm grounding in the development of anthropological thought from its roots in Enlightenment social philosophy and 19th century evolutionism to the emergence of poststructuralist theory in the late 20th century. Upon completion of this course students should be thoroughly familiar with the major theoretical schools and debates in the history of anthropology and the broader social discourses that shaped them. Prereq: Graduate standing in Anthropology or permission of instructor.

ANT 620 TOPICS AND METHODS OF EVALUATION. (3)
An examination of a subset of evaluation methods, topics, and problems. An introductory course in the area with minimal emphasis on quantitative methods. The course is designed to: provide a perspective from which evaluation studies may be viewed; and, to provide experiences for those who will learn from or conduct evaluations. Prereq: Consent of instructor, and a basic course in statistics or research. (Same as EDP/EPE 620/SOC 622.)

ANT 621 ADVANCED TOPICS AND METHODS OF EVALUATION. (3)
An advanced course in evaluation methods and techniques with an emphasis on quantitative methodology. State of the art ideas and methods of conducting evaluation studies and analyzing data from those studies are presented. The course is designed primarily for those who are conducting or will conduct evaluation studies. Prereq: A basic course in statistics or its equivalent; EDP/EPE 620/SOC 622; and consent of instructor. (Same as EDP/EPE 621.)

ANT 637 SOCIOCULTURAL DIMENSIONS OF ECONOMIC DEVELOPMENT. (3)
Examination of social, cultural and economic conditions in lesser developed countries. Discussion of the various socioeconomic and cultural theories of change and developments, and of alternative policies for the world of the future. Considers the possible roles for social scientists in policy formulation and application. Prereq: Six graduate credits in social sciences or consent of instructor. (Same as SOC 637.)

ANT 640 SCIENCE, AGRICULTURE, AND DEVELOPMENT. (3)
An in-depth examination of the interrelations between science, agriculture, and development. Both domestic and international issues are explored. Prereq: Graduate standing in the social or agricultural sciences. (Same as CLD/SOC 640.)

ANT 641 GENDER ISSUES IN DEVELOPMENT. (3)
An examination of gender issues in domestic and international development. Prereq: Graduate standing in the social or agricultural sciences or permission of the instructor. (Same as SOC 641).

ANT 645 ANTHROPOLOGY AND EPIDEMIOLOGY. (3)
This course will introduce students to the fundamentals of epidemiology, as the methodological approach, which underlies biomedical research, and will examine the ways that the methodologies of anthropology and epidemiology complement each other in the study of health and disease. The course will examine the points of similarity between anthropology and epidemiology particularly as regards the importance of examining sociocultural phenomena in order to better understand the origins of disease. The course will explore the tensions between anthropology and epidemiology in matters of methodology, exemplified by the debate over quantitative vs. qualitative approaches, as well as theoretical perspective. Prereq: Permission of instructor.

ANT 646 GLOBAL HEALTH: PEOPLE, INSTITUTIONS AND CHANGE. (3)
This course presents anthropological studies of health in an international context, attending to ways in which anthropological study can contribute to identification of issues relevant to health and development. It will have a dual focus. First, it will deprivilege western concepts and explore both indigenous and biomedical accounts of health. Topics may include culturally-defined syndromes, international medicines and health, and illness and body from an international, ethnographic perspective. Second, the course will explore the culture of international health agencies, e.g., WHO, UNICEF, etc. Prereq: Permission of instructor.

ANT 650 THEORY IN ARCHAEOLOGY. (3)
This seminar examines the development of archaeological theory with specific emphasis on the discipline of anthropological archaeology in the New World. Particular schools and trends in contemporary archaeological theory are discussed in detail. Prereq: ANT 541 or consent of instructor.

ANT 651 ARCHAEOLOGICAL DATA ANALYSIS. (3)
This course examines the manipulations of archaeological data that follow fieldwork. These procedures, usually consisting of data processing and classification, are often undertaken in the field as data are being gathered. Data organization and analysis are the basic goals of this course. May be repeated to a maximum of six credits. Prereq: ANT 541 or consent of instructor.

ANT 652 HOUSEHOLD, COMMUNITY, AND DEMOGRAPHIC ARCHAEOLOGY. (3)
A seminar which examines the theory and methodology used by archaeologists to study population aggregates ranging from individual households to regional populations. Particular emphasis given to theoretical perspectives which integrate ecological, social and spatial analyses of population data. Prereq: Graduate standing in the Department of Anthropology or consent of instructor.

ANT 653 PREHISTORIC ECONOMICS. (3)
This seminar examines the theory and methodology used by archaeologists to study and reconstruct the economic structure of past societies. Discussion examines forms of subsistence and craft production and systems of resource distribution and exchange. Prereq: ANT 541 or consent of instructor.

ANT 654 ARCHAEOLOGY OF POLITICAL SYSTEMS. (3)
This course is designed to study the archaeology of political systems. The goals are to discuss the major trends, concepts, and perspectives in researching event and process in the evolution of political organization and social integration. A corollary goal is to examine the empirical evidence for, and archaeological correlates of, political evolution. It is not intended as a comprehensive coverage of all theories about past political systems, or as a survey of the rise and development of political forms in complex societies around the world. Prereq: ANT 541, ANT 602 or consent of instructor.

ANT 660 ETHNOGRAPHIC RESEARCH. (3)
Intensive graduate seminar designed to help students develop skills in ethnographic data collection and analysis. The aim of the course is to explore the processes through which anthropologists collect data and then transform materials of ethnographic research into analyses and interpretations. We will give careful consideration to the process of writing and issues specific to writing ethnography. Prereq: Graduate standing in Anthropology or permission of instructor.

ANT 662 RESEARCH DESIGN. (3)
Guided individual student research covering the relationship between theory, methods, and reality: how to better design anthropological inquiry. Prereq: One year graduate work in anthropology and consent of advisor.

ANT 684 FARMING SYSTEMS RESEARCH METHODS. (3)
A critical analysis of the concepts, methods, and practices of farming systems research. Design and carry out an FSR project. Prereq: Graduate standing in the social or agricultural sciences. (Same as SOC 684.)

ANT 691 CULTURAL RESOURCE MANAGEMENT CLERKSHIP. (1-3)
Practical experience in aspects of the cultural resource management process are provided through a one-semester rotation of work in the Office of State Archaeology (OSA), Museum of Anthropology (UKMA), and the program for Cultural Resource Assessment (PCRA). Students are assigned tasks at each work assignment rotation during the semester and are evaluated on the basis of work performance and a journal summary of this experience by a committee of their supervisors. Prereq: Graduate standing in anthropology or consent of instructor.

ANT 724 ANTHROPOLOGY OF THE STATE. (3)
This seminar will offer a critical approach to the study of states and related political forms, with special emphasis on anthropology's contributions to theorizing about the state. Drawing on temporally and spatially diverse examples of state-making, statecraft, and ideologies of the state, it will both question definitions of the state as well as engage in ethnographic exploration of past and current states. Other topics will include related political forms such as tribes, nationalist movements, empires, and multi-lateral actors. Prereq: Graduate standing or consent of instructor.

ANT 725 SEMINAR IN APPLIED ANTHROPOLOGY. (3)
Seminar discussion and individual or group research in the applications of social anthropology theory and methods to the solution of institutional, community, regional or national problems. Attention will be given to ethics, to the role attributes of the applied anthropologist, and to the history of applied anthropology. Prereq: ANT 601 or consent of instructor.

ANT 731 SEMINAR IN SOCIAL AND POLITICAL DYNAMICS. (3)
Theoretical frameworks for the analysis of political systems and processes. The seminar explores politics as action and systemic process in contemporary, prehistoric, and historical contexts. Students are expected to formulate research questions and discuss current theory in a critical fashion. Prereq: ANT 601 and 602 or consent of instructor.

ANT 732 SEMINAR IN ECOLOGICAL ANTHROPOLOGY. (3)
A study of interrelationship among populations, organization, environment, technology and symbols. The course focuses on recent anthropological contributions to the understanding of ecological relationships both now and in the past, including how people exploit the environment

and how resource exploitation results in environmental change. Prereq: Completion of ANT 601 and ANT 602 or consent of instructor.

ANT 733 SEMINAR IN SYMBOLS AND MEANING. (3)
Seminar in the development of anthropological approaches to cultural meaning in actions, thought, and language from the 1960s. Includes the social structural approach to symbolism and ritual, cognitive approaches to meaning, the anthropology of experience and expression, interpretive and post-modern approaches, and topical applications of these approaches. Prereq: ANT 601 and 602 or consent of instructor.

ANT 734 SEMINAR IN ECONOMIC ANTHROPOLOGY. (3)
Theoretical frameworks for the analysis of economic systems and processes. The seminar explores the interaction between economic phenomena and other aspects of social and political organization both as action, structure, and systemic process in contemporary, prehistoric, and historical contexts. Students are expected to formulate research questions and discuss current theory in a critical fashion. Prereq: ANT 601 and 602 (ANT 538 is recommended) or consent of instructor.

ANT 735 SEMINAR IN PRACTICE AND ACTION. (3)
Comparative analysis of various modes of social action including action research, advocacy, cultural action, and participatory action research. Foundations in social theory considered. Prereq: Admission to graduate program in anthropology or consent of instructor.

ANT 736 CULTURE, ENVIRONMENT AND DEVELOPMENT. (3)
This seminar explores the interrelationships between social processes, development and the environment. It provides the graduate student with the necessary theoretical and analytical tools to examine the social and cultural processes of environmental degradation and change. Topics include political ecology, health impacts of development, deforestation, resource tenure systems, environmental grassroots movements and large-scale development organizations. Prereq: Consent of instructor. (Same as SOC 737.)

ANT 737 SOCIOCULTURAL THEORIES IN THE ANTHROPOLOGY OF GENDER. (3)
Anthropological approaches to the study of gender have proliferated since the 1970s. The primary objective of this seminar is to provide participants with an overview of some of the salient "schools" that have emerged, and through comparison, critically to assess their limitations and utility for both theoretical and applied objectives. Prereq: Graduate standing in anthropology, or permission of instructor.

ANT 738 SEMINAR IN REGIONAL ARCHAEOLOGY. (3)
This course examines contemporary issues and theory in the archaeology of a particular region of the world. Students may take this course up to 9 credit hours under a different region each time course is offered. Prereq: Graduate Standing in Anthropology or permission of instructor.

ANT 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

ANT 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

ANT 750 GRADUATE FIELD STUDY IN ANTHROPOLOGY. (1-6)
Field research as part of a long-range anthropological research program for graduate interns training under direct faculty supervision. Provides student with experience conducting scientific research as research team member. Report required. Laboratory, three hours to full time. Prereq: Appropriate language fluency; preparatory area study plus consent of instructor.

ANT 760 PRACTICUM IN APPLIED ANTHROPOLOGY. (1-6)
Practical field experience in which the student applies the theory and method of social anthropology to the solution of a problem defined by the student in consultation with a community or a public or private service agency. Required of all doctoral students in Applied Anthropology. Prereq: Consent of instructor.

ANT 765 ADVANCED SEMINAR IN MEDICAL ANTHROPOLOGY. (3)
(1) Advanced history and theory of medical anthropology; (2) research design, field work, analysis of data in medical anthropology. Prereq: Consent of instructor. (Same as BSC 765.)

ANT 766 GENDER, ETHNICITY AND HEALTH. (3)
This course will bring the anthropology of gender to the study of medical anthropology. We will examine the interconnections between gender, ethnicity, and class in relation to the greater and lesser likelihood of disease. We will explore differences in health in relation to the resources available and the treatment modalities called upon by people in different social locations within the United States, and internationally. We will also look at the symbolic importance given to different phenomena related to the body, disease, and healing. This course will draw heavily upon the ethnographic literature to develop conceptual accounts of gender, ethnicity, class, and health. Prereq: Permission of instructor.

ANT 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

ANT 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ANT 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

ANT 770 TOPICAL SEMINAR: (Subtitle required). (3)
Intensive work in particular fields of anthropology. May be repeated four times. Prereq: Graduate standing in Anthropology, or consent of instructor.

ANT 774 FOOD AND FOOD SECURITY IN A CHANGING WORLD. (3)
This cross-cultural seminar explores the biocultural interactions among food, human biology, and the social, cultural, political and economic factors that shape food-related behaviors and nutritional status of populations. Topics include the social role of food, food beliefs and ideology, the political economy of malnutrition, development strategies and food security, and methods in nutritional anthropology research. Readings and discussions are research focused and approach issues from a variety of theoretical perspectives. Prereq: ANT 601 or consent of instructor. (Same as BSC 774.)

ANT 775 CULTURES AND POLITICS OF REPRODUCTION. (3)
This course takes a cross-cultural approach to understanding how reproduction and associated phenomena (family formations and the social use of technologies) comprise arenas where broader political debates become played out, and social relations become created and contested. Ethnographic case studies include cross-cultural constructions of the body, parenthood, and kinship relations; and we examine how the state, social movements, legal/medical experts, and lay persons struggle to appropriate reproductive potentials for their own needs. Prereq: Graduate standing in Anthropology or consent of instructor.

ANT 776 SEMINAR IN DEPENDENCY BEHAVIOR. (3)
The course is designed to explore theories of dependency behavior by examining the concept of dependency as it can be applied to the study of various phenomena including alcohol use and abuse; dependence on other psychoactive substances; institutional dependency; dependency in work settings; and poverty and welfare. Prereq: Consent of instructor. (Same as SOC/PSY/BSC 776.)

ANT 790 RESEARCH PROBLEMS IN ANTHROPOLOGY. (1-6)
Intensive study in the fields of physical anthropology, archaeology and ethnology with qualified staff members. May be repeated to a maximum of nine credits. Prereq: Admission into the graduate program.

APP Appalachian Studies

APP 200 INTRODUCTION TO APPALACHIAN STUDIES. (3)
A multidisciplinary introduction to Appalachian culture, history and society. Examines how Appalachia came to be viewed as a distinct region; looks at its place in American life.

APP 300 TOPICS IN APPALACHIAN STUDIES (Subtitle required). (3)
Study of topics relevant to Appalachian Studies, such as gender, folklore, literature, religion, community development, public policy, social movements and social change. May be repeated to a maximum of twelve credits under different subtitles. Prereq: APP 200 or consent of instructor.

#APP 311 APPALACHIAN ENGLISH. (3)
The Appalachian Mountains, which range from New York to Mississippi, making up part of the landscape of 13 different states, are known to many Americans as being home to a unique cultural and linguistic experience. In this course, we will examine the extent to which this uniqueness is true, considering the nature of many myths and stereotypes that exist about this variety. We will discuss certain lexical, phonetic, syntactic, and other linguistic features that set this variety apart from other American varieties while also noting the features the speech of Appalachia shares with others. We will examine the history, origins, and development of English in Appalachia and address issues of identity, education, and standardness with respect to the English of Appalachia. (Same as ANT 341/LIN 311.)

APP 395 INDEPENDENT STUDY. (1-6)
Independent study of special topic under the supervision of Appalachian Studies-affiliated faculty. Students must identify both a topic for this project as well as a faculty mentor who has agreed to supervise this project. May be repeated to a maximum of six credits. Prereq: APP 200.

APP 399 PRACTICUM. (1-6)
A field-, community-based, practical or applied educational experience supervised by an Appalachian Studies Program faculty affiliate. May be repeated to a maximum of 6 hours. Pass-fail only. A learning contract must be filed in order to receive credit for this course. Prereq: APP 200.

ARC Architecture

ARC 101 DRAWING I: OBSERVATIONAL FREEHAND DRAWING. (3)
Focuses on the rigors of observational drawing. Structure, space, contour, line, and color are explored through study of the human body, still life, landscape, and architectural spaces with attention to their application to the architectural experience. Studio: 6 hours per week. Prereq: Admission to the School of Architecture.

ARC 111 INTRODUCTION TO HISTORY AND THEORY. (3)
Introduces enduring themes and generative forces in the history and theory of architecture by examining the cultural periods of various societies in different historical periods.

ARC 151 DESIGN STUDIO I. (6)
Students investigate two-dimensional media, analyze buildings and text, and construct models as a means to explore basic environmental design principles. The studio continues with an emphasis on three-dimensional exploration and construction. Students investigate architectural design programs and materials of constructions. Studio: 12 hours per week. Prereq: Admission to the School of Architecture.

ARC 199 TOPICS IN ARCHITECTURE. (3)
This course number is to allow for new and experimental classes to be introduced into the architectural curriculum on an ad hoc basis. The course, if adopted on a permanent basis, will be formally proposed for addition to the College curriculum and assigned a new, permanent number. May be repeated to a maximum of six credits under different subtitles. Prereq: TBA.

ARC 203 DIGITAL MEDIA WITHIN ARCHITECTURE. (3)
A workshop that introduces students to the creative, analytical and generative potential of computers in the design of architecture. Lecture: one hour; laboratory: four hours per week. Prereq: Admission to the School of Architecture.

ARC 212 HISTORY AND THEORY I: 15TH-17TH CENTURIES. (3)
An overview of the key themes and historical developments in architecture from the fifteenth through seventeenth centuries. Emphasis on Western examples and relationships with earlier and later conditions, including contemporary problematics.

ARC 213 HISTORY AND THEORY II: 18TH-19TH CENTURIES. (3)
Continues the investigation of key themes and historical developments of architecture in the eighteenth and nineteenth centuries. Prereq: ARC 212 or consent of instructor.

ARC 231 STRUCTURAL AND MATERIAL CONCEPTS. (3)
Introduces technological concepts of building and investigates the spatial and formal language of architecture with visual and physical analyses of various building structures and materials through the use of computers, field observations, etc. Prereq: Admission to the School of Architecture; MA 109 or MA 123. Paired with: ARC 252.

ARC 252 DESIGN STUDIO II. (6)
Students gain understanding of architectural language based on modern archetypes. Projects explore aesthetic and poetic possibilities while also emphasizing cohesion among space, structure, site, program, and material assembly. A variety of assembly types are introduced for the examining of structural and materials concepts. Studio: 12 hours per week. Prereq: ARC 151 with a grade of C or better. Paired with course: ARC 231.

ARC 253 DESIGN STUDIO III. (6)
Extends the consideration of the issues related to the isolated object to the multiplication of that object with reference to issues of site and context, focusing attention on formal strategies for obtaining thematic unity. Studio: 12 hours per week. Prereq: ARC 252 with a grade of C or better.

ARC 299 TOPICS IN ARCHITECTURE. (3)
This course number is to allow for new and experimental classes to be introduced into the architectural curriculum on an ad hoc basis. The course, if adopted on a permanent basis, will be formally proposed for addition to the College curriculum and assigned a new, permanent number. May be repeated to a maximum of six credits under different subtitles. Prereq: TBA.

ARC 314 HISTORY AND THEORY III: 20TH CENTURY AND CONTEMPORARY ARCHITECTURE. (3)
Investigates modern and late twentieth century architecture as well as current themes and issues in contemporary architecture in relation to their historical context. Satisfies graduate writing requirement for Architecture Majors. Prereq: ARC 111, ARC 212 and ARC 213; or consent of the instructor.

ARC 315 HISTORY AND THEORY OF ARCHITECTURE IV: URBAN FORMS. (3)
An investigation of the factors and a consideration of the theories which have affected world urban form related to architecture. Prereq: ARC 314, or consent of the instructor.

ARC 332 ENVIRONMENTAL CONTROLS I. (3)
Design, analysis and coordination of building systems to meet basic human needs and social expectations of the built environment. Considers ecology when addressing the thermal environment, water, sanitation, concentrated energy, circulation, life-safety, and communication. Prereq: ARC 231. Paired with: ARC 354.

ARC 333 ENVIRONMENTAL CONTROLS II. (3)
A continuing investigation into ideas and issues raised in ARC 332, Environmental Controls I. Prereq: ARC 332. Paired with: ARC 355.

ARC 354 DESIGN STUDIO IV. (6)
Studies the formal characteristics of site and context together with laws and principles of building and nature, ecology, and the ways these forces influence architecture. The studio investigates applications of current technology and building systems. Studio: 12 hours per week. Prereq: ARC 253 with a grade of C or better. Paired with course: ARC 332.

ARC 355 DESIGN STUDIO V. (6)
Explores the architectural problem of a large-scale interior space conditioned by social and cultural programs. Special problems in lighting and acoustics will be addressed along with long-span structure. Attention will be paid to issues of scale, life safety social interaction and public circulation. Studio: 12 hours per week. Prereq: ARC 354 with a grade of C or better. Paired with course: ARC 333.

ARC 399 TOPICS IN ARCHITECTURE. (3)
This course number is to allow for new and experimental classes to be introduced into the architectural curriculum on an ad hoc basis. The course, if adopted on a permanent basis, will be formally proposed for addition to the College curriculum and assigned a new, permanent number. May be repeated to a maximum of six credits under different subtitles. Prereq: TBA.

ARC 404 DRAWING III (Off Campus). (3)
An elective course offered in conjunction with a sponsored travel program requiring student observation of and interaction with the visited environment to be expressed formally through visual representation. The sponsors of each travel program tailor the course to suit the needs of the program as it relates to a particular locale. Studio: 6 hours per week. Prereq: ARC 102.

ARC 405 DIGITAL VISUALIZATION I. (3)
Students are introduced to concepts of computer visualization as applied to the study of architecture. Students will utilize modeling, rendering, and animation software to create three-dimensional representations of selected projects. Lecture: two hours; laboratory: two hours per week. Prereq: ARC 203.

ARC 406 DIGITAL VISUALIZATION II. (3)
A continued exploration of computer visualization with particular emphasis on a specific software. Subtitle required. Lecture: 1 hours; laboratory: four hours per week. Prereq: ARC 405.

ARC 410 INDEPENDENT STUDY. (3)
An independent study of architecture history and/or theory, wherein a student will research a specific topic agreed upon with a designated faculty member of the college. Laboratory, six hours per week. May be repeated to a maximum of six hours.

ARC 434 STRUCTURAL DESIGN AND ANALYSIS I. (3)
An exploration of structural concepts with an emphasis on statics, strength of materials, and the use of mathematical and computer-aided methods of analysis. Prereq: ARC 231.

ARC 435 MATERIALS AND METHODS OF CONSTRUCTION. (3)
An intensive exploration of materials and building techniques with special consideration given to the properties of materials and their uses in various methods of construction. Prereq: ARC 231.

ARC 456 DESIGN STUDIO VI. (6)
This studio explores various design topics including building technology, furniture design, digital visualization, historic preservation, and human settlement. Studio: 12 hours per week. Prereq: ARC 355 with a grade of C or better.

ARC 457 DESIGN STUDIO VII. (6)
This studio explores various design topics including building technology, furniture design, digital visualization, historic preservation, and human settlement. Studio: 12 hours per week. Prereq: ARC 455 or ARC 456 with a grade of C or better.

ARC 461 TRAVEL SEMINAR: URBAN CONTEXT (Off Campus). (3)
An elective seminar offered in conjunction with a sponsored travel program, which investigates factors and considers theories of urban form in the context of the locale in question. Lecture: two hours; laboratory: two hours per week. Prereq: ARC 315.

ARC 499 TOPICS IN ARCHITECTURE. (3)
This course number is to allow for new and experimental classes to be introduced into the architectural curriculum on an ad hoc basis. The course, if adopted on a permanent basis, will be formally proposed for addition to the College curriculum and assigned a new, permanent number. May be repeated to a maximum of six credits under different subtitles. Prereq: TBA.

ARC 510 GENERATIVE AND CRITICAL STRATEGIES. (3)
This course explores, studies, and tests various visual and analytical tools used by designers to understand their work in order to understand the relationship of form, content, and performance of a design. Students will use these tools to gain an understanding of buildings, spaces, objects, contexts, and landscapes from a wide range of cultures and time periods. Prereq: Admission to the UK School of Architecture Graduate 3+ track.

ARC 511 HISTORY AND THEORY SEMINAR: PRE-20TH CENTURY (Subtitle required). (3)
One of a series of graduate seminars devoted to investigations and analyses of pre-twentieth century architecture. Subtitle required. May be repeated to a total of 6 credit hours under different subtitles. Prereq: Junior or Senior standing with six credit hours of architecture history or art history at the 200 level or above, graduate standing, or consent of instructor.

ARC 512 HISTORY AND THEORY SEMINAR: MODERN (Subtitle required). (3)
One of a series of graduate seminars devoted to investigations and analyses of modern architecture. Subtitle required. May be repeated to a total of 6 credit hours under different subtitles. Prereq: Junior or Senior standing with six credit hours of architecture history or art history at the 200 level or above, graduate standing, or consent of instructor.

ARC 513 HISTORY AND THEORY SEMINAR: CONTEMPORARY (Subtitle required). (3)
One of a series of graduate seminars devoted to investigations and analyses of contemporary architecture. Subtitle required. May be repeated to a total of 6 credit hours under different subtitles. Prereq: Junior or Senior standing with six credit hours of architecture history or art history at the 200 level or above, graduate standing, or consent of instructor.

ARC 514 HISTORY AND THEORY SEMINAR: THEORY AND CRITICISM (Subtitle required). (3)
One of a series of graduate seminars devoted to investigations and analyses of architectural theory and criticism. Subtitle required. May be repeated to a total of 6 credit hours under different subtitles. Prereq: Junior or Senior standing with six credit hours of architecture history or art history at the 200 level or above, graduate standing, or consent of instructor.

ARC 515 HISTORY AND THEORY SEMINAR: URBAN FORMS (Subtitle required). (3)
One of a series of graduate seminars devoted to investigations and analyses of urban forms. Subtitle required. May be repeated to a total of 6 credit hours under different subtitles. Prereq: Junior or Senior standing with six credit hours of architecture history or art history at the 200 level or above, graduate standing, or consent of instructor.

ARC 533 STRUCTURAL DESIGN AND ANALYSIS II. (3)
An exploration of structural concepts for the materials of steel and wood, including considerations of load and resistance as factors in architectural design. Prereq: ARC 434.

ARC 534 ADVANCED STUDIES IN STRUCTURAL SYSTEMS. (3)
An exploration of structural concepts relating to construction with the materials concrete and masonry, including discussion of stress and load as considerations in architectural design. Prereq: ARC 533.

ARC 550 ACCELERATED DESIGN I. (9)
Accelerated Design I: immersion through design in the comprehensive elements that order architecture with emphasis on integrative strategies. Prereq: Admission to the UK School of Architecture Graduate 3+ track.

ARC 551 ACCELERATED DESIGN II. (9)
Accelerated Design II: an immersion in the art and science of architectural design with emphasis on integrative strategies. Prereq: Admission to the UK School of Architecture Graduate 3+ track.

ARC 584 DESIGN OF TIMBER AND MASONRY STRUCTURES. (3)
Current and historic design methods of buildings and their components using wood, wood products, bricks, and concrete blocks. Prereq: Courses in steel and reinforced concrete design at the senior level, or consent of instructor. (Same as CE 584.)

ARC 599 TOPICS IN ARCHITECTURE. (3)
This course number is to allow for new and experimental classes to be introduced into the architectural curriculum on an ad hoc basis. The course, if adopted on a permanent basis, will be formally proposed for addition to the College curriculum and assigned a new, permanent number. May be repeated to a maximum of six credits under different subtitles. Prereq: TBA.

ARC 631 BUILDING SYSTEMS INTEGRATION. (3)
Graduate level study of the art and science of building design with emphasis given to integrative strategies for developing a comprehensive, multi-systemic, architectural project. Paired with: ARC 750.

ARC 632 SPECIAL TOPICS IN ENVIRONMENTAL CONTROLS. (3)
Advanced studies in human environmental design. Topics for research and development will include sustainability, energy, infrastructure, sanitation and water, lighting, and acoustics. Subtitle required. Prereq: ARC 332 and ARC 333.

ARC 634 ARCHITECTURAL DETAILING. (3)
A study of the art and technique of complete building design through detail development. Prereq: Completion of all technical requirements for BA in Architecture or equivalent and admission to the Master of Architecture program.

ARC 641 PROFESSIONAL PRACTICE. (3)
An exploration of professional and ethical responsibilities of the architect as they pertain to the procedural matters of practice and management. Prereq: Admission to the M.Arch. program.

ARC 642 PROFESSIONAL INTERNSHIP. (3)
A graduate-level summer internship with a professional architectural firm in which the student, along with a faculty advisor, will determine specific experiential and educational goals to be met. Laboratory: hours to be agreed upon with selected firm (apx. 10-15 hrs/wk for duration of internship). Prereq: Admission to the M.Arch. program.

ARC 658 DESIGN STUDIO VIII. (6)
This graduate level studio explores various design topics including building technology, furniture design, digital visualization, historic preservation, and human settlement. Studio: 12 hours per week. Prereq: ARC 457 with a grade of C or better.

ARC 659 DESIGN STUDIO IX. (6)
This graduate level studio explores various design topics including building technology, furniture design, digital visualization, historic preservation, and human settlement. Studio: 12 hours per week. Prereq: ARC 658 with a grade of C or better.

ARC 699 TOPICS IN ARCHITECTURE. (3)
This course number is to allow for new and experimental classes to be introduced into the architectural curriculum on an ad hoc basis. The course, if adopted on a permanent basis, will be formally proposed for addition to the College curriculum and assigned a new, permanent number. May be repeated to a maximum of six credits under different subtitles. Prereq: TBA.

ARC 707 DIGITAL MEDIA: HISTORY AND THEORY. (3)
A graduate level seminar exploring the impact of digital media on visualization and the theoretical implications arising from its use as a means of visual expression. Laboratory: 6 hours per week. Prereq: ARC 406.

ARC 709 MASTER'S PROJECT IN DIGITAL VISUALIZATION. (9)
A final, comprehensive project in the digital visualization concentration, which synthesizes conceptual and experiential knowledge into a cohesive presentation. Studio: 18 hours per week. Prereq: ARC 750 and all requisite courses for the Digital Visualization concentration.

ARC 719 MASTER'S PROJECT IN HISTORY/THEORY/CRITICISM. (9)
A final, comprehensive project in the history, theory, and criticism concentration, which synthesizes conceptual and experiential knowledge into a cohesive presentation. Studio: 18 hours per week. Prereq: ARC 750 and all requisite courses for the History, Theory and Criticism concentration.

ARC 729 MASTER'S PROJECT IN HISTORIC PRESERVATION. (9)
A final, comprehensive project in the historic preservation concentration, which synthesizes conceptual and experiential knowledge into a cohesive presentation. Studio: 18 hours per week. Prereq: ARC 750 and all requisite courses for the Historic Preservation concentration.

ARC 735 PROJECT DELIVERY. (3)
A study in the execution of an architectural design including contract documents, cost estimation, and construction management. Prereq: Completion of all technical requirements for BA in Architecture or equivalent and admission to the Master of Architecture program.

ARC 736 BUILDING CODES AND DESIGN. (3)
An analysis of content and format of current model building codes combined with discussion of the necessity for building codes, problems in interpretation and applications as well as legal aspects involved. Prereq: Completion of all technical requirements for BA in Architecture or equivalent and admission to the Master of Architecture program.

ARC 738 CONSTRUCTION SPECIFICATIONS. (3)
A study in defining the quality of materials used in architectural design. Prereq: Admission to the Master of Architecture program.

ARC 743 ADVANCED PROFESSIONAL PRACTICE. (3)
A continuation of concepts introduced in ARC 641, Professional Practice, with an emphasis in issues relating to the legal, business, and organizational considerations of architectural practice as well as investigations into advocacy and the public and private leadership roles of the architect. Prereq: ARC 641.

ARC 748 MASTER'S PROJECT RESEARCH. (0)
Half-time to full-time work on Master's Project. May be repeated a maximum of six times. Prereq: All course work toward the degree must be completed.

ARC 750 DESIGN STUDIO X. (6)
Utilizing given site and program requirements, graduate students explore design issues comprehensively by producing a developed and detailed building design. Students will engage in structural design, environmental systems, life-safety and post-design assessments as required to meet the most current NAAB standards for a comprehensive studio. Studio: 12 hours per week. Prereq: ARC 659.

ARC 759 MASTER'S PROJECT IN BUILDING DESIGN. (9)
A final, comprehensive project in the building technology and tectonics concentration, which synthesizes conceptual and experiential knowledge into a cohesive presentation. Studio: 18 hours per week. Prereq: ARC 750 and all requisite courses for the Building Design concentration.

ARC 761 SPECIAL PROBLEMS IN TOWN DESIGN. (3)
Students explore various topics related to the theory and practice of existing, emerging and new strategies for city and town development, revitalization, and long-term sustainability. Subtitle required. Prereq: Admission to the Master of Architecture program.

ARC 779 MASTER'S PROJECT IN TOWN DESIGN. (9)
A final, comprehensive project in the town design concentration, which synthesizes conceptual and experiential knowledge into a cohesive presentation. Studio: 18 hours per week. Prereq: ARC 750 and all requisite courses for the Town Design concentration.

ARC 799 TOPICS IN ARCHITECTURE. (3)
This course number is to allow for new and experimental classes to be introduced into the architectural curriculum on an ad hoc basis. The course, if adopted on a permanent basis, will be formally proposed for addition to the College curriculum and assigned a new, permanent number. May be repeated to a maximum of six credits under different subtitles. Prereq: TBA.

ART Art

ART 100 INTRODUCTION TO ART. (3)
This course is open to all University students interested in an understanding and appreciation of the visual arts. The formal and expressive qualities of major art forms are examined through lectures and presentations.

ART 191 ART PROFESSIONS. (1)
Lectures and discussions on the various art professions as they affect the student, the professional artist, the art historian, the art educator, and the community. May be repeated to a maximum of eight hours.

ART 291 B.F.A. STUDIO PRACTICUM. (1)
The study and practice of professional techniques of the organization and maintenance of the art studio environment. Orientation and application of best practices for health and safety. Prereq: Acceptance into B.F.A. program and consent of instructor.

#ART 301 PROFESSIONAL PRACTICES. (3)
This course is designed to assist Art Studio majors in developing practical writing and presentation skills needed to maintain a successful, professional practice in the visual arts. Students are required to write in a variety of formats that are standard in the field of art studio. The course will include developing artist and biographical statements, resumes, grant/exhibition proposals and/or reviews, as well as a research paper on a topic of interest in contemporary art. Students will also prepare a digital portfolio emphasizing presentation and documentation skills about a student's own research. Prereq: Majors only; completion of all pre-major/ Foundations course-work and completion of 60 credit hours.

ART 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

ART 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ASC Animal Sciences

ASC 101 DOMESTIC ANIMAL BIOLOGY. (3)
The first in a sequence of two courses providing an introduction to the subject of animal science. Emphasis is placed on a fundamental understanding of anatomy, physiology, nutrition, reproduction, genetic and behavior of domestic animals. [*Offered in fall only.*]

ASC 102 APPLICATIONS OF ANIMAL SCIENCE. (3)
The second in a sequence of two courses providing an introduction to the subject of animal science. Emphasis is placed on the application of scientific disciplines of anatomy, physiology, nutrition, reproduction, genetics and behavior in the management of domestic animals. Prereq: ASC 101. [*Offered in spring only.*]

ASC 106 ANIMAL AGRICULTURE IN THE MODERN WORLD. (3)
Relationships of food production and consumption to income of humans throughout the world; major livestock (beef and dairy cattle, sheep, swine, poultry and horses) production areas of the world; relationships between live animal merit and yield of retail cuts of meat; identification of skeletal components; identification and functions of reproductive and digestive tract components; characteristics of breeds of beef and dairy cattle, sheep, swine, poultry and horses.

ASC 205 LIVESTOCK, PEOPLE AND THEIR INTERACTIONS. (1)
Local experts in a wide variety of animal production enterprises and associated support services will give presentations on their area of expertise. Following the presentation, students will have the opportunity to discuss the topic of the day and potential employment opportunities in that field with the speaker. Prereq: ASC 102 (or concurrent enrollment). [*Offered in fall and spring.*]

#ASC 209 VETERINARY MEDICAL TERMINOLOGY. (3)
This course will cover veterinary terminology including medical word roots, prefixes, suffixes and animal specific terminology involving food animals, horses and pets. Veterinary case studies will allow students to apply these fundamentals in practical situations. Appropriate for pre-vets and any students interested in animal health and care.

ASC 300 MEAT SCIENCE. (4)
A historical perspective of the meat industry together with major changes in body type and composition in both the live animal and its end product meat. Students will evaluate live market animals (swine, cattle, sheep), harvest the market animals, and follow their carcasses and cuts through fabrication and distribution channels. Major topics of discussion will focus on growth and development, inspection, grading, physical and chemical composition of meat and postmortem changes that affect meat quality. Additional information will cover meat marketing trends, nutrition, meat cookery, meat selection, health issues and consumer information. Prereq: ASC 101 and ASC 102. [*Offered in fall only.*]

***ASC 301 LIVESTOCK SELECTION AND EVALUATION. (3)**
Selection principles of purebred and commercial beef cattle, sheep, swine and horses. Evaluation of live animal and carcass characteristics of beef cattle, sheep and swine. Emphasis placed on oral reasons. Laboratory, six hours. Prereq: Junior or senior standing or consent of instructor. [*Offered in fall only.*]

ASC 303 EVALUATION AND GRADING OF MEATS. (2)
A detailed consideration of the factors involved in the selection, grading and evaluation of carcasses and wholesale cuts of beef, pork and lamb. Specific emphasis will be given to cutability, quality and maturity as they relate to palatability and acceptance by the consumer. Laboratory, four hours. Prereq: FSC 304 or FSC 306. [*Offered in spring only.*]

ASC 309 ADVANCED EVALUATION AND GRADING OF MEAT. (2)
Further consideration of the factors involved in selecting, grading and evaluating carcasses and wholesale cuts of beef, pork, and lamb. Emphasis will be placed on writing reasons. Laboratory, four hours. Prereq: ASC 303 or consent of instructor. [*Offered in fall only.*]

ASC 310 EQUINE ANATOMY. (2)
Anatomy of the horse's systems. Topics will include the anatomy of skeletal, muscular, respiratory, digestive, cardiovascular, and nervous systems. By the end of the course the students will be able to name and identify all the equine bones and their respective anatomical landmarks, know the equine muscles and tendons responsible for locomotion and their respective skeletal attachments, and describe the anatomy and recognize the function of the equine respiratory, cardiovascular, digestive, and nervous systems. Prereq: ASC 101. [*Offered in fall and spring.*]

ASC 311 ADVANCED EQUINE EVALUATION. (1)
Advanced study of conformation and performance in the horse. Selection of horses of different breeds based on confirmation, breed character and movement. Emphasis will be placed on developing a knowledge of industry standards and preparation of oral reasons. Prereq: ASC 310. [*Offered in fall only.*]

ASC 312 ADVANCED LIVESTOCK SELECTION AND EVALUATION. (2)
Selection of purebred and commercial beef cattle, sheep, swine and horses. Special emphasis on oral reasons, livestock contest procedures and herd improvement principles. Laboratory, six hours. Prereq: ASC 301 or consent of instructor. [*Offered in spring only.*]

ASC 320 EQUINE MANAGEMENT. (3)
Study of the basic principles associated with horse management. Topics will include equine behavior, equine diseases and herd health programs, facilities and environmental management, nutrition and feed management. Lecture, two hours; laboratory, three hours per week. Prereq: ASC 101. [*Offered in fall, spring (online), summer (online).*]

ASC 321 DAIRY CATTLE EVALUATION. (2)
Evaluation of dairy cattle for type characteristics. Laboratory, four hours. [*Offered in spring only.*]

ASC 323 ADVANCED DAIRY CATTLE EVALUATION. (1)
Open only to those who have consent of instructor. Laboratory, two hours. Prereq: ASC 321. [*Offered in fall only.*]

ASC 325 ANIMAL PHYSIOLOGY. (3)
An introduction to the functional anatomy and physiology of major body systems in domestic animals. Emphasis will be on how these systems interact to regular circulation, gas exchange, acid-base balance, digestion and metabolism, location and adapting to environmental changes. Prereq: BIO 152, junior standing or consent of instructor. [*Offered in fall only.*]

#ASC 333 TOPICS IN ANIMAL SCIENCE (Subtitle required). (1-4)
Intensive study in a unique aspect of animal agriculture not covered in other courses currently offered. May be repeated under a different subtitle two times to a maximum of 8 credits. Prereq: Specified by instructor for each offering.

ASC 340 POULTRY PRODUCTION. (2)
A study of the application of avian biology to modern poultry production. Topics include anatomy, physiology, reproduction, incubation and embryonic development, breeding and genetics, nutrition and feeding, disease control, housing and environmental control, management, poultry and egg products, and the structure of the poultry industry. For majors and non-majors. Prereq: ASC 101 or ASC 102 or equivalent or permission of the instructor. [*Offered in spring only.*]

ASC 362 ANIMAL GENETICS. (4)
Study of genetics as applied to specific companion animals and livestock species. Roles of selection and mating systems and their expected consequences are examined when applied to qualitative and quantitative traits expressed by specific companion animals and various livestock species. Prereq: ASC 101, BIO 152. [*Offered in spring only.*]

ASC 364 REPRODUCTIVE PHYSIOLOGY OF FARM ANIMALS. (4)
Introduction to anatomy and physiological processes related to reproduction with a focus on farm animals. Evaluations of management procedures as they related to reproductive physiology. Prereq: ASC 101 or BIO 152. [*Offered in spring only.*]

ASC 378 ANIMAL NUTRITION AND FEEDING. (4)
A fundamental study of the nutrients, their utilization and their role in the animal in conjunction with an applied understanding of the manner in which feedstuffs are evaluated and blended to meet the various species needs for those nutrients. Prereq: ASC 101 and CHE 230 or CHE 236. [*Offered in fall only.*]

ASC 380 FEEDS AND FEEDING. (3)
The composition and nutritional characteristics of common feedstuffs. The digestive systems, nutritional requirements, formulated rations and economical feeding programs for farm animals. Prereq: ASC 101, BIO 152, CHE 105, MA 109 or equivalent, or consent of instructor. [*Offered in fall (online).*]

ASC 382 ANIMAL PRODUCTION PRINCIPLES. (3)
A broad survey of animal agricultural management covering cattle, horses, poultry, swine, sheep and goats. Emphasis is placed on the practical application of scientific disciplines including anatomy, physiology, nutrition, reproduction and genetics. For nonmajors only. [*Offered in spring only.*]

ASC 388 COMPANION ANIMAL NUTRITION. (3)
This course offers an introductory look at the nutrition of companion animals, primarily the dog and cat. Basic concepts in nutrition, food chemistry, biochemistry, digestive physiology and microbiology will be addressed as they pertain to pet health and well being. Prereq: CHE 107 or equivalent. [*Offered in spring only.*]

ASC 389 APPLIED EQUINE NUTRITION AND FEEDING. (2)
This course examines the feeding management of broodmares, growing horses, performance horses and horses with special needs. Lecture material covers common equine feeds, feed and ration analysis, factors influencing the utilization of feeds by horses, and factors affecting nutrient requirements and feeding management of the different classes of horses. Prereq: A course in nutrition or consent of instructor. [*Offered in spring only.*]

ASC 395 SPECIAL PROBLEM IN ANIMAL SCIENCES. (1-4)
Independent study in Animal Sciences under the supervision of a faculty member. May be repeated for a maximum of eight credits. Prereq: Consent of appropriate instructor. [*Offered in fall and spring.*]

ASC 399 EXPERIENTIAL LEARNING IN ANIMAL SCIENCES. (1-6)
A field-based learning experience in animal sciences under the supervision of a faculty member. May be repeated to a maximum of six credits on a pass/fail basis. Prereq: Consent of instructor and department chairperson and completion of a departmental learning contract before registration. [*Offered in fall and spring.*]

ASC 404G SHEEP SCIENCE. (4)
History and importance of the sheep industry; application of the principles of selection, breeding, feeding and management of sheep for efficient lamb and wool production. Lecture, three hours per week; laboratory, three hours per week. Prereq: ASC 300, ASC 362, ASC 364, ASC 378 or consent of instructor. [*Offered in fall only.*]

ASC 406 BEEF CATTLE SCIENCE. (4)
Scope and importance of the beef cattle industry; roles of the major cattle breeds and organizations associated with the beef cattle industry; application of equipment, identification, nutrition, reproduction, genetics, health, marketing, taxation and management principles to beef cattle production; impact of current economic, social and environmental issues on the beef cattle industry. Lecture, three hours; laboratory, three hours. Prereq: ASC 300, ASC 362, ASC 364 and ASC 378 or consent of instructor. [*Offered in fall only.*]

ASC 408G SWINE PRODUCTION. (2)
A study of scope and importance of the swine industry. Application of principles of breeding, reproduction, nutrition, housing, health, and management of swine in modern production systems. Prereq: ASC 101, 102, 378. [*Offered in spring only.*]

ASC 410G EQUINE SCIENCE. (3)
Detailed study of the anatomy and physiology of the horse as they relate to the nutrition, reproduction, athletic ability, unsoundness and control of diseases and parasites. Lecture, two hours; laboratory, two hours. Prereq: Junior standing, ASC 320 or instructor consent. [*Offered in spring only.*]

ASC 420G DAIRY CATTLE SCIENCE. (3)
Scope and importance of the dairy cattle industry; selection, breeding, housing, feeding and management of dairy cattle. Lecture, two hours; laboratory, two hours. Prereq: ASC 362, ASC 364 and ASC 378 or consent of instructor. [*Offered in fall only.*]

ASC 435 WILDLIFE SCIENCE AND APPLICATIONS. (3)
A review of the major scientific disciplines that make up animal science (anatomy, genetics, nutrition, physiology, behavior) and how these are applied to the management of wildlife in diverse settings. Prereq: ASC 101 or BIO 152, consent of instructor.

ASC 470 CAPSTONE FOR ANIMAL AGRICULTURE. (3)
Discussion of the importance of livestock production to society and consideration of major issues impacting animal agriculture. Principles and practices learned in disciplinary and commodity Animal Sciences courses are integrated into a unified perspective, and the scientific method is employed as an approach to problem analysis and resolution. Refinement of skills in critical thinking, information gathering, writing, and oral communication is emphasized. Prereq: Senior standing in College of Agriculture, Animal Sciences major. [*Offered in fall and spring.*]

ASC 499 ACADEMIC ENRICHMENT EXPERIENCE IN ANIMAL SCIENCES. (1)
Development and evaluation of the student's required academic enrichment experience (study abroad, undergraduate research, internship, student mentorship, leadership, etc.) Prereq: Open to Animal Sciences majors only.

ASC 564 MILK SECRETION. (3)
Anatomy of the mammary gland, physiology and biochemistry of milk secretion and management factors affecting yield and composition of milk. Prereq: ASC 101 and BIO 152. [*Offered in spring only.*]

ASC 601 MAMMALIAN ENDOCRINOLOGY. (3)
An introduction to the basic anatomy, physiology and biochemistry of endocrine systems with emphasis on mechanisms of hormone synthesis, secretion and action. Lectures and reading assignments will focus on endocrine function in mammalian species, including laboratory animals, humans and livestock. Prereq: BCH 401G and BIO 350 or equivalents. (Same as PGY 601.)

ASC 602 INTEGRATED NUTRITIONAL SCIENCES II. (3)
Integrated study of the properties, metabolism, biochemical and physiological functions and interactions of vitamins and minerals, and their relationships to chronic diseases, deficiency symptoms and toxicity. Prereq: IBS 601, PGY 206. (Same as CNU/NS 602.) [*Offered in spring – odd years.*]

ASC 630 ADVANCED MEAT SCIENCE. (4)
Advanced meat science with special reference to the histological, chemical, physical and microbiological properties as they relate to meat quality, organoleptic acceptability and processing procedures. Lecture, three hours; laboratory, two hours. Prereq: FSC 304, FSC 306 or equivalent; one course in histology or biochemistry or consent of instructor. (Same as FSC 630.) [*Offered in spring – even years.*]

ASC 660 BIOLOGY OF REPRODUCTION. (3)
Advanced study of current topics in reproductive biology. The course is comprised equally of student-led discussions and lectures given by faculty with research expertise in selected topics. Readings will be taken from current and classic literature. Topics covered include (but are not limited to) molecular and cellular endocrinology, hormone receptors and mechanism of action, reproductive neuroendocrinology, reproductive behavior, gametogenesis, fertilization, sexual differentiation, puberty, menopause and environmental effects on reproduction. Emphasis will be placed on the analysis and understanding of the experimental basis for current concepts in reproductive biology. Prereq: ASC/PGY 601 and ASC 364 or BIO/PGY 502 or consent of instructor. (Same as PGY 660 and ANA 660). [*Offered in spring – odd years.*]

ASC 680 LABORATORY METHODS IN NUTRITIONAL SCIENCES. (4)
The use of laboratory techniques and instrumentation in the solution of fundamental problems of nutrition. Lecture, one hour; laboratory, six hours. [*Offered in fall – odd years.*]

ASC 681 ENERGY METABOLISM. (2)
An in-depth discussion of nutritional energetics, from the standpoint of factors which influence the utilization of dietary energy. A critical review of current literature. Prereq: ASC 378 or equivalent, BCH 502 or equivalent or consent of instructor. [*Offered in spring – odd years.*]

ASC 682 MICROBIAL ECOLOGY OF DIGESTION. (4)
Principles of microbiology as they relate to nutrition and digestion in ruminant and nonruminant animals. Procedures for cultivation, isolation and characterization of anaerobic bacteria from the gastrointestinal tract. Methods for measuring and evaluating microbial growth and activity in the gastrointestinal tract. Lecture, two hours; laboratory, four hours. Prereq: BIO 476G or equivalent and consent of instructor.

ASC 683 PROTEIN METABOLISM. (2)
A study of the principles and present concepts of protein and amino acid nutrition and metabolism in the animal. Prereq: Graduate level biochemistry. [*Offered in fall only.*]

ASC 684 ADVANCED RUMINANT NUTRITION. (3)
Principles of ruminant metabolism in the utilization of feedstuffs for meat, milk, and wool production. Prereq: ASC 682 and two or more courses from ASC 681, ASC 683, ASC 685 and ASC 687 or consent of instructor. [*Offered in spring – even years.*]

ASC 685 MINERAL METABOLISM. (2)
An in-depth review of the function, requirement deficiency and toxicity of mineral elements in nutrition. Emphasis on the interactions between elements and current literature will be made. Prereq: ASC 378 or NFS 510 or equivalent, BCH 502 or equivalent or consent of instructor. [*Offered in spring – even years.*]

ASC 686 ADVANCED NONRUMINANT NUTRITION. (3)
A study of nutrient utilization as influenced by digestion, absorption and metabolism with emphasis on swine and poultry. Prereq: One course each in nutrition and biochemistry.

ASC 687 VITAMIN METABOLISM. (2)
Detailed study of the metabolism of vitamins and the role of vitamins in the metabolism of carbohydrates, proteins, lipids, and minerals. Prereq: BCH 502 or CHE 552 or consent of instructor. [*Offered in spring – odd years.*]

ASC 688 EQUINE NUTRITION. (2)
Detailed study of anatomical, physiological and microbiological factors influencing the nutritive requirements of the equine for maintenance, growth, reproduction, lactation and work. Prereq: One course in nutrition and physiology or biochemistry or consent of instructor. [*Offered in fall – even years.*]

ASC 689 PHYSIOLOGY OF NUTRIENT DIGESTION AND ABSORPTION. (3)
An analysis and comparison of the structure and function of mammalian and avian gastrointestinal tracts, of feedstuff digestive processes, and of specific mechanisms responsible for nutrient absorption in various cell types. Emphasis is placed on livestock and avian species. Prereq: Graduate level Biochemistry. [*Offered in fall – even years.*]

ASC 690 MACRONUTRIENT METABOLISM IN DOMESTIC ANIMALS. (2)
An in-depth study of macronutrient metabolism and how it can be influenced by nutrition in both ruminant and non-ruminant species. Students will learn the important principles of macronutrient metabolism in domestic animals through lectures, evaluation of the current

scientific literature and presentations. Prereq: 3 credits in biochemistry (BCH 401G, IBS 601, or equivalent) and 3 credits in animal nutrition, or consent of the instructor.

ASC 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed. [*Offered in fall, spring and summer.*]

ASC 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

ASC 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended. [*Offered in fall, spring and summer.*]

ASC 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ASC 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

ASC 771 ANIMAL SCIENCE SEMINAR. (1)
May be repeated twice for a maximum of three credits. [*Offered in fall and spring.*]

ASC 777 ADVANCED TOPICS IN ANIMAL SCIENCE (Subtitle required). (1-4)
Intensive study in a unique aspect of animal agriculture not covered in other graduate courses currently offered. May be repeated under a different subtitle two times to a maximum of 8 credits. Prereq: Permission of instructor.

ASC 780 SPECIAL PROBLEMS IN ANIMAL DERIVED FOODS. (1-4)
May be repeated for a maximum of nine credits. Prereq: Consent of graduate adviser. (Same as FSC 780.) [*Offered in fall and spring.*]

ASC 781 SPECIAL PROBLEMS IN GENETICS AND ANIMAL BREEDING. (1-4)
May be repeated to a maximum of nine credits. Prereq: Consent of graduate adviser. [*Offered in fall and spring.*]

ASC 782 SPECIAL PROBLEMS IN ANIMAL NUTRITION. (1-4)
May be repeated to a maximum of nine credits. Prereq: Consent of graduate adviser. [*Offered in fall and spring.*]

ASC 783 SPECIAL PROBLEMS IN REPRODUCTIVE PHYSIOLOGY (Subtitle required). (1-4)
Intensive study or investigation of topics in physiology not covered in formalized courses. May be repeated under different subtitle to a maximum of nine credits. Prereq: Consent of graduate adviser. [*Offered in fall and spring.*]

ASC 790 RESEARCH IN ANIMAL DERIVED FOODS. (1-6)
Problems involving original investigation. May be repeated for a maximum of nine credits. Prereq: Consent of graduate adviser. (Same as FSC 790.)

ASC 791 RESEARCH IN GENETICS AND ANIMAL BREEDING. (1-6)
Problems involving original investigation. May be repeated for a maximum of nine credits. Prereq: Consent of graduate adviser. [*Offered in fall and spring.*]

ASC 792 RESEARCH IN ANIMAL NUTRITION. (1-6)
Problems involving original investigation. May be repeated for a maximum of nine credits. Prereq: Consent of graduate adviser. [*Offered in fall and spring.*]

ASC 793 RESEARCH IN REPRODUCTIVE PHYSIOLOGY (Subtitle required). (1-6)
Original investigation of mechanisms and problems related to mammalian reproduction. May be repeated under different subtitle to a maximum of nine credits. Prereq: Consent of graduate adviser. [*Offered in fall and spring.*]

AST Astronomy

AST 191 THE SOLAR SYSTEM. (3)
A course emphasizing the nature, origin and evolution of planets, satellites and other objects in the Solar System. Topics also include historical astronomy, the naked eye phenomena of the sky and modern solar system discoveries made by spacecraft. This course may be taken independently of AST 192.

AST 192 STARS, GALAXIES AND THE UNIVERSE. (3)
A course covering the universe outside the Solar System. A principle theme is the origin and evolution of stars, galaxies and the universe at large. Topics also include black holes, quasars and the big bang model of the universe. This course may be taken independently of AST 191.

AST 310 TOPICS IN ASTRONOMY AND ASTROPHYSICS (Subtitle required). (3)
Readings, research, discussions and lectures to illuminate problems of contemporary significance in astronomy and astrophysics. May be repeated to a maximum of six credits under a different subtitle. Prereq: To be announced with subtitle.

AST 395 INDEPENDENT WORK IN ASTRONOMY. (1-3)
Students may select an approved topic for study under the direction of a faculty member. May be repeated to a maximum of 12 credits. Prereq: Major and a standing of 3.0 in the department.

AST 591 ASTROPHYSICS I - STARS. (3)
The physics of stars from star formation to stellar death. Topics include stellar structure and evolution, energy generation and transport, the later stages of stellar evolution and stellar remnants. Prereq: PHY 361, PHY 416G, PHY 417G or consent of instructor. (Same as PHY 591.)

AST 592 ASTROPHYSICS II – GALAXIES AND INTERSTELLAR MATERIAL. (3)
The physics of galaxies and of the interstellar medium. Topics include galaxy formation, evolution and interaction, phases of the interstellar medium, and physical processes in the interstellar medium. Prereq: PHY 361, PHY 416G, PHY 417G or consent of instructor. (Same as PHY 592.)

AST 639 PHYSICAL PROCESSES IN ASTROPHYSICS. (3)
A lecture and problem course covering the physical processes encountered in astrophysics. The topics covered will include micro-physical processes in stellar atmospheres and the interstellar medium, high-energy astrophysics, and basic hydrodynamics and shock waves. Prereq: PHY/AST 592 or consent of instructor. (Same as PHY 639.)

AT Athletic Training

AT 500 INTEGRATIVE CARE FOR HEALTH SCIENCES. (1-3)
Integrative care involves using the best possible treatments from both complementary/alternative and allopathic medicine, based on the patient's individual needs and condition. The selection of health care providers should be based on good science and this course will introduce students to complementary and alternative health care providers and the practices and beliefs of these practices as well as the scientific evidence in support of these practices. The course integrates successes from both worlds and describe the safest, least invasive, most cost-effective approach while incorporating a holistic understanding of the individual. May be repeated to a maximum of 3 credits (1 credit didactic and up to two credits experiential/research). (Same as HS 500, CLS 500, CNU 500, CD 500, PAS 500.)

AT 660 DIRECTED STUDY IN ATHLETIC TRAINING. (1-3)
A specific topic in Athletic Training related to the student's interests is selected for intensive study. Work to be supervised by a graduate faculty member proficient in the area under investigation. May be repeated to a maximum of six credits. Prereq: Graduate standing and consent of instructor.

AT 670 SCIENTIFIC INQUIRY IN ATHLETIC TRAINING I. (2)
An introduction to the research process in athletic training. The importance of pursuing quality research in athletic training will be stressed and the procedures necessary to complete this process will be presented. May be repeated to a maximum of 8 credits. Prereq: Graduate standing and consent of the instructor.

AT 671 SCIENTIFIC INQUIRY IN ATHLETIC TRAINING II. (2)
The second course of a four part series that will develop skills and a knowledge base that will aid the student while conducting and critically reviewing research in athletic training. Course work will address the methodological procedures of designing and pursuing research in athletic training. The importance of pursuing quality research will be stressed and the procedures necessary to complete this process will be presented. Prereq: Graduate standing and consent of instructor.

AT 672 SCIENTIFIC INQUIRY IN ATHLETIC TRAINING III. (2)
The third course of a four part series that will develop skills and a knowledge base that will aid the student while conducting and critically reviewing research in athletic training. Course work will address the design of research and synthesis of data in athletic training. The importance of pursuing quality research will be stressed and the procedures necessary to complete this process will be presented. Prereq: Graduate standing and consent of instructor.

AT 673 SCIENTIFIC INQUIRY IN ATHLETIC TRAINING IV. (2)
The final course of a four part series that will develop skills and a knowledge base that will aid the student while conducting and critically reviewing research in athletic training. Course work will focus on developing the skills needed to critically synthesize material with accepted practice, and prepare professional presentations using acquired data and an appropriate statistical analysis. The importance of pursuing quality research will be stressed and the procedures necessary to complete this process will be presented. Prereq: Graduate standing, and consent of instructor.

AT 680 SPECIAL TOPICS IN ATHLETIC TRAINING: (Subtitle required). (1-3)
Study of emerging topics of current high interest in athletic training. May be repeated to a maximum of 9 credits. Prereq: Graduate standing and consent of instructor.

AT 682 CLINICAL SEMINAR IN ATHLETIC TRAINING. (1)
This is an advanced athletic training course encompassing a wide range of topics related to all domains of the athletic training profession. The primary focus of this course will be on the presentation of case studies for group discussion and contribution. This course will utilize a combination of discussion, review, and student presentation.

AT 685 PRINCIPLES AND APPLICATION OF KINESIOLOGICAL EMG. (3)
To introduce the student to the principles and application of kinesiologic electromyography (EMG). Kinesiological EMG research incorporates the study of human movement with direct assessment of the muscles involved with human motion. The primary aim for this course is to provide the student with background and practical knowledge of kinesiological EMG in order to be able to perform and critically analyze kinesiological EMG studies. Students will enhance their understanding of neuromuscular properties of skeletal musculature. Students will be exposed to the common procedures used to collect, analyze, and interpret both surface and indwelling kinesiological EMG research. Prereq: KHP 615 or comparable graduate level biomechanics course, the course can be taken concurrently. Approval of instructor.

AT 690 ORTHOPAEDIC EVALUATION AND REHABILITATION OF THE UPPER EXTREMITY. (4)
Current evaluation and rehabilitation of upper extremity and upper spine injuries that commonly occur in athletic, recreational or occupational activities. A combination of lecture, laboratory techniques will be used to review current practice and interventions. Prereq: Graduate standing and consent of instructor.

AT 692 ORTHOPAEDIC EVALUATION AND REHABILITATION OF THE SPINE. (4)
This is an advanced athletic training course encompassing a regional study of orthopedic evaluation and management of the cervical, thoracic, and lumbar spine. A combination of lecture, applied evaluation and rehabilitation techniques, critical reviews of the literature, discussion, and student presentations will be employed. Prereq: Graduate standing and consent of instructor.

AT 695 ORTHOPAEDIC EVALUATION AND REHABILITATION OF THE LOWER EXTREMITY. (4)
Current evaluation and rehabilitation of lower extremity and lumbar spine injuries that commonly occur in athletic, recreational or occupational activities. A combination of lecture, laboratory and student presentation and written reviews of current practice and interventions will be employed. Prereq: Graduate standing and consent of instructor.

AT 700 MUSCLE MECHANICS. (3)
This is an advanced athletic training course encompassing a wide range of topics related to all aspects of skeletal muscle form and function. The primary focus of this course will be on the mechanical properties of skeletal muscle, and translational aspects of basic science research and clinical care.

AT 720 SPORTS MEDICINE. (3)
A study of the basic areas covered in sports medicine with readings and discussions of current international trends in the research and practice in this field. Prereq: Twelve semester hours; credit in the field of biological sciences; consent of instructor. (Same as KHP 720.)

AT 740 MUSCULOSKELETAL ANATOMICAL DISSECTION. (3)
This course is a 3-credit cadaver anatomy laboratory course, which will include examination and dissection of the human cadaver. Lectures and laboratory experience will emphasize the musculoskeletal, articular, nervous, and vascular systems particularly as they relate to athletic injury mechanism and evaluation.

AT 768 RES CR MASTERS DEGREE. (1-3)
Residency credit for master's thesis.

B&E Business and Economics

B&E 102 MICROSOFT OFFICE SPECIALIST – WORD. (0)
This course is designed to give students experiences with the Microsoft Office Application of Word 2003 for the purpose of performing business tasks and for providing training for upper-division coursework. The course is self-directed with certification of the appropriate skill level determined by successful completion of the Microsoft Office Specialist Certification Exam in Word 2003. Prereq: Premajor status in the Gatton College of Business and Economics.

B&E 103 MICROSOFT OFFICE SPECIALIST – POWERPOINT. (0)
This course is designed to give students experience with the Microsoft Office Application of PowerPoint 2003 for the purpose of performing business tasks and for providing training for upper-division coursework. The course is self-directed with certification of the appropriate skill level determined by successful completion of the Microsoft Office Specialist Certification in PowerPoint 2003. Prereq: Premajor status in the Gatton College of Business and Economics.

B&E 104 MICROSOFT OFFICE SPECIALIST – EXCEL. (0)
This course is designed to give students experience with the Microsoft Office Application of Excel 2003 for the purpose of performing business tasks and for providing training for upper-division coursework. The course is self-directed with certification of the appropriate skill level determined by successful completion of the Microsoft Office Specialist Certification Exam in Excel 2003. Prereq: Premajor status in the Gatton College of Business and Economics.

B&E 105 TECHNOLOGY FOR BUSINESS SOLUTIONS. (1)
This course prepares pre-major students in the Gatton College of Business & Economics to use business software at a high level of proficiency and focuses on Microsoft Excel and Access. Lectures will be supplemented with hands on experiences with business problems. Prereq: ACC 201 and ECO 201, pre-major in the Gatton College of Business & Economics, or consent of instructor.

B&E 120 LEADERSHIP IN THE GLOBAL MARKETPLACE. (3)
An introductory examination of the skills, competencies, and styles of effective global leaders. Activities include individual assessments and a personal leadership development plan. Prereq: Acceptance in the Global Scholars Certificate program.

B&E 122 THE CHALLENGE OF LEADERSHIP. (1)
Current leadership challenges as discussed by the people who confront them. Students have the opportunity to discuss leadership challenges with guest speakers from the corporate, government and non-profit sectors. Prereq: Acceptance into Global Business Leadership certificate program.

B&E 201 INTRODUCTION TO BUSINESS. (3)
This course provides an introductory level understanding of how a business operates and how it is managed. Business concepts and activities that will be covered include business development, management, human resources, marketing, accounting and finance.

B&E 223 INTRODUCTION TO THE ECONOMICS OF BUSINESS. (2)
Provides an introduction to the principles of microeconomics and some key concepts of macroeconomics as they relate and apply to the immediate interests of business managers. Basic tools of economics will be used to study consumer/producer behavior, how markets work, supply and demand interaction, and intra to market structure. This course is specifically designed to help prepare prospective MBA students for the economics and business classes and will not satisfy ANY undergraduate degree requirement. Prereq: Acceptance into MBA program, other graduate program or consent of instructor.

B&E 240 INTER-CULTURAL BUSINESS COMMUNICATION. (3)
This course is designed to improve students' ability to communicate effectively with people from diverse cultural backgrounds. Prereq: Acceptance into Global Business Leadership certificate program.

B&E 300 CAREER DEVELOPMENT IN BUSINESS AND ECONOMICS. (1)
The course will emphasize the application of analytical, communicative, and critical thinking skills in the development of students' careers. It will address career opportunities, selection of personally appropriate career plans, and job search activities. It will enhance analytical skills through career analysis and company analysis, and enhance written and oral communication skills through their application to job search activities. Prereq: At least 60 hours of earned credit.

B&E 327 LARGER WORLD ISSUES IN BUSINESS. (3)
A case-based course that explores the nexus between business and the social issues of the day (e.g., poverty, the environment). Student activities include a case competition exercise where they examine a social issue in business and hone their analytical and oral presentation skills. Prereq: Acceptance into the Global Scholars program.

BA Business Administration

BA 700 TEACHING METHODS IN BUSINESS. (1)
A three part course that examines what constitutes good teaching and explores effective techniques for college instruction. Seminars emphasize practical information for both the principal activities and the details of teaching. Departmental discussions allow students to discuss issues that arise in their teaching practice. Reviews of classroom performance provide professional feedback in order to enhance on-the-job learning. Seminar, two hours per week. Prereq: Approval of Director of Graduate Studies. (Same as ECO 700.)

BA 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

BA 762 RESEARCH METHODOLOGY. (3)
Examines fundamental concepts in design, control, and measurement for social science research with emphasis on: reliability, internal and external validity, and causality. Prereq: Admission to DBA program and prior completion of or concurrent enrollment in a graduate level course on the general linear model.

BA 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

BA 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

BA 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

BAE Biosystems and Agricultural Engineering

BAE 102 INTRODUCTION TO BIOSYSTEMS ENGINEERING. (1)
An introduction to the engineering of food and fiber production and processing systems. Professionalism and the engineering approach will be emphasized.

BAE 103 ENERGY IN BIOLOGICAL SYSTEMS. (2)
This course introduces the concepts of energy transport in biological systems including the study of thermodynamics, heat transfer, psychometrics, and fluid flow. BAE 102 and prereq or concur: MA 113, or consent of instructor.

BAE 201 ECONOMIC ANALYSIS OF BIOSYSTEMS. (2)
The financial and managerial aspects of biosystems in evaluating design alternatives. Typical topics included are: concepts of present and future value, techniques of managerial economics, and biosystem design analysis in the evaluation of alternatives. Retirement/replacement policies and risk analysis. Prereq: MA 113, BAE 103 or consent of instructor.

BAE 202 STATISTICAL INFERENCES FOR BIOSYSTEMS ENGINEERING. (3)
Introduction to statistics and statistical inference reasoning. Evaluation of common claims based on statistical constructs, hypothesis tests, margins of error, confidence intervals, and analysis of variation. Identification of possible statistical obstacles, such as confounding, missing data, and inappropriate randomness. Conceptual statistics will be emphasized. Special attention will be given to include biosystems engineering problems. Prereq: MA 114.

BAE 305 DC CIRCUITS AND MICROELECTRONICS. (3)
An introduction to the use of digital electronics and integrated circuits in solving biosystems engineering problems. Digital circuits, microprocessor concepts, computer interfacing, transducers, signal conditioning and control applications are discussed. Lecture, two hours; laboratory, two hours per week. Prereq: EE 305; prereq or concur: CS 221 or equivalent.

BAE 400 SENIOR SEMINAR. (1)
A course for senior students in biosystems engineering with emphasis on oral communications skills. Students will do literature searches on topics related to the biosystems engineering profession and present oral and written reports. Prereq or concur with BAE 402.

BAE 402 BIOSYSTEMS ENGINEERING DESIGN I. (2)
A design course for seniors in BAE requiring students to solve open-ended problems. Students will use previously learned engineering principles to produce actual designs which will be built and analyzed in BAE 403. Prereq: BIO 150, 152; prereq or concur with BAE 417 or BAE 447.

BAE 403 BIOSYSTEMS ENGINEERING DESIGN II. (2)
Student design teams evaluate and enhance design solutions, fabricate prototypes, execute performance tests, analyze results, and develop final design specifications. Oral and written reports are required. Prereq: BAE 402.

BAE 417 DESIGN OF MACHINE SYSTEMS. (3)
A study of the operational characteristics and design features associated with production and processing equipment for food and fiber products and an introduction to conceptualization, analysis and design of these systems. Lecture, two hours; laboratory, two hours per week. Prereq: ME 330 or CE 341, EM 302; prereq or concur: EM 313.

BAE 427 STRUCTURES AND ENVIRONMENT ENGINEERING. (3)
This course teaches load estimate for light timber and concrete structures and introduces the design of heating, cooling, and ventilation systems in these structures. Prereq: CE 341 or ME 330; BIO 148 and 152; prereq or concur: EM 313.

BAE 435G WASTE MANAGEMENT FOR BIOSYSTEMS. (3)
A study of the characteristics; treatment and utilization principles; and analysis and design of systems for managing waste from the production and processing of food and fiber. Lecture, two hours; laboratory, three hours per week. Prereq: MA 214; BIO 152.

BAE 437 LAND AND WATER RESOURCES ENGINEERING. (3)
The hydrologic cycle is studied and design procedures are developed for flood control structures, water table management, wetlands, irrigation, and erosion control systems. Prereq: CE 341 or ME 330; BIO 148 and BIO 152.

BAE 438G FUNDAMENTALS OF GROUNDWATER HYDROLOGY. (3)
The first course in the physics of saturated flow in porous media. Topics include groundwater occurrence, Darcian flow, well hydraulics, flow nets, layered systems flow and pollutant movement. Prereq: ME 330 or CE 341 or consent of instructor, and engineering standing. (Same as CE 460.)

BAE 447 BIOPROCESS ENGINEERING FUNDAMENTALS. (3)
Design principles and equipment selection for the most common processing operations are studied for the manufacturing and preservation of biological materials. Topics will include the design of fluid flow systems, transient heat transfer, heat exchangers, psychometrics, and refrigeration. Prereq: BIO 148 and BIO 152; prereq or concur with ME 325.

BAE 450 SPECIAL PROBLEMS. (1-3)
An intensive study of some phases of biosystems engineering in which the student is particularly interested. Approval of instructor is required. May be repeated to a maximum of six credits. Prereq: Approval of the instructor.

BAE 502 MODELING OF BIOLOGICAL SYSTEMS. (3)
The course will focus on the mathematical description and computer simulation of the complex interactions involved in biological systems. Computer simulation will be used as a tool to analyze and suggest design changes to optimize performance. Prereq: BAE 402.

BAE 503 FUNDAMENTALS OF BIORENEWABLE RESOURCE ENGINEERING. (3)
This course introduces students to the science and engineering of converting biorenewable resources into bioenergy and biobased products. Topics include: Defining the resource base; physical and chemical properties of biorenewable resources; description of biobased products; methods of production for biorenewable resources.

BAE 504 BIOFUELS PRODUCTION AND PROPERTIES. (3)
This course introduces students to the science and engineering of liquid biofuels for transportation. Topics include: physical and chemical properties; engine performance; processing technologies; and environmental impact of biofuels. Prereq: BAE 503 or consent of instructor.

BAE 505 THERMOCHEMICAL PROCESSING OF BIOMASS. (3)
Introduction to thermal and catalytic processes for the conversion of biomass to biofuels and other biobased products. Topics include gasification, fast pyrolysis, hydrothermal processing, syngas to synfuels, and bio-oil upgrading. Prereq: BAE 503, BAE 504, or consent of instructor.

BAE 506 LIFE CYCLE ASSESSMENTS FOR BIORESOURCE ENGINEERING. (3)
Life Cycle Assessment (LCA) is a method in which the energy and raw material consumption, different types of emissions and other important factors related to a specific production or service are measured, analyzed and summarized over the entire life cycle. This course will cover the theory, practice and application of Life Cycle Assessment. Life Cycle Assessment is one tool in a large tool box of methods, such as Life Cycle Costing (LCC), Substance Flow Analysis (SFA), and Risk Assessment (RA), used to evaluate goods, services and systems. Prereq: Senior or graduate student standing.

BAE 513 SOIL DYNAMICS IN TILLAGE AND TRACTION. (3)
A course for advanced undergraduate and graduate students which presents the principles of dynamic soil-machine interaction. The performance characteristics of tractive devices are presented along with the corresponding soil compliance. Soil response to mechanical disturbance or tillage is also presented. Lecture, two hours; laboratory, two hours per week. Prereq: EM 313; EM 302.

BAE 515 FLUID POWER SYSTEMS. (3)
Analysis and design of fluid power systems used in agricultural, industrial and processing equipment. Selected topics to include: positive displacement components, control devices, actuators, fluid transmission and system dynamics. Lecture, two hours; laboratory, two hours per week. Prereq: ME 330, ME 340 and engineering standing.

BAE 517 OFF-ROAD VEHICLE DESIGN. (3)
Morphology, operational characteristics, and design considerations of off-road vehicles used in agriculture, forestry and construction. This course provides an introduction to conceptualization, analysis and design of these vehicles. Topics to be addressed include: engine performance and design, vehicle testing, turbochargers and intercoolers, drivetrains, chassis mechanics, electronic systems, hydraulic systems, and human factors. Prereq: BAE 417.

BAE 532 INTRODUCTION TO STREAM RESTORATION. (3)
Introduction to principles of fluvial geomorphology for application in restoring impaired streams. Topics include channel formation processes (hydrology/hydraulics), stream assessment, sediment transport, in-stream structures, erosion control, habitat, and monitoring. Prereq: CE 341 (or equivalent) and engineering standing or consent of instructor. (Same as CE 542.)

BAE 536 FLUVIAL HYDRAULICS. (3)
Rainfall physics, principles of erosion on upland areas and construction sites, stable channel design in alluvial material, mechanics of sediment transport, river mechanics, reservoir sedimentation. Prereq: CE 341 or ME 330 and engineering standing. (Same as CE 546.)

BAE 537 IRRIGATION AND DRAINAGE ENGINEERING. (3)
Planning and design of irrigation system; sprinkler, traveling gun, center pivot, trickle, subirrigation and residential and commercial irrigating; pumps; water quality treatment and supply; ponds and wells; principles of water movement and plant-soil relationships; surface and subsurface drainage. Prereq: ME 330 or CE 341 or consent of instructor.

BAE 538 GIS APPLICATIONS FOR WATER RESOURCES. (3)
This course studies the principles, methodology and analysis of geographic information systems and spatially-referenced data unique to water resources and hydrologic modeling. Lectures will explore the latest GIS concepts, hydrologic modeling relationships and data sources and be complimented with computer-based laboratory exercises. Prereq: BAE 437, CE 461G, or consent of instructor. (Same as CE 568.)

BAE 541 INTERMEDIATE FLUID MECHANICS. (3)
Application of basic fluid mechanics to problems of importance to civil engineering practice. This includes flow measuring, closed conduit flow and pipe networks, open channel flow, turbomachinery (pumps), hydraulic structures, culvert flow. Prereq: CE 341, CS programming course, and engineering standing or consent of instructor. (Same as CE 541.)

BAE 545 ENGINEERING HYDRAULICS. (3)
Analysis and Design of flow in closed conduits and natural and artificial open channels. Design

of hydraulic structures. Prereq: CE 461G or CE 541 and engineering standing, or consent of instructor. (Same as CE 549.)

BAE 547 WATERSHED SEDIMENTATION. (3)
The course objective is to gain an understanding of watershed sedimentation including: (1) erosion and sediment transport processes in a watershed and the mechanisms by which the processes are initiated, developed, and worked towards equilibrium; (2) measurement of the sediment budget for a watershed using sediment fingerprinting and sediment loading data; and (3) prediction of sediment loading in watersheds with different human disturbances using hydrologic-based modeling tools. Specific emphasis will be placed on the use of natural carbon and nitrogen isotopic tracer measurements within sediment fingerprinting as a data-driven approach to measure sediment loading from different sources in a watershed. In order to fulfill the course objective, the instructor will use traditional classroom learning as well as field and laboratory components of the course in order that students can participate in hands-on learning. Prereq: CE 461G (Pre- or Co-requisite or equivalent). (Same as CE 547.)

BAE 549 BIOLOGICAL PROCESS ENGINEERING. (3)
An analysis of processing operations for the conversion or generation of biological materials. The course material applies thermodynamics, heat transfer, mass and energy balances, and reaction kinetics to biological process operations such as sterilization, fermentation, product recovery, freezing, drying, evaporation, and refrigeration. Applications include biomedical, food processing, and biochemical and biofuel production from biomass. Prereq: BAE 447 or consent of instructor.

BAE 556 SOLID AND HAZARDOUS WASTE MANAGEMENT. (3)
Study of the generation and management of solid and hazardous wastes. Application of engineering principles to the collection, transport, processing, resource recovery and ultimate disposal of these wastes. Prereq: CE 471G, CE 521 or consent of instructor and engineering standing. (Same as CE 556.)

BAE 580 HEATING, VENTILATING AND AIR CONDITIONING. (3)
A course emphasizing the use of thermodynamics, fluid mechanics, and heat transfer principles in thermal environmental design. Building energy requirements will be computed and thermal comfort criteria will be studied. Prereq: BAE 427 or ME 321 or consent of instructor. (Same as ME 580.)

BAE 581 PHYSICS OF PLANT AND ANIMAL ENVIRONMENTS. (3)
A study of the thermal, moisture, light, and gaseous components of plant and animal environments with emphasis on interactions between these biological systems and their environments. Prereq: BAE 427 or consent of instructor.

BAE 599 TOPICS IN BIOSYSTEMS ENGINEERING. (2-3)
A detailed investigation of a topic of current significance in biosystems engineering such as: design of small earth dams, vacuum dehydration systems, small particle mechanics, biofuels, environmental control in green houses, sprinkler irrigation, energy conversion in agriculture, bio-simulation. May be repeated to a maximum of six credits, but only three credits can be earned under the same title. A particular topic may be offered at most twice under the BAE 599 number. Prereq: Variable; given when topic identified.

BAE 618 ADVANCED PLANT, SOIL AND MACHINERY RELATIONSHIPS. (3)
A consideration of fundamental concepts of energy and materials in the identification and mensuration of parameters needed in the development of new machines for agriculture. Lecture, two hours; laboratory, two hours. Prereq: BAE 417.

BAE 625 TOPICS IN ADVANCED ENVIRONMENT CONTROL AND ANALYSIS (Subtitle required). (3)
A study of current research in environment control and analysis of agricultural, commercial and residential structures. May be repeated three times for a maximum of nine credits, but not more than three credits may be earned under a particular topic. Prereq: Senior course in environment control and HVAC, BAE/ME 580, or consent of instructor.

BAE 638 GROUNDWATER HYDROLOGY. (3)
The equations of saturated and unsaturated groundwater flow, the formulation of boundary value problems, and some analytical methods of solution. Solutions using Fourier series, solutions involving the Fourier transform and the Fourier sine and cosine transforms. The Boltzman transformation, development of the Philip solution for horizontal and vertical flow. Mathematical statement of the saturated and unsaturated groundwater pollution problem and some analytical methods of solution. The semigroup solution of the resulting evolution equation, examples of solutions using the Laplace transform and the Fourier transform, more complex solutions in two-dimensional and three-dimensional domains, solutions for distributed sources in time and in space, solutions for time-varied boundary conditions. Prereq: MA 214, CE 461G or equivalent. (Same as CE 660.)

BAE 642 OPEN CHANNEL FLOW. (3)
The study of open channel flow fundamentals and concepts. Topics include uniform flow, varied flow, steady and unsteady flow, energy dissipators, flow transitions, controls, analytical and numerical solutions in 1D and 2D applications. Prereq: CE 541 or consent of instructor. (Same as CE 642.)

BAE 643 MECHANICS OF SEDIMENT TRANSPORT. (3)
Fundamentals of turbulence in rivers and sediment transport will be taught including recent theory, derivation of governing equations, experimental methods, modeling, and design based on sediment thresholds. Prereq: CE 341 or consent of instructor. (Same as CE 643.)

BAE 647 SYSTEM OPTIMIZATION I. (3)
Introduction to linear and nonlinear optimization and their use in engineering design. Emphasis on numerical approaches and use of optimization methods for engineering systems (e.g. biological, mechanical, structural). Prereq: CS 221 or equivalent; one mathematics course beyond MA 214 or equivalent. (Same as ME 647.)

BAE 648 ENERGY AND MASS TRANSFER IN BIOSYSTEMS PROCESSING. (3)
A comprehensive and in-depth study of the principles of energy and mass transfer as they apply to the processing of agricultural and biological materials. Prereq: BAE 549 or consent of instructor.

BAE 652 BIOLOGICAL PROCESSES FOR WATER QUALITY CONTROL. (3)
Principles and applications of environmental biotechnology for water quality control. Process microbiology and kinetics for various water and wastewater treatment processes. Prereq: CE 351 or consent of instructor. (Same as CE 652.)

BAE 653 WATER QUALITY IN SURFACE WATERS. (3)
Principles of surface water quality modeling and control. Analysis of dispersion, advection, natural aeration, biological oxidation and photosynthesis; their effects on the physical, chemical, and biological quality of waters in streams, lakes, reservoirs, estuaries and other surface waters. Prereq: CE 351 or consent of instructor. (Same as CE 653.)

BAE 658 INSTRUMENTATION FOR ENGINEERING RESEARCH. (3)
Instrumentation and measuring system characteristics; transducers for engineering measurements; and data acquisition and analysis. Lecture, two hours; laboratory, two hours per week. Prereq: Consent of instructor.

BAE 660 SIMILITUDE IN ENGINEERING. (3)
An advanced approach to engineering problems through the theory of similitude and its application to models. The use of geometrically similar, distorted and dissimilar models will be discussed. Prereq: Graduate standing.

BAE 662 STOCHASTIC HYDROLOGY. (3)
Hydrologic random variables and probability distributions. Statistical measures, development and use of Monte Carlo simulations in the generation of precipitation fields. Statistical tests of hydrologic data. Point frequency and regional frequency analysis. Analysis of hydrologic time series. Long-term trend, harmonic analysis of periodicity, autocorrelation, spectral analysis. Correlation and regression analysis. Linear stochastic models. Introduction to stochastic processes in hydrology, real-time hydrologic forecast (Kalman filter), pattern recognition, and stochastic differential equations. Prereq: MA 214, CE 461G or equivalent. (Same as CE 662.)

BAE 665 WATER RESOURCES SYSTEMS. (3)
Application of systems analysis, mathematic modeling, and optimization in water resources management and design. Solution of engineering problems found in water supply, water quality, urban drainage, and river basin development and management by use of linear, nonlinear, and dynamic programming models. Prereq: Consent of instructor. (Same as CE 665.)

BAE 667 STORMWATER MODELING. (3)
Introduction to deterministic and parametric modeling approaches for mathematically simulating stormwater runoff and quality. Emphasis on modeling concepts and model formulation. Analysis of deterministic component models and their linkage. Formulation of existing parametric models. Presentation of methods for parameter optimization and regionalization. Demonstration of linkage between the two approaches with illustrative examples. Prereq: CE 341 and CE 461G, or consent of instructor. (Same as CE 667.)

BAE 672 LANDFILL DESIGN. (3)
This course deals with the geotechnical aspects of the design of landfills for the disposal of municipal solid waste. Since landfill design is driven by state and federal regulations, time is taken to review these regulations. Landfills are evaluated as engineered systems consisting of multiple components. Each component is investigated individually, and methods are developed to predict and quantify the performance of these components so that appropriate materials, design criteria, and construction methods can be selected to assure that the landfill will function with minimal environmental impact. Prereq: CE 471G. (Same as CE 672.)

BAE 680 BIOCHEMICAL ENGINEERING. (3)
Principles and design of processes involving biochemical reactions, including aerobic and anaerobic respirations and fermentations, and involving pure and mixed cultures. Energy considerations, heat and mass transfer, biochemical kinetics, and application to biological waste treatment. Prereq: CME 550, CME 630, CHE 440G or consent of instructor. (Same as CME 680.)

BAE 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

BAE 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

BAE 750 SPECIAL PROBLEMS IN BIOSYSTEMS ENGINEERING. (1-3)
Independent work on selected research problems in one of the various fields of biosystems and agricultural engineering. Consultation and laboratory by appointment. May be repeated three times for a maximum of nine credits. Prereq: Approval of chairperson of department.

BAE 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

BAE 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

BAE 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

BAE 775 PROFESSIONAL PRACTICES SEMINAR. (2)
Review of current research topics, methods, management tools and communications techniques with applications. Required of all departmental graduate students. May be repeated once for credit. Lecture, two hours per week. Prereq: Graduate standing.

BAE 795 THESIS. (0)
May be repeated twice.

BCH Biochemistry

BCH 395 INDEPENDENT WORK IN BIOCHEMISTRY. (3-12)
Students will carry out a laboratory research project and related reference reading. Laboratory: 9-36 hours per week. May be repeated to a maximum of 12 credits. Prereq: Permission of instructor.

BCH 401G FUNDAMENTALS OF BIOCHEMISTRY. (3)
Descriptive chemistry of amino acids and proteins, carbohydrates, lipids, and nucleic acids. Discussion of structure and function; metabolism and bioenergetics; and biological information flow. At the undergraduate level, understanding is demonstrated through hour examinations; at the graduate level, understanding is demonstrated through hour examinations and a brief paper. Lecture, three hours; one optional conference. Prereq: CHE 107, CHE 236 and BIO 152 or equivalent.

BCH 419G MOLECULAR BASIS OF HUMAN DISEASE. (3)
The goal of this course is to provide students with an understanding of the defining characteristics of the major human diseases, the molecular mechanisms responsible for causing these diseases, and some of the molecular technologies used to diagnose and treat them. Prereq: BCH 401G.

BCH 517 EXPERIMENTAL METHODS IN BIOCHEMISTRY. (4)
A laboratory course dealing with the instrumentation and procedures of biochemical research. Because many of the materials used are labile, the course is given in a block during a four-week period at the end of the spring semester. Five days per week during four-week intersession, or summer session. Prereq: BCH 401G, 502 or 811 and consent of instructor.

BCH 601 SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS. (1)
Each semester five distinguished scientists visit the UK campus to deliver a series of three formal lectures each and participate in numerous informal contacts with graduate students. The emphasis is on the presentation of the most current advances (often unpublished) in selected topics in molecular and cellular genetics. May be repeated to a maximum of six credits. (Same as BIO/MI/PLS/PPA 601.)

BCH 604 STRUCTURAL BIOLOGY. (3)
An advanced course on the structure and function of proteins and nucleic acids. Topics include: the physical determinants of protein structure, classification of protein architecture, protein-nucleic acid and protein-protein interactions, sequence dependence of nucleic acid structure, ribozymes, dynamics and evolutionary relationships. Prereq: IBS 601-602/BCH 607-608 or equivalent.

BCH 607 BIOMOLECULES AND METABOLISM. (3)
An introductory graduate-level biochemistry course designed to provide a basic knowledge of molecular and biochemical principles necessary for advanced graduate study. Protein structure and function, enzyme catalysis, the generation and storage of metabolic energy, amino acid, nucleotide, and lipid metabolism and biological membranes and transport will be covered. Prereq: CHE 105, 107, 230 and 232; BIO 150 and 152; or equivalents. (Same as IBS 601.)

BCH 608 BIOMOLECULES AND MOLECULAR BIOLOGY. (3)
An introductory graduate-level biochemistry course focused on the cellular mechanisms that underlie the regulated expression of genes, including transcription and translation, as well as basic mechanisms of DNA replication/repair and recombination. Genetic engineering and other experimental approaches critical to molecular biology research will be reviewed. Prereq: CHE 105, 107, 230 and 232; BIO 150 and 152; or equivalents.

BCH 609 PLANT BIOCHEMISTRY. (3)
The course will consider the chemical constituents of plants (with emphasis on biologically or nutritionally significant compounds unique to plants), their biosynthesis, contribution to key metabolic and defense processes and the regulation of their synthesis. Included will be discussions of photosynthesis, carbohydrates, lipids, isoprenoids and phenylpropanoids, nitrogen fixation, nitrogen and sulfur reduction and assimilation, alkaloids and additional secondary compounds, frontiers in plant biochemistry. Prereq: BCH 607 or equivalent or consent of instructor. (Same as PLS/PPA 609.)

***BCH 610 STRUCTURE AND FUNCTION OF BIOMEMBRANES. (3)**
A lecture and seminar course that discusses primary literature focused on the structures, assembly, and functions of biologically important membranes. Prereq: CHE 232; CHE 442G; BCH 401G, 811, or IBS 601.

BCH 611 BIOCHEMISTRY AND CELL BIOLOGY OF NUCLEIC ACIDS. (3)
A lecture and seminar course devoted to a study of the principles of nucleic acid chemistry and to the role of nucleic acids in cellular function. Prereq: BCH 401G, 502 or 811.

BCH 612 STRUCTURE AND FUNCTION OF PROTEINS AND ENZYMES. (3)
Primarily a lecture course devoted to the relationship of the structure of protein molecules to their biological roles. Proteins will be discussed in terms of their size, shape, conformation, primary structure, catalytic mechanism and regulatory properties. Prereq: BCH 401G, 502 or 811; CHE 444G or consent of instructor. May be taken concurrently with BCH 502.

***BCH 615 MOLECULAR BIOLOGY. (3)**
This course will develop the student's ability to critically read and evaluate the primary literature in selected areas of molecular biology; various experimental systems and techniques are discussed. While there is some lecture, the time will be predominately spent in class discussions of the primary literature. Prereq: An advanced course in molecular biology and genetics (e.g. IBS 602) or consent of instructor. (Same as BIO/MI 615.)

BCH 618 SEMINAR IN BIOCHEMISTRY. (1)
A weekly seminar, required of all students majoring in biochemistry, devoted to discussions of areas not covered in other courses and to recent developments in the field. May be repeated to a maximum of five credits.

BCH 619 SEMINAR IN BIOCHEMISTRY. (1)
A weekly seminar, required of all students majoring in biochemistry, devoted to discussions of areas not covered in other courses and to recent developments in the field. May be repeated to a maximum of five credits.

BCH 620 BIOSYNTHESIS OF NATURAL PRODUCTS. (3)
An overview of the biochemical pathways leading to compounds called natural products/secondary metabolites. Prereq: Two semesters of organic chemistry. (Same as PHR 620/PLS 642.)

BCH 625 SCIENTIFIC COMMUNICATIONS. (2)
To be useful, scientific research needs to be explained clearly to others – to colleagues, to administrators, to foundations and governmental bodies, and to the public. This course will give students the tools to effectively present their data, their ideas, and themselves to the scientific community. Through a series of directed exercises the students will learn how to write an abstract, a scientific paper, and a grant, and to prepare a poster and to give an oral presentation. The class will draw examples, topics, and exercises from current literature. Prereq: Good standing in a graduate program in the physical, chemical or biomedical sciences.

BCH 640 RESEARCH IN BIOCHEMISTRY. (1-9)
Prereq: Consent of instructor.

#BCH 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

BCH 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

BCH 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

#BCH 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

BCH 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

BCH 779 MEMBRANE SCIENCES COLLOQUIUM. (1)
Outstanding membrane scientists present their current research on biological and/or synthetic membranes. Students read a pertinent paper by the speaker prior to his/her talk and write a short paper on the talk; especially important is relevance of the main points of the talk to membrane science in general and the student's own research in particular. May be repeated to a maximum of six credits. (Same as CHE/CME/PHA/PHR 779.)

BCH 780 TOPICS IN BIOCHEMISTRY. (1-3)
A lecture and seminar course offered on topics of special interest to graduate students. May be repeated to a maximum of six credits.

BCH 812 DENTAL BIOCHEMISTRY. (6)
This is a comprehensive course in biochemistry designed to fulfill the specific needs of student dentists. Course content is generally as outlined in the American Association of Dental Schools suggested curriculum guidelines for biochemistry. Part I acquaints students with the chemical constituents of prokaryotic and eukaryotic cells; topics include the chemistry of lipids,

carbohydrates, proteins, vitamins and coenzymes, and the nature of enzyme action. Part II integrates the chemical principles learned from Part I with concepts of cell dynamics, structure, function, subcellular organization, and metabolism. Topics include intermediary metabolism, bioenergetics, DNA replication, protein synthesis, and cellular regulatory and control mechanisms. Course content, where possible, is related to current concepts concerning the etiology of oral diseases, their treatment, and prevention to assist student dentists in attaining institutional goals and objectives for clinical competency. Prereq: Admission into the College of Dentistry. (Same as OBI 812.)

BCH 815 FIRST-YEAR ELECTIVE, BIOCHEMISTRY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Biochemistry. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

BCH 819 CELLULAR STRUCTURE AND FUNCTION/BIOCHEMISTRY. (7)
The course combines lecture, small group activities, clinical correlations, problem-based learning, and problem-solving sessions in providing an understanding of the relationship of biochemical principles to human health and disease. Close integration with genetics topics provides a better picture of how biochemistry, molecular biology and genetics contribute to normal human development and medicine. Lecture, 20 hours per week. Prereq: Admission to Medical School (first year).

BCH 825 SECOND-YEAR ELECTIVE, BIOCHEMISTRY. (1-4)
With the advice and approval of his or her faculty advisor, the second-year student may choose approved electives offered by the Department of Biochemistry. The intent is to provide the student with an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass/Fail only. Prereq: Admission to second year medical curriculum and approval of advisor.

BCH 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved elective:
BCH 850 ELECTIVE IN BIOCHEMISTRY

BIO Biology

BIO 101 WAYS OF DOING BIOLOGY. (1)
Through a series of lectures and discussions students will gain a better understanding of the various academic programs in the life sciences across campus. Information will also be provided about research opportunities and career possibilities. Pass/fail only. Enrollment limited to freshmen and sophomore science majors.

BIO 102 HUMAN ECOLOGY. (3)
A study of the interrelationships of man, populations, space, energy, food, mineral resources and other life on earth. Not for life science majors.

BIO 103 BASIC IDEAS OF BIOLOGY. (3)
Introductory biology. Discussion topics are those relevant to both plants and animals - cell structure and function, molecules important to living things, metabolism, heredity, environment. Not for life science majors.

†BIO 104 ANIMAL BIOLOGY.

†BIO 106 PRINCIPLES OF PLANT BIOLOGY.

BIO 110 INTRODUCTION TO HUMAN BIOLOGY AND HEALTH. (3)
This course provides the student with a general overview of the basic dimensions of health (such as physical, social and emotional) and the applications of these dimensions to personal wellness.

BIO 111 GENERAL BIOLOGY LABORATORY. (1)
Laboratory studies in the structure and function of cells, plants, and animals; ecology; heredity; and evolution. Prereq or coreq: BIO 103 or consent of instructor.

***BIO 148 INTRODUCTORY BIOLOGY I. (3)**
BIO 148 introduces the student to the biological mechanisms operating at the molecular, cellular, and population level that contribute to the origin, maintenance, and evolution of biodiversity including the origins and history of the evolutionary process. Course material is presented within a phylogenetic context, emphasizing the shared history of all living organisms on earth through common ancestry. The first semester of an integrated one-year sequence (BIO 148 and BIO 152). Prereq: Math ACT of 24 or above or MA 109, and past or concurrent enrollment in CHE 105.

BIO 150 PRINCIPLES OF BIOLOGY I. (3)
The first semester of an integrated one-year sequence (BIO 150 and BIO 152) that is designed to develop an appreciation of biological principles necessary to explore life at the cellular and molecular levels. Similarities and differences in structure and function of simple and complex cells will be covered along with theories on the origin and evolution of biological systems. Prereq: CHE 105, or Math ACT score of 26 or above plus concurrent enrollment in CHE 105, or chemistry placement test passed plus concurrent enrollment in CHE 105.

BIO 151 PRINCIPLES OF BIOLOGY LABORATORY I. (2)
An introductory laboratory in which biological systems are investigated at the cellular and molecular levels. Laboratory, four hours per week. Prereq: This course is a companion to the BIO 150 lecture course, but it need not be taken concurrently.

***BIO 152 PRINCIPLES OF BIOLOGY II. (3)**
The second semester of an integrated one-year sequence (BIO 150 and 152) that is designed to develop understanding and appreciation for the diverse forms of plant and animal life, and their relationships to each other and to their environment. Structure and function relationships will be explored at many levels of organization: cell, tissue, organ, organism, population and community. Prereq: A C or better in BIO 148 or permission of instructor.

BIO 153 PRINCIPLES OF BIOLOGY LABORATORY II. (2)
An introductory laboratory course in which biological systems are investigated at the organismal, population and community levels. Laboratory, four hours per week. Prereq: CHE 105, or Math ACT of 26 or above plus concurrent enrollment in CHE 105, or chemistry placement test passed plus concurrent enrollment in CHE 105.

BIO 155 LABORATORY FOR INTRODUCTORY BIOLOGY I. (1)
This course is designed to provide a broad introduction into the data, results, and information associated with biological research, and into some of the analytical approaches used to test biological hypotheses. Communication of these aspects of biological research is crucial, and much of this lab course will be focused on the development of effective writing skills for the delivery of this information. Prereq: Math ACT of 23 or above or MA 109, past or concurrent enrollment in CHE 105.

BIO 180 SPECIAL TOPICS IN BIOLOGY (INTRODUCTORY LEVEL): (Subtitle required). (1-4)
Interdisciplinary, topical or experimental course in introductory biology. Subtitle required. May be repeated for a maximum of 12 credit hours under different subtitles. Lecture and/or laboratory and/or recitation and/or seminar. Prereq: Determined by instructor.

BIO 190 SUPPLEMENTAL BIOLOGY WORKSHOP I. (1)
Cooperative workshop offered only as an optional supplement to certain biology lecture courses. Offered only on a pass/fail basis. Coreq: BIO 150.

BIO 192 SUPPLEMENTAL BIOLOGY WORKSHOP II. (1)
Cooperative workshop offered only as an optional supplement to certain biology lecture courses. Offered only on a pass/fail basis. Coreq: BIO 152.

BIO 198 SCHOLARS BIOLOGY RESEARCH. (2)
Biology 198 is one of the Scholars courses for biology majors in the Department of Biology Scholars Program. This course is designed to provide a solid introduction to 21st century bioscience research. Students will learn how to critically read, interpret, understand and discuss original literature. Students will learn how to discuss data and information from the original literature appropriately, develop reasonable hypotheses from current 21st century bioscience problems and provide plausible conclusions and presentations in regard to those problems using original information and data. Lastly, the course is designed to equip students with the necessary skills to participate and succeed in an upper level research experience. The course substitutes for BIO 155 for BIOLOGY majors. Prereq: ACT 30 or Reading/Math SAT of 1320 or Reading/Math/Writing SAT of 1980, and declared biology major, and a min High School GPA of 3.5.

BIO 199 RESEARCH EXPERIENCE IN BIOLOGY. (0-1)
Participation in biological research under the direction of a faculty mentor in Biology or a related field. A research contract signed by the student and faculty mentor must be approved by the Director of Undergraduate Studies in Biology. Offered pass/fail only.

BIO 208 PRINCIPLES OF MICROBIOLOGY. (3)
The course introduces fundamental microbiological principles and techniques. Emphasis is placed on structural, functional, ecological and evolutionary relationships among microorganisms, principally viruses, rickettsiae bacteria, fungi and algae. Prereq: High school chemistry recommended.

BIO 209 INTRODUCTORY MICROBIOLOGY LABORATORY. (2)
Laboratory exercises in general microbiology. Laboratory, four hours per week. Prereq: One unit of chemistry or consent of instructor; BIO 208 or BIO 308 should be taken concurrently.

BIO 210 THE LIFE PROCESSES OF PLANTS. (3)
This course is intended to provide a basic understanding of the natural products and processes that shape the nature of modern plants, and govern their interactions with the environment and characteristics unique to plants, and develop a basic understanding of how these plant attributes relate to oganismic function. Emphasis will be placed on exploring the nature of the major plant biomes of the Earth, their community dynamics, and how member plants compete for space and other resources. Development of optimal plant strategies for reproductive success, plant interaction with other living systems as well as abiotic factors and their defense from predation and attack will also be considered. (Same as PLS 210.)

BIO 300 GENERAL ENTOMOLOGY. (3)
Fundamentals of insect biology and relationships among insects, plants, and other organisms; identification of commonly encountered insects. Beneficial and detrimental effects of insects are discussed. Lecture, two hours; laboratory, two hours per week. Prereq: One course in introductory biology. (Same as ENT 300.)

BIO 302 INTRODUCTION TO NEUROSCIENCE. (3)
This introductory course is designed to provide students with a basic understanding, at the physiological, cellular and molecular levels, of how the nervous system functions to create behavior. It will also introduce students to the consequences of abnormal system functioning brought about by either disease or injury. Prereq: BIO 152 or equivalent or permission of instructor.

BIO 303 INTRODUCTION TO EVOLUTION. (4)
This course covers topics in evolution, concentrating on the Darwinian theories of evolution including descent with modification, natural selection, and sexual selection. Topics will include: patterns of evolution, the genetic source of variation, measuring evolution, adaptation, speciation, human evolution, "evo-devo", and evolutionary medicine. Taught on campus (lecture: three hours; recitation, three hours) or online. Prereq: BIO 148, BIO 152 and BIO 155 or equivalent.

BIO 304 PRINCIPLES OF GENETICS. (4)
A study of the physical and chemical aspects of the genetic material and their relationship to the expression and inheritance of the phenotype. Lecture, three hours; laboratory, three hours per week. Prereq: BIO 148, BIO 152, BIO 155, CHE 107, CHE 113.

#BIO 305 INTRODUCTION TO NEUROSCIENCE TECHNIQUES. (4)
This introductory laboratory course will provide students with practical knowledge and hands-on experience in basic behavioral, anatomical and physiological techniques used by laboratory scientists in the investigation of the nervous system. It is designed as a gateway to independent research experiences in working neuroscience laboratories. Prereq: BIO 302 Introduction to Neuroscience or equivalent. (Same as ANA/PSY 305.)

BIO 308 GENERAL MICROBIOLOGY. (3)
Fundamental concepts of microbiology. The nutrition, physiology, genetics, molecular biology of microorganisms, and their roles in nature and in infection and immunity will be studied. Prereq: BIO 148, BIO 152 and BIO 155 (or equivalent courses); CHE 230; and BIO 315 or BIO 304.

#BIO 309 MICROBIOLOGY LABORATORY. (2)
This course includes laboratory exercises that are designed to illustrate processes central to microbiology and to familiarize students with basic skills required for working with microorganisms in a safe environment. Students will become familiar with isolating, culturing, and identifying microorganisms, and with molecular techniques used to study and manipulate microbes. Prereq: BIO 148, BIO 152 and BIO 155 (or equivalent courses); CHE 230; and BIO 315 or BIO 304 and previous or concurrent enrollment in BIO 308. Or consent of instructor.

BIO 315 INTRODUCTION TO CELL BIOLOGY. (4)
The structure and function of cells will be considered. Emphasis will be placed on the ultrastructure of cell organelles in plants and animals as a framework for understanding the compartmentalized nature of cell activity. Lecture, three hours; laboratory three hours/weekly. Prereq: BIO 303 and BIO 304. Coreq: CHE 230 or equivalent. Or consent of instructor.

BIO 325 ECOLOGY. (4)
This course introduces the scientific study of relationship between organisms and their environment. The course is structured around levels of organization – from physiological ecology to individuals, populations, communities, ecosystems, landscapes, regions, and the biosphere. Students will be expected to develop a solid knowledge base and understanding of key concepts and issues in contemporary ecology; to become familiar with how ecological understanding is attained by researchers; and to see how ecological knowledge and methods can be used to address important societal problems. Lecture, three hours per week; laboratory, an average of three hours per week. Prereq: BIO 150-153 or equivalent introductory biology sequence; and BIO 304 or equivalent genetics course; or consent of instructor.

***BIO 340 COMPARATIVE ANATOMY. (5)**
Comparative study of the anatomy of vertebrates with emphasis on evolutionary change, adaptive and functional significance of structural organization and basic concepts of the comparative approach. Laboratory studies on representative vertebrates involving dissections, models, and demonstrations. Lecture, three hours; laboratory, four hours per week. Prereq: BIO 148, BIO 152, and BIO 155 or BIO 198, or consent of instructor.

***BIO 350 ANIMAL PHYSIOLOGY. (4)**
An introduction to the basic principles of animal physiology. An elementary discussion of the major vertebrate organ systems including nutrition, metabolism, respiration, circulation, excretion, muscle contraction, peripheral and central nervous system, and endocrine function emphasizing homeostasis. Lecture, three hours; laboratory, three hours. Prereq: BIO 148, BIO 152, BIO 155 or BIO 198, CHE 105 (or CHE 109 and CHE 110) and CHE 107 or consent of instructor.

BIO 351 PLANT KINGDOM. (3)
An evolutionary survey of the morphology, taxonomy, life histories and biological relationships of all plant groups comprising the plant kingdom. Lecture, two hours; laboratory, two hours. Prereq: An introductory course in biology.

BIO 355 BIOLOGY STUDY ABROAD (Subtitle required). (3)
This course offers students an opportunity to study unique biological communities and to experience living in a foreign culture. Specific content and location varies. May be repeated a maximum of two times under different subtitles. Prereq: Will be set by instructor.

BIO 361 ECOLOGY OF THE KENTUCKY FLORA AND VEGETATION. (3)
An overview of the physiography, geology, soils, hydrology, climate (paleo and recent), vegetation (paleo and recent), floras (including floralistic relationships), archaeobotany, and agriculture of Kentucky. Lecture, two hours; laboratory, two hours per week. Prereq: One year of introductory Biology or consent of instructor.

BIO 375 BEHAVIORAL ECOLOGY AND SOCIOBIOLOGY. (3)
This course will explore the selective forces influencing animal behavior, such as foraging, predator avoidance, mate choice, parental care, and social interaction. Specific phenomena to be explored include the evolution of optimal foraging and search images, extravagant male characteristics, female preferences, conflicts between the sexes, infanticide, parent-offspring conflict, dominance hierarchies, optimal group size, altruism, and eusociality. The study of these behaviors integrates ideas and approaches from ecology, genetics, physiology, and psychology. Students will be encouraged to read outside material, to think carefully, logically, and critically about ideas, and to ask questions and defend their views in class. Prereq: A year of introductory biology (BIO 150/152).

BIO 380 SPECIAL TOPICS IN BIOLOGY (INTERMEDIATE LEVEL) (Subtitle required). (1-4)
Interdisciplinary, topical or experimental course in intermediate (300-level) biology. Subtitle required. May be repeated for a maximum of 12 credit hours under different subtitles. Lecture and/or laboratory and/or recitation and/or seminar. Prereq: Determined by instructor.

#BIO 394 RESEARCH IN NEUROSCIENCE. (1-3)
An independent research project in an area of neuroscience under the direction of a faculty mentor. A research contract signed by the student and the faculty research mentor must be approved by the Director of Undergraduate Studies (Neuroscience). May be repeated to a maximum of 12 credits, but a maximum of only 6 credits may be used to satisfy the requirements of the minor or major in Neuroscience. Prereq: BIO 152 and BIO 302 or PSY 312.

BIO 395 RESEARCH IN BIOLOGY. (1-3)
An independent research project in an area of biology under the direction of a faculty mentor. The research may be conducted in the Department of Biology or in other biological units on campus. A research contract signed by the student and the faculty research mentor must be approved by the Director of Undergraduate Studies in Biology. May be repeated to a maximum of 12 credits, but a maximum of only 6 credits may be used the satisfy the requirements of a BS or BA in Biology. Prereq: BIO 148, BIO 152 and BIO 155 or equivalent. Completion of at least one of the Biology core courses (Cell Biology, Evolution, Genetics, Physiology, Ecology) is strongly recommended.

#BIO 397 RESEARCH IN MICROBIOLOGY. (1-3)
An independent research project in an area of microbiology under the direction of a faculty mentor. The research may be conducted in the Department of Biology or in other microbiological units on campus. A research contract signed by the student and the faculty research mentor must be approved by the Director of Undergraduate Studies in Microbiology. Prereq: BIO 308 and BIO 309.

BIO 401G SPECIAL TOPICS IN BIOLOGY FOR ELEMENTARY, MIDDLE AND HIGH SCHOOL TEACHERS (Subtitle required). (1-4)
Selected topics in biology of special interest to teachers such as biological research experiences related to pharmacological assays, collecting behavioral data, compilation and statistically analysis of data. When the course is offered, a specific title with specific credits, the number of hours in lecture-discussion and laboratory, will be given. Lecture/discussion, two-four hours; laboratory, zero-four hours. May be repeated to a maximum of 12 credits. Prereq: By consent of instructor only.

BIO 410 LABORATORY IN GENETICS AND CELL BIOLOGY. (3)
A laboratory course for students of genetics and cell biology to provide practical experience in contemporary experimental analysis. Prereq: BIO 315 and BIO 304, or equivalent (may be taken concurrently).

***BIO 420G TAXONOMY OF VASCULAR PLANTS. (4)**
A survey of the evolutionary relationships among the major of vascular plant groups, concentrating heavily on important families flowering plants. Issues in contemporary systematics, including cladistic methods, will be covered. Students will gain practical experience learning the language of descriptive botany and using botanical keys in technical manuals for species identification. Field trips highlight the local spring flora. Lecture, three hours; laboratory, three hours; plus two Saturday field trips. Prereq: Junior standing; BIO 148 and BIO 152 or one course in introductory botany or consent of instructor. (Same as NRE 420G.)

BIO 425 BIOLOGY SEMINAR: (Subtitle required). (1)
This seminar develops effective analysis, presentation, and discussion skills required of Biology majors by exploring various life science topics of interest to faculty and students. Satisfies seminar requirements for Biology majors and can be repeated for a maximum of 2 credits under a different subtitle. Prereq: Senior standing in Bi ology recommended. BIO 150-153 or equivalent. Additional prereq(s) may be identified by instructor when topic is selected.

#BIO 426 NEUROSCIENCE SEMINAR (Subtitle required). (1)
This seminar course develops effective analysis, presentation and discussion skills required of science majors by exploring one neuroscience topic in detail. Prereq: Determined by instructor.

#BIO 427 SEMINAR IN MICROBIOLOGY (Subtitle required). (1)
This seminar course develops effective analysis, presentation, writing and discussion skills required of life science majors by exploring various microbiological topics. Prereq: Senior standing recommended. BIO 308 and BIO 309 or equivalent. Additional prereq(s) may be identified by instructor when topic is selected.

***BIO 430G PLANT PHYSIOLOGY. (4)**
Basic principles of plant physiology; the physiological processes of green plants and the effect of the environment on these processes. Lecture (three hours) and laboratory (three hours). Prereq: BIO 148, BIO 152, BIO 155 or BIO 198 (or equivalent); CHE 230 and CHE 231 (or equivalent) or consent of instructor.

#BIO 440 COMPARATIVE AND FUNCTIONAL ANATOMY. (4)
Comparative and Functional Neuroanatomy explores the cellular bases for sensory, integrative and motor neuroscience from an evolutionary perspective, delineating common features of all nervous systems ranging from cnidarian nerve nets to ventral nerve cords of most invertebrates to the chordate/vertebrate central nervous systems. Discovery of the common features of nervous structure in model system organisms with the human brain will provide students a perspective on the value of model systems for future study. Functional analyses of nervous system structures will enable students to identify anatomical bases for neural function and behavior. Prereq: BIO 302 or consent of instructor.

#BIO 446 NEUROPHYSIOLOGY LABORATORY. (3)
This course will focus on experimentation in neurophysiology. The generation of receptor potentials in sensory neurons will be measured in addition to action potentials in axons. Pharmacological experimentation of ionotropic and metabotropic receptors subtypes and second messengers signaling will be conducted. The key role of ion channels and transporters in regulation of the membrane potential will be examined. The concept of electrochemical equilibrium will be introduced and the quantitative examination of the equilibrium membrane potential will include discussion of Goldman and Nernst equations and their applications. The mechanisms of action potential generation, as a result of synaptic and receptor stimulation within a neural cell, will be measured. Lecture and laboratory. Prereq: BIO 302 or BIO 350 or consent of instructor.

#BIO 447 ANIMAL SENSES. (3)
Advanced study on how animals use sensory abilities to communicate, navigate, and detect prey, predators and mates. Focus will be on extreme and unusual sensory systems such as echolocation, electroreception, and magnetoreception, as well as vision, smell, touch, and hearing. Prereq: BIO 350 or PGY 412G or permission of instructor.

BIO 450 NEUROPHYSIOLOGY LABORATORY. (2)
The course will focus on neurophysiology. Measuring receptor potentials in sensory neurons and muscle cells. Pharmacological agents will be used to address ionotropic and metabotropic receptors subtypes as well as second messengers signaling. The regulation of the membrane potential will be covered in great detail experimentally. The mechanisms of neuron-neuron communication through electrical and chemical synapses will be examined. One will be required to understand and critically analyze research papers in the field of neuroscience in the form of discussion and written reviews. Students will be required to answer essay questions on exams and will have homework sets. In addition, a research paper on a topic in the course will be required. Prereq: Required: a physiology course (PGY 412G and/or BIO 350).

BIO 452G LABORATORY IN ECOLOGY. (2)
An introduction to laboratory and field experimentation and computer simulation in ecology. Exercises and demonstrations will be performed to familiarize students with (1) particular populations and ecosystems, (2) some important research problems in ecology, and (3) current research techniques for dealing with them. One or two Saturday field trips will be required. Laboratory, four hours. Prereq or coreq: BIO 325 or equivalent and consent of instructor.

BIO 461 INTRODUCTION TO POPULATION GENETICS. (3)
This survey course examines the population dynamics and equilibria of genes in nuclei, chloroplasts and mitochondria. Emphasis will be on biological relevance (in plants, animals, and micro-organisms), but some theoretical derivations will also be introduced. Prereq: ABT 360 (or equivalent) and one course in probability/statistics. (Same as ABT/ENT/FOR 461.)

BIO 494G IMMUNOBIOLOGY. (3)
A survey of theories and mechanisms of immunity including: nature of antigens and antibodies, antigen-antibody reactions, immunocompetent cells, immunogenetics, allergic reactions, tumor immunology and transplantation immunology. Prereq: BCH 401G (may be taken concurrently) and BIO 208 or BIO 308 or consent of instructor. (Same as MI 494G.)

#BIO 495G BACTERIAL PATHOGENESIS. (3)
This course will examine the pathogenic mechanisms used by bacteria to cause human disease. Bacterial virulence factors and host susceptibility factors will be discussed, with an emphasis on understanding the techniques that can be used to identify these traits in newly emerging pathogens. Prereq: BIO 308, BIO 315, BCH 401 recommended. Or permission of instructor. (Same as MI 495G.)

BIO 499 BIOLOGY RESEARCH SEMINAR. (1)
A seminar for students engaged in independent research. Students with BIO 395 experience will interact with student colleagues and an experienced research mentor. Prereq: Past or current enrollment in BIO 395.

BIO 502 PRINCIPLES OF SYSTEMS, CELLULAR AND MOLECULAR PHYSIOLOGY. (5)
Advanced survey of major mammalian physiological systems at the systems, cellular and molecular level; lectures, assigned reading, advanced texts or monographs, demonstrations and problem oriented study questions. Prereq: One year each, physics, general chemistry; PGY 206 or its equivalent. (Same as PGY 502.)

BIO 507 BIOLOGY OF SLEEP AND CIRCADIAN RHYTHMS. (3)
This course provides an introduction to the fields of sleep and circadian rhythms including the underlying neuroanatomy, neurophysiology, and the molecular and genetic underpinnings of sleep and circadian behaviors. The medical and societal relevance of these areas will also be emphasized. Considerable time will be spent reading and analyzing the primary literature in these fields, including student presentations of selected articles. Prereq: BIO 304; BIO 315; BIO 350 (or equivalent).

BIO 508 EVOLUTION. (3)
Mechanisms of evolutionary change, with a brief summary of historical evolution, especially of the Metazoa. Prereq: BIO 304 or ASC/ABT 360.

BIO 510 RECOMBINANT DNA TECHNIQUES LABORATORY. (4)
An introduction to the construction, isolation, and analysis of recombinant DNA clones, with emphasis on practical experience in basic techniques. Graduate students will be given first preference in course enrollment. Lecture, one hour; laboratory, 6 hours per week. Prereq: BIO 304 and BIO 315 or equivalent with consent of instructor.

BIO 515 GENERAL CELL BIOLOGY. (3)
An integrative, analytical study of the cell as the basic unit of biological structure and function, with emphasis on eukaryotes. Lecture, discussions with readings in some original literature. Prereq: BIO 315 or BCH 401G or equivalent and consent of instructor. (Same as MI 515.)

BIO 520 BIOINFORMATICS. (3)
An introduction to computer analysis of macromolecular structure information. This course describes how to access, process, and interpret structural information regarding biological macromolecules as a guide to experiments in biology. Prereq: BIO 315 or BIO 304 or BCH 401 or BCH 501 or BCH 502 or BIO 510 or consent of instructor. (Same as INF 520.)

BIO 529 DEVELOPMENTAL BIOLOGY. (3)
An introduction to the principles of developmental biology, particularly of animals, including genetic and environmental control of development at the molecular, cellular, and physiological levels. Prereq: BIO 304 or equivalent, or graduate standing in life sciences, or consent of instructor.

BIO 530 BIOGEOGRAPHY AND CONSERVATION. (3)
An introduction to the geographic patterning of biological diversity, exploring its origins, dynamics, and present trends. Examines the interplay among physical conditions, ecological interactions, evolutionary processes, and the historical movements of organisms and land masses as they have combined to affect the distribution of species, with particular attention to the application of biogeographic knowledge to current problems of species loss and conservation. Prereq: Two semesters of introductory biology or physical geography, or consent of the instructor. (Same as GEO 530.)

BIO 535 COMPARATIVE NEUROBIOLOGY AND BEHAVIOR. (3)
The course consists of an introduction to neurophysiology and study of the neural basis of sensory processing and motor patterns. A comparative analysis of the neurobiological basis of behavioral responses will be made, utilizing a broad range of vertebrates and invertebrates. Prereq: BIO 350 or consent of instructor. (Same as PGY 535.)

BIO 542 HISTOLOGY. (5)
An in-depth study of vertebrate cell and tissue structure and function. Human tissue is emphasized. Some knowledge of biochemistry, physiology, and anatomy is desirable. The laboratory involves study of prepared microscope slides. Lecture, three hours; laboratory, four hours per week. Prereq: BIO 315 or consent of instructor.

BIO 550 ADVANCED PHYSIOLOGY. (3)
Physiological mechanisms by which animals cope with different environmental stresses. Osmoregulation, respiration, temperature regulation and tolerance, sensory reception, circulation, etc. Prereq: One year college chemistry, BIO 350 or equivalent, one year college physics or consent of instructor.

BIO 551 LIFE CYCLE ECOLOGY OF FLOWERING PLANTS. (4)
The effect of physical and biotic factors on plants and environment. Physiological, morphological and anatomical adaptations of plants to the physical factors of the environment are emphasized. Some of the laboratory exercises are carried out in the field. Lecture, three hours; laboratory, two hours. Prereq: BIO 325 or consent of instructor.

***BIO 553 FISH BIOLOGY. (4)**
This course explores the biology of fishes from an evolutionary perspective. Lectures cover physiology, functional morphology, ecology, population biology, behavior, evolutionary relationships, and fisheries biology. Laboratory exercises include development of a fish collection; experiments in fish physiology, behavior and ecology; computer modeling of problems in fisheries biology; and field trips. Lecture, three hours; laboratory, two hours per week. Prereq: BIO 148, BIO 152, BIO 155 or BIO 198 or consent of instructor.

***BIO 555 VERTEBRATE ZOOLOGY. (5)**
An intensive survey of the vertebrate classes with emphasis on trends and processes in evolution, classification, phylogeny, ecology, and adaptations in morphology and behavior. Lecture, three hours; laboratory, four hours per week. Prereq: BIO 148, BIO 152, BIO 155 or BIO 198, or consent of instructor.

BIO 556 COMMUNICATION BIOLOGY. (3)
Animals sense and respond to numerous signals from their environment by using sensory modalities attuned to visual, auditory, chemical, and electromagnetic cues. This course is an

in-depth examination of the physiological bases of sensory input and the interactive, motor system-mediated, behavioral repertoires exhibited by different species in response to such inputs. Prereq: BIO 325 or BIO 350.

***BIO 559 ORNITHOLOGY. (4)**
A study of the life histories, habits, identification, structure, adaptations, and physiology of birds. Special emphasis upon migrations, songs, nests and economic importance of our native birds. Lecture, field excursions, laboratory studies. Prereq: BIO 148, BIO 152, BIO 155 or BIO 198, or consent of instructor.

BIO 561 INSECTS AFFECTING HUMAN AND ANIMAL HEALTH. (3)
Discussion of arthropod parasites and disease vectors. Topics include an overview of disease transmission and public health, epidemiology, vector biology, important arthropod groups and their control. Prereq: One year of biology. (Same as ENT 561.)

BIO 563 PARASITOLOGY. (4)
Protozoan, helminth and arthropod parasites of man and domestic animals, emphasis on etiology, epidemiology, methods of diagnosis, control measures, and life histories. Techniques for host examination and preparation of material for study. Prereq: BIO 150, 151, 152, 153 or consent of instructor. (Same as ENT 563.)

BIO 564 INSECT TAXONOMY. (4)
A study of insect taxonomy including the collection, preparation, and identification of adult insect specimens. Prereq: Consent of instructor. (Same as ENT 564.)

BIO 567 APPLICATIONS OF GENETICS. (4)
Course covers genetic concepts with an emphasis on interpretation and analysis of molecular and population genetic data using examples from the entomological literature. Prereq: ABT 360 or BIO 304 or equivalent and an introductory statistics course.

BIO 568 INSECT BEHAVIOR. (3)
The principles of animal behavior will be stressed using insects as examples. Physiology, mechanisms, behavioral ecology and evolution of insect behavior will be covered. Prereq: One year of biology. (Same as ENT 568.)

BIO 575 PLANT ANATOMY AND MORPHOLOGY. (4)
A survey of the diverse structural features of plants and their functional and phylogenetic significance. Emphasis will be on the adaptive design of modern vascular plants as a response to natural and artificial selection. Lecture, three hours; laboratory, two hours per week. Prereq: Introductory biology sequence (six hours) or consent of instructor.

BIO 580 SPECIAL TOPICS IN BIOLOGY (ADVANCED LEVEL): (Subtitle required). (1-4)
Interdisciplinary, topical or experimental course in advanced (500-level) biology. Subtitle required. May be repeated for a maximum of 12 credit hours under different subtitles. Course format: variable – Lecture and/or laboratory and/or recitation and/or seminar. Prereq: Determined by instructor.

***BIO 582 VIROLOGY. (3)**
Physical, chemical and biological properties of viruses. Modes of replication and control of gene product formation displayed by representative plant, animal, and bacterial viruses. Prereq: BIO 304 and biochemistry or equivalent strongly recommended, or consent of instructor. (Same as MI 582.)

BIO 595 IMMUNOBIOLOGY. (2)
Laboratory in immunology and serology. Preparation, standardization, and uses of biological products; serology. Laboratory, four hours. Prereq: BIO/MI 494G or concurrently; or consent of instructor. (Same as MI 595.)

BIO 601 SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS. (1)
Each semester five distinguished scientists visit the UK campus to deliver a series of three formal lectures each and participate in numerous informal contacts with graduate students. The emphasis is on the presentation of the most current advances (often unpublished) in selected topics in molecular and cellular genetics. May be repeated to a maximum of six credits. (Same as BCH/MI/PLS/PPA 601.)

BIO 605 EMPIRICAL METHODS IN ECOLOGY AND EVOLUTION. (2)
This course provides students with hands-on experience in a diverse array of modern research methods used by ecologists and evolutionary biologists, including techniques used in: molecular genetics, chemical ecology, behavioral studies, motion analyses, using high-speed video, image analyses for morphometrics and color, and field techniques in both aquatic and terrestrial systems. Lecture, one hour; laboratory, three hours per week. Prereq: BIO 325 or FOR 340 or ENT 665, or consent of instructor. (Same as ENT/FOR 605.)

BIO 606 CONCEPTUAL METHODS IN ECOLOGY AND EVOLUTION. (3)
This course provides students with hands-on experience in a diverse array of conceptual research techniques used by ecologists and evolutionary biologists. The focus will be on optimization methods used for predicting animal and plant behaviors and life histories, and on methods for assessing population trends and dynamics. Mathematical techniques used will include graphical analyses, matrix algebra, calculus, and computer simulations. The latter part of the course will consist of collaborative modeling projects, in which small groups of students will work with the instructor to address an important contemporary research problem and will report their results in a public talk and a project writeup. Prereq: One year of calculus and BIO 325 or FOR 340 or ENT 665, or consent of instructor. (Same as ENT/FOR 606.)

BIO 607 ADVANCED EVOLUTION. (2)
This course covers advanced topics in evolution, concentrating on questions central to the understanding of general evolutionary processes. Phenomena occurring both within populations (e.g., selection, inheritance, population subdivision) and between populations (e.g., gene flow, competition) will be addressed. Special attention will be given to modern research approaches and techniques including quantitative genetics, measurement of selection, phylogenetic analyses of comparative data and molecular systematics. Prereq: One year of calculus, genetics (BIO 304 or BIO 461) and BIO 508 or consent of instructor. (Same as ENT/FOR 607.)

BIO 608 BEHAVIORAL ECOLOGY AND LIFE HISTORIES. (2)
This course uses an evolutionary approach to examine behavior and life histories. Topics addressed include: the optimality approach, constraints on optimality, kin and group selection, predator and prey behaviors, social and mating behaviors, and life history evolution. Prereq: BIO 325 and one semester of calculus; or consent of instructor. (Same as ENT/FOR 608.)

BIO 609 POPULATION AND COMMUNITY ECOLOGY. (3)
This course discusses the processes that determine population distributions and dynamics and community structure for both plants and animals. Topics addressed include: population regulation and population stability, community diversity and stability, ecological succession, population interactions (competition, predation, mutualism), coevolution, and the effects of spatial and temporal heterogeneity on population and community patterns. Prereq: BIO 325 or FOR 340 or consent of instructor. (Same as ENT/FOR 609.)

BIO 611 BIOPATHOLOGY. (3)
The course will examine the mechanisms by which various biological, chemical and physical agents injure susceptible hosts and the complex biochemical and immunological reactions which occur in response to injury. The host defense mechanisms will be illustrated by an analysis of selected human diseases and animal model systems with particular emphasis on the events at the molecular and cellular level. Prereq: BCH 502 or concurrent, BIO/MI 494G or equivalent and consent of instructor. (Same as MI 611.)

BIO 612 BIOLOGY OF AGING. (3)
A multidisciplinary discussion of how the process of aging affects biological systems. Coverage will be quite broad and includes topics such as subcellular and cellular aging, genetics, immunology, anatomy and physiology, animal model of aging, etc. Prereq: Enrollment in the doctoral program in Gerontology or a biomedical science department or consent of instructor. (Same as ANA/GRN/PGY 612.)

***BIO 615 MOLECULAR BIOLOGY. (3)**
This course will develop the student's ability to critically read and evaluate the primary literature in selected areas of molecular biology; various experimental systems and techniques are discussed. While there is some lecture, the time will be predominately spent in class discussions of the primary literature. Prereq: An advanced course in molecular biology and genetics (e.g. IBS 602) or consent of instructor. (Same as BCH/MI 615.)

BIO 618 MOLECULAR NEUROBIOLOGY. (4)
This course provides knowledge base and analytical skills in the field of molecular neurobiology. An in-depth introduction to current technologies, their rationale and limitations, will be the focus to address normal brain function and neuropathological conditions. Prereq: BCH 501, 502, NEU 605, or consent of instructor. (Same as ANA/MI/PGY 618.)

BIO 620 PLANT MOLECULAR BIOLOGY. (3)
This course is intended to be a treatment of current concepts of plant molecular biology. It will be a literature-based course, supplemented by handouts and reading lists. The course will deal as much as is possible with topics that are unique to plants. Current aspects of molecular biology that are relevant to the course content will be covered in the first part of the course; however, these lectures will not be a review of topics that should have been retained from introductory genetics and biochemistry courses. Also, they will not be a substitute for a molecular biology course. Prereq: One semester of undergraduate genetics and biochemistry or consent of instructor. (Same as PLS 620.)

BIO 621 TOPICS IN MODERN BIOLOGY (Subtitle required). (1-3)
A course for students in the biological and related sciences to be taught on various topics by specialists in their fields. Designed to give the student the most up-to-date information on the various topics. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

BIO 622 PHYSIOLOGY OF PLANTS I. (3)
A physiological/biochemical treatment of central topics in modern plant physiology. Topics will include: plant-cell biology, ion transport, water and translocation, respiration and photosynthesis. Prereq: BIO 430G or equivalent or consent of coordinator. Prereq or concur: BCH 607. (Same as FOR/PLS 622.)

BIO 623 PHYSIOLOGY OF PLANTS II. (3)
A physiological/biochemical treatment of central topics in modern plant physiology. Topics will include: plant hormones, an introduction to plant biotechnology, senescence and abscission, stress physiology, phytochrome-photomorphogenesis-phototropism nitrogen and sulfur metabolism. Prereq: BIO 430G or equivalent or consent of coordinator. Prereq or concur: BCH 607. (Same as FOR/PLS 623.)

BIO 625 INSECT-PLANT RELATIONSHIPS. (3)
This course examines the natural history, ecology, and evolution of insect/plant relationships. Topics include mechanisms and theory of plant defense, behavioral and physiological adaptations of herbivorous insects, pollination biology, multitrophic-level interactions, causes of insect outbreaks, and applications to managed ecosystems. Critical reading and discussion

of current literature is emphasized. Prereq: Two years of college-level biology. (Same as ENT 625.)

BIO 632 ADVANCED CELL BIOLOGY I. (3)
A molecular level treatment of cell structure and function derived from current experimental approaches. Eukaryotes will be stressed. Topics will usually include membrane structure and function, the cytoskeleton and the extracellular matrix, and bioenergetics. Lectures and discussions with reading in the original literature. Prereq: BIO 304 or equivalent; coreq: BCH 501 or equivalent or consent of instructor.

BIO 633 ADVANCED CELL BIOLOGY II. (3)
This course is a companion to BIO 632. Topics will usually include a molecular level discussion of gene structure, gene expression, and gene regulation, followed by the cell and molecular biology of cell proliferation, development, and differentiation. Lectures and discussions with reading in the original literature. Prereq: BIO 304 or equivalent, BCH 501 or equivalent or consent of instructor.

BIO 635 INSECT PHYSIOLOGY. (4)
Study of insect physiological processes including development, digestion, reproduction, respiration, excretion, hormones and immunity. Opportunity to learn techniques used in insect physiology and molecular biology. Prereq: Consent of instructor. (Same as ENT 635.)

BIO 636 INSECT MOLECULAR BIOLOGY. (4)
Principles of insect molecular biology. Analysis of insect development, reproduction, behavior, immunity, transgenic insects and insecticide resistance at the molecular level. Hands-on experience with molecular biology techniques. Prereq: ENT/BIO 635 or consent of instructor. (Same as ENT 636.)

BIO 638 DEVELOPMENTAL NEUROBIOLOGY. (3)
An explanation of the processes which contribute to the development of the nervous system. Neurophysiological, cell biological and molecular approaches to cell differentiation, neuronal pathfinding and synapse formation and stabilization will be explored and discussed. Examples will be drawn from both vertebrate and invertebrate preparations. Prereq: BIO 535 or consent of instructor. (Same as ANA/PGY/PSY 638.)

BIO 650 ANIMAL PHYSIOLOGY LABORATORY. (2)
Hands-on laboratory exercises in animal physiology. Prereq: Previous or concurrent enrollment in BIO 550. (Same as PGY 650.)

BIO 665 INSECT ECOLOGY. (3)
The biotic and physical factors influencing the distribution and abundance of insects and insect populations. Prereq: Consent of instructor. (Same as ENT 665.)

BIO 667 INVASIVE SPECIES BIOLOGY. (3)
This course will examine circumstances that allow introduced species to become invasive, how invasive species threaten our resources, and approaches to minimizing the incidence and impact of invasions. Prereq: Graduate standing or consent of instructor. (Same as ENT/FOR 667.)

BIO 684 PHYLOGENETIC SYSTEMATICS. (3)
Theory and methods of phylogenetic analysis and cladistics will be explained. Applications of phylogenetic analysis, such as historical biogeography, biological classification, and testing of ecological hypotheses will be explored. (Same as ENT 684.)

BIO 685 IMMUNOBIOLOGY, INFECTION AND INFLAMMATION. (3)
An introductory level graduate course surveying current trends in immunology including the organization of the immune system, cells important for immunity and inflammation; types of immune responses, cellular immunology, molecular immunology, self-nonself discrimination, vaccines and immune mediated diseases. Prereq: BCH 401G, or BCH 501 or 502, IBS 501 or equivalent or consent of the course director. (Same as MI 685.)

BIO 707 CONTEMPORARY TOPICS IN IMMUNOLOGY. (3)
This course will deal with controversial and evolving areas of immunology. Lectures in a given topic will be accompanied by student discussion of contemporary literature. Prereq: MI 685 or equivalent or consent of instructor. (Same as MI 707.)

BIO 720 MICROBIAL STRUCTURE AND FUNCTION. (3)
Molecular basis of structure and function in unicellular microbes. Molecular genetic and structural approaches to the analysis of bacterial architecture growth, division, and differentiation. Prereq: (to reflect appropriate IBS course). (Same as MI 720 and OBI 720.)

BIO 740 MAMMALIAN RADIATION BIOLOGY. (2)
The physical and biological sequelae of radiation effects will be discussed emphasizing human and mammalian responses and radiation health. Emphasis will be for health and medical workers. Prereq: Must have consent of instructor, BIO/RM 540 or RM 546 or equivalent background. (Same as RM 740.)

BIO 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

BIO 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

BIO 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

BIO 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

BIO 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

BIO 770 SEMINAR IN BIOLOGY. (1)
Reports and discussions of current research and literature in biology. Required of all graduate students. May be repeated to a maximum of 8 credits. Prereq: Graduate standing in biological sciences.

BIO 772 SEMINAR IN MICROBIOLOGY. (0-1)
Review of current literature in microbiology; presentation of papers on work in progress in the department or on assigned topics; reports on meetings of national and international scientific and professional societies and symposia. Required of all graduate students. Two hours per week. May be repeated nine times for a maximum of 10 credits. (Same as MI 772.)

BIO 773 SEMINAR IN PLANT PHYSIOLOGY. (1)
Reports and discussions on various topics in plant physiology. May be repeated for a maximum of eight credits.

BIO 782 ADVANCED VIROLOGY. (3)
Current trends in virology. Typical topics include DNA tumor viruses, RNA tumor viruses, persistent virus infections, and interference. Emphases of molecular mechanisms. Prereq: BIO 582. Adequate biochemistry and genetics strongly recommended, or consent of instructor. (Same as VS 782.)

BIO 795 RESEARCH IN BIOLOGY. (1-9)
Independent research work in biology. May be repeated to a maximum of 24 credits. Prereq: Graduate standing in biological sciences.

BIO 798 RESEARCH IN MICROBIOLOGY. (1-9)
May be repeated to a maximum of 24 credits. Prereq: Consent of instructor. (Same as MI 798.)

BME Biomedical Engineering

#BME 301 FUNDAMENTALS OF BIOMEDICAL ENGINEERING. (3)
Overview of the application of engineering principles to problems in living systems and healthcare delivery. Fundamental anatomy and physiology for engineers. Quantitative measurement and analysis of the structure, function, and control of biological systems. Prereq: Engineering standing or consent of instructor.

#BME 395 INDEPENDENT RESEARCH IN BIOMEDICAL ENGINEERING. (1-3)
Individual research on selected problems of current significance in biomedical engineering. Variable credit; may be repeated to a maximum of six credit hours. Prereq: Consent of instructor.

#BME 405 INTRODUCTION TO BIOMEDICAL SIGNAL PROCESSING. (3)
Study of continuous and discrete signal concepts, sampling of analog signals, domain transformation (Fourier, LaPlace, Z-Transforms), and introduction to correlation and power spectrum. Characteristics and design of analog and digital filters. Features of biological signals and systems and biomedical applications. Introduction to non-linear systems. Prereq: EE 305 or equivalent and MA 214; or consent of instructor.

#BME 472 HUMAN BIOMECHANICS. (3)
This course presents an engineering-based approach to the quantitative study of the human musculoskeletal system. Principles involving static and dynamic mechanical analyses will be applied to quantify the forces and moments in human posture and movement. Study of the material and biological properties of the musculoskeletal system is included because they are intimately coupled to the formulation and interpretation of problems in static and dynamic biomechanics. Prereq: EM 221, EM 313; or consent of instructor.

BME 481G TOPICS IN BIOMEDICAL ENGINEERING. (3)
Detailed investigation of a topic of current significance in biomedical engineering such as: biomaterials, hard or soft tissue biomechanics, rehabilitation engineering, cardiopulmonary systems analysis, biomedical imaging. Prereq: Consent of instructor.

#BME 485 FUNDAMENTALS OF BIOFLUID MECHANICS. (3)
This course is taught concurrently with BME 685 Biofluid Mechanics. This course provides the students with a review of basic fluid mechanics principles and a direct, practical application of these principles to biomedical and clinical problems associated with the human circulatory system. Prereq: Engineering standing or consent of instructor.

***BME 488 INTRODUCTION TO BIOMATERIALS. (3)**
Study of biological and man-made materials that perform, improve, or restore natural functions. Structure and properties of connective tissue and commonly implanted metals, ceramics, and polymers; biocompatibility of materials used in orthopedic, soft tissue, and cardiovascular applications. Prereq: Engineering standing and MSE 201; or consent of instructor.

BME 501 FOUNDATIONS OF BIOMEDICAL ENGINEERING. (3)
This course demonstrates the application of diverse engineering principles to analysis and understanding of the structure, function, and control of biological systems. Quantitative measurements and analysis of homeostatic, regulatory, transport, biochemical, and biomechanical processes of the human body. Prereq: Engineering standing or consent of instructor.

#BME 508 CELL MECHANICS AND MECHANOBIOLOGY. (3)
This course will serve as an introduction to cell and tissue level mechanobiology with focus on human physiological and disease processes. The primary focus is to introduce principles of cell-level mechanics in the context of the biology of living organisms, what we term mechanobiology. In effect, we treat biological processes and regulation as another variable(s) that must be accounted for when modeling the mechanical/physical behavior of human tissues. A large amount of the basic principles in this field of study arose as a result of the intense research in the cardiovascular field. We will draw many examples of mechanobiological principles as it relates to the circulatory system. Despite our cardiovascular focus, the basic principles can be applied to the whole range of mechanobiological research conducted in other applications (orthopedics, urological, pulmonary, etc.). Prereq: EM 302 and/or CME/ME 330 (or equivalent fluid mechanics course); or consent of instructor.

#BME 515 MODELING OF PHYSIOLOGICAL SYSTEMS. (3)
This introductory course in mathematical modeling will teach students how to construct simple and elegant models of biological and physiological processes – for instance the absorption and elimination of drugs in the human body or the kinetics of tumour growth in tissue – and to analyze or predict the dynamics of these events by solving the models. Prereq: MA 113, 114, 213, 214, or consent of instructor; familiarity with computer programming.

BME 530 BIOMEDICAL INSTRUMENTATION. (3)
A comprehensive introduction to major aspects of biomedical instrumentation. Topics include basic concept of medical instrumentation, biopotentials, physiological pressure/flow/respiratory measurement, optical sensing, and clinical applications of all the above. The fundamental mathematics underlying each instrument will be reviewed and an engineering picture of the hardware and software needed to implement each system will be examined. Prereq: Consent of instructor.

#BME 540 MECHANICAL MODELING OF HUMAN MOTION. (3)
An introduction to mechanical modeling of human motion (lectures) along with application of computational software to model and estimates internal tissues responses to physical demands of several different activities/tasks (lab activities). Prereq: EM 221, EM 313; or consent of instructor.

BME 579 NEURAL ENGINEERING: MERGING ENGINEERING WITH NEUROSCIENCE. (3)
A multidisciplinary approach combining engineering principles for systems analysis and control, knowledge of biological control mechanisms, and computational properties of biological neural networks in the development of engineering neural networks for control applications. Topics include: equivalent circuit models for biological neurons and networks, non-linear differential equation representations, biological control strategies for rhythmic movements, design and development of controller for robot function, proposal development and presentation. Prereq: EE 422G and Engineering Standing or consent of instructor. (Same as EE 579.)

#BME 580 INTRODUCTION TO BIOMEDICAL IMAGING. (3)
A comprehensive introduction to bio-medical imaging systems used today, including xray imaging and computed tomography (CT), magnetic resonance imaging (MRI), ultrasound imaging (UI), and diffuse optical tomography (DOT). The course will review the fundamental mathematics underlying each imaging modality, the hardware needed to implement each system, and the image reconstruction and analysis. The class may involve homework, projects, and exams. Prereq: EE 305, or consent of instructor.

BME 599 TOPICS IN BIOMEDICAL ENGINEERING (Subtitle required). (3)
An interdisciplinary course devoted to detailed study of a topic of current significance in biomedical engineering, such as cellular mechanotransduction, systems biology, and tissue engineering. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

BME 605 BIOMEDICAL SIGNAL PROCESSING I. (3)
Continuous and discrete signals, sampling, Fourier Transform, LaPlace Transform, Z-Transform, correlation and spectral analysis, digital filters. Prereq: Concurrent enrollment or completion of PGY 412G or PGY 502.

BME 610 BIOMEDICAL CONTROL SYSTEMS I. (3)
Homeostatic mechanisms, input-output analysis, steady state and transient response, feedback concepts, system identification and simulation from actual operating data. Prereq: PGY 502 and ME 440 or equivalent.

BME 615 BIOMEDICAL SIGNAL PROCESSING II. (3)
Stochastic processes, Fourier-based spectral analysis and linear system identification, modern spectral estimation (AR, MA, ARMA), parametric transfer function estimation, time-frequency analysis of nonstationary signals. Prereq: BME 605, BME 610, EE 640 recommended.

BME 640 BIOMEDICAL ENGINEERING ETHICS. (1)
This course presents an engineering-based approach to study the system of ethics applicable to biomedical engineering. This course will describe and examine the responsibilities of biomedical engineers to stakeholders, e.g., patients, research subjects, and engineering clients as well as to the legal system (where applicable) and the profession as an entity. As a scholarly discipline, biomedical engineering ethics draws upon principles from subjects such as: the philosophy of science, the philosophy of engineering, and the ethics of technology. Materials from these principles will be used in this course with adaption to the special circumstances attending the practice of Biomedical Engineering.

BME 642 NAVIGATIONAL GUIDES FOR BIOMEDICAL PRODUCT DEVELOPMENT. (3)
This course teaches engineers how biomedical product designs are influenced by government regulations, economic issues, and ethical concerns.

BME 661 BIOMATERIALS SCIENCE AND ENGINEERING. (3)
Study of biological and man-made materials that perform, improve, or restore natural functions. Structure and properties of connective tissue and commonly implanted metals, ceramics, and polymers; biocompatibility of materials used in orthopedic, soft tissue, and cardiovascular applications. Prereq: Undergraduate engineering degree or consent of instructor.

BME 662 TISSUE-IMPLANT INTERFACE. (3)
Study of the interface between implants and host tissues from both the materials and biological perspective. Structure of the tissue-implant interface; surface characterization of biomaterials; protein adsorption; mechanisms of cell responses; the methods for controlling the tissue-implant interface, with emphasis on orthopedic and cardiovascular applications. Prereq: BME 661 or consent of instructor.

BME 670 BIOSOLID MECHANICS. (3)
Application of laws of mechanics to study the behavior of human organ systems. Stress-strain analysis of soft and hard body tissues with emphasis on pulmonary and musculoskeletal systems. Viscoelastic properties. Prereq: Undergraduate engineering degree or consent of instructor.

BME 672 MUSCULOSKELETAL BIOMECHANICS. (3)
Application of laws of mechanics to study behavior of human musculoskeletal system. Materials science of bone, muscle, tendon are integrated into static and dynamic analyses of isolated (e.g., foot, arm, and hand) and whole body segment. Prereq: PGY 502, ME 330 or consent of instructor.

BME 685 BIOFLUID MECHANICS. (3)
Review of the rheology of circulatory processes in the body. Special emphasis on cardiovascular dynamics: pulsatile pressure and flow, vascular impedance, wave propagation/reflection, cardiac dynamics. Special topics. Lecture, three hours with periodic lab demonstrations. Prereq: Undergraduate engineering degree or consent of instructor.

BME 690 RESEARCH IN BIOMEDICAL ENGINEERING (Subtitle required). (1-3)
Individual study related to a special research project. Intended for M.S. candidates who want a research project experience independent of their M.S. thesis work. This course cannot be used to satisfy residency credit requirements. Lecture, 1-3 hours; laboratory, 3-6 hours per week. May be repeated to a maximum of six credits. Prereq: Consent of instructor and graduate standing in BME.

BME 699 SPECIAL TOPICS IN BIOMEDICAL ENGINEERING (Subtitle required). (1-3)
Special topics in biomedical engineering, addressed primarily in a lecture/discussion format. Presentation of focussed or specialized topics that are not available in standard courses. Lecture, three hours; laboratory 0-2 hours per week. May be repeated to a maximum of nine credits. Prereq: Consent of instructor and graduate standing in BME.

BME 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

BME 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

BME 766 MANAGEMENT OF TECHNOLOGY. (3)
Successfulness in developing new technologies relies upon knowing which technology advance, the ultimate scientific limits of that technology, and the forecasted rate of technological change. This course presents curricula that explore the direction of technological change and how this affects the rate and extent of innovation.

BME 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

BME 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

BME 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

BME 772 SEMINAR. (0)
Review of current literature in the field of biomedical engineering, general discussion and presentation of papers on research in biomedical engineering. Lecture, one hour per week. Required for all graduate students in biomedical engineering.

BME 774 GRADUATE BME SEMINAR. (0-1)
Scientists and engineers present current research in biomedical engineering. Students are required to prepare for and deliver a seminar on their own research. May be repeated to a maximum of 4 credits. Prereq: Graduate standing in Biomedical Engineering or consent of instructor.

BME 777 ADVANCED STUDY PROJECT. (3)
This is an independent study project, topic to be selected in consultation with the instructor. Purpose is to integrate all materials learned in the program and apply these principles to the solution of an actual problem in biomedical engineering technology. Prereq: Permission of instructor and completion of year 1 PBME studies.

BME 781 SPECIAL PROBLEMS IN BIOMEDICAL ENGINEERING (Subtitle required). (1-3)
Discussion of advanced and current topics in biomedical engineering. Individual work on research problems of current interest. May be repeated to a maximum of nine credits. Lecture/laboratory hours, variable. Prereq: Approval of instructor.

BME 790 RESEARCH IN BIOMEDICAL ENGINEERING. (1-9)
Graduate research in any area of biomedical engineering, subject to approval of the Director of Graduate Studies. May be repeated to a maximum of nine hours. Prereq: Consent of the Director of Graduate Studies.

BMI Biomedical Informatics

#BMI 633 INTRODUCTION TO BIOINFORMATICS. (3)
This is an introductory course aimed at a multi-disciplinary audience with an interest in applying the principles of information sciences for obtaining insight into biological processes and systems that can eventually be used to make informed decisions.

#BMI 730 PRINCIPLES OF CLINICAL INFORMATICS. (3)
This course offers an overview of Clinical informatics, which is the application of informatics principles, methods, and tools to support healthcare practice and research activities as well as business processes.

#BMI 731 BIOMEDICAL INFORMATION RETRIEVAL. (3)
This class is an introductory information retrieval class that is focused on biomedical information search engines. Basic IR concepts such index construction, optimization, visualization, and evaluation will be covered. In addition to core IR contexts, students will have an opportunity to learn about search engines, web crawling, and some Web 2.0 technologies based on hands-on exercises and assignments with a focus on techniques that can be used to access, retrieve, organize, and present information. Students will employ an open source indexing engine (e.g., Lemur or Lucene or something similar) to understand how back-end of retrieval engine is effectively and efficiently structured.

#BMI 732 BIOMEDICAL ONTOLOGIES AND SEMANTIC WEB TECHNIQUES. (3)
This course is a conceptual introduction to biomedical ontologies and ontological modeling in biomedicine through Semantic Web techniques. Students will learn about RDF, OWL, description logics, and SPARQL and their role in designing ontologies. Biomedical terminologies such as GO, ICD-9/10, SNOMED-CT, and MeSH will be discussed as case studies. Prereq: MA 123 (or equivalent) or consent of the instructor.

#BMI 733 BIOMEDICAL NATURAL LANGUAGE PROCESSING. (3)
This course is a technical introduction to the area of biomedical natural language processing (NLP). In the field of biomedical informatics, this focuses on the common steps in extracting information from textual data that arises from biomedical literature and clinical documents. Topics involve n-gram models, tokenization, POS tagging, and parsing. Prereq: MA 123 (or equivalent) or consent of instructor.

#BMI 734 INTRODUCTION TO BIOMEDICAL IMAGE ANALYSIS. (3)
This class aims to give students a broad overview of biomedical image analysis and imaging informatics. We will introduce the state-of-the-art knowledge to understand, develop, and apply existing methods and software to handle biomedical image data to extract quantitative matrices.

#BMI 735 INTRODUCTION TO BIOIMAGE INFORMATICS. (3)
This class provides an introduction to searching and retrieval in biomedical image analysis and imaging informatics. We will introduce some advanced biomedical image analysis, searching, and retrieval algorithm for fast and efficient image searching and retrieval. Prereq: BMI 734: Introduction to Biomedical Image Analysis.

BSC Behavioral Science

BSC 331 BEHAVIORAL FACTORS IN HEALTH AND DISEASE. (3)
The study of human behavior relating to health and disease and the organization of health care as a social system. Selected concepts from the psychological and social sciences are presented in a biobehavioral frame of reference and applied to the consideration of specific problems.

BSC 534 ETHICS AND RESPONSIBILITY IN CLINICAL RESEARCH. (3)
Clinical scientists need a sound understanding of the ethical principles guiding the conduct of research projects. This course will address issues relevant to ethically sound study design, responsible conduct of research and scientific misconduct. Students will also complete human subjects protection training and learn to conduct research in an ethical manner. During this course, students will engage in both in-class lecture and discussion sessions as well as out of class learning activities (outlined below). The final project for graduate students for this course will serve as a practical application of what is learned during the course to students' stated research interest. The goal of this course is to provide an overview of ethical considerations when conducting and reporting clinical research, as well as to provide experience in the practice and application of ethics to clinical science.

It is assumed by the course directors that students in this course are either actively engaged in clinical research or intend to be involved in clinical research in the near future. This course has been designed around the principle that practical knowledge about how to conduct ethical research should be the focus. A second key principle of this course is that it is student-centered, meaning that it emphasizes the involvement of students in applying the concepts of ethics to their own research interests. The course activities are intended to promote the ethical application of research concepts to students' areas of interest and to foster practical knowledge that supports students' own research agendas. The diverse interests and experiences of students and faculty offer opportunities to learn from each other. Prereq: This course is designed for scholars pursuing research training in clinical and translational science to integrate and apply knowledge obtained in previous training. Permission is required from the Course Director for entry into the class.

BSC 620 ORIENTATION TO MEDICAL BEHAVIORAL SCIENCE. (1)
This course offers a structural exposure of students to the varieties of basic and clinical science research and current issues in health care policy under discussion at the University Medical Center. Following weekly attendance at research seminars and clinical rounds, students will present their observations in follow-up discussion groups. May be repeated to a maximum of three credits. (Same as CPH 841.)

BSC 626 SURVEY OF HEALTH PSYCHOLOGY. (3)
A survey of the field of health psychology. It will explore the ways in which social and psychological research contribute to an understanding of health and illness behavior. Prereq: Graduate or professional standing and consent of instructor. (Same as PSY 626.)

***BSC 731 METHODS AND TECHNOLOGIES IN CLINICAL AND TRANSLATIONAL SCIENCE. (3)**
This overview course is designed to introduce the student to the major methods and technologies of clinical and translational science (CTS) with an emphasis on human subjects research. Students learn these core methodologies through classroom discussions, readings, and written portfolio activities that challenge them to apply methodological concepts to their own areas of research interest. Specifically, the course teaches students how to formulate research questions and write literature reviews; apply CTS research methods, including experimental, survey, and qualitative research methodologies, to diverse areas of research by aligning appropriate methodologies to research questions of interest, and enhance interdisciplinary communication skills. It is assumed that students are engaged in research that is consistent with CTS or will become engaged in such research in the near future. Prereq: Graduate standing. Permission is required from the Course Director for entry into the class.

***BSC 732 INTERDISCIPLINARY PROTOCOL DEVELOPMENT. (3)**
This course will introduce students to the processes involved in the development and implementation of interdisciplinary research. Students will be introduced to key aspects of the leadership, communication and teamwork involved in interdisciplinary research. Students will also be introduced to the structure and functioning of the NIH and the NIH grant application and review process. Finally, students will apply their knowledge regarding the research methods and technologies of clinical and translational science to develop an NIH-format research grant application that addresses a research topic in their own area of interest. This course is intended for advanced graduate or professional students pursuing focused research training in one of the degree or certificate programs available in clinical and translational science. It is expected students will have completed the course in Methods and Technologies in Clinical & Translational Science (BSC 731) prior to this course. Prereq: BSC 731 and graduate standing in the clinical and translational science program.

BSC 733 SEMINAR IN CLINICAL AND TRANSLATIONAL SCIENCE. (1)
This seminar course is designed to orient students to clinical and translational research community and activities at the University of Kentucky and to incorporate a multidisciplinary cooperative approach to clinical and translational research. Students are expected to apply their knowledge of effective scientific communication, responsible conduct of research, and methods and technologies of clinical and translational science to ongoing discussions. The course will consist of seven evening seminars focusing on different topics of clinical and translational research. Students will be required to present a description of their research interests and activities during one seminar. Homework assignments will require students to summarize the key elements of each seminar as related to clinical and translational research and the relevance

of these issues to their own research interests and career plans. Active participation by all members is expected. Prereq: Graduate standing.

BSC 745 RESEARCH METHODS IN MEDICAL BEHAVIORAL SCIENCE. (3)
This is an applied methods course which will review the various aspects of research and apply them to current medical behavioral studies. The different approaches used by the behavioral and clinical sciences will be reviewed and demonstrated. Prereq: Any methods courses required for a Ph.D. in the department major.

BSC 746 RESEARCH ETHICS AND DILEMMAS. (3)
This class will utilize case studies for debate, class participation, and papers to help students gain skills to recognize and resolve research dilemmas. Objectives of this class include: (1) understand basic elements of ethical dilemmas; (2) to understand basic ethical theories and frameworks for solving ethical dilemmas; (3) to examine ethical dilemmas within a behavioral or medical science research context; and, (4) to examine ways of eliminating bias and promoting objectivity in a behavioral or medical science research context.

BSC 750 HISTORY OF MEDICINE AMONG AFRICAN AMERICANS: IMPLICATIONS FOR HEALTH DISPARITIES. (3)
This course on the history of medicine among African Americans seeks to provide an understanding of the roots of the African American health deficit. The course will enable students to: 1) Articulate how the earliest encounters between African Americans and Western medical researchers set the stage for health inequities. 2) Engage in and direct thought-provoking discussions of how racist pseudoscientific ideas remain in contemporary society that contributes to health disparities among African Americans. 3) Critically examine the theory of eugenics and social Darwinism and how they are used to justify experimental exploitation and poor medical treatment of African Americans. 4) Understand and identify how historical and contemporary medical issues have contributed to medical ethics of distrust in the African American community.

BSC 760 AGING, HEALTH AND DECISION MAKING. (3)
This is a doctoral level seminar that provides an overview of behavioral decisional theories (e.g. rational choice, multiattribute utilities models, naturalistic decision-making, ethnographic decision models, Janis and Mann's conflict theory, information processing theory, heuristic models, process tracing models, etc.) and examines research applications of those theories to the health of older adults. Research focuses on decision made by physicians, older adults, family caregivers and policy makers. A variety of applications include such decision domains as preventative screening, retirement and financial planning, other medical treatments, self-care, seeking medical care, institutionalization, end-of-life, etc.

BSC 763 WOMEN'S TRAUMA AND MENTAL HEALTH. (3)
This course will examine the research on intimate partner violence, mental health, and substance abuse among women. Clinical and legal interventions will also be discussed. Although knowledge of at least basic statistics would be helpful, it is not required for this class.

BSC 764 SEMINAR IN HEALTH INEQUITIES. (3)
This course is designed to critically examine undeniable inequities in the distribution of morbidity and mortality. Students explore linkages between disease burdens and the social, economic, and cultural contexts of our rapidly changing world by integrating local, national and international perspectives from social and biomedical sciences. Prereq: Graduate studies in the social sciences and permission of the instructor.

BSC 765 RESEARCH PROBLEMS IN MEDICAL ANTHROPOLOGY. (3)
(1) Advanced history and theory of medical anthropology; (2) research design, field work, analysis of data in medical anthropology. Prereq: Consent of instructor. (Same as ANT 765.)

BSC 766 CONCEPTS IN MEDICAL SOCIOLOGY. (3)
A review of sociological concepts and methods which have been applied to the study of health and medicine; the contributions of medical sociology to general sociological theory and to concepts and research on health-related problems of society. Prereq: Consent of instructor. (Same as SOC 766.)

BSC 770 PSYCHOSOCIAL ISSUES IN HEALTH AND AGING. (3)
This course will focus on psychosocial issues related to the physical health and functioning of older adults. Topic areas include: theories of aging; age-appropriate research designs; age-related cognitive personality, social and family changes which influence physical health; health behavior and education of older adults; and selected chronic conditions, e.g. Alzheimer's disease, arthritis, depression, diabetes and stroke.

BSC 772 TOPICAL SEMINAR IN MEDICAL BEHAVIORAL SCIENCE. (1-3)
Advanced study of selected topics of current importance in medical behavioral science. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

BSC 773 PSYCHOSOCIAL ONCOLOGY. (3)
This course will introduce the student to the field of psychosocial oncology. Historical and recent developments in the application of behavioral science knowledge and methodology to the understanding and treatment of cancer and the cancer patient will be examined. The role of psychosocial factors in the etiology, prevention, and treatment of cancer will be explored. Emphasis will be placed upon the interaction of biological, psychological, and social factors throughout the course of cancer. Prereq: Graduate standing.

BSC 774 FOOD AND FOOD SECURITY IN A CHANGING WORLD. (3)
This cross-cultural seminar explores the biocultural interactions among food, human biology, and the social, cultural, political and economic factors that shape food-related behaviors and nutritional status of populations. Topics include the social role of food, food beliefs and ideology, the political economy of malnutrition, development strategies and food security, and methods in nutritional anthropology research. Readings and discussions are research focused and approach issues from a variety of theoretical perspectives. Prereq: ANT 601 or consent of instructor. (Same as ANT 774.)

BSC 776 SEMINAR IN DEPENDENCY BEHAVIOR. (3)
The course is designed to explore theories of dependency behavior by examining the concept of dependency as it can be applied to the study of various phenomena including alcohol use and abuse; dependence on other psychoactive substances; institutional dependency; dependency in work settings; and poverty and welfare. Prereq: Consent of instructor. (Same as ANT/PSY/SOC 776.)

BSC 777 SEMINAR IN MENTAL ILLNESS CONCEPTS, RESEARCH AND POLICY. (3)
Advanced study of contemporary concepts of mental health and mental illness, and their historical development; major forms of response to mental illness. Prereq: Consent of instructor. (Same as SOC 777.)

BSC 778 BEHAVIORAL FACTORS IN SELECTED DISEASES. (3)
An exploration of behavioral science concepts which bear on various physical illnesses. The perspective of the course is interdisciplinary, using concepts from the various behavioral science disciplines. Prereq: Consent of instructor.

BSC 779 BEHAVIORAL FACTORS IN DEATH AND DYING. (3)
Behavioral concepts are examined which explain reactions of individuals, collectivities and social institutions to the phenomenon of death. Prereq: Consent of instructor.

BSC 782 WOMEN'S HEALTH AND AGING. (3)
This class explores the issues related to health and well-being among older women. Using a multidisciplinary approach that blends humanities, social and medical science and public policy, the course examines social, economic and cultural contexts of chronic physical and mental health. Prereq: Upper level/graduate class in social science. (Same as GRN 782.)

BSC 785 COMPARATIVE HEALTH CARE SYSTEMS. (3)
This seminar will focus on concepts, issues, and research pertaining to health care systems in comparative perspective. It will deal with the following questions. (1) What are the core analytical dimensions of a health care system? (2) How do health care systems connect with the other institutional domains of a society, with its value-system, and with its major cultural and historical trends? and (3) Within the health care system, how are the main constituents of modern medicine related to each other? Prereq: Consent of instructor. (Same as SOC 785.)

BSC 787 BIOBEHAVIORAL PERSPECTIVES ON DRUG AND ALCOHOL ABUSE AND DEPENDENCY. (3)
This seminar course is designed to survey major topics, concepts and issues pertinent to the field of drug and alcohol abuse and dependence. The course will consist of 14 weekly presentations by instructors followed by open discussion of the presentation and assigned readings by class members. Active participation by all members is expected. Each weekly presentation is designed to provide a general overview of the current state of knowledge (e.g. theory, methods, ethics, review of classic and/or exemplary studies) in a given area of drug and alcohol abuse and dependence research. Discussions are intended to integrate the information across traditional disciplinary boundaries. Prereq: Graduate standing.

BSC 788 DRUG ABUSE: CONTEMPORARY THEORIES AND ISSUES. (3)
This course is designed to familiarize students with major concepts and current issues in the field of substance abuse research.

BSC 790 RESEARCH IN MEDICAL BEHAVIORAL SCIENCE. (1-6)
Individually directed research and reading in particular aspects of medical behavioral science under the supervision of one or more members of the faculty. May be repeated to a maximum of 12 hours. Prereq: Consent of instructor.

BSC 814 PATIENTS, DENTISTS AND SOCIETY I. (1)
This course aims to orient the student to the place health and health professions play in modern cultures. Recognition of their own social assumptions and values and those of persons of different backgrounds is encouraged. Understanding, predicting, and changing dental patient behavior from a social standpoint is emphasized. (Same as CDE 814.)

BSC 815 FIRST-YEAR ELECTIVE, BEHAVIORAL SCIENCE. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Behavioral Science. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

BSC 824 COMMUNICATION IN THE DENTAL HEALTH CARE SETTING. (1)
This course aims to improve the student's ability to communicate with patients and the public in an empathetic and professional manner. Methods of obtaining necessary health information from all types of patients are taught. Prereq: Second year standing in the College of Dentistry. (Same as CDE 824.)

BSC 825 SECOND-YEAR ELECTIVE, BEHAVIORAL SCIENCE. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Behavioral Science. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

BSC 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
BSC 850 ELECTIVE IN BEHAVIORAL SCIENCE
BSC 880 TREATMENT OF DENTAL FEAR

BST Biostatistics

BST 330 STATISTICAL THINKING FOR POPULATION HEALTH. (3)
This course provides students with an introduction to statistical concepts that are important for solving real-world public health problems. This course will present statistical principles and associated scientific reasoning underlying public health practice and health policy decision making. Prereq: UK Core course in Quantitative Foundations.

BST 655 INTRODUCTION TO STATISTICAL GENETICS. (3)
BST 655 presents an introduction to the statistical methodologies used today to investigate genetic susceptibility to complex diseases. The course focuses on linkage and association analysis with applications to real-world data. Commonly used (and freely available) software will be presented and used throughout. Because the field is constantly evolving, a focus of the material for this course will be recent statistical human genetics literature. Prereq: STA 580 or equivalent. (Same as STA 655.)

BST 675 BIOMETRICS I. (4)
This course, the first of a two-semester sequence in biometrics, introduces probability, discrete random variables, continuous random variables, joint distributions, and sampling distributions. Prereq: STA 580 and MA 114 or equivalent.

BST 676 BIOMETRICS II. (4)
This course, the second of a two-semester sequence in biometrics, introduces techniques for constructing and evaluating point estimators, hypothesis testing procedures, and interval estimators. Prereq: BST 675.

BST 681 LINEAR REGRESSION. (3)
This course, the first in a two-semester sequence in regression modeling, covers linear regression models for normally distributed outcomes. The course will cover simple and multiple linear regression, estimation, interpretation, hypothesis testing, model building and diagnostics, matrix algebra for regression, and an introduction to design of experiments. The course will include the use of computing tools to apply these models to real data. Prereq: STA 580 or consent of instructor.

BST 682 GENERALIZED LINEAR MODELS. (3)
This course, the second in a two-semester sequence in regression modeling, covers regression models for outcomes which are not normally distributed, such as binary and count data. The course will cover the generalized linear model framework, multivariate maximum likelihood theory, logistic regression, Poisson regression, and nominal and ordinal logistic regression models, as well as approaches for building and checking these models. The course will include the use of computing tools to apply these models to real data. Prereq: BST 675, BST 681.

#BST 693 STATISTICAL PRACTICE IN PUBLIC HEALTH. (3)
To provide an introduction to statistical practice in public health including improved statistical communication (how to ask good questions in a consulting session, writing analysis plans, and how to express results both orally and in writing), programming for reproducibility and data ethics, and utilizing statistical methodology for problem solving in public health research. Prereq: CPH 630/STA 681 or equivalent and CPH 535 or equivalent.

BST 701 BAYESIAN MODELING IN BIOSTATISTICS. (3)
This course provides an introduction to Bayesian ideas and data analysis applied to the biosciences. The course illustrates current approaches to Bayesian modeling and computation in biostatistics. Prereq: BST 682 and BST 676 or equivalent.

BST 713 CLINICAL TRIALS. (3)
Design and analysis of Phase I-III clinical trials, interim monitoring of trials, sample size, power, crossover trials, bioequivalency, mixed models, and meta analysis. Coreq: STA 603. (Same as STA 653.)

BST 740 SPATIAL STATISTICS. (3)
Course will cover risks and rates, types of spatial data, visualizing spatial data, analysis of spatial point patterns, spatial clustering of health events based on case control studies, and based on regional counts, linking spatial exposure data to health events through regression modeling, Bayesian spatial analysis. Prereq: BST 682.

BST 761 TIME TO EVENT ANALYSIS. (3)
Analysis of time to event data encountered in Public Health and Medicine. Survival distributions and hazard functions. Time to event analysis using Kaplan-Meier method and life-table method. Accelerated failure time model, logit model for discrete data, complimentary log-log model, and proportional hazards model. Tests for goodness-of-fit, graphical methods, and residual and influence statistics. Time-dependent covariates, non-proportional hazards, left truncation, and late entry into the risk set. Sample size and power, competing risks, and time to event analysis with missing data. Prereq: STA 580 or equivalent.

BST 762 LONGITUDINAL DATA ANALYSIS. (3)
This course presents statistical techniques for analyzing longitudinal studies and repeated measures experiments that occur frequently in public health, clinical trials, and outcomes research. This course will cover linear mixed models, generalized linear mixed models and an introduction to nonlinear models as they apply to the analysis of correlated data. Prereq: BST 682 and BST 676. (Same as STA 632.)

BST 763 ANALYSIS OF CATEGORICAL DATA. (3)
Multinomial and product-multinomial models; large-sample theory of estimation and testing, Pearson chi-square and modified chi-square statistics, Pearson-Fisher Theorem, Wald Statistics and generalized least squares technique; applications to problems of symmetry, association and hypotheses of no interaction in multi-dimensional contingency tables. Prereq: STA 603 and STA 606. (Same as STA 665.)

BST 764 APPLIED STATISTICAL MODELING FOR MEDICINE AND PUBLIC HEALTH. (3)
This course introduces some useful statistical models not typically encountered in the core courses of a master's or doctoral biostatistics curriculum. These include finite mixture models, nonparametric regression models, covariance-based models, and stochastic models. Prereq: BST 682 and BST 676.

BST 765 MISSING DATA METHODOLOGY FOR PUBLIC HEALTH. (3)
This course surveys methods for analyzing data with missing observations. This includes methods for data missing completely at random including hot deck cold deck, mean substitution, and single imputation; methods for data missing at random including multiple imputation and weighted estimating equations and methods for data missing not at random including pattern mixture models, selection models, and shared random effects models. Prereq: BST 676 and BST 762.

BST 766 ANALYSIS OF TEMPORAL DATA IN PUBLIC HEALTH. (3)
This course surveys methods for analyzing public health data collected over time. Methods covered include smoothing time series data, the modeling of stationary time series for Gaussian, dichotomous, and case count responses, methods for detecting the clustering of disease over time, and methods for the surveillance of infectious diseases in real time. Prereq: BST 682 and BST 676.

CDE Community Dentistry

CDE 814 PATIENTS, DENTISTS AND SOCIETY I. (1)
This course aims to orient the student to the place health and health professions play in modern cultures. Recognition of their own social assumptions and values and those of persons of different backgrounds is encouraged. Understanding, predicting, and changing dental patient behavior from a social standpoint is emphasized. (Same as BSC 814.)

CDE 815 FUNDAMENTALS OF DENTAL PUBLIC HEALTH. (2)
Fundamentals of Dental Public Health is a first-year course designed to introduce student dentists to the dental specialty of Dental Public Health, to dental epidemiological concepts, terminology, and methods used in population-based health care. Community oral health problems in Kentucky and the United States will be reviewed. Emphasis will be placed on public health research, programming, and outcome evaluation strategies related to oral disease in populations. Lecture, 28 hours; laboratory, 3 hours.

CDE 824 COMMUNICATION IN THE DENTAL HEALTH CARE SETTING. (1)
This course aims to improve the student's ability to communicate with patients and the public in an empathetic and professional manner. Methods of obtaining necessary health information from all types of patients are taught. Prereq: Second year standing in the College of Dentistry. (Same as BSC 824.)

***CDE 830 ADVANCED CONCEPTS IN DENTAL PUBLIC HEALTH. (1)**
Advanced Concepts in Dental Public Health is a third year course designed to help students develop the perspective and sensitivities of dentists practicing in the community. It examines the external environment and various factors that influence the oral health of the community including barriers to care. Financing mechanisms and workforce issues will be discussed. To provide a framework for the dental student's professional development, the instructional content builds on the concepts acquired in the first year introductory course in dental public health and presents concepts that will help the student dentist prepare for the Community-Based Dental Education Program. (CDE 841).

Course material is organized around current societal and dental health issues and health care delivery system trends in Kentucky and the United States. These issues and trends will be examined in the context of current national debates concerning access to oral health prevention and care for high risk populations and the associated health disparities to these populations. Prereq: Admission to College of Dentistry or consent of course director.

CDE 840 ADVANCED COURSE ON THE TREATMENT OF SPECIAL PATIENTS. (1)
In this course, dental students participate in preclinical seminars and dental treatment of mentally, medically and physically handicapped patients. Several phases of dental treatment of the special patient, such as sedation and general anesthesia, pharmacological evaluation and preventive dentistry, are covered. The course is individually designed based on the student's interest in treating compromised patients. Note: Scheduling for this course will take place outside of regularly scheduled clinic/class time. Enrollment minimum is one and maximum

enrollment is four. Prereq: Fourth-year standing, consent of Course Director, Academic Performance Committee (APC), and Team Leader.

CDE 841 DENTAL PRACTICE FIELD EXPERIENCE. (6-10)
Students are provided a full-time, off-campus assignment to a dental practice environment for a period of 6-10 weeks. Students spend an average of 32 hours each week participating in practice management and patient treatment activities under the supervision of a dentist. Approximately eight hours a week are spent in career plan development and in study of the community or region, particularly its health care delivery system and the role of dentistry in that system. Prereq: CDE 830.

CDE 844 DENTAL PRACTICE MANAGEMENT II. (4)
This course is primarily designed to give the student dentists, prior to graduation, practical, useful knowledge on establishing and maintaining a private dental practice. The course will be presented in an active learning format. Course sessions and activities will also include special sessions designed to introduce students to the current environment of dental practice, to organized dentistry in Kentucky, to the College's Alumni Association and to new developments and continuing education in the dental profession. Lecture 69 hours. Prereq: CDE 830 or consent of course director.

CDE 850 EXTRAMURAL EXPERIENCES FOR STUDENT DENTISTS. (1-6)
This course is designed to provide second and/or third-year student dentists an experiential learning experience in a research program, clinical program, public health program, and/or institutional dental program. Career planning and service-learning are emphasized and coordinated with placement in a community-based site. Fourth year students may also participate in elective experiences with the approval of the Academic Performance Committee (APC). Students learn by active participation in patient care and/or research, by observation and by discussion with mentors. Discussions and interviews with patients and dental residents and staff are also encouraged. This course provides an opportunity for selected students, based on their own career goals, to participate in short-term elective dental educational experience external to the students dentists' clinics. While the sites vary greatly, most experiences include some patient care experiences (observation, assisting, direct participation in patient care under the direct supervision of an approved mentor). Extramural experiences are customized for each student dentist. If completed as an elective in Year 3 of the curriculum this does not satisfy the Year 4 selective requirement. Prereq: Getting a passing score on the National Boards.

CDE 855 PUBLIC HEALTH DENTISTRY FIELD EXPERIENCE. (1-2)
This course allows implementation of oral health promotion programs designed in CDE 830 in community settings. Prereq: Must be fourth year dental student.

CDE 880 TREATMENT OF DENTAL FEAR. (1)
This advanced course in the treatment of dental fear is intended to prepare the student to manage very fearful dental patients. Topics covered include etiologies, diagnosis and types, relaxation and distraction, and case histories. Note: Scheduling for the course will take place outside of regularly scheduled clinic/class time. Prereq: CDS 823 and consent of course director. (Same as BSC 880.)

CDE 883 COMMUNITY-BASED SERVICE ELECTIVE. (1-5)
This Community-Based Service elective is designed to give students greater opportunities to provide dental services to diverse, underserved populations. The goals of this course are to expand development of a service ethic and to meet some of the needs of populations who do not have access to dental care. The majority of the time requirements for this course will be rotations to community clinics where students will work under the supervision of a College of Dentistry faculty providing dental services. Individual contracts will be developed with participating students to determine credit hours. In addition, there will be two one-hour seminars to discuss and debrief on the experiences of participating students. Prereq: Completion of year two of dental school curriculum and/or approval of College of Dentistry APC.

CDE 884 INTERNATIONAL ELECTIVE. (1-3)
This community-based service learning elective is designed to afford students greater opportunities to provide a broad spectrum of dental educational, clinical and public health services to diverse, underserved populations in an international setting. The majority of the time requirements for this course will be in a foreign country at designated community sites potentially working with other health care professionals. Activities will include but are not limited to assessing both community and patient needs and providing services based on the needs assessment and community goals. Students will work with UK approved organizations and under the direct supervision of a College of Dentistry faculty while in-country. Prereq: Admission to College of Dentistry.

CDS Conjoint Dental Science

CDS 611 CHILD GROWTH AND DEVELOPMENT PART I. (2)
A seminar course on nature and physiologic control of physical growth, for graduate students in dentistry. Prereq: Admission to a graduate program of the College of Dentistry; D.D.S. or D.M.D. degree.

CDS 612 CHILD GROWTH AND DEVELOPMENT PART II. (2)
A seminar course for graduate students in dentistry covering emotional and intellectual growth of children, and diseases and congenital anomalies of children. Prereq: Admission to graduate program of the College of Dentistry; D.D.S. or D.M.D. degree.

CDS 613 CONTEMPORARY LEADERSHIP IN DENTISTRY. (1)
The course will explore the current leadership dilemma in the health professions (specifically). The purpose is to prompt the extension of the role of oral health professionals to serve as leaders who engage a richer "public good" agenda as part of their role as doctor/teacher. The course will concentrate on important issues such as leadership development and theories of leadership; team building; personality preferences and leadership; peer assessment; transformational and transactional leadership; stress management; leading change; negotiation; and giving and receiving feedback. Prereq: Enrollment in one of the College of Dentistry's post-doctoral programs.

CDS 631 DIAGNOSIS AND MANAGEMENT OF TEMPOROMANDIBULAR DISORDERS AND OROFACIAL PAIN. (1)
This course provides information regarding the normal anatomy and function of the masticatory system and then highlights some of the common disorders related to dysfunction of this system. Emphasis is placed on temporomandibular disorders and how they are identified and management in the clinical practice. Other disorders associated with orofacial pain complaints will be discussed so that students are able to identify these conditions and successfully manage them or refer the patient to the appropriate health care provider. Prereq: Admission to dental graduate program; D.D.S. or D.M.D. degree.

CDS 660 RESEARCH DESIGN, METHODS AND DISSEMINATION. (2)
This lecture/seminar course is designed to provide students with an overview of the basic principles of study design and protocol development, with a focus on clinical and translational research. It also is designed to expose students to the interplay between patient care and clinical/translational research and to provide the students with tools that will assist them in dissemination of their research findings. Prereq: Admission to dental graduate program.

CDS 670 ADVANCES IN ORAL AND MAXILLOFACIAL PATHOLOGY. (1)
This course consists of 16 hours of lecture on the major disease topics in Oral and Maxillofacial Pathology including oral mucosal, salivary gland and bone pathology. Current classifications of these major categories will be presented and selected topics of current importance will be discussed. Prereq: Admission to dental graduate program.

CDS 680 CLINICAL MEDICINE FOR POSTGRADUATE DENTAL STUDENTS. (2)
This course is designed to provide graduate students and dental residents with an advanced understanding of how various medical disorders and medical therapies can affect oral health and the delivery of dental care. Prereq: Admission to dental graduate program.

CDS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CDS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

CDS 810 NEW DEVELOPMENTS IN DENTISTRY I. (1-2)
This course will cover selected new developments in dentistry or treat with added emphasis established dental skills and knowledge. The topics will be in such areas as the basic sciences, behavioral science, clinical dentistry, dental practice management, and community dentistry. Methods of instruction will vary, depending on topics. When offered, this course will be required of first-year dental students. May be repeated to a maximum of four credits. Prereq: First-year standing in the College of Dentistry; any course prerequisite will be announced.

CDS 812 NORMAL HUMAN GROWTH AND DEVELOPMENT. (1)
This is a lecture course which introduces basic concepts of normal human growth and development from birth through adolescence. Lectures emphasize the time-dependent changes that normally occur during physical and psychological maturation. A special emphasis is directed toward basic knowledge and understanding of craniofacial growth and development of the teeth and occlusion. Lecture, 22 hours. Prereq: Admission to the College of Dentistry or consent of course director.

CDS 813 MANAGEMENT I: INTRODUCTION TO MANAGEMENT FOR THE DENTIST. (2)
In this introductory course in management for the dentist, basic concepts will be presented which can be applied in the management of time, people, facilities and money. Instruction leading to certification in cardiopulmonary resuscitation is included. Lecture, 45 hours. Prereq: Admission to the College of Dentistry.

CDS 815 INTRODUCTION TO CLINICAL AND COMMUNITY PRACTICE. (3)
This survey course presents an introduction to the dental field of operation (operatory), basic assisting procedures, preventive dentistry, infection control, application of sealants and oral isolation techniques. It is designed to prepare students to function in dental environments, safely and efficiently and to prepare them for the school-based sealant experience offered in CDE 815, Fundamentals of Dental Public Health. Lecture, 21 hours; lab, 20 hours; clinic, 16 hours. Prereq: Admission to the College of Dentistry or consent of the course director.

CDS 816 THE PROFESSION OF DENTISTRY. (1)
This course is an introduction to life in the profession of dentistry. The course will explore normal everyday morality, and consider whether a case can be made for an extraordinary morality or ethic for practitioners. The course will conclude with a brief review of the history of dentistry to enable the student to place the profession of dentistry in cultural and historical perspective. Prereq: Admission to the College of Dentistry.

CDS 818 THE PROFESSION OF DENTISTRY I. (1)
This course is an introduction to life in the profession of dentistry. The course will explore normal everyday morality, and consider whether a case can be made for an extraordinary morality or ethic for practitioners. The course will conclude with a brief review of the history of dentistry to enable the student to place the profession of dentistry in cultural and historical perspective. Prereq: Approval of dean and/or his designee for academic affairs and the course director.

***CDS 819 SPECIAL TOPICS IN DENTISTRY I. (1)**
This course is the first year of the two year longitudinal core curriculum in Interprofessional Healthcare Education. The purpose of this first-year course is to present current information on a wide variety of topics ranging from interprofessional collaborative care, culture and society, minority health issues, gender and age as factors in health care, alcohol and substance abuse, evidence-based practice and decision-making, the connection between a healthy work-life balance and being a successful practitioner, and the use of mindful mediation practices for maintaining a work-life balance, along with other subjects of relevance to students enrolled in the dental curriculum. In some cases, the course content applies directly to didactic and clinical courses in the curriculum. At other times, the material is intended to help students increase their success in the curriculum and become better caregivers. Seminar, 20 hours. Prereq: First year standing.

CDS 820 NEW DEVELOPMENTS IN DENTISTRY. (1-2)
This course will cover selected new developments in dentistry or treat with added emphasis established dental skills and knowledge. The topics will be in such areas as the basic sciences, behavioral science, clinical dentistry, dental practice management, and community dentistry. Methods of instruction will vary, depending on topics. When offered, this course will be required of second-year dental students. May be repeated to a maximum of four credits. Prereq: Second-year standing in the College of Dentistry; any course prereqs will be announced.

CDS 821 LOCAL ANESTHESIA. (1)
The action and dosage of local anesthetic agents used in dentistry are taught as are the proper injection techniques. The technique of venipuncture and administration of intravenous drugs are also included. Patient evaluation and emergency techniques for cardiac and respiratory resuscitation are reviewed. Lecture, six hours; self-instruction, 10 hours; clinic, five hours. Prereq: ANA 534; corequisite: OBI 822.

CDS 822 GERONTOLOGY/GERIATRIC DENTISTRY. (1)
This course is designed to help students gain an appreciation for the significant opportunities as well as challenges the aging population will bring to their oral health practice. This course will provide students basic knowledge and information in gerontology/geriatric dentistry. Lecture, 17 hours. May be repeated to a maximum of two credits. Prereq: Permission of course director.

CDS 823 MANAGEMENT II: PATIENT COMMUNICATION. (1)
The primary purpose of this course is to improve students' ability to interact with patients in an empathetic and professional manner. Proper management of all assigned patients is required. Instruction leading to recertification in cardiopulmonary resuscitation is provided. Lecture, 26 hours. Prereq: CDS 821 or consent of course director.

CDS 824 INTRODUCTION TO ORAL DIAGNOSIS AND TREATMENT PLANNING. (2)
This course presents the rationale for the development of the University of Kentucky College of Dentistry Preliminary, Phase I and Phase II treatment plans and a method of critically evaluating treatment results. Basic UKCD clinical protocol is presented and discussed. Lecture, 25 hours. Prereq: CDS 815 or consent of course director.

CDS 828 THE PROFESSION OF DENTISTRY II. (1)
This course focuses on ethical practice in clinical dentistry. In the life of a health-care clinician circumstances arise daily which are ethical in nature. The dentist, and the patient, must respond to these circumstances in ways that result in the best for all parties concerned. This course will explore the duties assumed by dentists in becoming a provider of oral health care for patients. In doing so, the major question to be addressed is, "How do dentists interact with their patients for the good of both?" Prereq: Approval of dean and/or his designee for academic affairs and the course director.

#CDS 829 SPECIAL TOPICS IN DENTISTRY II. (1)
This course is the second year of the two year longitudinal core curriculum in Interprofessional HealthCare education. The course focuses primarily on team approaches to patient quality and safety and issues surrounding transitions in settings of patient care. Background information is presented through BlackBoard and students then meet in several interprofessional groups for discussions and completion of a group capstone project. There are also two required named lectures to attend and one session on Evidence Based Dentistry (EBD). Seminar, 16 hours. Prereq: CDS 819.

CDS 830 NEW DEVELOPMENTS IN DENTISTRY III. (1-2)
This course will cover selected new developments in dentistry or treat with added emphasis established dental skills and knowledge. The topics will be in such areas as the basic sciences, behavioral science, clinical dentistry, dental practice management, and community dentistry. When offered, this course will be required of third-year dental students. May be repeated to a maximum of four credits. Prereq: Third-year standing in the College of Dentistry; any course prerequisites will be announced.

CDS 831 CONSCIOUS SEDATION. (1)
This course is designed to teach the principles of nitrous oxide-oxygen inhalation sedation and intravenous sedation in dentistry. The management of emergencies associated with these techniques and an introduction to the principles of general anesthesia are also included. Lecture, 21 hours; clinic, four hours. Prereq: CDS 821, OBI 824.

CDS 833 CLINICAL PATIENT MANAGEMENT. (1)
This course introduces the dental student to various special needs conditions and teaches the proper methods of physical management of special needs patients needed to provide dental care. Proper management of all assigned dental patients is required. Instruction leading to recertification in cardiopulmonary resuscitation is also included. Lecture, 26 hours; laboratory, 3 hours; clinic, 3 hours per term. Prereq: CDS 823.

CDS 835 DENTAL IMPLANTOLOGY. (2)
Dental implantology has become an integral part of dental services. This course contains information on patient centered criteria for implant services, surgical considerations, and prosthetically driven treatment results. The student will have the opportunity to familiarize him/herself with the components used in providing such treatment through a hands-on laboratory session. Lecture; 24 hours; laboratory, 12 hours. Prereq: Admission to College of Dentistry or discretion of course director.

CDS 838 THE PROFESSION OF DENTISTRY III. (1)
This course is an introduction to the issues of justice and how we define, appropriate, and ensure justice today. The ethical principle of justice is the touchstone for American law, and a vision for our judiciary system. While dentists, as members of society, comply with laws in a way common to all other citizens, they also have additional legal responsibilities which derive from the unique relationship dentist and dentists have with society generally and patient specifically. This course will explore the relationship of dentistry to society and attempt to explicate further the nature of professional responsibility. In so doing, the major question will be, "How do society and dentistry interact for the good of the public and the profession?" Prereq: Approval of dean and/or his designee for academic affairs and the course director.

CDS 840 NEW DEVELOPMENTS IN DENTISTRY IV. (1-2)
This course will cover selected new developments in dentistry or treat with added emphasis established dental skills and knowledge. The topics will be in such areas as the basic sciences, behavioral science, clinical dentistry, dental practice management, and community dentistry. Methods of instruction will vary, depending on topics. When offered, this course will be required of fourth-year dental students. May be repeated to a maximum of four credits. Prereq: Fourth-year standing in the College of Dentistry; any course prerequisites will be announced.

CDS 843 MANAGEMENT IV: GERIATRIC DENTISTRY. (2)
Emphasis in this course is placed on developing abilities to make individual treatment decisions for elderly dental patients and acquiring positive attitudes towards the provision of oral health care to the aged. Students will make site visits to residential centers for the elderly. Proper management of all assigned dental patients and instruction leading to recertification in cardiopulmonary resuscitation are also included. Lecture, 23 hours; laboratory, 12 hours. Prereq: CDE 810 and CDS 833 or consent of course director.

CDS 844 DRUG MISUSE, ABUSE AND DEPENDENCY: WHAT DENTISTS NEED TO KNOW. (1)
This course is designed to provide new insights and understanding into prevention, recognition and treatment of patients with, and at risk for, drug misuse and abuse. The course enables dental students to understand addiction as primary, chronic and progressive disease and to demonstrate an understanding of the pharmacology, abuse potential, as well as the behavioral and physiological effects of the commonly abused drugs. Emphasis will be on increasing dental students skills and abilities to recognize the signs and symptoms of drug abuse; identify and manage patients at risk for drug problems; and become effective in providing successful care for drug dependent patients while minimizing their potential for relapse.

CDS 846 DIAGNOSIS AND MANAGEMENT OF OROFACIAL PAIN. (3)
This course will present information regarding the diagnosis and management of orofacial pain and temporomandibular disorders. The course will consist of lectures and one laboratory session. The information provided in this course will allow the student to understand the dentist's role in managing complex orofacial pain problems. The area of temporomandibular disorders will be emphasized since the dentist plays a major role in managing these pain disorders. Lecture, 29 hours; laboratory, 2 hours; clinic, 6 hours. Prereq: ANA 534, OBI 829, OSG 820, and RSD 822.

CDS 860 SPECIAL TOPICS IN ORAL HEALTH. (1-3)
This course will engage students in a variety of activities including lectures, independent literature review and reading community-based projects, and individual or small group discussions to address current topics of special interest or concern in oral health. Projects and discussion areas for students participating in an interdisciplinary colloquium will be developed in conjunction with other health care providers. Prereq: Enrollment in the College of Dentistry; approval of the course director.

#CDS 863 EXPLORING DENTAL TEACHING ELECTIVE. (1)
This course will provide dental students who have an interest in teaching an opportunity to learn about being a dental faculty member in a systematic way. This course will educate dental students on two main subjects: 1) Roles, responsibilities, and opportunities for dental educators in an academic institution, and 2) Effective teaching in the classroom and clinic. Lecture, 16 hours. Prereq: Open to all 4th year dental students. Open to 3rd year dental students with permission of the course director and the Academic Performance Committee.

CDS 865 FORENSIC ODONTOLOGY. (1)
Elective introductory course in forensic dentistry for fourth year dental students. Prereq: Must be fourth year dental student.

CDS 881 MAXILLOFACIAL DISEASE FOR THE HEALTH CARE PROFESSIONAL. (1)
Designed for motivated 4th year medical students who want to understand more about Hospice and Palliative Care. This rotation will present students with a multidisciplinary approach to caring for patients by working with doctors, nurses, home health care providers and chaplains. Prereq: MD 836/837 or consent of course director. (Same as SUR 875.)

CDS 885 ADVANCED DENTAL IMPLANTOLOGY ELECTIVE. (1)
Dental Implantology has become an integral part of dental services. This course contains information on patient centered criteria for advanced implant services, advanced surgical considerations, and advanced prosthetically driven treatment results. Additional topics include treatment planning for complex dental implant cases, mechanical and restorative complication related to implant dentistry, esthetic consideration for implant restorations, immediate implant placement and immediate provisionalization, and immediate/early loading protocols will be discussed. The student will have the opportunity to familiarize him/herself with multiple implant systems and multiple implant placement protocols. The student will have the opportunity to have literatures review on most current techniques and products. 12 hours Lecture, 8 hours Laboratory. Prereq: Successful completion of CDS 835.

CE Civil Engineering

CE 106 COMPUTER GRAPHICS AND COMMUNICATION. (3)
Introduction to the use of scale, dimensioning, and orthographic projections. Graphical solution of spatial problems. Integrated application of computer graphics. Lecture, two hours; laboratory, four hours per week. Prereq or coreq: MA 113 or consent of instructor.

CE 120 INTRODUCTION TO CIVIL ENGINEERING. (1)
An introduction to the civil engineering profession and the use of computer hardware and software in CE systems analysis and design. Presentations will be used to illustrate the conception, design, construction, and operation processes. Sample problems and class exercises on the various technical areas of civil engineering will make use of existing computer software packages and teamwork principles.

CE 195 INDEPENDENT WORK IN PRE-CIVIL ENGINEERING. (0-4)
Independent or make-up work for lower division engineering students in the field of civil engineering. May be repeated for a maximum of four credit hours. Prereq: Admission to the College of Engineering and consent of department chair or DUS, and the instructor.

CE 211 SURVEYING. (4)
A comprehensive course in the art and science of surveying as applied to civil engineering, including the use and care of surveying instruments; measurement of horizontal and vertical distances, angles and directions; collection of ground and underground data for the design and layout of roads, buildings, various mineral workings and other structures; and some aspects of the precise determination of position and direction for survey control. Lecture, three hours, laboratory, three hours per week. Prereq: CE 106 and MA 114.

CE 221 APPLIED UNCERTAINTY AND RISK ANALYSIS IN CIVIL ENGINEERING. (3)
An introduction to the applications of uncertainty, reliability, decision, and risk analysis in civil engineering. Data collection, systems analysis, and civil engineering design under uncertainty. Probabilistic analysis applied to the various areas of civil engineering: geotechnical, transportation, environmental, materials, structural, hydraulic, and water resources engineering. Civil engineering systems governed by random processes. Applications of mathematics software, Monte Carlo simulation, and time series in civil engineering. Prereq: MA 114.

CE 303 INTRODUCTION TO CONSTRUCTION ENGINEERING. (3)
The study of the planning, administration, management, and cost of construction projects and an introduction to the methodology utilized in executing specific designs. Emphasis is placed on the organization of construction firms, development of construction documents, theory of engineering economics, estimating and quantity take-off, contractual and management systems, scheduling, project administration, and inspection of construction operations. Prereq: CE 106 and engineering standing.

CE 321 CIVIL ENGINEERING SYSTEMS. (2)
An introduction to basic principles of engineering problem solving with applications to civil engineering systems. Formulation and solution of inductive and deductive mathematical models using principles of numerical analysis and mathematical programming. Prereq or concur: CS 221.

CE 329 CIVIL ENGINEERING COMMUNICATIONS AND TEAMS LAB. (1)
The class focuses on presenting the proper tools and techniques for oral presentations, identifying the requirements for proper technical writing, and providing students with the means to effectively work within a team environment. Prereq: CIS 111 Comp and Comm II; Engineering standing.

CE 331 TRANSPORTATION ENGINEERING. (3)
An introduction to transportation engineering. Development of transportation systems in the United States. Route geometrics and design. Traffic flow characteristics and control. Planning financing and economic analysis of transport facilities. Prereq: CE 211 and engineering standing.

CE 341 INTRODUCTION TO FLUID MECHANICS. (4)
Fundamental principles of thermodynamics and fluid flow. Includes fluids at rest, fluids in motion. Continuity, momentum and energy relations, ideal and viscous fluids. Emphasis on incompressible fluids. Description of pumps and open channels. Prereq: PHY 231 and MA 214 and engineering standing.

CE 351 INTRODUCTION TO ENVIRONMENTAL ENGINEERING. (3)
Overview of environmental chemistry and microbiology, water quality, water and wastewater treatment, solid and hazardous wastes management, hazardous waste remediation, and air pollution control. Emphasis on the basic science and engineering principles required to understand both natural and engineered systems, as well as the engineering approach to understanding the natural environment and specific treatment mitigation methods. Prereq: CHE 107, MA 214, PHY 231, and engineering standing.

CE 381 CIVIL ENGINEERING MATERIALS I. (3)
A study of the microscopic and macroscopic structures and properties of materials used in civil engineering construction with emphasis on the relationships of their physical and mechanical properties to engineering design and application. Written reports and oral presentation of results will be required. Lecture, two hours; laboratory, three hours per week. Coreq: EM 302 and engineering standing.

CE 382 STRUCTURAL ANALYSIS. (3)
Statically determinate analysis of two-dimensional structures: trusses, beams and frames. Influence lines for truss and beam structures. Displacement calculations using virtual work principles. Statically indeterminate analysis includes approximate, force method and plastic analysis. Prereq: EM 302 and engineering standing.

CE 395 INDEPENDENT WORK IN CIVIL ENGINEERING. (1-6)
Individual work on some selected problem in the field of civil engineering. May be repeated for a maximum of six credits. Prereq: Engineering standing, consent of department chairperson and the instructor.

CE 399 TOPICS IN CIVIL ENGINEERING (Subtitle required). (1-4)
A detailed investigation of a topic of current significance in civil engineering such as: design of small earth dams, man and the environment, drilling and blasting, scheduling construction operations, construction equipment and methods, traffic safety, optimum structural design, environmental impact analysis, systems analysis in civil engineering, motor vehicle noise and its control. May be repeated to a maximum of eight credits, but only four credits can be earned under the same title. A particular topic may be offered at most twice under the CE 399 number. Prereq: Variable; given when topic identified and registration in the College of Engineering.

CE 401 SEMINAR. (1)
A discussion of the ethical and professional aspects of civil engineering practice. Concepts of loss prevention and conflict resolution. Structured small group discussion, oral presentations, and role playing. Lecture, two hours per week. Prereq: Senior classification and engineering standing.

CE 403 CONSTRUCTION METHODOLOGY. (3)
A study of the methodology used in construction, with an emphasis on the selection and application of resources: labor, materials, equipment, money and time. The importance of cost and quality is stressed. Weekly lab periods are used to acquaint the student with actual construction documents and to provide supervised work sessions in plan reading and basic estimating. Lecture, two hours; laboratory, three hours per week. Prereq: CE 303, CE 381, engineering standing.

CE 429 CIVIL ENGINEERING SYSTEMS DESIGN. (3)
The course is designed to provide the graduating civil engineer with an integration of professional practice issues with planning, design, and construction. Topics to be covered will include: development of teaming, problem solving, and decision-making skills; development of written and oral technical communication skills; procurement of professional services; integration of planning, design, and construction activities; integration of environmental, legal, political, and social issues and concerns into the project process. All activities will be conducted in teams. Lecture, three hours; laboratory three hours per week. Prereq: To be taken during the student's last semester.

***CE 433 RAILWAY OPERATIONS AND MULTI-MODAL TRANSPORTATION. (3)**
Study of the transportation engineering aspects of efficient management of railway freight, passenger and intermodal operations and the relationships to the other major transport modes –water, highway, air, pipeline and overland conveyor. Prereq: CE 331 and engineering standing.

CE 451 WATER AND WASTEWATER TREATMENT. (3)
Fundamentals of the design and operation of water and wastewater treatment facilities. Prereq: CE 341, CE 351, and engineering standing or consent of instructor.

CE 460 FUNDAMENTALS OF GROUNDWATER HYDROLOGY. (3)
The first course in the physics of saturated flow in porous media. Topics include groundwater occurrence, Darcian flow, well hydraulics, flow nets, layered systems flow and pollutant movement. Prereq: ME 330 or CE 341 or consent of instructor, and engineering standing. (Same as BAE 438G.)

CE 461 G WATER RESOURCES ENGINEERING. (4)
A hydrological and hydraulic study of the laws governing the occurrence, distribution, and movement of water in watershed systems. Meteorological considerations, precipitation, evaporation, infiltration, streamflow, hydrograph analysis, flood routing, open channel hydraulics, culvert design, pump systems, groundwater flow, and frequency analysis. Principles of mathematical models that describe the flow processes in a natural watershed and hydraulic structures. Prereq: CE 341 and engineering standing or consent of instructor.

CE 471G SOIL MECHANICS. (4)
A study of the strength, deformation and hydraulic properties of soils and their relationship to settlement, stress distribution, earth pressure, bearing capacity and slope stability. Design of footing foundations and retaining walls. Written and oral presentations of student projects will be required. Lecture, three hours; laboratory, three hours per week. Prereq: EM 302; prereq or concur: GLY 220; and engineering standing or consent of instructor.

CE 482 ELEMENTARY STRUCTURAL DESIGN. (3)
Application of principles of solid mechanics to the design of steel, timber, and reinforced concrete members and structures. Emphasis on basic ideas and their application to practical design of relatively simple structures according to the building code. Credit may not be used to satisfy degree requirements if credit is earned in CE 485G, or CE 486G, or CE 487G. Prereq: CE 382 and engineering standing.

CE 486G REINFORCED CONCRETE STRUCTURES. (3)
Theory and design of beams, slabs, girders and columns as related to building frames and bridges. Introduction to pre-stressed concrete, elastic design and ultimate strength design. Concur: CE 487G; prereq: CE 382 and engineering standing, or consent of instructor.

CE 487G STEEL STRUCTURES. (3)
Behavior, analysis, and design of structural steel columns, laterally braced and unbraced beams, column base plates, beam-columns, directly loaded bolted and welded connections. Introduction to frame stability. Introduction to steel/concrete composite beams. Prereq: CE 382 and engineering standing, or consent of instructor.

CE 499 TOPICS IN CIVIL ENGINEERING (Subtitle required). (1-4)
Devoted to a special topic of current interest in civil engineering. May be repeated to a maximum of eight credits, but not more than four credits may be earned under the same subtitle. A particular topic may be offered at most twice under the CE 499 number. May be counted as technical or design elective with consent of chairman. Prereq: Variable, given when topic is identified, plus engineering standing.

CE 507 CONSTRUCTION SAFETY AND HEALTH. (3)
The course will develop an understanding of safety and health; cost and human impact; hazard and risk analyses; psychological facts of organizational culture and climate; design safe work procedures for the execution of particular types of work; and individual versus management level improvement in safety and health procedures in the construction process. Prereq: Engineering standing and CE 303 or consent of instructor.

CE 508 DESIGN AND OPTIMIZATION OF CONSTRUCTION OPERATIONS. (3)
The course critically examines repetitive operations that occur from project to project and the deterministic approaches used to design and optimize their effectiveness. Scientific techniques used to field measure the efficiency of construction operations are also examined. The primary metrics used to optimization include cost, schedule, and sustainability. Prereq: CE 303, CE 381, and engineering standing or graduate standing.

CE 509 CONTROL OF THE CONSTRUCTION PROJECT. (3)
This course investigates the principles and practices for the control of budget and schedule for construction projects. Topics studied include: estimating construction costs and developing a project budget, planning construction operations and developing a project schedule, documenting and reporting of project progress and spending, and the management of change of contract amount, contract time, and contract scope work. Prereq or coreq: CE 508 or consent of instructor.

CE 517 BOUNDARY LOCATION PRINCIPLES. (3)
Procedures for locating or relocating the boundaries of real property; records searching, technical aspects of field work, preparation of descriptions and survey reports, land data systems, legal aspects, special problems. Prereq: CE 211, engineering standing, or consent of instructor.

CE 518 ADVANCED SURVEYING. (3)
Principles of precise survey procedures in triangulation, trilateration, traverse and leveling; adjustment computations; theory and practice of electronic distance measurement; basic geodesy and state plant coordinate systems; applications to the horizontal and vertical control of engineering projects: review of modern land surveying problems and procedures. Lecture, two hours; laboratory, three hours per week. Prereq: MA 214, CE 211 or CE 215, and engineering standing.

CE 521 ENGINEERING ECONOMY. (3)
Economic evaluation and financial analysis of engineering alternatives in which the goal of economic efficiency is applied to engineering design. Prereq: Engineering standing.

CE 525 CIVIL ENGINEERING APPLICATIONS OF GEOGRAPHIC INFORMATION SYSTEMS. (3)
CE 525 focuses on GIS as a tool in Civil Engineering. The terms and concepts related to Geographic Information Systems are introduced. The management of spatial databases, particularly those related to Civil Engineering, is covered. Students will collect data using a Global Positioning System (GPS). Students will be required to use the GIS ArcInfo to solve a specific individual spatial problem that they propose based on several Civil Engineering databases available to them. Lecture, two hours; laboratory, three hours per week. Prereq: Engineering standing and one of the following: CE 331, CE 341, or CE 471G.

CE 531 GEOMETRIC DESIGN AND OPERATIONS OF ROADWAYS. (3)
Analysis of transportation facilities through a diagnostic study of transportation systems with emphasis on design, capacity and safety. Engineering practice oriented toward open-ended design solutions, mostly focused on roadway design. Prereq: CE 211, CE 331, and engineering standing.

CE 533 RAILROAD FACILITIES DESIGN AND ANALYSIS. (3)
Principles of railroad location, construction, rehabilitation, maintenance, and operation with emphasis on track structure design and analysis, bridges and bridge loading, drainage considerations, track geometry effects, and operating systems analysis. Prereq: CE 331, CE 381, CE 382; concur: CE 471G and engineering standing.

CE 534 PAVEMENT DESIGN, CONSTRUCTION AND MANAGEMENT. (3)
Design, analysis, construction, and management of flexible and rigid pavements. Stresses and strains, pavement materials, subgrade soil stabilization, bases and subbases, quality control, drainage, pavement-type selection, and pavement management. Prereq: CE 381, prerequisite or concurrent CE 471G, and engineering standing.

CE 539 TRANSPORTATION SYSTEMS DESIGN. (3)
This course focuses on the design of urban intersections and the procedures used to evaluate the operational level of urban roadway systems. First, a review of urban intersection design principles and aspects is presented. Second, traffic signal timing techniques are reviewed and students are required to use two software packages for evaluation of traffic operation of urban roadway systems. The focal point of the course is a group design project where solutions to accommodate all transportation modes and their issues along a corridor in Lexington are sought. Fieldwork and data collection are part of this course. Lecture, two hours; laboratory, one hour. Prereq: CE 211 and CE 331; CE 531 prereq or concur.

CE 541 INTERMEDIATE FLUID MECHANICS. (3)
Application of basic fluid mechanics to problems of importance to civil engineering practice. This includes flow measuring, closed conduit flow and pipe networks, open channel flow, turbomachinery (pumps), hydraulic structures, culvert flow. Prereq: CE 341, CS programming course, and engineering standing or consent of instructor. (Same as BAE 541.)

CE 542 INTRODUCTION TO STREAM RESTORATION. (3)
Introduction to principles of fluvial geomorphology for application in restoring impaired streams. Topics include channel formation processes (hydrology/hydraulics), stream assessment, sediment transport, in-stream structures, erosion control, habitat, and monitoring. Prereq: CE 341 (or equivalent) and engineering standing or consent of instructor. (Same as BAE 532.)

CE 546 FLUVIAL HYDRAULICS. (3)
Rainfall physics, principles of erosion on upland areas and construction sites, stable channel design in alluvial material, mechanics of sediment transport, river mechanics, reservoir sedimentation. Prereq: CE 341 or ME 330 and engineering standing. (Same as BAE 536.)

CE 547 WATERSHED SEDIMENTATION. (3)
The course objective is to gain an understanding of watershed sedimentation including: (1) erosion and sediment transport processes in a watershed and the mechanisms by which the processes are initiated, developed, and worked towards equilibrium; (2) measurement of the sediment budget for a watershed using sediment fingerprinting and sediment loading data; and (3) prediction of sediment loading in watersheds with different human disturbances using hydrologic-based modeling tools. Specific emphasis will be placed on the use of natural carbon and nitrogen isotopic tracer measurements within sediment fingerprinting as a data-driven approach to measure sediment loading from different sources in a watershed. In order to fulfill the course objective, the instructor will use traditional classroom learning as well as field and laboratory components of the course in order that students can participate in hands-on learning. Prereq: CE 461G (Pre- or Co-requisite or equivalent). (Same as BAE 547.)

CE 549 ENGINEERING HYDRAULICS. (3)
Analysis and Design of flow in closed conduits and natural and artificial open channels. Design of hydraulic structures. Prereq: CE 461G or CE 541 and engineering standing, or consent of instructor. (Same as BAE 545.)

CE 551 WATER AND WASTEWATER TREATMENT ENGINEERING. (3)
This course examines the scientific and engineering aspects of water and wastewater treatment. Conventional water treatment processes such as rapid mixing, flocculation, sedimentation, filtration, and disinfection as well as biological processes for wastewater treatment are analyzed. Sustainable alternative treatment techniques are also discussed. Prereq: CE 341, CE 351, and engineering standing or consent of instructor.

CE 553 ENVIRONMENTAL CONSEQUENCES OF ENERGY PRODUCTION. (3)
This course will introduce the relationship of energy, pollution control technology, and the environment. The scientific and engineering aspects of energy production are examined and the associated environmental problems and control technologies are discussed. Prereq: CHE 105, MA 214, and engineering standing or consent of instructor. (Same as EGR 553.)

***CE 555 MICROBIAL ASPECTS OF ENVIRONMENTAL ENGINEERING. (3)**
Environmental microbiology for engineering students with emphasis on microbially mediated chemical cycles, microbial ecology, and industrial microbiology. Prereq: CE 351, engineering standing, graduate status or consent of instructor.

CE 556 SOLID AND HAZARDOUS WASTE MANAGEMENT. (3)
Study of the generation and management of solid and hazardous wastes. Application of engineering principles to the collection, transport, processing, resource recovery and ultimate disposal of these wastes. Prereq: CE 471G, CE 521 or consent of instructor and engineering standing. (Same as BAE 556.)

CE 568 GIS APPLICATIONS FOR WATER RESOURCES. (3)
This course studies the principles, methodology and analysis of geographic information systems and spatially-referenced data unique to water resources and hydrologic modeling. Lectures will explore the latest GIS concepts, hydrologic modeling relationships and data sources and be complimented with computer-based laboratory exercises. Prereq: BAE 437, CE 461G, or consent of instructor. (Same as BAE 538.)

CE 579 GEOTECHNICAL ENGINEERING. (3)
Application of the principles of soil mechanics and structural mechanics to the design of retaining walls, bracing for excavations, footings, mat and pile foundations and to the analysis of the stability of earth slopes. Prereq: CE 471G and engineering standing.

CE 581 CIVIL ENGINEERING MATERIALS II. (3)
Design, evaluation, and construction of portland cement concrete and hot mix asphalt (HMA). Advanced topics related to high performance concrete and asphalt materials are covered in this course. Prereq: CE 381 and engineering standing.

CE 582 INTERMEDIATE STRUCTURAL ANALYSIS. (3)
Analysis of indeterminate, truss, frame and arch structures using energy principles associated with the flexibility and stiffness methods; influence line functions for indeterminate structures; and use of available computer programs for structural analysis and matrix operations. Prereq: CE 382 and engineering standing; or consent of instructor.

CE 584 DESIGN OF TIMBER AND MASONRY STRUCTURES. (3)
Current and historic design methods of buildings and their components using wood, wood products, bricks, and concrete blocks. Prereq: Courses in steel and reinforced concrete design at the senior level, or consent of instructor. (Same as ARC 584.)

CE 585 CIVIL ENGINEERING FAILURES. (3)
Fundamentals of failure investigation and forensic engineering; Failure types and mechanisms; Case studies and discussions on various constructed facilities. Prereq: CE 382 or consent of instructor, and engineering standing.

CE 586 PRESTRESSED CONCRETE. (3)
Fundamental basis and underlying principles for the analysis and design of prestressed concrete. Working stress and ultimate strength design methods, full and partial prestressing. Design for shear and torsion, deflection, crack control, and long-term effects, and prestress losses. Composite beams, continuous beams, slabs, short and slender columns, precast structures and their connections. Prereq: CE 486G and engineering standing.

CE 589 DESIGN OF STRUCTURAL SYSTEMS. (3)
Design loads. Structural systems and bracing. Analysis and design of buildings and bridges. Use of computer systems for design projects. Written and oral presentations required. Prereq: CE 486G and CE 487G; prereq or concur: CE 579; or consent of instructor.

CE 595 INDEPENDENT WORK IN CE. (1-4)
Individual work on some selected problem in the field of civil engineering. May be repeated for a maximum of six credits. Prereq: Consent of department chairperson and the instructor; with engineering standing.

CE 599 TOPICS IN CIVIL ENGINEERING (Subtitle required). (1-4)
A detailed investigation of a topic of current significance in civil engineering such as: design of small earth dams, man and the environment, drilling and blasting, scheduling construction operations, construction equipment and methods, traffic safety, optimum structural design, environmental impact analysis, systems analysis in civil engineering, motor vehicle noise and its control. May be repeated to a maximum of eight credits, but only four credits can be earned under the same title. A particular topic may be offered at most twice under the CE 599 number. Prereq: Variable; given when topic is identified; plus engineering standing.

PREREQUISITE FOR GRADUATE WORK: *Students desiring to take any of the following courses should have a thorough working knowledge of chemistry, physics and mathematics. For major work, a candidate must hold a bachelor's degree in civil engineering or its equivalent.*

CE 601 CONSTRUCTION EQUIPMENT. (3)
Analysis of construction equipment use and economics. Selection and matching equipment for productivity and cost effectiveness. Mathematical simulation of construction operations. Prereq: CE 403, CE 503, or consent of instructor.

CE 602 CONSTRUCTION PROJECT MANAGEMENT. (3)
Management of construction projects: planning, estimating, scheduling and control; organization; site management; material management; safety management; quality management; construction labor relations; productivity management; claims. Prereq: Engineering Standing, graduate status, or consent of instructor.

CE 605 NEW ENGINEERING ENTERPRISES. (3)
The course covers the theory and actual practices of organization, management and operation of engineering companies. Primary emphasis on construction companies; however, the principles apply to most service oriented engineering companies. Students will be required to do several independent exercises related to establishing an engineering company. Prereq: Graduate standing in engineering or consent of instructor.

CE 621 INTRODUCTION TO FINITE ELEMENT ANALYSIS. (3)
Theoretical, conceptual, and computational aspects of the finite element method are developed. Development of the element relationships, element calculations, and assembly of the finite element equations are covered. Both one- and two-dimensional finite element problems are considered. One-dimensional problem areas include elastic deformation, heat conduction, fluid flow, electrostatics, groundwater flow, mass transport, beams on elastic foundations, etc. Two-dimensional problem areas include Poisson's equation, viscous incompressible flow, plane elasticity, and bending of elastic plates. Prereq: MA 432G, MA 537 or consent of instructor.

CE 631 URBAN TRANSPORTATION PLANNING. (3)
A detailed review of the transportation planning process; inventory methodologies; trip generation, distribution and assignment with associated mathematical models and theories; prediction of future travel; land and use models; modal split; developing and testing proposed systems; simulation. Prereq: CE 531 or equivalent and STA 381, or 681 or equivalent statistics course. (Same as GEO 643.)

CE 633 AIR TRANSPORT ENGINEERING. (3)
Planning location and design of airports, STOL ports, and heliports. Air traffic operations, performance and control as related to facility requirements. Role of governmental agencies. Prereq: CE 531 or consent of instructor.

***CE 634 TRAFFIC CHARACTERISTICS. (3)**
Vehicle operating characteristics; driver, pedestrian and roadway characteristics as they individually, and collectively as traffic stream characteristics, are related to the planning design and operation of highway facilities.

CE 635 HIGHWAY SAFETY. (3)
A detailed review of the impacts of safety considerations on highway design and planning, focusing on the highway environment, its users (both vehicles and drivers) and their interactions. The role of special interest groups (tracking industry, insurance agencies) is also examined. Prereq: CE 539 or consent of instructor.

CE 641 MECHANICS OF LIQUID FLOW IN PIPES. (3)
Steady and unsteady one-dimensional pipe flow. Water hammer and surge tank analysis. Steady two-dimensional pipe flow. Digital and analog computer applications. Prereq: CE 549.

CE 642 OPEN CHANNEL FLOW. (3)
The study of open channel flow fundamentals and concepts. Topics include uniform flow, varied flow, steady and unsteady flow, energy dissipators, flow transitions, controls, analytical and numerical solutions in 1D and 2D applications. Prereq: CE 541 or consent of instructor. (Same as BAE 642.)

CE 643 MECHANICS OF SEDIMENT TRANSPORT. (3)
Fundamentals of turbulence in rivers and sediment transport will be taught including recent theory, derivation of governing equations, experimental methods, modeling, and design based on sediment thresholds. Prereq: CE 341 or consent of instructor. (Same as BAE 643.)

CE 651 FUNDAMENTALS OF WATER QUALITY CONTROL I. (3)
Theory and practices of water and wastewater treatment with emphasis on physical and chemical processes for municipal and industrial wastewater treatment. Prereq: CE 451 or consent of instructor.

CE 652 BIOLOGICAL PROCESSES FOR WATER QUALITY CONTROL. (3)
Principles and applications of environmental biotechnology for water quality control. Process microbiology and kinetics for various water and wastewater treatment processes. Prereq: CE 351 or consent of instructor. (Same as BAE 652.)

CE 653 WATER QUALITY IN SURFACE WATERS. (3)
Principles of surface water quality modeling and control. Analysis of dispersion, advection, natural aeration, biological oxidation and photosynthesis; their effects on the physical, chemical, and biological quality of waters in streams, lakes, reservoirs, estuaries and other surface waters. Prereq: CE 351 or consent of instructor. (Same as BAE 653.)

***CE 655 WATER SANITATION AND HEALTH. (3)**
Prevention of water-related diseases by appropriate supply and sanitation practices with designs applicable to small systems and rural areas of developing nations. (Same as CPH 790.)

CE 660 GROUNDWATER HYDROLOGY. (3)
The equations of saturated and unsaturated groundwater flow, the formulation of boundary value problems, and some analytical methods of solution. Solutions using Fourier series, solutions involving the Fourier transform and the Fourier sine and cosine transforms. The Boltzman transformation, development of the Philip solution for horizontal and vertical flow. Mathematical statement of the saturated and unsaturated groundwater pollution problem and some analytical methods of solution. The semigroup solution of the resulting evolution equation, examples of solutions using the Laplace transform and the Fourier transform, more complex solutions in two-dimensional and three-dimensional domains, solutions for distributed sources in time and in space, solutions for time-varied boundary conditions. Prereq: MA 214, CE 461G or equivalent. (Same as BAE 638.)

CE 662 STOCHASTIC HYDROLOGY. (3)
Hydrologic random variables and probability distributions. Statistical measures, development and use of Monte Carlo simulations in the generation of precipitation fields. Statistical tests of hydrologic data. Point frequency and regional frequency analysis. Analysis of hydrologic time series. Long-term trend, harmonic analysis of periodicity, autocorrelation, spectral analysis. Correlation and regression analysis. Linear stochastic models. Introduction to stochastic processes in hydrology, real-time hydrologic forecast (Kalman filter), pattern recognition, and stochastic differential equations. Prereq: MA 214, CE 461G or equivalent. (Same as BAE 662.)

CE 665 WATER RESOURCES SYSTEMS. (3)
Application of systems analysis, mathematic modeling, and optimization in water resources management and design. Solution of engineering problems found in water supply, water quality, urban drainage, and river basin development and management by use of linear, nonlinear, and dynamic programming models. Prereq: Consent of instructor. (Same as BAE 665.)

CE 667 STORMWATER MODELING. (3)
Introduction to deterministic and parametric modeling approaches for mathematically simulating stormwater runoff and quality. Emphasis on modeling concepts and model formulation. Analysis of deterministic component models and their linkage. Formulation of existing parametric models. Presentation of methods for parameter optimization and regionalization. Demonstration of linkage between the two approaches with illustrative examples. Prereq: CE 341 and CE 461G, or consent of instructor. (Same as BAE 667.)

CE 671 ADVANCED SOIL MECHANICS. (3)
Detailed study of soil behavior. Specific topics include soil classification and structure, strength and deformational behavior, compaction, consolidation, and stress distribution in earth masses. Prereq: CE 471G or consent of instructor.

CE 672 LANDFILL DESIGN. (3)
This course deals with the geotechnical aspects of the design of landfills for the disposal of municipal solid waste. Since landfill design is driven by state and federal regulations, time is taken to review these regulations. Landfills are evaluated as engineered systems consisting of multiple components. Each component is investigated individually, and methods are developed to predict and quantify the performance of these components so that appropriate materials, design criteria, and construction methods can be selected to assure that the landfill will function with minimal environmental impact. Prereq: CE 471G. (Same as BAE 672.)

CE 676 GROUNDWATER AND SEEPAGE. (3)
Permeability and capillary flow in soils, mathematical theory of flow through porous media. Flow through anisotropic, stratified and composite sections. Solution by flow net, conformal mapping and numerical methods. Seepage toward wells. Dewatering and drainage of soils. Prereq: CE 471G or consent of instructor.

CE 679 GEOTECHNICAL EARTHQUAKE ENGINEERING. (3)
Introduction to seismology. Dynamic and earthquake response of soils using standard analysis. Liquefaction of soils under cyclic loading. Measurements of dynamic properties of soils. Earthquake resistant design of retaining walls, foundations, slopes, and earth dams. Soil improvement methods for seismic resistant design. Current state-of-the-art techniques in geotechnical earthquake engineering. Prereq: CE 579.

CE 681 ADVANCED CIVIL ENGINEERING MATERIALS. (3)
Fundamental aspects of mechanical behavior of civil engineering materials. Rheology and fracture of asphalt and Portland cement concrete materials. Prereq: CE 381.

***CE 682 ADVANCED STRUCTURAL ANALYSIS. (3)**
Theory and application of energy principles for plane and space frames; shear wall structures; geometric and material nonlinear formations; and nonlinear solution strategies. Solution techniques for the analysis of large complex structures. Introduction to plane stress/strain, axisymmetric and plate bending finite element analysis.

***CE 684 SLAB AND FOLDED PLATE STRUCTURES. (3)**
Design and analysis of reinforced concrete floor slabs and folded plate roofs. Elastic and inelastic methods.

CE 686 ADVANCED REINFORCED CONCRETE THEORY. (3)
Background and origin of modern reinforced concrete design procedures and codes. Comparison of American and foreign methods of analysis. Review of current research and projection to anticipated future changes in design and construction practices. Prereq: CE 486G or consent of instructor.

***CE 687 ADVANCED STEEL DESIGN. (3)**
Strength of structural steel columns, including asymmetry and slender compression elements. Flexural strength of slender plate girders. Shear strength with and without post-buckling strength. Frame stability. Steel connections. Floor vibration serviceability. Prereq: CE 487G or consent of instructor.

CE 699 TOPICS IN CIVIL ENGINEERING (Subtitle required). (1-4)
An advanced level presentation of a topic from one of the major areas of civil engineering such as hydraulics, geotechnics, structures, transportation, surveying, or water resources. Course with a given subtitle may be offered not more than twice under this number. Prereq: Variable; given when topic identified; graduate standing.

CE 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CE 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

CE 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

CE 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

CE 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)

CE 779 ADVANCED GEOTECHNICAL ENGINEERING. (3)
Application of the principles of soil mechanics to the design and analysis of foundations and earth structures. Prereq: CE 579 and CE 671 or consent of instructor.

***CE 782 DYNAMICS OF STRUCTURES. (3)**
Review of methods of analysis of simple structural systems. Effects of wind, earthquake, traffic and machinery loads. Matrix methods for complex dynamic structural systems, random vibrations of structures.

CE 783 STRUCTURAL FINITE ELEMENT ANALYSIS. (3)
Theoretical, conceptual and computational aspects of the finite element method are presented. Development of the element relationships, element calculations, assembly and efficient solution of the finite element method are emphasized. Finite element formulations developed for 2D, 3D axisymmetric and plate bending problems in structural mechanics for both static and dynamic applications. Prereq: MA 432G and EGR 537, or CE 682 or consent of instructor.

CE 784 SHELL STRUCTURES. (3)
Design and analysis of reinforced concrete shell structures, including domes, barrel shells, hyperbolic paraboloids and cylindrical tanks. Prereq: CE 684 or consent of instructor.

CE 790 SPECIAL RESEARCH PROBLEMS IN CIVIL ENGINEERING. (1-6)
Individual work on some selected problems in one of the various fields of civil engineering. Laboratory, six hours. May be repeated to a maximum of nine credits. Prereq: Consent of the chairperson of the department.

CE 791 SPECIAL DESIGN PROBLEMS IN CIVIL ENGINEERING. (1-6)
Individual work on some selected problems in one of the various fields of civil engineering. Laboratory, six hours. May be repeated to a maximum of nine credits. Prereq: Consent of the chairperson of the department.

CGS Cognitive Science

CGS 500 COGNITIVE SCIENCE IN THEORY AND PRACTICE. (3)
This course will introduce upper-level undergraduate students (and lower-level graduate students) to Cognitive Science, an interdisciplinary field that seeks to study the mind from the perspective of various disciplines: Biology, Computer Science, Linguistics, the Neurosciences, Philosophy, and Psychology. The course will consist of modules in at least four of these six disciplines. Prereq: Upper-class standing.

CHE Chemistry

CHE 101 MOLECULAR SCIENCE FOR CITIZENS. (3)
A conceptual introduction to the molecular nature of natural and man-made materials as well as the key molecules of biological organisms. The important classes of molecules will be discussed in terms of their properties and impact on our everyday real world experience.

CHE 103 CHEMISTRY FOR HEALTH PROFESSIONALS. (4)
A study of the basic concepts of general, organic, and biological chemistry. Topics include electronic structure of atoms and molecules, periodicity of the elements, stoichiometry, states of matter, kinetics, equilibria, acids and bases, organic functional groups, stereochemistry, carbohydrates, lipids, proteins, and enzymes. Topics are presented with an emphasis on application to the allied health professions. Prereq: Two years of high school algebra and Math ACT of 19 or above, or Math placement test, or completion of MA 110, MA 109, or a more advanced math course.

***CHE 104 INTRODUCTORY GENERAL CHEMISTRY. (3)**
A study of the general principles including laws of definite and multiple proportions, stoichiometry, gases, electronic structure, chemical bonding, periodic relationships, oxidation-reduction, acid bases, chemical equilibrium and acids/bases. Intended for students interested in a one-semester course in general chemistry and recommended for students seeking careers in nursing, nutrition and allied health science fields. Not open to students who have already completed both CHE 105 and 107. Prereq: Two years of high school algebra and Math ACT of 19 or above (or Math placement test), or completion of MA 110, MA 109 or a more advanced math course.

CHE 105 GENERAL COLLEGE CHEMISTRY I. (4)
A study of the principles of chemistry and their application to the more important elements and their compounds. Not open to students who have already completed both CHE 104 and 106 or CHE 104 and CHE 108, but open to students who have completed just CHE 104. Prereq: Math ACT of 23 or above (or Math placement test), or MA 109, or MA 110, or the KCTCS course CHE 102R or CHM 100.

†CHE 106 INTRODUCTION TO INORGANIC, ORGANIC AND BIOCHEMISTRY.

***CHE 107 GENERAL COLLEGE CHEMISTRY II. (3)**
A continuation of CHE 105. A study of the principles of chemistry and their application to the more important elements and compounds. Prereq: CHE 105 or CHE 108 or CHE 110 (with a C or better in any one of these prereqs).

***CHE 108 INTRODUCTION TO INORGANIC, ORGANIC AND BIOCHEMISTRY WITHOUT LABORATORY. (3)**
A continuation of CHE 104. A study of selected aspects of inorganic, organic, and biochemistry including the chemistry of metals and nonmetals, basic organic functional groups, proteins, nucleic acids, and lipids. Not open to students who have already completed CHE 105 and 107. Not recommended for students seeking careers in medicine, science, dentistry, engineering, veterinary science, agricultural sciences, education, or allied fields for which the recommended sequence is CHE 105/107, and 111/115. Prereq: CHE 104 or the KCTCS course CHM 100.

CHE 109 GENERAL CHEMISTRY I. (4)
A study of the principles of chemistry and their application to the more important elements and their compounds. The two-semester CHE 109/110 sequence covers the same material as CHE 105. Prereq: Math ACT of 23 or above; or math placement test; or KCTCS course CHM 100 or CHM 102.

CHE 110 GENERAL CHEMISTRY II. (4)
The second half of a sequence (with CHE 109) in which the material of CHE 105 is covered in two semesters.

CHE 111 LABORATORY TO ACCOMPANY GENERAL CHEMISTRY I. (1)
A laboratory course, to accompany CHE 105, dealing with the properties of chemical substances and providing an introduction to quantitative chemical analysis. Prereq or concur: CHE 105.

CHE 113 LABORATORY TO ACCOMPANY GENERAL CHEMISTRY II. (2)
A laboratory course, to accompany CHE 107, emphasizing qualitative and quantitative chemical analysis. Prereq: CHE 111; prereq or concur: CHE 107.

†CHE 115 GENERAL CHEMISTRY LABORATORY.

CHE 195 GENERAL CHEMISTRY WORKSHOP I. (1)
Peer-led team problem solving. Two-hour workshop offered on a pass-fail basis only. Enrollment in CHE 105 need not be accompanied by enrollment in CHE 195. Prereq: Concurrent registration in CHE 105 required.

CHE 197 GENERAL CHEMISTRY WORKSHOP II. (1)
Peer-led team problem solving. Two-hour workshop offered on a pass-fail basis only. Enrollment in CHE 107 need not be accompanied by enrollment in CHE 197. Prereq: Concurrent registration in CHE 107 required.

CHE 199 RESEARCH EXPERIENCE IN CHEMISTRY. (0)
Participation in laboratory research in chemistry. Offered pass/fail only. Prereq: Permission of instructor.

CHE 226 ANALYTICAL CHEMISTRY. (3-5)
An introduction to the theory and practice of quantitative analysis. Lecture, two hours; laboratory, three to six hours. Prereq: CHE 107 and 113.

CHE 230 ORGANIC CHEMISTRY I. (3)
Fundamental principles and theories of organic chemistry. Prereq: CHE 107 and 113.

CHE 231 ORGANIC CHEMISTRY LABORATORY I. (1)
Laboratory for CHE 230 or CHE 236. Laboratory, three hours per week. Prereq: CHE 113; prereq or concur: CHE 230 or CHE 236.

***CHE 232 ORGANIC CHEMISTRY II. (3)**
A continuation of CHE 230. Prereq: CHE 230 with grade C or above.

CHE 233 ORGANIC CHEMISTRY LABORATORY II. (1)
Laboratory for CHE 232. Laboratory, three hours per week. Prereq: CHE 231. Prereq or concur: CHE 232.

CHE 236 SURVEY OF ORGANIC CHEMISTRY. (3)
A one-semester course in organic chemistry. Not open to students who have already completed both CHE 230 and 232. Prereq: CHE 107 and 113.

CHE 250 FORENSIC SCIENCE ON TELEVISION. (3)
This course will introduce students to the basic chemical and biochemical principles of forensic science utilized on popular science/science fiction television shows. Forensic science involves the application of techniques from instrumental chemical analysis and molecular biology to identify and quantify evidence collected from crime scenes. By using popular television shows to introduce specific techniques students should gain a basic understanding of the capabilities and limitations of forensic science as it is presently practiced. Prereq: CHE 103 or CHE 104 or CHE 110 or CHE 105.

CHE 295 ORGANIC CHEMISTRY WORKSHOP I. (1)
Peer-led team problem solving. Two-hour workshop offered on a pass-fail basis only. Enrollment in CHE 230 need not be accompanied by enrollment in CHE 295. Prereq: Concurrent registration in CHE 230 required.

CHE 297 ORGANIC CHEMISTRY WORKSHOP II. (1)
Peer-led team problem solving. Two-hour workshop offered on a pass-fail basis only. Enrollment in CHE 232 need not be accompanied by enrollment in CHE 297. Prereq: Concurrent enrollment in CHE 232 required.

#CHE 372 COMMUNICATION IN CHEMISTRY I. (1)
Reports and discussions on recent research and current chemical literature; writing and revision of scientific papers; literature searching methods; preparation of effective presentations abstracts and visual aids. CHE 372 and CHE 472 meet the A&S College Writing and Communications Requirement. Prereq: CHE 226 (or concurrent) or CHE 232 (or concurrent) or consent of Director of Undergraduate Studies.

CHE 395 INDEPENDENT WORK IN CHEMISTRY. (1-3)
An independent research project in an area of chemistry under the direction of a chemistry faculty mentor. Must be approved by the Director of Undergraduate Studies in Chemistry. May be repeated to a maximum of 12 credits. Prereq: Declared major in Chemistry; CHE 230, 231; CHE 232 or CHE 226; GPA of at least 3.0 in CHE courses.

CHE 410G INORGANIC CHEMISTRY. (2)
An overview of inorganic chemistry, including fundamental aspects of structure, bonding, periodicity, spectroscopic properties, reaction mechanisms and applications. Prereq: CHE 231 and 232; prereq or concur: a physical chemistry course at or above the 400 level.

***CHE 412 INORGANIC CHEMISTRY LABORATORY. (2)**
A laboratory course that will acquaint the student with the synthesis, characterization and properties of inorganic and organometallic compounds of both main-group and transition elements. Laboratory, six hours per week. Prereq: CHE 410G; prereq or concur: a physical chemistry course at or above the 400 level.

***CHE 422 INSTRUMENTAL ANALYSIS. (4)**
The theory and application of instrumental methods of analysis. Lecture, two hours; laboratory, six hours. Prereq: A physical chemistry course at or above the 400 level.

CHE 440G INTRODUCTORY PHYSICAL CHEMISTRY. (4)
An introduction to the laws of thermodynamics, the thermo-dynamic functions and their application to phase equilibria, chemical equilibria, solutions and electrochemistry. Chemical kinetics, including rate laws, reaction mechanisms, Arrhenius, collision, and activated complex theories, and catalysis. Quantum theory including an elementary introduction to spectroscopy. The fourth hour to be devoted to problem solving and problem-solving techniques. Prereq: PHY 213 or PHY 232; MA 114; CHE 226 or MA 213.

***CHE 441 PHYSICAL CHEMISTRY LABORATORY. (2)**
Laboratory studies in physical chemistry, including quantum chemistry, spectroscopy, thermodynamics and chemical kinetics. Laboratory, six hours. Prereq: A physical chemistry course at or above the 400 level.

CHE 442G THERMODYNAMICS AND KINETICS. (3)
Principles of physical chemistry including thermodynamics, chemical kinetics, and statistical thermodynamics. Prereq: CHE 226; MA 213; PHY 213 or 232.

CHE 446G PHYSICAL CHEMISTRY FOR ENGINEERS. (3)
An introductory course in physical chemistry for engineering students. Kinetic theory, thermodynamics, phase diagrams, colligative properties, electrochemistry, transport properties, kinetics, quantum theory, spectroscopy. Prereq: CHE 107, 113; PHY 232; MA 213; CME 200 or the equivalent.

***CHE 454 BIOLOGICAL CHEMISTRY LABORATORY. (2)**
An introductory biological chemistry laboratory course. Areas of experimentation will include spectroscopic methods, electrophoresis, chromatography, and isolation and characterization of biological macromolecules. Prereq: CHE 232, or CHE 550 and a physical chemistry course at or above the 400 level (eg. CHE 440), or consent of instructor.

#CHE 472 COMMUNICATION IN CHEMISTRY II. (1)
Reports and discussions on recent research and current chemical literature in seminar format; literature searching methods; résumé construction; preparation of effective presentations abstracts and visual aids. CHE 472 and CHE 372 meet the A&S College Writing and Communications Requirement. Prereq: CHE 372 or consent of the Chemistry Director of Undergraduate Studies.

CHE 510 ADVANCED INORGANIC CHEMISTRY. (3)
A course dealing with the concepts of inorganic chemistry with emphasis on atomic structure, periodicity, nomenclature, bonding, reaction mechanisms and acid-base theories. Prereq: CHE 232, CHE 226, and a physical chemistry course at or above the 400 level; or CHE 410G and CHE 412G.

CHE 514 DESCRIPTIVE INORGANIC CHEMISTRY. (3)
A course dealing in detail with descriptive chemistry of the elements and their compounds, excluding the hydrocarbons and their derivatives. Prereq: CHE 226 and CHE 232; or CHE 450G, or permission of instructor.

CHE 520 RADIOCHEMISTRY. (3)
Applications of radionuclides in chemistry with emphasis on principles of radioactive decay, interactions of radiation with matter, use of isotopic tracers, activation analysis, isotope dilution analysis, hot atom chemistry and nuclear dating methods. Prereq: CHE 107, or 226.

CHE 524 CHEMICAL INSTRUMENTATION. (4)
Aspects of electronics, microcomputers, computer interfacing, and data analysis as they apply to chemical measurements and measurement systems. Lecture, two hours; laboratory, six hours per week. Prereq: A physical chemistry course at or above the 400 level or consent of instructor.

CHE 525 BIOANALYTICAL SENSORS. (3)
Theory, principles, and applications of bioanalytical sensors and sensing systems, including transducers, molecular recognition, and microfabrication. Prereq: A physical chemistry course at or above the 400 level, or consent of instructor.

CHE 526 CHEMICAL SEPARATIONS. (2)
An advanced study of the theory, instrumentation, and analytical applications of chemical separation methods. Prereq: A physical chemistry course at or above the 400 level, or consent of instructor.

CHE 532 SPECTROMETRIC IDENTIFICATION OF ORGANIC MOLECULES. (2)
A discussion of nuclear magnetic resonance, ultraviolet and infrared spectroscopies, and mass spectrometry in the determination of the structure and stereochemistry of organic molecules. Prereq: CHE 231 and CHE 232.

CHE 533 QUALITATIVE ORGANIC ANALYSIS LABORATORY. (2)
The identification of unknown organic compounds using nuclear magnetic resonance, ultraviolet and infrared spectroscopy, mass spectrometry and traditional chemical techniques. Separation techniques are also emphasized. Laboratory, six hours. Prereq: CHE 532.

CHE 535 SYNTHETIC ORGANIC CHEMISTRY. (3)
A general survey of organic chemistry with emphasis on synthetic methods and the synthesis of natural products. Prereq: CHE 232.

CHE 538 PRINCIPLES OF ORGANIC CHEMISTRY. (3)
A general survey of the field of organic chemistry. Topics emphasized are: mechanistic principles relating molecular structure to reaction outcome, stereoisomerism and its effect on chemical reactivity, and simple molecular orbital theory as required to understand aromaticity and to predict the occurrence and stereochemistry of pericyclic reactions. Prereq: CHE 232.

CHE 547 PRINCIPLES OF PHYSICAL CHEMISTRY I. (3)
An introduction to quantum chemistry and spectroscopy, emphasizing modern applications of quantum theory to the calculation of molecular properties. Practical experience with quantum chemistry software on various computer platforms is included. Prereq: MA 213; PHY 213 or 232; or consent of instructor.

CHE 548 PRINCIPLES OF PHYSICAL CHEMISTRY II. (3)
Fundamental principles of classical physical chemistry, including thermodynamics, statistical thermodynamics, and chemical kinetics. Prereq: A physical chemistry course at the 400 level or above, or consent of instructor.

CHE 550 BIOLOGICAL CHEMISTRY I. (3)
An introduction to biological chemistry. Topics include amino acids and proteins; nucleic acids and nucleotides; enzyme structure, function and energetics; metabolism including glycolysis; the tricarboxylic acid cycle; electron transport and oxidative phosphorylation; glycogen metabolism; hormone action; and other aspects of modern biological chemistry. Prereq: CHE 232 and a physical chemistry course at or above the 400 level, or consent of instructor.

CHE 552 BIOLOGICAL CHEMISTRY II. (3)
A further introduction to biological chemistry. Topics include lipid metabolism, biosynthesis and metabolism of nitrogen-containing compounds, storage and utilization of genetic information, immunochemistry, and other contemporary topics in biological chemistry Prereq: CHE 232 and a physical chemistry course at or above the 400 level, or consent of instructor.

CHE 553 CHEMISTRY AND MOLECULAR BIOTECHNOLOGY. (3)
This course focuses on the chemical aspects of biotechnology development. Current topics in biotechnology are emphasized through extensive reading and classroom discussion of the most recent scientific literature. Biotechnology development in fields as diverse as agriculture, the environment, and medicine will be covered. Prereq: An introductory course in biology, biological chemistry, or biochemistry; and CHE 232; or consent of instructor.

CHE 555 HOMONUCLEAR NMR. (3)
This course will give students hands-on experience with modern NMR experiments that are the mainstays of chemical structural analysis and biophysical studies of macromolecules and pharmaceuticals. Lecture, two hours; laboratory, three hours per week. Prereq: CHE 232 or 236; and a physical chemistry course at or above the 400 level.

CHE 556 ELEMENTS OF NEUROCHEMISTRY. (3)
A course in the neurochemistry of the brain. Among topics to be covered: brain cell cytoarchitecture; chemical bases for: neuronal membrane transport, electrical excitability, and ion channels; axonal transport; energy metabolism; synaptic transmission; cellular signaling; Ca2+ homeostasis; neurotransmitters; oxidative stress; apoptosis and necrosis; application of neurochemical principles to the molecular bases of neurodegenerative disorders. Prereq: CHE 232 and a biological chemistry course, or consent of instructor.

CHE 558 HORMONE RECEPTORS AND CELL SIGNALS. (3)
This course starts with the general concepts on hormones and their receptors and describes how hormones interact with their receptors and generate hormone signals and responses. Prereq: BIO 315 or equivalent, BCH 401G or equivalent, CHE 550 or 552 or equivalent, or consent of instructor.

CHE 559 MOLECULAR BIOPHYSICS. (3)
Overview of intermolecular forces responsible for formulation tertiary structure and macromolecular assemblies, as well as linked equilibria, allostery and propagation of signals. Extension of these principles to explain macromolecular machines, complex molecular behavior and, ultimately, processes of life. Prereq: A physical chemistry course at the 400 level or above, or consent of instructor.

CHE 565 ENVIRONMENTAL CHEMISTRY. (3)
A study of the sources, reactions, transport, effects, and fates of chemical species in the atmosphere, hydrosphere, lithosphere and biosphere. Prereq: Two semesters of general college chemistry are required. Courses in analytical and physical chemistry are recommended, but are not required.

CHE 580 TOPICS IN CHEMISTRY. (1-3)
A detailed investigation of a topic of current significance in chemistry. May be repeated to a maximum of six credits. Lecture and/or laboratory: variable. Prereq: CHE 232 and a physical chemistry course at the 400 level or above, or consent of instructor.

CHE 610 CHEMISTRY OF THE TRANSITION METALS. (3)
A detailed treatment of the chemistry of the transition elements, lanthanides and actinides, including the structure of coordination complexes, bonding, reaction mechanisms and preparations. Prereq: CHE 510.

CHE 612 INORGANIC CHEMISTRY OF THE NON-METALS. (3)
A detailed treatment of the inorganic chemistry of the nonmetals. Topics include theories of bonding, spectral characteristics, reaction mechanisms, preparations, physical methods of characterization and structural determination, and applications. Prereq: CHE 510.

CHE 614 ORGANOTRANSITION METAL CHEMISTRY. (3)
A detailed treatment of the organometallic chemistry of the transition metals, including lanthanides and actinides. Topics include synthesis, structure, bonding theories, reactions, characterization by physical methods, and applications in organic chemistry and catalysis. Prereq: CHE 232, and CHE 410G or 510, and a physical chemistry course at the 400 level or above, or consent of instructor.

CHE 616 NUCLEAR CHEMISTRY. (3)
An advanced study of nuclear chemistry and topics related to nuclear and radiochemistry. Prereq: CHE 520 and a physical chemistry course at the 400 level or above.

CHE 620 ELECTROCHEMICAL METHODS OF ANALYSIS. (3)
An intensive study of the fundamental theories and principles of electrochemistry, and their practical applications for physical and quantitative analytical measurements. Topics include potentiometric, voltammetric, amperometric, and coulometric methods. Prereq: CHE 522 or a physical chemistry course at the 400 level or above.

CHE 623 CHEMICAL EQUILIBRIUM AND DATA ANALYSIS. (3)
An advanced treatment of chemical equilibrium, sampling, and the evaluation of data obtained from chemically related measurements. Prereq: CHE 226 or 522 or a physical chemistry course at the 400 level or above.

CHE 625 SPECTROCHEMICAL ANALYSIS. (3)
An intensive study of the theory, instrumentation, and analytical applications of modern atomic and molecular spectrometric methods. Prereq: CHE 522.

CHE 626 ADVANCED ANALYTICAL CHEMISTRY. (3)
An advanced study of the theory and practice of quantitative analysis.

CHE 640 CHEMICAL CRYSTALLOGRAPHY. (3)
An introduction to modern small-molecule crystallography with emphasis on typical applications of interest to synthetic chemists. Prereq: CHE 232 and a physical chemistry course at the 400-level or above.

CHE 643 SPECTROSCOPY AND PHOTOPHYSICS. (3)
An integrated treatment of modern spectroscopy and photophysics. Topics to include atomic spectroscopy, microwave, infrared and UV-visible spectroscopy of diatomic and polyatomic molecules, lasers, creation and detection of excited states, fluorescence, phosphorescence, radiationless processes and photochemical transformations. Prereq: CHE 547 or 446G or permission of instructor.

CHE 646 CHEMICAL KINETICS. (3)
Studies of chemical reactions from the standpoint of velocity and mechanism. Prereq: CHE 442G.

CHE 664 MULTIDISCIPLINARY SENSORS LABORATORY. (3)
A multidisciplinary laboratory course with laboratory experiences in areas related to sensors and sensing architectures, typically including chemistry, chemical and materials engineering, and electrical engineering. Lecture, 1 hour; laboratory, 2 hours. Prereq: One year of college chemistry, calculus and physics. GS 660 or by consent of instructor. (Same as CME/EE/MSE 664.)

CHE 666 PROTEOMICS AND MASS SPECTROMETERY. (3)
A course in the identification, characterization, and quantification of the proteins in tissues and cells. Mass spectrometric methods are of central importance, and those techniques (including data analysis) are a major focus of the course. Prereq: CHE 232, a course in physical chemistry at or above the 400-level.

CHE 668 SYMMETRY AND CHEMICAL APPLICATIONS. (3)
An integrated treatment of fundamentals, techniques, and chemical applications of molecular symmetry and group theory. Prereq: A physical chemistry course at the 400-level, or consent of instructor.

CHE 710 TOPICS IN INORGANIC CHEMISTRY. (2-4)
Discussion of topics of recent interest in inorganic chemistry, including physical methods, syntheses, and structural theories. May be repeated to a maximum of 12 credits. Prereq: CHE 610 or 612.

CHE 736 TOPICS IN ORGANIC CHEMISTRY. (2-4)
Selected topics which may include heterocyclic organic compounds, natural and synthetic dyes, carbohydrates, nitrogen compounds, and recent advances in the field of organic chemistry. May be repeated to a maximum of 12 credits.

CHE 746 TOPICS IN PHYSICAL CHEMISTRY. (2-4)
Selected topics which may include photochemistry, structure of crystals, molecular spectra, nature of the chemical bond, and other recent advances in the field of physical chemistry. May be repeated to a maximum of 12 credits. Prereq: A physical chemistry course at the 400 level or above.

CHE 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CHE 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

CHE 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

CHE 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

CHE 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

CHE 772 SEMINAR IN CHEMISTRY INSTRUCTION. (1)
A seminar for teaching assistants on the methods and techniques of effective instruction in laboratory and recitation classes in chemistry. Required of all new graduate teaching assistants. Prereq: Admission to M.S. or Ph.D. program in chemistry.

CHE 776 GRADUATE SEMINAR. (1)
Reports and discussions on recent research and current literature. Required of all graduate students. May be repeated for a total of eight credits.

CHE 779 MEMBRANE SCIENCES COLLOQUIUM. (1)
Outstanding membrane scientists present their current research on biological and/or synthetic membranes. Students read a pertinent paper by the speaker prior to his/her talk and write a short paper on the talk; especially important is relevance of the main points of the talk to membrane science in general and the student's own research in particular. May be repeated to a maximum of six credits. (Same as BCH/CME/PHA/PHR 779.)

CHE 780 INDIVIDUAL WORK IN CHEMISTRY. (1-5)
Selected library and laboratory problems in conformance with the student's interest will be attacked and pursued under the direction of a suitable staff member who is proficient in the area under investigation.

CHE 790 RESEARCH IN CHEMISTRY. (1-12)
Work may be taken in the following fields, subject to the approval of the Departmental Graduate Committee: analytical chemistry, industrial chemistry, inorganic chemistry, organic chemistry, radiochemistry, or physical chemistry. May be repeated indefinitely.

CHI Chinese Culture and Language

CHI 101 BEGINNING CHINESE I. (4)
A course in first semester Chinese language.

CHI 102 BEGINNING CHINESE II. (4)
A course in second semester Chinese language. Prereq: CHI 101 or equivalent.

CHI 201 INTERMEDIATE CHINESE I. (4)
A course in third semester Chinese language. Prereq: CHI 102 or equivalent.

CHI 202 INTERMEDIATE CHINESE II. (4)
A fourth semester course in Chinese language. Prereq: CHI 201 or equivalent.

CHI 301 ADVANCED INTERMEDIATE CHINESE I. (3)
A course designed to increase student skills in listening, speaking, writing, reading and culture. More complex grammatical forms introduced; focus on control of basic forms. Development of students' lexicon through reading, watching films, conversation, tapes, etc. Prereq: CHI 202 or equivalent. All students who have had three or more years of high school Chinese or are heritage learners of Chinese and are enrolling in college-level Chinese for the first time must take the Chinese placement exam before enrolling in this course.

CHI 302 ADVANCED INTERMEDIATE CHINESE II. (3)
A course designed to increase student skills in listening, speaking, writing, reading and culture. More complex grammatical forms introduced; focus on control of basic forms. Development of students' lexicon through reading, watching films, conversation, tapes, etc. Prereq: CHI 301 or equivalent. All students who have had three or more years of high school Chinese or are heritage learners of Chinese and are enrolling in college-level Chinese for the first time must take the Chinese placement exam before enrolling in this course.

CHI 310 SOUNDS OF EAST ASIAN LANGUAGES. (3)
The aim of this course is to provide students with the tools to understand and analyze the complexity of sounds and sound systems in East Asian languages (including Chinese, Japanese, Korean and Vietnamese). To this end, students learn to produce, identify and perceive human sounds and to describe and understand the physical properties with which these sounds are produced. Students explore the relationship between sound systems and human perception. Finally, students apply the methods, theory and practice of the course in an in-class field work of an East Asian language unknown to them.

CHI 320 GENDER POLITICS IN CHINESE LITERATURE. (3)
An interdisciplinary, multimedia approach to the representation of gender relations in Chinese literature over time. Critical engagement of such topics as the complex relationships between women's issues and national discourse, between identity and performance, between the construction of female subjectivity and male fantasy, between gender and genre. Students will be encouraged to conduct cross-genre and cross-cultural comparisons. All readings in English. Prereq: Junior status or consent of instructor.

CHI 321 INTRODUCTION TO CONTEMPORARY CHINESE FILM. (3)
The course offers an overview of major films, directors and actors in the contemporary PRC, Taiwan and Hong Kong. It examines the genres of Chinese film better known in the U.S., including the Hong Kong action film, fifth-generation mainland cinema and Taiwanese urban dramas. The course will provide an understanding of contemporary Chinese cinema through analyses of the content and style, poetics and politics of films/filmmakers/film movements, that reflect the Chinese cultural value system and differing Chinese aesthetics vis-a-vis Western and Hollywood views. All films are screened with English subtitles. Prereq: Junior status or consent of instructor.

CHI 322 SELF AND SOCIETY IN CHINESE CULTURE. (3)
This course takes an interdisciplinary approach to the concept of the self and its relationship to larger social categories such as family and society in Chinese culture. Critical approaches to topics such as self expression in art and literature over time and across genres, self-cultivation, gender, consciousness, modernity, and transnational identity. Course readings will include philosophical and religious texts as well as literature, historical writing, and material culture in its various forms. Prereq: Junior status or consent of instructor.

CHI 330 INTRODUCTION TO CHINESE CULTURE, PRE-MODERN TO 1840. (3)
This course introduces students to premodern Chinese history, society, and culture up to 1840. Some of the major questions to be addressed include: Is "China" the oldest continuous civilization? Was it culturally and ethnically homogenous? Was Chinese traditional culture and society "patriarchal"? To what extent was the state successful in penetrating into the daily lives of individuals? Course assignments will include primary and secondary literature (entirely in English) as well as visual and material culture sources. No prior knowledge of Chinese history, culture, or language required.

CHI 331 INTRODUCTION TO CHINESE CULTURE, 1840 TO PRESENT. (3)
This course introduces students to modern Chinese history, society, and culture from 1840 to the present, with a special focus on developments in the twentieth century. We will investigate three sets of major problems: (1) China is often seen as an ethnically and culturally homogenous society, but what is China and (Han) Chinese? (2) How did China transition from a multi-ethnic empire to a modern nation state? (3) What does modernity mean in the Chinese context? Aside from these specific objectives, this course will also teach students to analyze written and visual texts found in various genres. No prior knowledge of Chinese history, culture, or language required.

***CHI 345 INTRODUCTION TO EARLY CHINESE THOUGHT. (3)**
This course will examine the intellectual history of China's classical period, from the late Shang until the sixth century CE, and critically engage fundamental concepts of early Chinese philosophy and religion including: the Dao, the discourse of tradition, formation of philosophical "schools," cosmic and social gender, the Sage, and human nature. This course will also consider "Religion" and "Philosophy" as terms of inquiry, and synthesize this literature to describe and analyze changes and continuities to Chinese thought during the classical era.

CHI 395 INDEPENDENT WORK IN CHINESE. (1-3)
Students who have the proper qualifications may undertake a special problem in reading and research. May be repeated to a maximum of six credits. (Recommended.)

CHI 401 ADVANCED CHINESE I. (3)
The course builds on material covered in CHI 302 and will cover a wide range of materials, including dialogues and newspaper articles. It will facilitate oral and written practice, allow

KEY: # = new course * = course changed † = course dropped

students to communicate in real-life situations, and read and write Chinese texts with minimal aid of pinyin. Prereq: CHI 302 or equivalent.

CHI 402 ADVANCED CHINESE II. (3)
This course builds on the linguistic skills acquired in previous Chinese study and further trains students in advanced use of the language, including listening, speaking, reading and writing. The course will expand students' vocabulary and improve students' reading and writing, speaking, and listening skills. The topics of the lessons cover the social changes in contemporary China and cultural developments in their social context. Prereq: CHI 401 or equivalent.

CHI 430 POPULAR CULTURE IN MODERN CHINA. (3)
This course provides a critical examination of modern Chinese popular culture and its global cultural significance in the contemporary world. From film to literature, from music to theatre, this course will probe modern Chinese popular culture as it has manifested itself, and trace its sociopolitical, aesthetic, and affective impact on the contemporary world.

CHI 450 DAOISM: EAST AND WEST. (3)
Interdisciplinary examination of the development of Daoism, China's indigenous philosophical and religious tradition. Includes critical approaches to texts that are central to the doctrines, concepts, and practices of Daoism, and an assessment of its impact on Chinese art, poetry, fiction, and historical writing from all periods of Chinese history. This course will also offer a discussion of Daoism and its emergence in 20th century American culture and evaluate its impact and effects on North American pop culture, alternative culture, and new religious movements. Prereq: CHI 330 or CHI 345 strongly recommended.

CHI 495G ADVANCED INDEPENDENT WORK IN CHINESE. (1-3)
Independent research in Russian and Eastern Studies on an advanced level for undergraduate and graduate students. Students will be required to establish a written contract with the relevant faculty member describing the tasks to be completed in the course. May be repeated to a maximum of six credits, or a total of six credits of CHI 395 and 495G.

CHI 511 LITERARY CHINESE. (3)
This course builds on linguistic skills learned in previous study of Chinese and Japanese, introducing the grammar, vocabulary, and concepts of Literary Chinese. The class will focus on early texts written in what is often referred to as "Classical Chinese," which flourished from the late Zhou to the end of the Han dynasty (220 CE) and was the common written language of East Asia. Prereq: CHI 301 or JPN 301 or consent of instructor.

CHI 520 INTRODUCTION TO CHINESE LINGUISTICS. (3)
This course investigates the phonology (sound system), morphology (word formation), syntax (grammar), and orthography (writing system) of the Chinese language. Also covered are topics, such as dialectology and sociolinguistics, relating language to cognition, culture, and society. Prereq: CHI 202.

CIS Communications and Information Studies

CIS 110 COMPOSITION AND COMMUNICATION I. (3)
Composition and Communication I is the introductory course in a two-course sequence designed to engage students in composing and communicating ideas using speech, writing, and visuals. Students will develop interpersonal communication, critical thinking, and information literacy skills by exploring what it means to be engaged, twenty-first century citizens. Students will practice composing, critiquing, and revising ideas based on personal experience, observation, and fieldwork in the community, culminating in several discrete projects using oral, written, and visual modalities.

CIS 111 COMPOSITION AND COMMUNICATION II. (3)
Composition and Communication II is the advanced course in a two-course sequence designed to engage students in composing and communicating ideas using speech, writing, and visuals. In this course, students will work in small groups to explore issues of public concern using rhetorical analysis, engage in deliberation, compose conscientious and well-developed arguments, and propose viable solutions to different audiences. Students will sharpen their ability to conduct research; compose and communicate in spoken, written, and visual forms; and work effectively in teams through sustained interrogation of an issue. A significant component of the class will involve learning to use visual and digital resources both to enhance written and oral presentations and to communicate with public audiences. Prereq: CIS 110.

CIS 112 ACCELERATED COMPOSITION AND COMMUNICATION II (CIS). (3)
Composition and Communication 112 is an accelerated version of the standard two-semester composition and communication sequence. It focuses on integrated oral, written, and visual communication skill development and emphasizes critical inquiry and research. Students will sharpen their ability to conduct research; compose and communicate in written, oral, and visual modalities; and use interpersonal skills to work effectively in groups (dyads and small groups). Prereq: AP English Composition score of 4 or 5, an ACT English score of 32 or higher, an SAT verbal score of 720 or higher, or acceptance into the University's Honors Program.

CIS 184 COMMUNICATING ARGUMENTS. (3)
Theories; strategies; techniques for researching, analyzing, constructing, and presenting oral arguments for and against selected contemporary topics and issues. Emphasis on in-class presentations. Prereq: Instructor approval required to enroll.

CIS 191 SPECIAL TOPICS IN INSTRUCTIONAL COMMUNICATION (Subtitle required). (1-3)
Study of a specialized topic in instructional communication. May be repeated to a maximum of nine credits under different subtitles. Lecture. Prerequisites will be set by the instructor.

CIS 284 INTERCOLLEGIATE DEBATE AND FORENSICS. (1)
Preparation for and participation in intercollegiate debating and/or forensics. May be repeated seven times for a maximum of eight credits. Prereq: Instructor approval required to enroll.

CIS 300 STRATEGIC BUSINESS AND PROFESSIONAL COMMUNICATION (W). (3)
This communication intensive course prepares students for their careers by developing effective communication skills (integrated written, oral, and visual) applied specifically to today's technology-driven and global business environment. The course will focus on developing strong communication skills in interpersonal settings, on small group teams, and when delivering public presentations. Students will prepare cover letters, resumes, websites, and portfolios; develop effective interviewing skills in face-to-face and online environments; communicate effectively based on audience analysis in face-to-face and online settings; deliver effective formal public business presentations (informative and persuasive) based on audience analysis and using a variety of presentational aids that enhance the message; and learn to manage data, graphics, and a positive online presence (e.g., websites, blogs, social media outlets, email messages, and webinars). Prereq: Upper division status in accounting, analytics, communication, economics, finance, management, marketing, or permission from instructor.

CIS 391 SPECIAL TOPICS IN INSTRUCTIONAL COMMUNICATION (Subtitle required). (3)
Intensive study of a specialized topic in instructional communication. May be repeated to a maximum of 9 credits under different subtitles. Lecture.

CIS 399 CONSULTING AND TRAINING – MULTIMODAL COMMUNICATION CONSULTING CENTER INTERNSHIP. (1-3)
The principle purpose of this course is to provide students with an opportunity to intern in the Multimodal Communication Consulting Center (MC3). The internship will provide students with the ability to act as a peer tutor in the MC3, engage in classroom presentations, and develop out-of-class instructional workshop focused on presentational elements and multimodal communication. Prereq: CIS/WRD 110 and 111 or equivalents and by instructor approval.

#CIS 499 INTERNATIONAL INTERNSHIP. (3)
Qualified students enter the professional sector to refine skills and knowledge. Supervised internships in an international location approved by the College allow placements in industry, government, the media, communication agencies, etc. International internship credit will only be given for sites/programs approved by Education Abroad at UK. Pass/Fail only. Prereq: Admission to upper-division in one of the undergraduate majors in the College of Communication and Information (COM, ICT, ISC, JOU or MAS), fulfillment of internship prerequisites for the specific major (for COM 399, JAT 399 or ICT 399), and approval of the College's executive director for international studies.

CIS 590 INTERNSHIP-APPRENTICESHIP IN INSTRUCTIONAL COMMUNICATION (Subtitle required). (3)
This course provides students an opportunity to work one-on-one with a faculty member in the college as a teacher's apprentice in a course in the track of their chosen major. As an apprentice, students will attend all classes of the course they are serving as an apprentice for and meet with the faculty member weekly to discuss course content and pedagogical strategies. Students will also prepare at least three lesson plans and lead the class in working through them at least three times over the course of the semester. Students will ultimately develop a reflective teaching portfolio for the course. This course is repeatable for up to 6 credits. Prereq: Upper division status in the College of Communication and Information, successful completion of the course for which a student wants to as an intern-apprentice (i.e., B or better), an overall GPA of 3.0 or higher, permission from both the teacher of the course and the Director of the Division of Instructional Communication prior to registration, and completion of a Division Learning Contract.

CJT Communication, Journalism, Telecommunications (Graduate)

CJT 539 INTRODUCTION TO MEDICAL INFORMATICS. (3)
This course is designed to introduce the interdisciplinary field of medical informatics to health information professionals. Medical Informatics is a developing field that essentially seeks to apply information and computing technologies to improve all aspects of healthcare, including patient care, research, and education. During the semester we will explore a number of topics central to understanding the field, including: the nature of biomedical information, the electronic medical record, the role of information and computing technologies to support clinical decision making, healthcare and informatics standards, information retrieval, system analysis and technology assessment, and essential issues of information technology in medical education and medical ethics. By the end of this Web-based course, students are expected to be able to understand broad aspects of the field and can use this as a foundation for further education, training, and work in health information professions. (Same as LIS 539.)

CJT 601 PROSEMINAR IN COMMUNICATION. (3)
Introduction to graduate study; theory and systems, research strategies. Prereq: Graduate standing in communication or consent of instructor.

CJT 608 MASS COMMUNICATIONS AND SOCIETY. (3)
A study of the ways in which the communications media play their roles in contemporary society with special attention to the major functions, rights, and responsibilities of media and individuals. Prereq: Graduate standing in communication or consent of instructor.

CJT 610 PARTICIPATORY COMMUNICATION. (3)
This seminar will provide students with a state of the art account of the underlying philosophical, theoretical, and methodological premises of participatory communication. This will help students gain a deep understanding of participatory communication theory and research, and their implications for such contexts as management and organizational communication, health communication, international development, journalism, democracy and civic engagement, public policy, and communication with marginalized groups. Prereq: At least one year of graduate study in communication or consent of instructor.

CJT 615 PROSEMINAR IN COMMUNICATION AND INFORMATION SYSTEMS. (3)
This course is an introductory graduate-level survey of theory and research on human communication mediated by communication and information technologies. This course is designed to cover the areas not typically addressed in traditional courses of mass or interpersonal communication, including theory and research on the use of computers and electronic communication over a variety of communication and information systems. Prereq: Graduate standing or consent of instructor. (Same as LIS 615.)

CJT 616 FOUNDATIONS IN INSTRUCTIONAL COMMUNICATION. (3)
Instructional communication is a blending of three disciplines including pedagogy (i.e., teaching), educational psychology (i.e., cognitive learning), and communication. Although each of these unique disciplines is embedded in its own theoretical and research tradition, this course will focus on where these three disciplines intersect. We will examine and criticize various communication and instructional models, plan for and deliver instruction in both in-person and computer-aided venues, learn various methods for assessing teaching and learning, and discuss the managerial and political aspects of instructional delivery in various professional contexts, with a special emphasis on those in academic, information, and organizational settings.

CJT 619 PROSEMINAR IN INTERNATIONAL/ INTERCULTURAL COMMUNICATION. (3)
Examines important issues in communication from a global perspective. In-depth study of international communications systems, international information flow, problems that occur in communicating with members of different cultures or subcultures, and development of theories and strategies for improving international communications at the mass, organizational, and interpersonal levels. Prereq: CJT 601 and graduate standing in communication or consent of instructor.

CJT 625 PROSEMINAR IN ORGANIZATIONAL COMMUNICATION. (3)
This course is an introductory graduate-level survey of theory and research in the area of organizational communication and related topics. Students will be exposed to a variety of current theoretical perspectives and methodological orientations. Prereq: Graduate standing in communication or consent of instructor.

CJT 630 PROSEMINAR IN MASS MEDIA LAW AND PUBLIC POLICY. (3)
Study of mass communication law and policy-making. Intensive review of court decisions, statutes and administrative rules and regulations regarding libel, privacy, public access to government meetings and documents, intellectual property, broadcast regulation, commercial and corporate speech, obscenity and protection of news sources. Prereq: CJT 601 and graduate standing in communication or consent of instructor.

CJT 631 PROSEMINAR IN INTERPERSONAL COMMUNICATION. (3)
The course reviews existing and emerging theoretical, perspectives relevant to the context of interpersonal communication. Emphasis is on theories of message production and reception, identity management, relationship development, and related processes. Methods of investigation unique to the study of interpersonal interaction are also addressed. Students are expected to be familiar with general communication theory and basic research methods prior to enrolling in the course.

CJT 636 ASSESSMENT AND EVALUATION METHODS IN APPLIED COMMUNICATION RESEARCH. (3)
In applied instructional settings (e.g., training, workshops, teaching, online courses, conference proceedings), goals are set for specific outcomes to be achieved, whether they are affective, cognitive, or behavioral. In these instructional contexts, assessment is used to evaluate the effectiveness of any program or intervention. Additionally, assessment is used to improve upon existing programs and interventions. Students will learn how to develop, conduct, and evaluate sound assessment plans, and provide recommendations based on assessment results.

CJT 637 INFORMATION TECHNOLOGY. (3)
Study of computer and communication technology used in modern information storage and retrieval systems. Consideration also given to managing microcomputer services, hardware evaluation and selection, and system security. Prereq: Consent of instructor. (Same as LIS 637.)

CJT 638 INTERNET TECHNOLOGIES AND INFORMATION SERVICES. (3)
A course examining the structure, development and evolution of the Internet; network protocols and client/server architecture issues; Web page design, authoring, and evaluation; the use of the Internet as an information storage and retrieval system; recent advances in HTML and scripting languages; and Internet related social issues such as censorship and copyright. Prereq: LIS 636 or consent of instructor. (Same as LIS 638.)

CJT 640 HEALTH INFORMATION RESOURCE SERVICES. (3)
A survey of information agencies and health science libraries, including topics related to: the healthcare community and their information needs, information resources in the health sciences, controlled medical terminologies and classification systems, search and retrieval of information resources, issues in the management of collections and access to health libraries. (Same as ICT/ LIS 640.)

CJT 645 PROSEMINAR IN MASS COMMUNICATION THEORY. (3)
A broad examination and critical analysis of major mass communication theories and research areas. Prereq: A course in research methods and graduate standing in communication or consent of instructor.

CJT 646 INTERPERSONAL COMMUNICATION IN INSTRUCTION. (3)
Interpersonal communication exists in the relationships between students and instructors and between students, both in and out of the classroom. Although these relationships differ from other interpersonal relationships (e.g., friends, significant others), their impact is no less profound or influential. In this course, students will explore how interpersonal concepts, constructs, theories, and relationships emerge in the classroom and impact the overall instructional environment in terms of learning outcomes, satisfaction, and engagement, among other important instructional outcomes.

CJT 650 DISTANCE EDUCATION: DELIVERY. (3)
This course has been designed for those faculty or future faculty who plan to teach via distance education technology. This course will review current literature on how to deliver distance education content with attention to developing materials, setting delivery timelines, facilitating interactions, and using appropriate teaching strategies. Prereq: Master's degree. (Same as EDS 651.)

CJT 651 COMMUNICATION THEORY. (3)
Examination and critical analysis of the major theories of communication processes, including systems theory, structural theories and semiotics, behaviorism, symbolic interactionism, theories of the social construction of reality, and other theoretical approaches to the study of communication. Prereq: Graduate standing or consent of instructor.

CJT 652 DISTANCE EDUCATION: MANAGEMENT AND SUPPORT. (3)
This course has been designed for those faculty or future faculty who plan to manage or direct programs delivered through distance education technology. The course will focus on current issues and challenges in distance education administration, including such topics as provision of quality support services; policy issues at the local, state, national, and international level; model administrative structures; instruction and technology funding; and virtual institutions. Prereq: Master's degree. (Same as EDS 652.)

CJT 656 INSTRUCTIONAL COMMUNICATION AND TECHNOLOGY. (3)
Instructional communication often utilizes technology. Teaching and learning now incorporate a wide variety of technologies, ranging from supplementing traditional lectures to holding classes online with students across the world. This course marries traditional areas of concern for instructional communication and emerging technologies to explore the landscape of teaching and learning. Through readings, technology demonstrations, and discussion, the class will examine ethical, technological, professional, and scholarly questions.

CJT 664 QUALITATIVE METHODS IN COMMUNICATION RESEARCH. (3)
Goals, epistemology and methods of qualitative inquiry in communication. Strengths and limitations of different qualitative research methodologies. Distinctive contributions of qualitative research to theory and practice of communication.

CJT 665 QUANTITATIVE METHODS IN COMMUNICATION RESEARCH. (3)
The scientific method. Communication research as part of social science research. Study and practice of quantitative behavioral research techniques which apply to communication. Prereq: Graduate standing in communication or consent of instructor.

CJT 668 INFORMATION SYSTEMS DESIGN. (3)
Study of concepts and methods of information system design and development with particular relevance to library and information center applications. Emphasis is given to modeling of system functions, data, and processes of computer-based information systems including the development of small scale information systems. Prereq: LIS 636 or consent of instructor. (Same as LIS 668.)

CJT 671 PROSEMINAR IN HEALTH COMMUNICATION. (3)
This course is designed to provide a broad introduction to communication in a health care context. Topics addressed are patient-provider communication, small group communication, communication in health care organizations, intercultural communication in health care, and health images in the mass media. Prereq: Graduate standing in communication or consent of instructor.

CJT 682 COMMUNICATION AND PERSUASION. (3)
An advanced course examining the literature in communication and attitude change. Issues in measurement, theory, and philosophical orientation are central. Covers communication broadly, including interpersonal, mediated, and mass communication. Prereq: Graduate standing in communications or consent of instructor.

CJT 684 PROSEMINAR IN INSTRUCTIONAL COMMUNICATION. (3)
This course is an introductory graduate-level survey of current theory, research, and current developments in the area of instructional communication. Students will be exposed to a variety of current theoretical perspectives and methodological orientations. Hands-on opportunities are provided to construct and refine strategies and resources for instruction. Prereq: Prior teaching experience, or COM 584, or consent of instructor.

CJT 685 SEMINAR: PREPARING FUTURE FACULTY FOR THE MULTICULTURAL CLASSROOM. (1)
This course is to prepare future communication faculty for facilitating and dealing with diverse student learning in an increasingly multicultural classroom context. Prereq: Recommend CJT 684 or GS 650.

CJT 686 PRACTICUM IN PREPARING FUTURE FACULTY. (1)
Practicum at a participating institution to provide students with variety of experiences as faculty member working with a mentor there and supervised through CJT. Prereq: CJT 684 or CJT 685.

CJT 690 SPECIAL TOPICS IN LIBRARY AND INFORMATION SCIENCE. (1-3)
A survey and historical study of multicultural literature for your of all ages. Students will engage in extensive reading, evaluation, and discussion of literature and the issues related to developing an understanding of various cultures and special populations. Prereq: LIS 610 or LIS 614, or consent of instructor.

CJT 696 INTERNSHIP IN COMMUNICATION. (3)
Field experience for candidates for the M.A. degree in any field of communications through work in industry, government, education, research or business agencies. Laboratory, 12 hours per week. Prereq: Admission to M.A. program and 18 hours of graduate work. Consent of DGS required.

CJT 700 DIRECTED READING IN COMMUNICATION. (1-3)
Individual reading study on some communications aspects not treated in depth in a regular course or of topical interest. Advance consultation regarding reading list and examination procedure required. May be repeated to a maximum of 12 credits. Prereq: Graduate standing in communication or consent of instructor.

CJT 719 SEMINAR IN INTERNATIONAL/ INTERCULTURAL COMMUNICATION (Subtitle required). (3)
Special Topics/Issues in International/Intercultural Communication examines the current and the alternative perspectives in the field of study. Topics/Issues such as the New World Information and Communication Order, Information/Communication Technologies, Communication and Development, Transborder Data Flows, etc., are studied. May be repeated to a maximum of six credits. Prereq: CJT 619 and graduate standing in communication or consent of instructor.

CJT 721 SEMINAR IN RISK COMMUNICATION. (3)
This course establishes risk communication as a distinct sub-discipline within the communication discipline. Ethical considerations are paramount in all areas covered in the course. Theories of risk communication such as mindfulness, sensemaking, chaos, image repair, issues management, the constraints of structuration, and renewal discourse are discussed in terms of pre-crisis, crisis, and post-crisis. Applied research areas such as best practices, high reliability organizations, terrorism, and health risks are also considered. Ultimately, the course provides an overview of the established and emerging perspectives on risk and crisis from the communication perspective.

CJT 722 SEMINAR IN CRISIS COMMUNICATION. (3)
This course follows the crisis communication management process through the stages of pre-crisis, crisis, and post-crisis. The pre-crisis stage discusses planning and environmental scanning. The crisis stage discusses communication strategies for image restoration. The post-crisis stage depicts crisis as an opportunity for organizational learning and for rebuilding or expanding public trust. The course uses a case study approach throughout.

CJT 723 SEMINAR IN TRAINING AND CONSULTING. (3)
This graduate course explores communication training and consultation as a research and instructional focus for students interested in applied communication. Students will learn how to identify and assess communication competence and how to develop training programs to enhance communication competency.

CJT 725 SEMINAR IN ORGANIZATIONAL COMMUNICATION: (Subtitle required). (3)
This course is concerned with theory and research relevant to organizational communication and related areas of interest. Special attention is given to various topics relevant to a specific subtitle. May be repeated to a maximum of six credits under a different subtitle. Prereq: Graduate standing in communication or consent of instructor.

CJT 726 COMMUNICATION LEADERSHIP STUDIES. (3)
The primary purpose of this is course is to extend students' theoretical understanding of leadership from a communication perspective. Specifically, this course is designed to (1) sharpen the students' understanding of the role of communication in developing effective leadership behaviors; (2) familiarize students with leadership as it relates to the communication process; (3) involve students in major term projects which incorporate current leadership theory and research; and (4) enhance students' understanding of published research in leadership communication.

CJT 730 SEMINAR IN MASS MEDIA AND PUBLIC POLICY (Subtitle required). (3)
The role of mass communications media in making public policy and the effects of public policies on the mass media. One subject area will be investigated each semester; typical topics are (1) political campaign communications; (2) censorship; (3) controversial public issues; (4) rights; (5) international and world agreements. May be repeated to a maximum of six credits under a different subtitle. Prereq: CJT 630 and graduate standing in communication or consent of instructor.

CJT 731 SEMINAR IN INTERPERSONAL COMMUNICATION (Subtitle required). (3)
Consideration of special problems in interpersonal communication with emphasis on emergence of theory and implications for further research. May be repeated to a maximum of six credits under a different subtitle. Prereq: CJT 631 and graduate standing in communication or consent of instructor.

CJT 745 SEMINAR IN MASS COMMUNICATION (Subtitle required). (3)
Consideration of selected topics in mass communication theory and research. May be repeated under a different subtitle to a maximum of six credits. Prereq: Graduate standing in communication or consent of instructor.

CJT 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CJT 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

CJT 751 ADVANCED TOPICS IN COMMUNICATION THEORY CONSTRUCTION. (3)
Intensive examination of selected topics important to the construction, development, and testing of communication theories and problems. Prereq: Completion of required first-year curriculum for the Ph.D.

CJT 764 ADVANCED TOPICS IN QUALITATIVE RESEARCH METHODS. (3)
A focused treatment of one or more issues, topics, or problems in qualitative research methodology in communication, such as ethnography, discourse analysis, semiotics, or historical methods. Prereq: CJT 664 or consent of instructor.

CJT 765 ADVANCED SEMINAR IN COMMUNICATION RESEARCH METHODS. (3)
A course in the methods and design of communication studies. Prereq: CJT 665 or the equivalent and graduate standing in communications or consent of instructor.

CJT 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

CJT 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

CJT 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely. Prereq: Satisfactory completion of Qualifying Examination (third year).

CJT 771 SEMINAR IN HEALTH COMMUNICATION. (3)
A topical seminar discussing issues in the field of health communication from a variety of perspectives, e.g., the relevance of interpersonal, international and intercultural and mass communication processes to the quality and availability of health care. May be repeated to a maximum of six credits.

CJT 775 SEMINAR IN HEALTH COMMUNICATION CAMPAIGNS. (3)
The role of communication in public health campaigns. Includes theories relevant to such campaigns, campaign effects studies, methods of evaluation, and message design and targeting principles. Prereq: CJT 645 and graduate standing in communication or consent of instructor.

CJT 780 SPECIAL TOPICS IN COMMUNICATION (Subtitle required). (3)
Professors will conduct research seminars in topics or problems in which they have special research interests. May be repeated to a maximum of six credits. Prereq: At least one year of graduate study in communication.

CJT 781 DIRECTED STUDY IN COMMUNICATION. (1-6)
To provide advanced students with an opportunity for independent work to be conducted in regular consultation with the instructor. May be repeated to a maximum of six credits. (To be used for independent work.) Prereq: Consent of instructor.

CJT 790 RESEARCH PROBLEMS IN COMMUNICATION. (1-6)
Significant participation in important aspects of a research project under the direction of a graduate faculty member. May be repeated to a maximum of six credits. Prereq: Completion of all required first-year courses in the doctoral curriculum and consent of Associate Dean for Graduate Studies.

CLA Classics

COURSES IN CULTURE AND CIVILIZATION

(No knowledge of Greek or Latin expected.)

CLA 100 ANCIENT STORIES IN MODERN FILMS. (3)
This course will view a number of modern films and set them alongside ancient literary texts which have either directly inspired them or with which they share common themes. In the first part of the course, we will consider the relationship between ancient Greek epic, tragic, and comic literature and the modern cinema. In the second part, we will look at a number of ways in which the city of Rome has been treated as both a physical place and as an idea or ideal in the works of both ancient Romans and modern film-makers.

CLA 131 MEDICAL TERMINOLOGY FROM GREEK AND LATIN. (3)
Latin and Greek roots, prefixes, and suffixes as found in medical terminology. Primarily for pre-medical, pre-dental, pre-nursing and pre-veterinary students, but others will be admitted for help in vocabulary building.

CLA 135 GREEK AND ROMAN MYTHOLOGY. (3)
The Greek myths studied both from the standpoint of their meaning to the Greeks and Romans and from the standpoint of their use in later literature and in everyday life. Fulfills Gen Ed Inquiry, Humanities.

CLA 191 CHRISTIANITY, CULTURE, AND SOCIETY: A HISTORICAL INTRODUCTION. (3)
A historical introduction to Christianity in its varying cultural contexts, examining the primary developments in its teachings, practices, and structures from its origins to the sixteenth century.

CLA 210 THE ART OF GREECE AND ROME. (3)
A survey of the major forms of art in ancient Western Asia, Greece, and Rome, with emphasis on the comparative typology and cultural significance of the monuments.

CLA 229 THE ANCIENT NEAR EAST AND GREECE TO THE DEATH OF ALEXANDER THE GREAT. (3)
Covers the birth of civilization in Egypt and Mesopotamia, and the history of the ancient Near East and Greece to the conquest of Greece by Philip of Macedon. (Same as HIS 229.)

CLA 230 THE HELLENISTIC WORLD AND ROME TO THE DEATH OF CONSTANTINE. (3)
Covers the conquests of Alexander the Great, and the main features of the Hellenistic World, the Roman Republic and the Roman Empire to the death of Constantine. (Same as HIS 230.)

CLA 261 LITERARY MASTERPIECES OF GREECE AND ROME. (3)
A survey of major Greek and Roman literary works. Attention will be focused on the various genres of Classical literature, and the course will include comparative analysis of Greek and Latin literary pieces.

CLA 314 ANCIENT (Subtitle required). (3)
Study of the arts and visual cultures of the Ancient World. According to subtitles, focus may be on selected periods or media of artistic and visual production, in the context of political, social and cultural developments, from Bronze Age through the Roman Empire under Constantine. May be repeated under a different subtitle to a maximum of six credits. Prereq: A-H 105 recommended. (Same as A-H 314.)

CLA 331 GENDER AND SEXUALITY IN ANTIQUITY. (3)
A survey of the construction of gender, sexuality, and their relation to and expression in the societies of ancient Greece and Rome. Gender roles, marriage, social problems concerning sex and virginity, and different ways of understanding sexuality and gender in historical contexts are examined through the study of ancient literature, art and the insights of contemporary scholarship.

CLA 382 GREEK AND ROMAN RELIGION. (3)
A broad examination of the varieties of religious practice and experience in the ancient Mediterranean world, particularly in Greece and Rome, with emphasis placed on how dramatically ancient religious concepts and systems differ from those of the modern world.

CLA 390 BACKGROUNDS TO AND EARLY HISTORY OF CHRISTIANITY TO 150 CE. (3)
This course examines the origins of Christianity from its Jewish, Greek, and Roman influences and charts its development through the first one hundred years of its existence. Special emphases are placed on understanding the diversity of Judaic religious identity as well as the influence of Greek philosophy and religion. The world of Jesus, Paul, and the evolution of this new view of one's relationship to God are analyzed historically through a close examination of the texts of this time in the nexus of Jewish, Greek, and Roman cultural interaction. All students will write a book review, take two essay exams, and participate in regular discussion. Class participation is an expected component of this class and contributes 25% to the final grade for the course. (Same as HIS 390.)

CLA 391 CHRISTIANS IN THE ROMAN EMPIRE. (3)
This course discusses the changing status of Christians in the Roman Empire between 100 and 500 CE. An underlying theme of this course is: What is it to be a Christian? Students will read and discuss both primary and secondary sources and analyze how the answer to the above-mentioned question changed during the Roman Empire. Topics to be discussed include: heresies, persecution, definitions of doctrines and practices, the relationship to the Roman Empire, and more. All students will write a book review, take two essay exams, and participate in regular discussion. Class participation is an expected component of this class and contributes 25% to the final grade for the course. (Same as HIS 391.)

CLA 450G SPECIAL TOPICS IN CLASSICAL STUDIES (Subtitle required). (3)
This course offers advanced study of a particular topic in classical studies not covered in other CLA courses. The field of study for this course is broadly conceived, and can include aspects of Greek or Latin philology and literature, as well as the history and culture of antiquity, archaeology and material studies, literary rhetorical theory and criticism, the classical tradition in the humanities, and pertinent topics in the Middle Ages and Renaissance. Format includes lectures and discussions, assigned and supplementary readings, and paper writing. May be repeated to a maximum of nine credits with different topics.

CLA 462G TOPICS IN CLASSICAL LITERATURE (Subtitle required). (3)
A study of a specific genre or genres, or author or set of authors, selected from Greek and Roman literature read in English translation. In addition to developing an appreciation of the works studied and their ongoing contribution to world literature, the course will examine various methods of literary analysis and criticism as well as the historical, social, and cultural context of these works in classical antiquity. The course is especially suited for students outside the classical languages who wish to acquire a sophisticated understanding of classical culture and for students interested in comparative literary studies.

CLA 509 ROMAN LAW. (3)
An historical introduction to the development of Roman law, from the Twelve Tables through the Codex Justinianus. (Same as HIS 509.)

COURSES IN LATIN

CLA 101 ELEMENTARY LATIN. (4)
An introduction to the study of classical Latin. Emphasis is placed on learning to read the language. Some attention is given to Latin literature and Roman civilization.

CLA 102 ELEMENTARY LATIN. (4)
A continuation of CLA 101. Prereq: CLA 101 or the equivalent.

CLA 201 INTERMEDIATE LATIN. (3)
Review of grammatical principles together with readings from Latin prose and poetry. Selections from a wide range of authors will be included in order to demonstrate the diversity and appeal of Latin literature. Emphasis is placed on developing reading ability. Prereq: CLA 102 or two years of high school Latin or equivalent.

CLA 202 INTERMEDIATE LATIN. (3)
A continuation of CLA 201. Prereq: CLA 201 or three years of high school Latin or equivalent.

CLA 205 COMPREHENSIVE INTERMEDIATE LATIN. (3)
An accelerated course offered in the summer session designed to take the student through the material normally covered in the two intermediate-level Latin courses (201 and 202). This course is intended to expand the student's knowledge of the vocabulary, grammar, and prose idiom of classical and post-classical Latin. There will also be discussions of Roman art, literature, history, and culture and, as time permits, Latin's role in the development of the English language. Oral exercises will also be part of the instruction. Prereq: CLA 102 or equivalent, or permission of the instructor.

CLA 211 ACCELERATED LATIN. (3)
An intensive course that covers, in one semester, all the morphology, syntax, and grammar of Latin that is required to bring students with no background in the language to the level at which they can begin to read unaltered Latin texts.

CLA 301 LATIN LITERATURE I (Subtitle required). (3)
An introduction to the literature of Republican Rome with selected readings of complete works from the major Latin authors. Lectures and class discussions on the various genres, styles, and themes of Latin literature. Topics vary every time the course is offered. May be repeated once under a different subtitle. Prereq: CLA 202 or equivalent.

CLA 302 LATIN LITERATURE II (Subtitle required). (3)
An introduction to the literature of Imperial Rome with selected readings of complete works from the major Latin authors. Lectures and class discussions on the various genres, styles, and themes of Latin literature. Topics vary every time the course is offered. May be repeated once under a different subtitle. Prereq: CLA 202 or equivalent.

CLA 501 LATIN COMPOSITION. (3)
The course is designed for students with a good command of Latin morphology and basic knowledge of Latin syntax. The participants will deepen their knowledge of Latin syntax, internalize the principles of Latin grammar and usage, and develop a sensitivity to prose style. The course will involve readings from Latin authors from all periods, and exercises in Latin prose composition. It will foster familiarization with the language through exercises that will go beyond simple translation from English. English, not Latin, will be the spoken language used in this course. Prereq: Proficiency in Latin above the 300 level.

CLA 521 ADVANCED LATIN COMPOSITION AND READING. (3)
This course continues the study of Latin composition, concentrating on the compound sentence, modes of expression in subordinate clauses, and the figures of speech in rhetoric. Students will become acquainted with masterpieces of Latin prose from all periods, including Cicero, Sallust, Livy, Petronius, Pliny Minor, Einhard, Abelard, Erasmus of Rotterdam,

Thomas More. This course, unlike CLA 501, will be conducted entirely in Latin, with the objective of further enhancing the students' abilities to express themselves in correct Latin prose. Prereq: Consent of instructor.

CLA 524 THE LATIN LITERATURE OF THE REPUBLIC (Subtitle required). (3)
A study of one or more works selected from the beginnings of Roman literary history to 31 B.C., the period of such writers as Cicero, Caesar, Sallust, Plautus, Terence, Lucretius, and Catallus. Texts may include prose, including history, philosophy, rhetoric and oratory, and letters, and/or poetry, including drama and satire. A particular author, work, genre, or theme is selected each time the course is offered. Textual analysis is emphasized, with lectures and class discussion on the literary milieu. May be repeated to a maximum of nine credits under a different subtitle. Prereq: CLA 301 or equivalent.

CLA 525 THE LATIN LITERATURE OF THE EMPIRE (Subtitle required). (3)
A study of one or more works selected from approximately 31 B.C. to the end of the Western Empire, the period of such writers as Livy, Tacitus, Pliny, Seneca, Virgil, Horace, Ovid, and Juvenal. Texts may include prose, including history, philosophy, rhetoric and oratory, and letters, and/or poetry, including epic, lyric, elegiac, pastoral, and satire. A particular author, work, genre, or theme is selected each time the course is offered. Textual analysis is emphasized, with lectures and class discussion on the literary milieu. May be repeated to a maximum of nine credits under a different subtitle. Prereq: CLA 301 or equivalent.

CLA 528 LATE ANTIQUE AND POST-IMPERIAL LATIN LITERATURE (Subtitle required). (3)
A study of one or more works selected from Latin literature of late antiquity, or after the fall of the empire in the west, from approximately 200 AD into the Middle Ages and Renaissance. Authors and works may include early Christian Latin writers such as Augustine, late antique pagan writers such as the historian Ammianus, as well as medieval poetry, the Latin novel, medieval Christian writers, and Renaissance figures such as Erasmus. A particular author, work, genre, or theme is selected each time the course is offered. Textual analysis is emphasized, as well as the historical and cultural setting of the text and author. May be repeated to a maximum of nine credits under a different subtitle. Prereq: CLA 301 or equivalent.

CLA 611 LATIN OF ANCIENT ROME AND THE MIDDLE AGES (Subtitle required). (3)
This course is based on extensive reading of Latin texts taken from the Roman through the Medieval periods. It aims to foster close familiarization with the Latin language, cultivate an appreciation for different Latin prose styles, as well as investigate the broader historical and cultural circumstances surrounding each work. The classes will be conducted in Latin, and the assignments will involve Latin composition. May be repeated to a maximum of nine hours. Prereq: At least one course in Latin composition or permission of instructor.

CLA 612 LATIN OF THE MIDDLE AGES TO THE MODERN WORLD (Subtitle required). (3)
This course is based on extensive reading of Latin texts taken from the Medieval through the Modern period. It aims to foster close familiarization with the Latin language, cultivate an appreciation for different Latin prose styles, as well as investigate the broader historical and cultural circumstances surrounding each work. The classes will be conducted in Latin, and the assignments will involve Latin composition. May be repeated to a maximum of nine hours. Prereq: At least one course in Latin composition or permission of instructor.

CLA 624 SEMINAR IN THE LATIN LITERATURE OF THE REPUBLIC (Subtitle required). (3)
Graduate seminar in an author, a literary form, or a problem in the period of the Roman Republic. Intensive study of the Latin text(s) is accompanied by considerable attention to current scholarship and bibliography. Students will write extended papers and present oral reports in class. May be repeated to a maximum of nine hours. Prereq: Graduate standing or consent of the Classics DGS and instructor.

CLA 625 SEMINAR IN THE LATIN LITERATURE OF THE EMPIRE (Subtitle required). (3)
Graduate seminar in an author, a literary form, or a problem in the period of the Roman Empire. Intensive study of the Latin text(s) is accompanied by considerable attention to current scholarship and bibliography. Students will write extended papers and present oral reports in class. May be repeated to a maximum of nine hours. Prereq: Graduate standing or consent of the Classics DGS and instructor.

CLA 628 SEMINAR IN LATE ANTIQUE AND POST-IMPERIAL LATIN LITERATURE (Subtitle required). (3)
Graduate seminar in an author, a literary form, or a problem from Latin literature of late antiquity or early Christianity, or after the fall of the empire in the west, including the Middle Ages and Renaissance. Intensive study of the Latin text(s) is accompanied by considerable attention to current scholarship and bibliography. Students will write extended papers and present oral reports in class. May be repeated to a maximum of nine hours. Prereq: Graduate standing or consent of the Classics DGS and instructor.

COURSES IN GREEK

CLA 151 ELEMENTARY GREEK. (4)
An introduction to the study of Classical Greek. Emphasis is placed on learning to read the language. Some attention is given to Greek literature and civilization.

CLA 152 ELEMENTARY GREEK. (4)
A continuation of CLA 151. Prereq: CLA 151 or equivalent.

CLA 251 INTERMEDIATE GREEK. (3)
Review of grammatical principles together with readings from Greek prose and poetry. Selections from a wide range of authors will be included in order to demonstrate the diversity and appeal of Greek literature. Emphasis is placed on developing reading ability. Prereq: CLA 152 or equivalent.

CLA 252 INTERMEDIATE GREEK. (3)
The reading of Greek prose and poetry. Textual and literary analysis of selections from classical authors and the New Testament. Prereq: CLA 251 or equivalent.

CLA 350 PREPARING TO READ GREEK TEXTS. (3)
This course completes the study of fundamentals of the grammar and syntax of Classical Greek and prepares the student to read original Greek texts with competence and confidence. Prereq: CLA 252 or equivalent, or permission of instructor.

CLA 551 GREEK POETRY AND DRAMA (Subtitle required). (3)
A study of one or more works of Greek poetic and/or dramatic literature, which may include epic, lyric, tragedy, and comedy, selected from the whole of ancient Greek literature from Homer through the Roman period. A particular author, work, genre, or theme is selected each time the course is offered. Emphasis is placed both on mastering the Greek language and on literary analysis of the texts studied. Lectures and class discussions will further illuminate the literary and cultural milieu of the author or text. May be repeated to a maximum of nine credits under a different title. Prereq: CLA 252 or equivalent.

CLA 555 GREEK PROSE (Subtitle required). (3)
A study of one or more works of Greek prose literature, which may include history, biography, philosophy, satire, and the novel, selected from the whole of ancient Greek literature from Homer through the Roman period. A particular author, work, genre, or theme is selected each time the course is offered. Emphasis is placed both on mastering the Greek language and on literary analysis of the texts studied. Lectures and class discussions will further illuminate the literary and cultural milieu of the author or text. May be repeated to a maximum of nine credits under a different title. Prereq: CLA 252 or equivalent.

CLA 651 SEMINAR IN GREEK POETRY AND DRAMA (Subtitle required). (3)
Graduate seminar in Greek poetic and/or dramatic literature, which may include epic, lyric, tragedy, and comedy. Intensive study of the Greek text(s) is accompanied by considerable attention to current scholarship and bibliography. Students will write extended papers and present oral reports in class. May be repeated to a maximum of nine credits. Prereq: Graduate standing or consent of the Classics DGS and instructor.

CLA 655 SEMINAR IN GREEK PROSE (Subtitle required). (3)
Graduate seminar in Greek prose literature, which may include history, biography, satire, and the novel. Intensive study of the Greek text(s) is accompanied by considerable attention to current scholarship and bibliography. Students will write extended papers and present oral reports in class. May be repeated to a maximum of nine credits. Prereq: Graduate standing or consent of the Classics DGS and instructor.

OTHER ADVANCED COURSES

CLA 395 UNDERGRADUATE INDEPENDENT STUDY IN CLASSICS. (1-3)
An independent investigation of a topic, usually outside of or in considerably greater depth than available in the regular course offerings, in Greek and/or Roman language, literature, history, or culture. The course is designed for advanced undergraduate students under the supervision of a faculty member, and usually takes the form of directed readings, writing, and discussion, with tutorial meetings with the instructor no less than once a week. An advanced undergraduate research paper or equivalent project is the standard product of the course. May be repeated to a maximum of 6 credits. Prereq: Advanced undergraduate experience in Classics and permission of the instructor.

CLA 480G STUDIES IN GREEK AND LATIN LITERATURE (Subtitle required). (3)
A study of one or more works of Classical literature, either Greek or Latin, is designed to offer study in a particular text or author meeting a particular need or demand for graduate students from other disciplines and advanced undergraduate students in Classics. The course is not intended for Classics graduate students. Mastering the language of the text is a fundamental objective of this course, but the historical, social, and cultural milieu will also be studied. May be repeated for credit up to a maximum of six hours.

CLA 580 INDEPENDENT WORK IN CLASSICS. (3)
Courses to meet the needs of the student, including those who wish to study Medieval and/or Renaissance Latin, will be arranged in various areas. May be repeated to a maximum of 12 credits. Prereq: Major standing of 3.0 in the department or consent of instructor.

CLA 615 MANUSCRIPT CULTURES. (3)
This course examines how the vehicle of the manuscript and the circumstances of manuscript production shaped the creation, transmission, and reading of texts before the fifteenth century. Among the topics to be studied are orality and literacy, the transcription of sacred texts in Christianity, Judaism, and Islam, the political, economic, and social impacts of manuscript production and circulation, the impact of institutions (such as universities) on reading practices, contexts for the suppression, control, and alteration of texts, and the radical differences between print and manuscript cultures. (Same as HIS 615.)

CLA 616 PALEOGRAPHY. (3)
This course provides training in the skills needed to read the handwritten materials that constitute evidence for historical investigation of the production and circulation of information outside the medium of print. While the specific scripts to be studied will vary from semester to semester, depending upon whether the course is focused upon Latin paleography, Greek paleography, or vernacular paleographies, students will learn to read and transcribe manuscripts, to expand abbreviations appropriately, to recognize the chronological and geographical extent of particular scripts, to develop strategies for reading difficult scripts, to find the specialized reference works to assist them in studying handwritten materials, and to understand the historical arguments that have been constructed on the basis of analysis of scripts and the "archaeology of the book." The course also provides training in basic codicology and editorial techniques for establishing a text and recording variant readings. Prereq: Some familiarity with the language of the materials. (Same as HIS 616.)

CLA 630 SEMINAR IN CLASSICAL LITERATURE AND CULTURE (Subtitle required). (3)
This graduate seminar offers advanced, intensive study in two particular approaches to the study of Classics, requiring a broader and more inclusive approach beyond the scope of the typical Greek or Latin seminar. These are: 1) the coordinated study of works of both Greek and Latin literature, and 2) the study of a specific research area in classical studies and culture. One of these areas will be the focus of the course each time it is offered. Topics in the coordinated study of Greek and Latin literature can take various forms, such as the passions in Greek and Latin poetry, comparative Greek and Latin drama, Homer and Virgil, etc. Research in classics and culture involves extensive reading of a large body of sources and scholarship on a specific topic of current scholarly interest, along with the use of texts in the original language(s) for course assignments and papers. Appropriate competence in reading Latin and/or Greek texts is expected of all students in the course. Topics may include a focused aspect of Greek and/or Roman society, material culture, early Christianity – and its relation to classical culture, aspects of Medieval or Renaissance culture, or the ongoing influence of classical stories, ideals, and cultural forms in modern media. May be repeated for up to six credits on different topics. Prereq: Graduate standing or consent of the Classics DGS and instructor.

CLA 695 INDEPENDENT STUDY. (1-3)
Independent investigation of a problem under supervision of a graduate faculty member; or directed readings, writing, and discussion in small groups on topics outside the usual seminar offerings, guided by a graduate faculty member. May be repeated to a maximum of nine credits. Prereq: Admission to graduate program, permission of instructor and of departmental Director of Graduate Studies.

CLA 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CLA 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

CLA 790 RESEARCH IN THE TEACHING OF CLASSICAL LANGUAGES. (3)
Problems in the teaching of Latin and/or Greek in secondary and/or higher education. Objectives, methods, preparation of materials, development of curricula, or the history of the field. Prereq: CLA 530 or the equivalent.

CLD Community and Leadership Development

CLD 100 INTRODUCTION TO COMMUNITY AND LEADERSHIP DEVELOPMENT. (1)
The course explores how communities of place and interest influence our lives and how these different types of communities are related to the media and leadership. Introduces the intellectual frameworks underlying this field as well as the types of research and outreach done by faculty.

CLD 102 THE DYNAMICS OF RURAL SOCIAL LIFE. (3)
Introduces major concepts of sociology by exploring social, political and cultural issues confronting rural society and American agriculture, such as: population change, industrialization, energy developments, agricultural change. Student may not receive credit for both this course and SOC 101.

CLD 225 COMMUNITY AND COMMUNICATION: EXPLORING THEIR INTERSECTIONS. (3)
This course will explore the inextricable link between community and communication by examining the social structure of communities and the media residing within them. Particular emphasis will be placed on the availability of information to citizens and in turn how this information environment facilitates/thwarts social interaction.

CLD 230 INTRAPERSONAL LEADERSHIP. (3)
This course is designed to provide a foundation for individuals "to get to know themselves better" in the context of leadership. Examination of effective leader characteristics, personality traits, motivation, personal leadership vision and other concepts will encourage students to develop a better understanding of their own leadership skills and perspectives. In addition, students will determine their own personality style, and learn how to best use this style when leading others. Ultimately, this type of intrapersonal knowledge will serve as the building block for deeper exploration into the field of leadership.

CLD 250 READING CRITICALLY AND WRITING WELL: COMMUNITY COMMUNICATIONS AND LEADERSHIP DEVELOPMENT. (3)
This course will provide students with a foundation in critical thinking through an emphasis on reading, writing and analytical discussions addressing basic agricultural topics, controversial agricultural topics and specific topics in community communications and leadership development. Prereq: ENG 104 and sophomore status. Primary registration access limited to majors and remaining seats open during secondary registration.

CLD 260 COMMUNITY PORTRAITS. (3)
This course introduces the social science concept of community. The focus will be on definitions of community, and the different types of communities that exist in society. Students will gather and analyze information about real communities that represent different types of community.

CLD 300 FOUNDATIONAL THEORIES IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (3)
This course illustrates the role of social theories and research. More importantly, it addresses the question, "How do we apply theory to guide our understanding of the world around us?" Students will study theories common to multiple social science contexts (communications, leadership, community and education) and, following critical analysis, describe how they are applied within various situations. Students will be expected to integrate the theories into a personal holistic viewpoint that affects their lives. Prereq: Major standing in CLD.

CLD 305 RESEARCH METHODS IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (3)
This course will familiarize students with research concepts, methods, and skills used in community and organizational development and communication. The course focuses on applied research topics such as secondary data analysis, survey design, focus groups, key informant interviews and content analysis. In addition, the course considers the politics of information and ethical concerns in social research. Prereq: Major standing and CLD 300 (may be taken concurrently).

CLD 325 WRITING FOR COMMUNITY MEDIA. (3)
This 3-hour skills course will teach students how to write clearly, concisely and accurately for various community media, including print, radio, television and new social media. It provides a broad-based understanding of writing and communicating to community audiences. Prereq: Major standing in CLD plus completion of graduation writing requirement.

CLD 330 INTERPERSONAL SKILLS FOR TOMORROW'S LEADERS. (3)
This course provides fundamental leadership theories, models, and perspectives to aid students in conducting interpersonal relationships in their daily lives, and help students acquire skills basic to becoming a leader in their professional lives. Each student will begin developing a foundation of practical leadership applications. Prereq: Major standing in CLD.

CLD 340 COMMUNITY INTERACTION. (3)
Examines community effects on group and individual behavior from the perspective of sociological social psychology. By focusing on individuals, individuals in groups, and groups, special emphasis is given to how community context shapes the attitudes, beliefs, and actions of individuals as well as their interactions with others. Prereq: CLD 102 or SOC 101 or consent of instructor. Primary registration access limited to SOC and CLD majors and remaining seats open during secondary registration. (Same as SOC 340.)

CLD 360 ENVIRONMENTAL SOCIOLOGY. (3)
A sociological study of the inter-relationship between human societies and the natural environment. Topics may include population growth; food systems; energy; climate change; risk perception; disasters; sustainability; social movements; and environmental justice. Prereq: SOC 101 or CLD 102. (Same as SOC 360.)

CLD 362 FIELD EXPERIENCE IN CLD. (3)
Supervised experiences in businesses, agencies or government. Required of all Community Communications and Leadership Development majors. Includes observation, participation, experience, field trips, inspection of programs, and professional organizations. Prereq: Junior standing, majors only.

CLD 370 LEARNING IN SOCIETY. (3)
Learning in Society is designed to assist students in identifying and evaluating human learning and development within various social contexts. This course focuses on the impact social interactions have on human cognition, emotion and identity. Theoretical foundations for this course include social learning, social integration, multiple intelligences, emotional intelligence, systems psychology, and identity development. Prereq: Major standing in CLD or CTE students admitted to TEP.

CLD 375 CONTEMPORARY ADULT LEARNING. (3)
This course expands on adult learning theory first presented by Malcolm Knowles and focuses on the idea of lifelong learning, differences between pedagogy and andragogy, fundamental andragogical concepts, and the role that adult learning professionals play in the adult learning process. Finally, an international context will be explored by comparing and contrasting adult education in the U.S. and around the world. Prereq: Major standing in CLD or CTE students admitted to TEP.

CLD 380 GLOBALIZATION: A CROSS-CULTURAL PERSPECTIVE. (3)
A sociological study of how globalization processes affect development in various countries and world regions. Topics shall include development theory; comparative development processes and outcomes; and development policy options. (Same as SOC 380.)

CLD 395 SPECIAL PROBLEMS IN COMMUNITY COMMUNICATIONS AND LEADERSHIP DEVELOPMENT. (1-3)
Directed independent study of a selected problem in the field of community communications and leadership development. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

CLD 399 EXPERIENTIAL LEARNING IN COMMUNITY COMMUNICATIONS AND LEADERSHIP DEVELOPMENT. (1-3)
A field-based learning experience, under faculty supervision, in the application of community communications and leadership techniques in agricultural/public issues. May be repeated to a maximum of six credits. Offered on a pass/fail basis only. Prereq: Consent of instructor and completion of learning contract.

CLD 400 AGRICULTURAL COMMUNICATIONS CAMPAIGNS. (3)
Exploration of communications campaigns and strategies in the agricultural sector. Students will learn how to plan and enact communications campaigns centered on agricultural issues and audiences. Prereq: Primary registration access limited to majors and remaining seats open during secondary registration.

CLD 401 PRINCIPLES OF COOPERATIVE EXTENSION. (3)
Philosophy, history, and development of Cooperative Extension Service; evaluation of instructional techniques; leadership training; and practice in use of Extension methods. Open to junior and senior students.

CLD 402 PRINCIPLES OF LEADERSHIP. (3)
This course is designed to provide an introduction to leadership. Its focus is the development of an understanding of leadership theories and styles. You will also learn strategies for successful leadership. The introduction will include: 1) historical, theoretical, and cultural perspectives of leadership, 2) leadership skills and styles and strategies for success, and 3) examination of the responsibilities of leadership. Prereq: Admission to the program or consent of instructor. (Same as EDL 402.)

CLD 403 LEADERSHIP AND COMMUNICATION. (3)
This course is designed to expand student understanding of the theory and practice of leadership, conflict management, and decision-making. It is also designed to focus on issues of cohesiveness, trust, motivation, vision, and goals. Students must integrate their personal ethics and definition of leadership in various course assignments and projects. Prereq: Admission to the program or consent of instructor. (Same as EDL 403.)

CLD 404 CONTEMPORARY LEADERSHIP APPLICATIONS. (3)
This course supplements and integrates previous learning and is designed to provide maximum exposure to various concepts and perspectives of leadership through observational experiences, critical thinking, and self-analysis. It is also designed to allow the demonstration of previously learned leadership theories, styles, and strategies. Students must integrate their personal ethics and vision of leadership in their examination of various contemporary leadership contexts. Prereq: Admission to the program or consent of instructor. (Same as EDL 404.)

CLD 420 SOCIOLOGY OF COMMUNITIES. (3)
A sociological study of issues relevant to communities. Topics may include: conceptual approaches to community; organizational and institutional linkages within and beyond the community; social inequality and social processes within communities such as social networks, social capital, power and decision-making, and social change. Prereq: SOC 101 or RSO 102 or CLD 102; and one of the following: SOC 302 or 304 or CLD 405; or consent of instructor. (Same as SOC 420.)

CLD 430 LEADING IN COMMUNITIES: VISION, ACTION, AND CHANGE. (3)
This course examines the nuances of leadership within communities. To learn what makes an effective community leader and the role a leader plays in community action, students will explore the importance of framing ideas, mobilizing resources, and developing social capital. This course expands on theories to highlight correlations with servant leadership, community behavior, and collaborative leadership styles. Finally, working with community visioning, change and ambiguity will reinforce the need for flexibility within the community leader's toolkit. Prereq: Major standing in CLD.

CLD 440 COMMUNITY PROCESSES AND COMMUNICATION. (3)
This course examines the relationship between community organization and change and the media. Special emphasis is given to the place of media organizations in community structure, the effects of media on community processes, and how community members use the media. Prereq: CLD 102 or SOC 101 and CLD/SOC 340 or consent of instructor. Primary registration access limited to majors and remaining seats open during secondary registration. (Same as SOC 440.)

CLD 460 COMMUNITY DEVELOPMENT AND CHANGE. (3)
This course examines change and change management within communities and organizations. This includes looking at the change process through the eyes of innovation, opinion leader and community member. In addition to individual skill development, this course will introduce a vision of an ideal organization/community, one that supports innovation and creativity, knowledge exchange and application and collaboration; a culture that makes productive change a part of the everyday work, encouraging initiative and promoting viability in today's society. This course weaves together theoretical and experiential threads using insights gained from readings, industry-based examples, case studies, class assignments and experiential activities. Prereq: Major standing in CLD.

CLD 465 TOPICS IN COMMUNITY COMMUNICATIONS (Subtitle required). (3)
Intensive study of a specialized topic in community communications. May be repeated under different subtitles. Prereq: Major standing in CLD.

CLD 470 TOPICS IN LEADERSHIP (Subtitle required). (3)
Intensive study of a specialized topic in leadership studies. May be repeated under different subtitles. Prereq: Major standing in CLD.

CLD 475 TOPICS IN NON-FORMAL EDUCATION (Subtitle required). (3)
Intensive study of a specialized topic in non-formal education. May be repeated under different subtitles. Prereq: Major standing in CLD or CTE students admitted to TEP.

CLD 480 TOPICS IN COMMUNITY (Subtitle required). (3)
Intensive study of a specialized topic in community studies. May be repeated under different subtitles. Prereq: Major standing in CLD.

CLD 490 SEMINAR IN COMMUNITY COMMUNICATIONS AND LEADERSHIP DEVELOPMENT. (3)
A capstone course for seniors in community communications and leadership development. Presentations, research papers, outside speakers and career guidance will be significant course components. Prereq: Senior standing in the major, or consent of instructor.

***CLD 495 TOPICAL SEMINAR IN COMMUNITY COMMUNICATIONS AND LEADERSHIP DEVELOPMENT (Subtitle required). (1-3)**
Topical seminar using readings, discussions, and papers to focus on current issues of significance to community communications and leadership development. May be repeated to a maximum of twelve credits under different subtitles. Prereq: Consent of instructor. Primary registration access limited to majors and remaining seats open during secondary registration.

CLD 497 PROFESSIONAL PRACTICUM IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (3)
This is a cooperative educational program between the Community and Leadership Development majors at the University of Kentucky and approved employers who furnish facilities and instruction that help students acquire the skills and knowledge required in their chosen field. Ultimately, this is a dually beneficial relationship; stakeholder relations are improved while students have an opportunity to build relationships/networks that could encourage future career development. Prereq: Major standing in CLD; senior standing.

CLD 517 RURAL SOCIOLOGY. (3)
A sociological study of the issues relevant to rural communities. Topics may include transformations in rural communities; the agrifood system; and the natural environment in the U.S. and the world. Prereq: Graduate student status; undergraduates with consent of instructor only. (Same as SOC 517.)

CLD 525 COMMUNITY DIVERSITY AND MEDIA. (3)
This course covers how media, both traditional news media and newly emerging digital communication technologies, relate to community diversity. Specifically, the course focuses on the relationships between media and community (power) structure, community institutions/organizations, social movements and minority groups, urban/rural communities, gender/race/ethnicity/class and more. Prereq: Major standing in CLD or graduate student status.

CLD 530 FUNDAMENTALS OF ORGANIZATIONAL LEADERSHIP. (3)
This course examines the existing and emerging knowledge base for leadership within organizations. Leadership and motivation of others requires individuals to go beyond their basic knowledge of managing others and learn how cultures, structures, and individuals in organizations interact within the system. This course highlights correlations with organizational behavior, team building, and collaborative leadership styles. In this class, students will explore organizational culture, team synergy and individual leadership capital. Prereq: Major standing in CLD or graduate student status.

CLD 534 SOCIOLOGY OF APPALACHIA. (3)
A sociological study of selected social issues facing Appalachian communities, with an emphasis on placing regional political economy, society and culture in a global context. Prereq: Sociology, Anthropology or CLD senior major or minor; Appalachian Studies minor; graduate student status; or consent of instructor. (Same as ANT/SOC 534.)

CLD 560 COMMUNITY INEQUALITIES. (3)
This course focuses on the emergence and persistence of community inequalities in contemporary American society. This begins by identifying, describing, and analyzing inequalities within and among American communities and then considering the implications of these inequalities for organizational and community processes. The essential questions that will guide this course are: How do we define, measure and evaluate the differences among communities? What factors contribute to the emergence and persistence of the inequalities among communities? What are the consequences of these inequalities for the people who live in these communities? Prereq: Major standing in CLD or graduate student status.

CLD 575 SCHOOLS, COMMUNITY AND SOCIETY. (3)
This course highlights the integral relationships between contemporary and historical societal norms, distinctive communities and educational systems. Prereq: Major standing in CLD; CTE students admitted to TEP; or graduate student status.

CLD 610 EXPERIENTIAL EDUCATION: PROCESS AND PRACTICE. (3)
This course is designed for students to examine and apply theoretical and practical foundations of Experiential Education within classroom and community-based educational environments.

CLD 620 GRADUATE STUDY IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (1)
This course is an introduction to the interdisciplinary field of Community and Leadership Development (CLD). CLD reflects the multidisciplinary fields of faculty in the department: Rural Sociology, Community Development, Community Communications, Leadership Development and Agricultural Education.

CLD 630 INDIVIDUAL AND GROUP DYNAMICS. (3)
This course is designed as an advanced course exploring the dynamics involved in individual and group situations. Specifically, students will explore basic psychological and social psychological processes shaping human behavior and learn to apply the knowledge of these processes in educational, organizational and community settings.

CLD 640 SCIENCE, AGRICULTURE, AND DEVELOPMENT. (3)
An in-depth examination of the interrelations between science, agriculture, and development. Both domestic and international issues are explored. Prereq: Graduate standing in the social or agricultural sciences. (Same as ANT/SOC 640.)

CLD 650 APPLIED COMMUNITY COMMUNICATIONS. (3)
Designed to familiarize students with advanced writing and editing techniques, common forms of workplace writing, audience analysis, content analysis, and graphic design tips and tools. Discussion will include some of the larger issues surrounding community communications, such as discourse communities, bias, and ethics. Prereq: Graduate standing.

CLD 660 ADVANCED LEADERSHIP THEORY AND PRACTICE. (3)
This course has been designed to introduce the theoretical and research foundation of leadership studies through current journal articles and text chapters and also emphasizes multiple dimensions and contexts that influence leadership dynamics.

CLD 665 PROGRAM DEVELOPMENT AND EVALUATION. (3)
Course is designed to help students design, implement, and evaluate educational and social programs using a logic-based framework. (Same as SOC 665.)

CLD 670 COMMUNITY ENGAGEMENT. (3)
This course is designed as a service-learning/community engagement experience. It is organized with a field component related to the student's area of interest and an in-class experience that provides students with the opportunity to share and process their field experiences and to learn and grow from them through a variety of interactive exercises, readings, films and guest presentations.

CLD 671 ADVANCED METHODS OF TEACHING. (3)
The principles of method applied to teaching in the fields of classroom and community-based education. Prereq: Teaching experience within a classroom or community-based educational setting.

CLD 672 ADULT EDUCATION IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (3)
Preparation for teaching adult classes in career and technical education including organization of classes, development of curriculum, and methods of teaching.

CLD 673 CURRENT TRENDS IN AGRICULTURAL EDUCATION. (3)
Class work pertains to current trends and significant developments in agricultural education. May be repeated to a maximum of nine credits.

CLD 675 THEORETICAL FOUNDATIONS OF COMMUNICATION AND COMMUNITY. (3)
This course is designed to explore the dynamics of community development and leadership communication within both geographic-bounded communities and communities of taste. (Same as SOC 675.)

CLD 676 SUPERVISION IN AGRICULTURAL EDUCATION. (3)
This course includes practice in teaching for observation by others, student teaching, and school visiting.

CLD 678 COLLEGE TEACHING OF AGRICULTURE, NATURAL RESOURCES AND HUMAN SCIENCES. (3)
A course designed to assist current or future college faculty in agriculture, natural resources or human science disciplines seeking to enhance the teaching skills. Topics include theories, principles and practices associated with effective teaching and learning in higher education. Prereq: Graduate Standing in the College of Agriculture.

CLD 684 STATISTICAL ANALYSIS IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (3)
The purpose of this course is to develop an overview and basic understanding of descriptive and inferential statistics. As a result, students will be able to organize and summarize quantitative data; interpret data; make generalizations from sample data to populations or theory; and, read and understand research reports.

CLD 685 COMMUNITY DEVELOPMENT THEORY AND PRACTICE. (3)
This course examines the application of our conceptual understanding of community and organizational dynamics to community development that builds upon assets and encourages local involvement. (Same as SOC 685.)

CLD 686 RESEARCH DESIGN. (3)
This course is an introduction to research design/methodology in social science research. The course emphasizes conceptualizing and working with the various components of a research inquiry and in particular how these components work together and strengthen the overall research design.

***CLD 691 SOCIOLOGY OF FOOD AND AGRICULTURE. (3)**
This seminar will analyze the transformation of agriculture and the food system in the historical context of increased globalization. Emphasis is given to key historical transitions, changing social relations surrounding production and consumption of food, and shifts in regulations and policy at the local, national, and/or international levels. Such emphases provide a framework for understanding the historical roots and future prospects for the socioeconomic problems confronting contemporary U.S. and global agriculture and food economies. Prereq: Graduate standing, or consent of instructor. (Same as AEC/SOC 691.)

CLD 694 THE ADMINISTRATION OF AGRICULTURAL EDUCATION. (3)
A course designed for superintendents, high school principals, and other administrators. Its purpose is to prepare administrators and supervisors for leadership in agricultural education. (Same as EDL 694.)

CLD 748 MASTER'S THESIS RESEARCH IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CLD 758 CREATIVE COMPONENT IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (3)
This course offers a non-thesis option in Community and Leadership Development for students interested in completing a practitioner-based scholarly project. Prereq: All course work toward the degree must be completed and approval of the student's Advisory Committee is required.

CLD 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours. Prereq: All course work toward the degree must be completed.

CLD 775 TOPICAL SEMINAR IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (3)
Advanced study of topics of current importance in community and leadership development such as dispute resolution, volunteer management, or advanced program design and evaluation. May be repeated to a maximum of six credits.

CLD 780 SPECIAL PROBLEMS IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (1-6)
Supervised individual study on selected issues in community and leadership development. May be repeated to a maximum of six credits. Learning contract must be filed with Director of Graduate Studies.

CLD 790 RESEARCH IN COMMUNITY AND LEADERSHIP DEVELOPMENT. (1-6)
Supervised individual graduate research projects on selected issues in community and leadership development. May be repeated to a maximum of six credits. Research Learning contract must be filed with the Director of Graduate Studies.

CLM Clinical Leadership and Management

CLM 241 HEALTH AND MEDICAL CARE DELIVERY SYSTEMS. (3)
Review of the wellness-illness spectrum and the societal response in terms of health services. Topics to be covered include the nature and functions of health services agencies and professionals, and the impact of social, political, economic, regulatory, and technological forces. Also includes a discussion of major health problems and related health care programs. (Same as HHS/HSM 241.)

CLM 350 HEALTH POLICY AND POLITICS. (3)
This course will address the development of past and current U.S. health policies within the context of historical, economic, cultural, and political environments. The political process and the roles and responsibilities of the executive, legislative, and judicial branches of government will be examined. The power and influence that politics, money, the media, and special interest groups have had, and continue to have, upon the development of national and state health policies will be discussed and analyzed. Prereq: Student in CLM or HHS program or upper-level undergraduate or professional status. (Same as HHS 350.)

CLM 351 HEALTH SERVICES ADMINISTRATION. (3)
Theories and practices of administration in health care institutions with special emphases on organizational behavior and analyses of various administrative processes and techniques. Prereq: Professional program status in CLM or HHS or consent of instructor. (Same as HHS/HSM 351.)

CLM 353 ETHICS IN HEALTHCARE. (2)
The course will include the study of moral reasoning and ethical theories in medical ethics. Ethical issues arising in the practice of health care delivery will be examined. Codes of ethics and the health professional's obligations to patients, colleagues, employing institutions, and the community will be considered, and relevant case studies will be analyzed. (Same as HHS 353.)

CLM 354 HEALTH LAW. (3)
Introduction to concepts of administrative and tort law applicable to health care settings. Topics to be considered include governance, patient rights, informed consent, medical/moral problems, malpractice, tax laws, contracts, labor law, regulation and institutional liability. Prereq: Professional program status (which includes an earned Associate Degree in a health care discipline and one year of post-degree work in a health care setting) or consent of instructor. (Same as HHS/HSM 354.)

CLM 355 FINANCIAL MANAGEMENT OF HEALTH CARE INSTITUTIONS. (3)
A review of financial management practices in health care institutions. Course will analyze regulatory and third party reimbursement for financial management, financial management practices, impact of financing mechanisms and practices on health services decision making. Prereq: Professional program status (which includes an earned Associate Degree in a health care discipline and one year of post-degree work in a health care setting) or consent of instructor. (Same as HSM 355.)

CLM 405 EPIDEMIOLOGY AND BIOSTATISTICS. (3)
This course will provide a foundation in the principles and methods of the epidemiological investigation of disease with special emphasis on the distribution and dynamic behavior of disease in a population. Etiologic factors, modes of transmission and pathogenesis will be examined. Topics to be covered include epidemics and the spread of infectious disease, epidemiological aspects of non-infectious disease; rates of morbidity and mortality, sensitivity, specificity, and predictive values' strategies used in epidemiological studies to include measures of disease effect, validity, reliability; sampling methods and computer-based biostatistical analysis that emphasize the generalized linear mode and forms of SEM as appropriate for an upper division undergraduate course. Prereq: Admission to the CLM or HHS program or consent of instructor. (Same as HHS 405.)

CLM 444 LEADERSHIP AND HUMAN RESOURCE MANAGEMENT. (3)
This course focuses on clinical leadership and managerial roles and responsibilities, with particular emphasis on organizational design, theory, and behavior. Human resource management, team leadership, and strategies for promoting employee motivation, loyalty, and productivity will be discussed. Other topics to be discussed include writing a business plan, financial and budgetary considerations, public relations, and quality and productivity. Laboratory compliance, government regulations, and accreditation will also be covered. Prereq: Admission to the CLM Program or consent of instructor.

CLM 445 QUALITY AND PRODUCTIVITY IMPROVEMENT AND EVALUATION. (3)
A core program course that focuses on leadership and management knowledge, skills, and practices that promote clinical quality, efficiency, and productivity. Methods to measure, monitor, and evaluate quality and productivity will be discussed. Prereq: Admission to the CLM Program or consent of instructor.

CLM 452 COMMUNITY AND INSTITUTIONAL PLANNING FOR HEALTH SERVICES DELIVERY. (3)
Theoretical foundations for health planning. History of health planning and regulation. Specific attention will be given to integration of institutional planning with community health planning. Prereq: Professional program status (which includes an earned Associate Degree in a health care discipline and one year of post-degree work in a health care setting) or consent of instructor. (Same as HSM 452.)

CLM 480 SEMINAR IN HUMAN HEALTH SCIENCES (Variable topic). (1-3)
Study and analysis of current and topical problems and issues regarding the roles, trends and research for health care professionals. May be repeated to a maximum of six credits. Prereq: Admission to CLM or HHS program or consent of instructor. (Same as HHS 480.)

CLM 501 PRACTICUM IN CLINICAL LEADERSHIP AND MANAGEMENT. (1-3)
Students will gain practical general training and experiences in the healthcare workplace with a focus on exposure/experience in clinical leadership and management. The CLM faculty in coordination with the practicum coordinator will arrange these experiences with the site employer/personnel and develop an individualized plan for the student at each site. The plan relates the workplace training and experiences to the student's general and technical course of study. Prereq: Consent of instructor. (Same as HHS 501.)

CLM 510 ORGANIZATION OF THE LONG-TERM CARE SECTOR. (3)
This course examines the structure and function of the long-term care sector with emphasis on nursing homes and the role of noninstitutional alternatives. Analysis focuses on the impact of changes in reimbursement and regulatory policy, interorganizational relations, newly emerging treatment modalities, and the influence of the external organizational, economic, and political environment. Prereq: A course in health care delivery systems or permission of instructor. (Same as HSM 510.)

CLM 595 DIRECTED STUDIES. (1-3)
Independent work devoted to research on specific problems, to challenge the student to synthesize concepts from his total program and relate them to his allied health specialty. Conference, one to three hours per week. May be repeated to a maximum of six credits. Prereq: Consent of instructor. (Same as HSE 595.)

CLS Clinical Laboratory Sciences

CLS 500 INTEGRATIVE CARE FOR HEALTH SCIENCES. (1-3)
Integrative care involves using the best possible treatments from both complementary/alternative and allopathic medicine, based on the patient's individual needs and condition. The selection of health care providers should be based on good science and this course will introduce students to complementary and alternative health care providers and the practices and beliefs of these practices as well as the scientific evidence in support of these practices. The course integrates successes from both worlds and describe the safest, least invasive, most cost-effective approach while incorporating a holistic understanding of the individual. May be repeated to a maximum of 3 credits (1 credit didactic and up to two credits experiential/research). (Same as AT 500, HS 500, CNU 500, CD 500, PAS 500.)

CLS 501 SEMINAR IN ADVANCED HEMATOLOGY. (2)
Study of the biochemical aspects of blood cell physiology and kinetics as applied to practice in the clinical hematology laboratory and a review of current related literature. This course is designed for practicing clinical laboratorians or medical technologists who are pursuing a graduate degree. Prereq: BCH 401G or equivalent and consent of instructor.

CLS 520 REPRODUCTIVE LABORATORY SCIENCE. (3)
This is a course designed to educate students in basic theories, procedures and quality assurance concepts of assisted reproduction. It will consist of two lectures per week and a limited number of three-hour laboratories. Computer-assisted instruction and video-tapes will also be used. Prereq: Admission to the professional CLS program; or a baccalaureate degree with CLS certification; or consent of instructor.

CLS 610 ETHICS IN CLINICAL SCIENCES RESEARCH. (1)
Students will examine ethical issues in biomedical research using a case-study approach. Representative issues addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, scientific misconduct, and informed consent. Prereq: Graduate student status. (Same as CD/CNU/PT/RAS 610.)

CLS 816 HISTOTECHNOLOGY II. (3)
The study of principles and applications of microtomy, frozen sectioning and some special staining techniques.

CLS 832 BASIC CLINICAL CHEMISTRY. (1)
The study of the theory and practice of clinical chemistry laboratory testing, including quality control, instrumentation principles, problem-solving, and appreciation of accuracy of and confidentiality for patient laboratory findings. Prereq: Admission into the Clinical Laboratory Sciences Professional Program or consent of instructor.

CLS 833 BASIC HEMATOLOGY. (1)
The theory and practice of clinical hematology laboratory testing, including manual and automated procedures, instrumentation principles, quality assurance, and problem-solving. Hematopoiesis, hemostasis, and blood cell function are discussed as they relate to clinical laboratory practice. Special emphasis is placed on the relationship of clinical hematology testing to pathophysiology and on the acquisition of valid test results. Prereq: Admission into the Clinical Laboratory Sciences Program or consent of instructor.

CLS 838 BASIC IMMUNOHEMATOLOGY. (1)
An introduction to the principles and practice of blood banking follows a review of classic genetics and fundamentals of immunology. The course includes didactic instruction in blood group systems; donor selection and component preparation; antibody detection and identification and compatibility testing. Prereq: Admission to the Clinical Laboratory Sciences Program and CLS 835 (or equivalent) or consent of instructor.

CLS 851 BASIC CLINICAL MICROBIOLOGY. (1)
The study of medically significant microbiology, including commensal flora, normal flora and pathogens. Lectures also cover microbial physiology, interactions between host and pathogenic microorganisms, and the clinical and epidemiological consequences of these interactions. Prereq: Admission to the Clinical Laboratory Sciences Program.

CME Chemical Engineering

CME 006 THE ENGINEERING PROFESSION (JUNIOR AND SENIOR). (0)
Activities of the Student Chapter of the American Institute of Chemical Engineers (for junior and senior year chemical engineering students). Lecture: one hour per week. May be repeated three times. Prereq: Chemical engineering major.

CME 101 INTRODUCTION TO CHEMICAL ENGINEERING. (1)
An introduction to the chemical engineering profession including: problem-solving techniques, use of computers, computer problems and lectures by practitioners.

CME 200 PROCESS PRINCIPLES. (3)
A course in material and energy balances, units, conversions, tie elements, recycle, bypass, equations of state, heat effects, phase transitions, and the first and second laws of thermodynamics applications in separation processes involving equilibrium reactions and energy exchange. Prereq: "C" or better in MA 113; "C" average in CHE 105 and 107; prereq or concur: MA 114, PHY 231.

CME 220 COMPUTATIONAL TOOLS IN CHEMICAL ENGINEERING. (3)
An introduction to computational tools used in chemical engineering, such as Microsoft Excel, MATLAB, and Aspen. Prereq: Grade of "C" or better in CME 200.

CME 320 ENGINEERING THERMODYNAMICS. (4)
Fundamentals of thermodynamics, review of first law, second and third laws, VL, LL and SL equilibria, homogeneous and heterogeneous chemical reaction equilibria. Prereq: MA 213, PHY 231, and "C" or better in CME 200.

CME 330 FLUID MECHANICS. (3)
Introduction to the physical properties of fluids, fluid statics. Equations of conservation of mass, momentum and energy for systems and control volumes. Dimensional analysis and similarity. Principles of inviscid and real fluid flows; flow through pipes and around bodies. Application and design of fluid handling systems. Prereq: Engineering standing; CME 220, 320; MA 214.

CME 395 SPECIAL PROBLEMS IN CHEMICAL ENGINEERING. (1-3)
Individual work on some selected problems in the field of chemical engineering. May be repeated one time. Prereq: Engineering standing and approval of the chairperson of the department.

CME 404G POLYMERIC MATERIALS. (3)
Synthesis, structure, and processing of polymers, useful geometric forms, mechanical and thermal properties, crystallinity, polymer blends, evaluation of polymers for specific applications (aerospace, automotive, biomedical), laboratory activities for each of the above. Prereq: Engineering standing. CHE 230 or CHE 236. MSE 301 or consent of instructor. (Same as MSE 404G.)

CME 415 SEPARATION PROCESSES. (3)
Separations based on both equilibrium stage concepts and mass transfer rate control are addressed for a range of chemical process operations, including distillation, gas absorption, extraction, adsorption, and membrane-based processes. Design problems are conceived to require computer-aided modeling and analysis. Prereq: Engineering standing; CME 220, 320.

CME 420 PROCESS MODELING IN CHEMICAL ENGINEERING. (3)
Applications of principles of material and energy balances, thermodynamics, heat and mass transfer, physical chemistry and numerical methods to problems in separation and transport processes and reactive systems. Prereq: Engineering standing; CME 330, 415.

CME 425 HEAT AND MASS TRANSFER. (4)
Fundamental principles of conduction and convective heat transfer, and diffusional and convective mass transfer. Design applications to heat exchanges and packed bed absorbers. Prereq: Engineering standing; CME 330, 415.

CME 432 CHEMICAL ENGINEERING LABORATORY I. (2)
A laboratory course emphasizing experimental work in fluid flow, separations, heat transfer, and mass transfer. A majority of this course will focus on lab report writing, statistics, experimental design and safety in the laboratory. Prereq: Engineering standing; CME 330, CME 415; CHE 230, 231.

CME 433 CHEMICAL ENGINEERING LABORATORY II. (3)
A continuation of CME 432. A laboratory course emphasizing more detailed experiments in fluid flow, heat transfer, mass transfer, separations, and chemical reaction kinetics with more extensive data collection and analysis as well as a design component based on the experimental results. Prereq: Engineering standing; CME 432; concur: CME 550.

CME 455 CHEMICAL ENGINEERING PRODUCT AND PROCESS DESIGN I. (3)
A lecture and problem-solving course emphasizing process economic evaluation, product design, and process synthesis as they apply to chemical units and systems. Appropriate use of software for simulation and design of chemical systems will also be emphasized. Prereq: Engineering standing; concur: CME 550.

CME 456 CHEMICAL ENGINEERING PROCESS DESIGN II. (4)
A lecture and problem-solving course intended to combine the principles of chemical engineering with optimization as they apply to the design of chemical processes. Results of each design case studied will be presented by both oral and written reports. Prereq: Engineering standing; CME 455, 550.

CME 462 PROCESS CONTROL. (3)
Basic theory of automatic control devices and their application in industrial chemical plants is emphasized. Identification of control objectives, appropriate measurements and manipulations, and possible loops between these, requires integration of the control system with the original process design. Interactions between process units are analyzed using well-known analytical tools and design strategies. Prereq: Engineering standing; CME 420, 550.

CME 470 PROFESSIONALISM, ETHICS AND SAFETY. (2)
Detailed lectures and supervised discussions on standards of ethics and safety as they relate to the chemical engineering profession. Emphasis will be on safety in plant design and process operations, laboratory safety, hazardous risk management, regulation and oversight. Prereq: Engineering Standing. Concurrent: CME 455.

CME 505 ANALYSIS OF CHEMICAL ENGINEERING PROBLEMS. (3)
The application of differential and integral equations to traditional and non-traditional chemical engineering problems. Prereq: CME 425, CME 550 concurrent or consent of instructor.

CME 515 AIR POLLUTION CONTROL. (3)
Kinetics and equilibria of photochemical and "dark" atmospheric reactions. Atmospheric statics and dynamics including lapse rates, inversions, and vertical and horizontal air motion. Single and area source diffusion. Stack meterology. Prereq: CME 320 or ME 220.

CME 542 ELECTRIC POWER GENERATION TECHNOLOGIES. (3)
Overview of technologies used for generating electricity from location, recovery, transportation and storage of fuel to the types of technologies used to convert the fuel to electricity. Included is a discussion of the advantages and disadvantages of each technology and how they must adapt to be viable in the future. Technologies covered include coal, natural gas, nuclear, biomass, wind, solar and advanced technologies. Prereq: Engineering standing or consent of instructor. (Same as EGR 542.)

CME 550 CHEMICAL REACTOR DESIGN. (3)
A lecture and problem course dealing with interpretation of rate data and development of performance equations for single and multiple reactor systems. A design problem will be selected for an industrially important chemical reaction system requiring computer solution. Prereq: Engineering standing; CME 420, 425.

CME 554 CHEMICAL AND PHYSICAL PROCESSING OF POLYMER SYSTEMS. (3)
Theory and practice as related to the chemical and physical processing of polymer systems. Polymer rheology, heat transfer in polymer flows, polymer engineering properties. Polymer processing operations and materials selection; flow instabilities. Prereq: CME 330, CME 425 or ME 325; or consent of instructor. (Same as ME/MFS/MSE 554.)

CME 556 INTRODUCTION TO COMPOSITE MATERIALS. (3)
Applications, materials selection and design of materials. Relation between properties of constituent materials and those of composite. Processing methods for materials and for some structures. Lab focuses on preparation and testing of composite materials and their constituents. Prereq: MSE 201, 301, CHE 236, and Engineering Standing, or consent of instructor. (Same as ME/MSE 556.)

CME 580 DESIGN OF RATE AND EQUILIBRIUM PROCESSES FOR WATER POLLUTION CONTROL. (3)
The design of chemical and physical processes for the removal and concentration of organic, inorganic, and particulate pollutants from aqueous solution/suspension: adsorption, destabilization, disinfection, membrane processes, thermal processes, flow through beds of solids, etc. Prereq: CHE 440G, CME 425 and prereq or concur: CME 550 or consent of instructor.

CME 599 TOPICS IN CHEMICAL ENGINEERING. (3)
A detailed investigation of a topic of current significance in chemical engineering such as: contemporary energy topics, fuels development, membrane science, computer control of chemical processing. A particular topic may be offered twice under the CME 599 number. May be repeated to a maximum of six credits. Prereq: Engineering standing.

PREREQUISITE FOR GRADUATE WORK: *Students desiring to take any of the following courses should have a thorough working knowledge of chemistry, physics, and mathematics. For major work, a candidate must hold a bachelor's degree in chemical engineering or its equivalent.*

CME 620 EQUILIBRIUM THERMODYNAMICS. (3)
The criteria for physical and chemical equilibria, including: predictive equations, solution theory, chemical activity, coupled chemical equilibria, and external constraints. Emphasis may be on vapor-liquid equilibrium, chemical reaction equilibrium, or complex ionic equilibria in dilute aqueous solutions and suspensions. Prereq: CHE 440G and CME 320 or consent of instructor.

CME 622 PHYSICS OF POLYMERS. (3)
An in-depth look at the physical and mathematical descriptions of polymer behavior. Comparison of diverse approaches to modeling the same behavior. Study of isolated polymer chain and how it relates to polymers in rigid, rubbery, melt, and solution states. Prereq: Graduate standing and undergraduate degree in the physical sciences or engineering that includes advanced calculus, differential equations, and matrix algebra. (Same as MSE 622.)

CME 630 TRANSPORT I. (3)
A unified study of physical rate processes in liquids and vapors, including: mass, energy, and momentum transport, transport in chemically reacting systems, similarities, turbulence modeling, buoyance-induced transport and multicomponent diffusion. Prereq: ME 330, CME 425, CME 505 concurrent or consent of instructor.

CME 650 ADVANCED CHEMICAL REACTOR DESIGN. (3)
Rate expressions for heterogeneous reaction kinetics; energy and mass transport within and external to reacting porous catalysts; design equations for multiphase fixed and moving bed reactors. Prereq: CME 550, CME 630, CME 505, or instructor consent.

CME 664 MULTIDISCIPLINARY SENSORS LABORATORY. (3)
A multidisciplinary laboratory course with laboratory experiences in areas related to sensors and sensing architectures, typically including chemistry, chemical and materials engineering, and electrical engineering. Lecture, 1 hour; laboratory, 2 hours. Prereq: One year of college chemistry, calculus and physics. GS 660 or by consent of instructor. (Same as CHE/EE/MSE 664.)

CME 680 BIOCHEMICAL ENGINEERING. (3)
Principles and design of processes involving biochemical reactions, including aerobic and anaerobic respirations and fermentations, and involving pure and mixed cultures. Energy considerations, heat and mass transfer, biochemical kinetics, and application to biological waste

treatment. Prereq: CME 550, CME 630, CHE 440G or consent of instructor. (Same as BAE 680.)

CME 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CME 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

CME 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

CME 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

CME 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)

CME 771 SEMINAR. (0)
Review of current literature in the field of chemical engineering, general discussion and presentation of papers on departmental research. Lecture, one hour per week. Required for all graduate students in chemical engineering.

CME 779 MEMBRANE SCIENCES COLLOQUIUM. (1)
Outstanding membrane scientists present their current research on biological and/or synthetic membranes. Students read a pertinent paper by the speaker prior to his/her talk and write a short paper on the talk; especially important is relevance of the main points of the talk to membrane science in general and the student's own research in particular. May be repeated to a maximum of six credits. (Same as BCH/CHE/PHA/PHR 779.)

CME 780 SPECIAL PROBLEMS IN CHEMICAL ENGINEERING. (1-3)
Independent study, design, or research in chemical engineering topics. May be repeated to a maximum of 12 credits. Prereq: Approval of the departmental director of Graduate Studies.

CME 790 RESEARCH IN CHEMICAL ENGINEERING. (1-9)
Graduate Research in Chemical Engineering on a topic approved by the Departmental Graduate Studies Committee. May be repeated to a maximum of two semesters. Prereq: Consent of the Director of Graduate Studies.

CNU Clinical Nutrition

CNU 400 NUTRITION FOR PHYSICAL ACTIVITY, INJURY PREVENTION, AND REHABILITATION. (2)
This course will acquaint students with general concepts in nutrition that relate to physical activity, injury prevention and rehabilitation. The content of the course is organized in such a way that students can progress logically from knowledge of basic human nutrition processes to the specific nutrition related issues commonly observed in physically active individuals and nutritional needs to prevent injury and aid healing following injury. Prereq: Admission into the Human Health Sciences Undergraduate Program or consent of instructor; 200 level physiology or equivalent.

CNU 500 INTEGRATIVE CARE FOR HEALTH SCIENCES. (1-3)
Integrative care involves using the best possible treatments from both complementary/alternative and allopathic medicine, based on the patient's individual needs and condition. The selection of health care providers should be based on good science and this course will introduce students to complementary and alternative health care providers and the practices and beliefs of these practices as well as the scientific evidence in support of these practices. The course integrates successes from both worlds and describe the safest, least invasive, most cost-effective approach while incorporating a holistic understanding of the individual. May be repeated to a maximum of 3 credits (1 credit didactic and up to two credits experiential/research). (Same as AT 500, HS 500, CLS 500, CD 500, PAS 500.)

CNU 501 NUTRACEUTICALS AND FUNCTIONAL FOODS IN HEALTH AND DISEASE PREVENTION. (2)
The course will cover the classification, brief history and the impact of nutraceuticals and functional foods on health and disease. An example of nutraceuticals to be covered in the course include isoprenoids, isoflavones, flavanoids, carotenoids, lycopene, garlic, omega 3 fatty acids, sphingolipids, vitamin E and antioxidants, S-adnosyl-L-methionine, CLA, creatine, herbal products in foods and lipoic acid. Prereq: Undergraduate organic chemistry and/or biochemistry.

CNU 502 OBESITY C2C: CELL TO COMMUNITY (Subtitle required). (2)
This course will provide an overview of the obesity epidemic from an applied clinical as well as public health perspective. Topics to be covered include etiology, pathophysiology, evaluation, treatment, management, and prevention of obesity throughout the lifecycle.

CNU 503 NUTRITION FOR THE HEALTH PROFESSIONS: MEDICAL NUTRITION THERAPY. (1)
An interdisciplinary approach to applied and medical nutrition therapy and its role in primary, secondary, and tertiary health care delivery. Covers the fundamental principles and concepts of nutrition science as applied to the human life cycle. Prereq: Undergraduate senior students planning to enroll or students who are currently enrolled in the Colleges of Medicine, Nursing, Dentistry, Pharmacy or Health Sciences. Completion of at least one semester of physiology; one semester of organic chemistry or biochemistry, and preferred, clinical exposure.

CNU 601 INTEGRATED NUTRITIONAL SCIENCES I. (3)
The material covered in CNU/NS 601 consists of three major emphasis areas: (1) review of carbohydrate, lipid, and protein structure, synthesis, absorption, and metabolism, (2) the impact of nutritional influences on macronutrient metabolism to health and disease, (3) the influence of macronutrient metabolism on the regulation of energy balance. Prereq: IBS 601, PGY 206. (Same as NS 601.)

CNU 602 INTEGRATED NUTRITIONAL SCIENCES II. (3)
Integrated study of the properties, metabolism, biochemical and physiological functions and interactions of vitamins and minerals, and their relationships to chronic diseases, deficiency symptoms and toxicity. Prereq: IBS 601, PGY 206. (Same as ASC/NS 602.)

CNU 603 INTEGRATED NUTRITIONAL SCIENCES III. (2)
This course is aimed at providing medical and health professional students with a working knowledge of dietary requirements and guidelines, nutritional assessment and nutritional requirements, food safety issues and nutritional needs throughout the lifecycle. Prereq: Health Professional Graduate Status. (Same as FSC/NS 603.)

CNU 604 LIPID METABOLISM. (3)
Emphasis on factors influencing the absorption of fats and fatty acids, distribution and incorporation of fatty acids into body tissues, the biosynthesis of and catabolism of fatty acids, as well as cholesterol, bioactive eicosanoid production and the involvement of fats in the disease process. Lecture and problem-based learning approach with incorporation of student presentations, three hours per week. Prereq: NS/CNU 601, BCH 401G and PGY 412G or consent of instructor. (Same as NS 604.)

CNU 605 WELLNESS AND SPORTS NUTRITION. (3)
Emphasis is directed toward nutrition as applied to prevention of disease through lifestyle management and the application of nutrition in exercise and sport. Targeted focus areas are: body composition and energy expenditure, the metabolic basis of weight management, nutrient needs throughout the lifecycle, the metabolic changes associated with obesity, behavioral management of obesity, nutrient metabolism and exercise, water and electrolyte balance during exercise, nutritional ergogenic aids, nutrition-strength and performance enhancement. Prereq: PGY 412G, and BCH 401G or equivalent or consent of instructor. (Same as NS/PT 605.)

CNU 606 MOLECULAR BIOLOGY APPLICATIONS IN NUTRITION. (2)
Focus will be on the use of the most recently developed techniques and model systems in molecular biology for studying nutrient regulation of gene expression. Examples include current problems in nutrition such as models for engineering plants containing more desirable nutrient sources (fats); for studying effects of various nutrients in transgenic mice on tumor suppressor genes and oncogene expression, that are important in cancer prevention; and for studying nutrient effects on genes that modulate obesity. Prereq: BCH 501 and 502 or equivalent; or BCH 401G and consent of instructor. (Same as NS 606.)

CNU 608 NUTRITIONAL IMMUNOLOGY. (3)
Theories and mechanisms of immunity will be introduced. The effects of nutrition on immunity will be discussed from experimental and clinical perspectives. A lecture and problem-based learning approach with incorporation of student presentations, three hours per week. Prereq: PGY 412G and CNU 601, or consent of instructor. (Same as NS 608.)

CNU 609 ETHICS IN CLINICAL SCIENCES RESEARCH. (1)
Students will examine ethical issues in biomedical research using a case-study approach. Representative issues addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, scientific misconduct, and informed consent. Prereq: Graduate student status. (Same as CD/CLS/PT/RAS 610.) (Same as NS 609.)

CNU 611 ADVANCED MEDICAL NUTRITION THERAPY. (2)
The overall course objective is for the advanced health care professional to gain an in-depth working knowledge and set of skills in medical nutrition therapy of acute and chronic conditions, including pediatrics that builds upon previous applied nutrition course work and/or experience. Prereq: PGY 206 or equivalent; BCH 401G or equivalent; advanced nutrition course or consent of instructor.

CNU 612 ASSESSMENT SKILLS FOR THE CLINICAL NUTRITIONIST. (2)
The goal of this course is to provide the Clinical Nutrition masters student with the skills necessary to elicit a comprehensive medical history, perform basic physical examination techniques appropriate for nutritional assessment, evaluate and interpret laboratory test results, and systematically report their findings in appropriate oral and written formats. Prereq: Admission into the Center for Nutritional Sciences Masters with emphasis in Clinical Nutrition or by consent of instructor.

CNU 613 APPLIED NUTRITION AND DISEASE PREVENTION. (2)
This course is designed to give the medical and health professional student an understanding of the basic principles of normal nutrition and medical nutrition therapy during the course of health and disease. Areas to be covered include: general principles of macro- and micronutrients; the basics of nutritional assessment; the Recommended Dietary Allowances and Dietary Reference Intakes; the "MyPyramid" Food Guide Pyramid; nutritional needs throughout the life cycle; determination of energy and macronutrient requirements; and nutrition for health

promotion and disease prevention, e.g., cardiovascular, diabetes, renal, pulmonary, cancer, AIDS, gastrointestinal; weight maintenance/weight loss. Prereq: Completion of a 400 or 500 level nutrition course or consent of instructor.

CNU 701 NUTRITION AND CHRONIC DISEASES. (4)
Selected topics in nutritional sciences as related to health and chronic diseases, e.g., gastrointestinal disease, cancer, AIDS, diabetes, cardiovascular disease, obesity, including drug-nutrient interactions. Prereq or concur: NS/CNU 601, NS/ASC 602. (Same as NS 701.)

CNU 702 CLINICAL/WELLNESS NUTRITION PROBLEM-BASED CASE STUDIES. (1-3)
A problem-based learning approach to case studies is integrated with a traditional didactic approach to offer options in therapeutic nutrition, and/or health promotion. Efforts are directed toward patient, worksite and laboratory data interpretation as well as patient education. Students are directed to develop independent critical thinking related to class presentations including case studies regarding rotations through various medical or health services e.g. surgery, pediatrics, nutrition support and health promotion. Prereq: NS/CNU 601, NS/ASC 602, NS/CNU 701, NS/NFS 610 and graduate status or consent of instructor. (Same as NS 702.)

CNU 704 CURRENT TOPICS IN NUTRITIONAL SCIENCES. (1)
This course is designed to develop the student's independent thinking and critical analysis related to various nutritional sciences issues. These skills will be developed through reading assignments and group discussion related to current topics in nutrition. Prereq: Consent of instructor. (Same as NFS/NS 704.)

CNU 782 SPECIAL PROBLEMS. (1-6)
Independent advanced work on a special problem in nutritional sciences. Prereq: Consent of graduate advisor. (Same as NFS/NS 782.)

CNU 790 RESEARCH IN NUTRITIONAL SCIENCES. (0-6)
Research work involving original investigation. May be repeated to a maximum of 18 credits. Prereq: Consent of graduate advisor. (Same as NFS/NS 790.)

COM Communication

COM 101 INTRODUCTION TO COMMUNICATIONS. (3)
An introduction to the process of communication as a critical element in human interaction and in society. Designed to enhance effective communication and informed use of the mass media.

COM 181 BASIC PUBLIC SPEAKING. (3)
A course designed to give the student platform experience in the fundamentals of effective speaking.

COM 199 PRESENTATIONAL COMMUNICATION SKILLS. (1)
Introduces students to fundamental oral communication skills needed to prepare and present messages effectively. Note: This course will not substitute for the three-credit course COM 181, Basic Public Speaking. It will count toward partial completion of the oral communication skills component of the University Studies Program.

COM 249 MASS MEDIA AND MASS CULTURE. (3)
An examination of the interplay between the technology and content of the mass communication media. Prereq: COM 101 or its equivalent.

***COM 252 INTRODUCTION TO INTERPERSONAL COMMUNICATION. (3)**
This writing intensive course examines basic verbal and nonverbal concepts affecting the communication process between individuals in various interpersonal contexts. Course also requires participation in written and oral activities designed to develop and improve interpersonal skills. Topics may include: perspective-taking, relationship and conversation management, effective listening, conflict management, communication climate, communication anxiety, and cultural/gender differences in interpersonal communication.

COM 281 COMMUNICATION IN SMALL GROUPS. (3)
A study of communication processes in small group situations. Topics include conflict, leadership, and decision-making. Students will participate in group discussion and develop skills in analyzing group performance.

COM 285 APPLIED PHONETICS. (3)
Study of the phonetic structure of English language with requirement of mastery of international Phonetic Alphabet. Emphasis will be placed on phonetic transcription, and application will be made for students interested in general speech, speech correction, radio, television, and theatre.

COM 287 PERSUASIVE SPEAKING. (3)
A study of the processes involved in attitude change, with emphasis on the preparation and delivery of persuasive messages.

COM 311 TAKING CONTROL OF YOUR HEALTH: PATIENT-PROVIDER COMMUNICATION. (3)
This course helps students explore, understand, and appreciate the patient-provider relationship through an examination and analysis of selected health communication case studies and related materials. It is also designed to improve communication skills with and among physicians, nurses, and allied health professionals.

COM 312 LEARNING INTERCULTURAL COMMUNICATION THROUGH MEDIA AND FILM. (3)
This course examines intercultural and co-cultural divides using a skills-based approach. Students will be exposed to cultural communication situations and will apply skills using lecture, discussion, and various media (e.g., news, radio, film, blogs), equipping them with more effective skills for communicating with other groups, communities, and cultures.

***COM 313 INTERPERSONAL COMMUNICATION IN CLOSE RELATIONSHIPS. (3)**
This course focuses on describing and explaining communication processes that occur within the context of close relationships. Three general topic areas include: (1) developing and escalating relationships, (2) satisfying relationships, and (3) coping with relational challenges.

COM 314 THE DARK SIDE OF INTERPERSONAL COMMUNICATION AND RELATIONSHIPS. (3)
Provides an overview of research and theory related to the "dark side" of interpersonal communication and relationships. This course will cover topics such as secrets, bullying, cyberstalking, verbal abuse, and revenge between romantic partners, family members, friends, and sometimes strangers.

COM 315 UNDERSTANDING WORKPLACE COMMUNICATION IN A DIVERSE U.S. SOCIETY. (3)
Understanding workplace communication in U.S. society requires an interdisciplinary approach in preparing students to developing an enlightened consideration of the complex and contextual nature of communication in organizations. The emphasis on community, culture and citizenship is designed to engage students using dynamic learning experiences such as debates and discussion over topics relevant to the role of communication and organizations in U.S. society.

#COM 316 EMERGENCY AND DISASTER COMMUNICATION: HUMANITY IN A ZOMBIE APOCOLYPSE. (3)
The purpose of this course is to develop an applied humanistic understanding of communication and life skills for high-stress situations. Using the apocalypse as a metaphor for all-hazards scenarios, historical narratives of disaster and films and novels in the zombie genre are used to discuss emergency preparedness and survival strategies. Students will demonstrate an ability to analyze the rhetorical situation of apocalypse, engage in emergency and disaster planning, response, and recovery assignments, activities, and exercises including developing emergency evacuation plans, preparing emergency kits and bug-out bags, and exercising medical triage and first aid.

#COM 317 COMMUNICATION IN FAMILY AND MARITAL RELATIONSHIPS. (3)
The goal of this course is to provide you with an in-depth understanding of the communication processes that take place in families and marriage (which includes, straight, gay, and common-law relationships). Emphasis is placed on the theoretical explanations of communication processes and on their practical application through communication behaviors that enhance familial interactions. The course reviews communication theories and theories from allied disciplines that have been employed in scholarly research of families and marriages. What you learn in this course will improve the quality of your family and marriage communication and relationships.

#COM 318 COMMUNICATION AND SPORT. (3)
This course is designed to explore in depth the relationship between communication and sport. We will examine theories of communication and their connection to sport. The class will examine the relationship between sport and race, gender, class, violence, community, and society along how communication influences how we interact and engage them.

COM 325 INTRODUCTION TO ORGANIZATIONAL COMMUNICATION. (3)
Designed to introduce students to basic concepts in the study of organizational communication. The course considers approaches to the practice and study of communication within organizational settings, including classical approach, human relations, human resources approaches, systems approaches, cultural approaches, and critical approaches. It also introduces specific issues within the study of organizational communication, including assimilation, decision-making, conflict, change, emotion, cultural diversity and communication technologies. Prereq: Communication major; others need departmental approval.

#COM 326 COMMUNICATION STRATEGIES FOR PROFESSIONAL EXCELLENCE. (3)
Communication Strategies for Professional Excellence introduces students to a variety of technical and business theories and practices designed to be applicable to business communication in the real world. This course is focused on communication strategies to use once the job has been secured, rather than those to get the job (i.e., resume, cover letter, interviewing). Specifically, the course teaches the fundamentals of good business communication, including protocols for writing media notices/releases, marketing copy, business letters, memoranda, electronic mail, thank you notes, apology letters, persuasive messages, and business plans. Throughout these writing assignments, you will also become acquainted with the strategies used by communication professionals such as functions of media, employee, community, government, investor, and consumer relations. In addition, there will be instruction in oral presentation and in depth practice on both an individual and a collaborative basis. Finally, students will also learn tactics for running a business meeting, dealing with organizational conflict, and finding ways to enhance their business communication through technically based media. Prereq: Upper Division standing in the Communication Major. ADDITIONALLY, completion of all COM BA/BS pre-major requirements. Specifically: COM 101, COM 249, COM 252, CIS or WRD 110, CIS or WRD 111.

COM 350 LANGUAGE AND COMMUNICATION. (3)
An introductory survey course covering syntactic, semantic and pragmatic aspects of language as they relate to communication. Language learning, sign typologies, psycholinguistics, and the nature of meaning are selected topic areas. Emphasis is on behavioral, communication approach. Not open to students who have completed a 300-level (or above) linguistic class.

***COM 351 INTRODUCTION TO COMMUNICATION THEORY. (3)**
Considers various theoretical perspectives which lead to a more thorough understanding of communication processes. Begins with discussion of the development of theory and inquiry. Includes perspectives of systems, cognitive, behavioral, affective, symbolic interactionist, dramatic, cultural and social reality, interpretive and critical theories. Prereq: Upper Division standing in the Communication Major. ADDITIONALLY, completion of all COM BA/BS pre-major requirements. Specifically: COM 101, COM 249, COM 252, CIS or WRD 110, CIS or WRD 111.

COM 352 INTERPERSONAL COMMUNICATION AND SOCIAL MEDIA. (3)
With the proliferation of technologically advanced social media (e.g., facebook, chat, twitter) available at the fingertips of individuals through multiple channels (e.g., phone, ipad, laptop, online video games), interpersonal relationships are being affected. Negotiating this relatively new, understudied, and quickly evolving terrain can present relational difficulties for a variety of relationships types. Students in this class will gain a thorough understanding of multiple communication platforms and the communication theory that can explain the interactions occurring in each platform, as well as improve their mediated communication skills to enhance interpersonal relationships. Prereq: CIS 110, CIS 111, COM 252.

COM 365 INTRODUCTION TO COMMUNICATION RESEARCH METHODS. (3)
An introduction to the methods of philosophy of scientific research into the origins, nature, and effects of communication processes. Provides skills necessary for designing research projects and for interpreting and critically evaluating research results. Prereq: STA 210.

COM 381 COMMUNICATION, LEADERSHIP, AND ENTREPRENEURSHIP. (3)
This course provides an introduction to the study and practice of leadership from a entrepreneurial and communication perspective. Course activities will cover, 1) the basic concepts essential to personal skills development and organizational leadership behavior, 2) the theory component, and 3) the practical process of leadership and entrepreneurship. The course is designed to introduce students to leadership perspectives and the role communication plays in effective leadership and entrepreneurial strategies. The course explores communication variables involved when leaders attempt to influence members to achieve a goal. Topics include power, credibility, motivation, research on leader traits, styles, and situations, innovation strategies, organizational dynamics, creative problem solving, and current models of leadership. The different leadership challenges posed by different group and organizational types will also be explored.

COM 390 COMMUNICATION EDUCATION ABROAD (Subtitle required). (1-6)
Communication education abroad is an academically rigorous and experientially rich opportunity for students to work with a UK faculty member by participating in a formal study abroad course, research program, or service project related to one or more of many communication theories, concepts, and skills. Any communication education abroad offering will be grounded firmly in the communication discipline in ways designed to enrich one's understanding of how individual and local communication norms and practices both shape and are shaped by global trends, communication, and interactions. Prereq: CIS 110 and CIS 111 or approval from instructor.

COM 395 INDEPENDENT WORK. (1-3)
Research and study of special topics in communication. The student proposes the specific study to be undertaken and formally contracts with a faculty supervisor for guidance and evaluation. Ordinarily, projects will require the production of written materials as a basis for the evaluation. May be repeated to a maximum of six credits. Prereq: Communication major, departmental approval, and completion of learning contract prior to registration.

COM 399 INTERNSHIP IN COMMUNICATION. (1-6)
Provides field-based experience in communication through work in industry, government, education, etc. Pass-fail only. May be repeated to a maximum of six credits. A maximum of three credit hours may be counted toward the communication major. Prereq: Consent of Department Internship Director prior to registration, and completion of departmental learning contract.

COM 425 COMMUNICATION, NEGOTIATION, AND CONFLICT MANAGEMENT IN ORGANIZATIONS. (3)
This course explores the role of communication in negotiation and conflict management in organizations. The course examines conflict theories and approaches, negotiation processes, and third party intervention through the study of strategies and tactics, interaction processes, phases and stages of negotiation development and conflict framing. The course examines strategies and tactics used in exchange of offers and counteroffers, salary negotiations, buying and selling of products, team bargaining, and multiparty negotiations. Prereq: CIS 110, CIS 111, COM 325.

***COM 449 SOCIAL PROCESSES AND EFFECTS OF MASS COMMUNICATION. (3)**
This course examines the relationship between the organization of modern society and its communication media with special emphasis on cultural processes and social change. The social-psychological bases of communication are studied within a context of theory and research. Prereq: COM 249.

COM 452 STUDIES IN INTERPERSONAL COMMUNICATION. (3)
Examines current theory and research on the nature and development of interpersonal communication ability. Topics include: understanding strategic communicative relational communication elements, and cultural and institutional influences on the development of interpersonal communication. Prereq: CIS 110, CIS 111, COM 252.

COM 453 DIGITAL AND MASS COMMUNICATION MEDIA LITERACY. (3)
A course designed to examine theory and research related to criticism of the mass media and to the relationship of digital and mass communication to contemporary social issues. Prereq: CIS 110, CIS 111, COM 249.

COM 454 HONORS SEMINAR IN COMMUNICATION (Subtitle required). (3)
Intensive study of a communication topic in professional, theoretical, and research methodology areas of communication. This seminar WILL count toward a Communication major and toward credits for graduation. Prereq: COM 351, COM 365, and 3.3 GPA in Communication Major, or permission by instructor.

COM 462 INTERCULTURAL COMMUNICATION. (3)
An overview of problems, issues, processes and assumptions involved with communicating across cultures and co-cultures. Theories of cognition and communication will be used to explore and explain communication with people from diverse cultures. Differences in both verbal and nonverbal communication among different cultural groups will be discussed. Prereq: CIS 110, CIS 111, COM 252.

***COM 471 INTRODUCTION TO HEALTH COMMUNICATION. (3)**
This course examines the relationship between the organization of modern society and its communication media with special emphasis on cultural processes and social change. The social-psychological bases of communication are studied within a context of theory and research.

***COM 482 STUDIES IN PERSUASION. (3)**
This course examines theory and research of persuasion. Topics include message characteristics, credibility, compliance-gaining, decision-making and motivational appeals. Prereq: CIS 110, CIS 111.

COM 525 ADVANCED ISSUES IN ORGANIZATIONAL COMMUNICATION (Subtitle required). (3)
Examines theory and research relevant to understanding advanced issues in organizational communication. Topics may include strategies of innovation, organizing, networking, decision-making, globalization, technology, power, and diversity. Prereq: CIS 110, CIS 111, COM 325.

COM 535 RISK AND CRISIS COMMUNICATION. (3)
This course examines strategic risk and crisis communication research, theory, and practices. Special emphasis is placed on crisis planning, media relationships, image restoration, ethical responses, and organizational learning. Prereq: CIS 110, CIS 111, COM 325.

COM 553 CRITICAL ANALYSIS OF COMMUNICATION AND PERSUASION IN POPULAR CULTURE. (3)
This course focuses on what and how popular culture entertainment media functions to communicate and persuade. Forms to be examined may include films/movies, television programs, music, cartoons, and/or comics. Ultimately, students will be equipped with tools to make educated decisions as critical consumers of the messages conveyed in popular culture entertainment media. Prereq: CIS 110, CIS 111, COM 249.

COM 571 INTERPERSONAL COMMUNICATION IN HEALTH CONTEXTS. (3)
Examines theory and research relevant to the role of interpersonal communication in managing mental and physical health. Topics related to interaction in health contexts include: communicating identity in health and illness, health and personal relationships, health care provider/patient communication, medical decision-making, and interpersonal health education and prevention efforts. Prereq: CIS 110, CIS 111, COM 471.

***COM 572 HEALTH COMMUNICATION CAMPAIGNS AND COMMUNITIES. (3)**
This online course focuses on the role of the mass media in contemporary public health campaigns. Most class sessions focus on the application of theory and research to the design of these campaigns. Earlier studies examining the role of the mass media in health campaigns indicated that the mass media played a small and rather insignificant role in changing health behaviors. However, more recent studies indicate that careful targeting combined with formative research often yield successful behavior change. Prereq: CIS 110, CIS 111.

COM 581 TEAMWORK AND LEADERSHIP IN ORGANIZATIONS. (3)
Examines theory and research on the nature and development of small group communication. Topics include leadership, interpersonal relations and roles, goals, and decision-making in multiple organizational contexts. Prereq: CIS 110, CIS 111, COM 325.

COM 584 TEACHING OF COMMUNICATION. (3)
This course uses communication research and theory to develop effective instructors of communication. Topics include instructor identity, course development, teaching communication contexts (e.g., small group, intercultural, persuasion, speech) in diverse settings (e.g., classroom, organizational training), managing learners, and learning assessment. Prereq: COM 351 and COM 365; or consent of instructor.

COM 591 SPECIAL TOPICS IN COMMUNICATION (Subtitle required). (1-3)
Intensive study of a specialized topic area in communication. May be repeated to a maximum of six credits under different subtitles. Prereq: CIS 110, CIS 111.

CPH College of Public Health

CPH 201 INTRODUCTION TO PUBLIC HEALTH. (3)
This course provides the student with basic knowledge about the discipline of public health. After receiving a philosophical and political orientation to public health, students will begin to acquire functional knowledge of the strategies most often applied in public health practice. Key content areas (such as HIV prevention, maternal and child health, reducing obesity rates, and reducing tobacco addiction) will become focal points for the investigation of these strategies.

CPH 202 PUBLIC HEALTH THROUGH POPULAR FILM. (3)
This course will provide students with an introductory understanding of public health concepts through critical examination of popular cinema and instruction in basic public health principles, disease principles, and behavioral and social interactions related to the movie topics. A combination of lectures, readings and film viewing will enable students to understand the relationship between behavioral, environmental, biological and other risk factors with disease, injury or other health outcomes. The effect of social, economic and health systems context will also be examined. In addition, students will learn to distinguish between fact and fiction with regard to the science and activities of public health as portrayed in cinema.

CPH 203 SEXUAL HEALTH. (3)
This course will be an in-depth introduction to the relationship of sex and sexual behaviors to health and wellness.

#CPH 309 HEALTH, HISTORY, AND HUMAN DIVERSITY. (3)
Health care reform is often in the news, and everyone has an opinion on why the system is broken, how to fix it, who should have access to good medical care, under what circumstances, and what constitutes "good care." This online, multi-format course will consider what it has meant to be a good patient or a good doctor at various points in U.S. history, who was included or excluded in each group, how medicine became professionalized, and how people have organized around health issues. Students will engage with primary sources, watch related films, interact with the professor during virtual "office hours," and participate in online moderated discussions. (Same as GWS 309.)

CPH 310 DISEASE DETECTIVES: EPIDEMIOLOGY IN ACTION. (3)
This course will outline the history of epidemiology as a science and examine its wide-ranging contributions to the fields of public health, medicine, and the social sciences. This course will focus on epidemiological methods to investigate health outcomes and identify associated and causative factors of disease in populations.

#CPH 315 CHRONIC DISEASE EPIDEMIOLOGY. (3)
This course is an introduction to the epidemiology of chronic diseases including but not limited to cardiovascular disease, cancer, and diabetes, with a focus upon chronic disease surveillance and risk factors. Prereq: CPH 310 or equivalent (with permission from instructor).

CPH 320 FUNDAMENTALS OF ENVIRONMENTAL HEALTH. (3)
An overview of the physical factors that influence human health, including hazards from unsanitary water, polluted air, traumatic injury hazards, toxins, radiologic risks, and other features of the natural and human made environment that can kill, injure, maim, and cause disease in human populations. Special focus is given to understanding the relationships between biological, chemical, and other factors that produce unhealthy environments that sicken individuals throughout their lifespan. Additional topics include the important influence of environmental hygiene, restaurant inspections, occupational safety and health issues, clean water standards, air pollution regulations, and other laws and regulations that protect the health and safety of human populations.

CPH 351 PREPARING FOR AN APOCALYPTIC EVENT: POPULATION HEALTH AND CRISIS MANAGEMENT. (3)
Students enrolled in this course will participate in in-depth analyses of multiple large-scale disasters. This course will provide students with the knowledge necessary to participate in all phases of the crisis management process, as overseen by a health service organization. Case studies will be utilized heavily throughout this course and students will have the opportunity to engage in discussion with various health professionals from around Kentucky who engage in crisis management activities. Prereq: CPH 201 or permission of the instructor.

CPH 365 SPECIAL TOPICS IN PUBLIC HEALTH (Subtitle required). (3)
This course provides focused coverage within domains of public health, including: Health Behavior; Epidemiology; Gerontology; Environmental Health; Health Services Management, and Biostatistics. A central goal of these special topics courses is to provide a public health context to material in a way that promotes applicability to undergraduate majors university-wide.

#CPH 410 EPIDEMIOLOGY IN THE WEB OF CAUSATION: PEOPLE, PLACE, AND POLITICS. (3)
This course will provide an interdisciplinary introduction to applications of epidemiology in the context of political, community, social, and behavioral influences on health. Epidemiology is the study of patterns of diseases, injury, and other indicators of health in human populations. The course will review principles and introduce novel methods used in epidemiologic research. Students will learn approaches to collecting data about sensitive health behaviors, examining social networks, integrating information from interviews and focus groups, and collecting spatial data using a smart phone application. These topics will be explored using a range of case examples, including infectious disease, humanitarian crises, sexual health, substance abuse, obesity, and others. Prereq: Introduction to Public Health (CPH 201) and Disease Detectives (CPH 310) or equivalents (instructor permission required) should be taken before or at least concurrently with this course.

#CPH 423 HEALTH OF KENTUCKIANS. (3)
This course provides an overview of the determinants, factors, and remedies to the traditionally poor health status of Kentuckians. The course focus is on population health of the Commonwealth, with an emphasis on data, trends and solutions to illness, death and disability. Other topics include health rankings, vital statistics and demographic factors. The comparison of Kentucky's population health status to the US average and to other states is presented, plus strategies to improve population health in the Commonwealth. Additional topics include the relationship between Kentucky's demographic, economic, environmental, and education characteristics and their impact on health.

CPH 440 FOUNDATIONS OF HEALTH BEHAVIOR. (3)
This course will provide students with an overview of how the social and behavioral sciences contribute to primary prevention in the rapidly expanding field of health behavior. Emphasis will be placed on theory-driven approaches that are supported by empirical investigations. Students will acquire a working knowledge of foundational theories used in public health practice as well as the ability to measure key theoretical constructs. The course includes an overview of public health issues in the United States. The course also includes training regarding the translation of research findings into public health practice.

CPH 441 THE SMOKING GUN: TOBACCO AND THE PUBLIC'S HEALTH. (3)
This course will provide a theoretical, cultural and economic rationale for the role of tobacco smoking related to the overall health of US populations in the United States and abroad. This course will examine trends in tobacco smoking from the 1960's to present day and how social and political forces have both directly and indirectly undermined the current public health agenda – to reduce, minimize, and eventually eradicate tobacco related chronic disease and death worldwide. Students will acquire the necessary tools to identify the scientific literature on smoking and disease through traditional published literature, tobacco websites, and national data sets. Prereq: Junior or Senior undergraduate in good academic standing, recommendation of advisor or permission of instructor.

CPH 450 MANAGING HEALTH ORGANIZATIONS TO IMPROVE POPULATION HEALTH. (3)
This course will introduce students to a number of foundational concepts related to leadership and management, specifically in the realm of health organizations (e.g., local and state health departments, hospitals, community clinics, etc.). In particular, this course will explore the areas of managing human and non-human resources, and improving agency performance. Students will have the opportunity to interact with managers and organizational leaders from a variety of health service agencies. Prereq: CPH 201 or permission of the instructor.

CPH 451 G A SICK WORLD: GLOBAL PUBLIC HEALTH IN THE EARLY 21ST CENTURY. (3)
This course provides students with basic knowledge about the issues of global public health and its importance to all peoples of the globe. After receiving an introduction to the principles and goals of global public health, students will begin to acquire functional knowledge of the theoretical and methodological underpinnings of global public health practice. Key content areas such as health determinants, issues of health, education, and poverty, ethical and human rights concerns, the impact of culture on global public health, the burden of disease on the global human population, and other pertinent global public health topics will become focal points for class discussion. This course will emphasize theory-driven empirical investigation of key behavioral issues that influence the health and well-being of people around the globe. Case studies of global public health issues will be utilized.

CPH 470 PUBLIC HEALTH CAPSTONE. (3)
This course will provide students with training in the practice of conducting literature reviews and in the process of synthesizing reviewed materials into a coherent and timely manuscript. Literature reviews will be focused on core areas within public health such as the prevention of cardiovascular disease, obesity, cancer, and diabetes. Students will draw upon previous coursework in public health to fully understand one clearly defined area of scientific inquiry regarding the prevention of disease at the population level. Using their past acumen of acquired knowledge, students will acquire the cognitive skills needed to analyze and synthesize literature into a simplified and cohesive manuscript that offers practical and evidenced-based conclusions for public health practitioners. They will also acquire professional skills needed for academic presentation of review findings to audiences of public health peers and professionals. Prereq: Admission to BPH program, CPH 310, CPH 320, CPH 440, HSM 241.

CPH 472 PUBLIC HEALTH PROFESSION AND PRACTICE. (3)
This course familiarizes students with the practice of public health, introducing them to the various settings and arenas in which public health professionals work. Through guest lectures and discussions with professionals in the field, students gain exposure to the roles and responsibilities of the public health workforce as well as its interconnection with other professions including medicine, nursing, pharmacy, dentistry, engineering, social work, and communications. Students will assess their own interests, skills, and personality to explore and describe their own career goals. Prereq: Admission to Bachelor of Public Health program; BST 330, CPH 310, CPH 320, CPH 440, CPH 450.

CPH 535 DATABASES AND SAS PROGRAMMING. (3)
Students will learn how to construct and maintain databases with applications to public health. They will also learn how to program in SAS, the leading statistical analysis system. SAS skills include report writing, MACRO writing, and Programming using SAS Intranet. Lecture, two hours; laboratory, two hours per week. Prereq: STA 291 or equivalent.

CPH 551 COMPARATIVE HEALTH SYSTEMS. (3)
An overview of healthcare system structure in selected countries with attention to their developmental history, financing, and delivery infrastructure.

CPH 580 BIOSTATISTICS I. (3)
CPH 580 covers univariate statistical methods commonly encountered in public health studies. This includes descriptive statistics, hypothesis testing, paired and unpaired t tests, ANOVA, contingency tables, log rank test, regression and correlation. Prereq: MA 109 or higher. (Same as STA 580.)

CPH 601 ENVIRONMENTAL HEALTH. (3)
An introduction to the theory and practice of assessing, correcting, controlling, and preventing environmental health hazards that may adversely affect the health of current and future generations. Prereq: Undergraduate chemistry and biology, or permission of instructor. (Same as ES 620.)

CPH 602 HEALTH SERVICES AND SYSTEMS ORGANIZATION. (3)
An introduction to the health care delivery system in the United States, including its composition, functioning, the interrelationships of organizations and professional groups within the system in various settings, health care terminology, and major problems and issues in the delivery of health services. Prereq: MHA/MPA program status.

CPH 603 BIOSTATISTICS CONCEPTS AND APPLICATIONS IN PUBLIC HEALTH. (3)
This course covers topics relating to applications of biostatistics in public health. It provides a conceptual introduction to statistical methods commonly used in public health practice. Topics include data visualization, summary statistics, statistical testing, estimation, confounding, and an introduction to regression (linear, logistic, proportional hazards). Prereq: MA 111 or equivalent.

CPH 604 PUBLIC HEALTH AND DISEASE PREVENTION. (3)
This course will introduce students to issues of public health and populations health status. Principles of disease prevention and the focus on population health will be explored. The behavior of population is a major variable in health outcomes. Behavior models resulting in positive health will be introduced. Prereq: Admission to MPH program or permission of instructor.

CPH 605 EPIDEMIOLOGY. (3)
This is an initial graduate level course in the principles of epidemiology and applications in preventive medicine and environmental health. The course consists of lectures and informal discussions. Principles and methods of epidemiologic research with a focus on issues of study design and analysis will be presented. Prereq: Graduate student in good standing in the MPH program, MSPH program, or community health nursing, or consent of instructor.

CPH 608 PUBLIC HEALTH CAPSTONE. (3)
To be successful in the M.P.H. degree program and the profession, students are expected to demonstrate excellence in communication skills both orally and in writing. The "manuscript" format for the capstone project is intended to familiarize students with the rigors of preparing manuscripts for professional journals. This course provides course credit for students who successfully complete the M.P.H. capstone project and oral final examination. May be repeated to a maximum of six credits.

CPH 609 PUBLIC HEALTH PRACTICUM. (3 or 6)
The public health practicum is designed as an integrative experience in the workplace. The practicum is an opportunity to apply classroom theories and methods under the guidance of an experienced public health practitioner with faculty oversight. Prereq: Admission to MPH program or permission of instructor.

CPH 610 INJURY EPIDEMIOLOGY AND CONTROL. (3)
The epidemiological basis for understanding the distribution and determinants for traumatic injury and poisonings including both intentional and unintentional events. Topics include sources of data, methodological approaches to studying injuries, evaluation of injury interventions and the link between epidemiology and public health policy impacting injuries. Prereq: PM 620 and/or permission of instructor.

CPH 611 ADVANCED EPIDEMIOLOGY. (3)
This course provides specialized epidemiologic content and method designed to meet the research and practice needs of health professionals. Practice-based problem sets and hands-on computer assignments will complement this seminar-oriented course, focusing on the role of epidemiology in the prevention of disease and injury. Prereq: CPH 605 or consent of instructor. (Same as PM 621.)

CPH 612 INFECTIOUS/EMERGING DISEASES EPIDEMIOLOGY. (3)
The theory/concepts of infectious diseases epidemiology, such as epidemic modeling expostulated through a systematic study of the more recent emerging diseased. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 613 MOLECULAR EPIDEMIOLOGY, CANCER PREVENTION AND CONTROL. (3)
This course consists of didactic lectures, journal clubs, and small group round table discussions related to the principles of underlying biomarker discovery and development for cancer prevention and control. The overarching goal of this course will be to assess how biomarkers are developed and used for the risk assessment, early detection, diagnosis, prognosis, and theragnosis of cancer. Prereq: CPH 605 or consent of instructor.

CPH 614 MANAGERIAL EPIDEMIOLOGY. (3)
This course applies and integrates the principles and tools of epidemiology to the decision-making process in health care management. Prereq: Enrollment in a Public Health degree program and CPH 605, or consent of instructor.

CPH 615 CANCER EPIDEMIOLOGY. (3)
This course applies and integrates the principles and tools of epidemiology to the study of cancer. The course includes discussion of the burden of various kinds of cancer across the United States and the world by age, gender, and race/ethnicity, the underlying biology behind the development of cancer in humans, cancer surveillance, the epidemiology of various kinds of cancer by category of major risk factors such as human behavior (e.g. smoking and alcohol use), endogenous/exogenous hormones, viruses, environmental/occupational, and diet, and sources of data and methods for evaluating cancer screening, measuring the impact of risk factors, determining the incidence of cancer and cancer clusters, measuring patterns of care, and understanding the determinants of survival. Prereq: CPH 605 or consent of instructor.

CPH 616 CARDIOVASCULAR DISEASE EPIDEMIOLOGY. (3)
This course is designed to study and evaluate the broad array of epidemiologic studies on cardiovascular disease and the impact on prevention policy. Prereq: Enrollment in a Public Health degree program, CPH 605/PM 620 - Introduction to Epidemiology, or consent of instructor.

CPH 617 ENVIRONMENTAL/OCCUPATIONAL EPIDEMIOLOGY. (3)
A study of work-related and environmental exposures and hazards associated adverse health outcomes. Integrating the fields of occupational and environmental epidemiology. Prereq: Enrollment in a Public Health degree program and CPH 605/PM 620 or consent of instructor.

CPH 618 EPIDEMIOLOGY OF AGING. (3)
This course introduces the application of epidemiologic methods to the study of older persons. Prereq: Enrollment in a Public Health degree and CPH 605/PM 620 Intro to Epidemiology and GRN 650, or consent of instructor. (Same as GRN 618.)

CPH 620 OCCUPATIONAL AND ENVIRONMENTAL HEALTH II. (3)
CPH 620 addresses advanced theories and practices of identifying, assessing, and controlling occupational and environmental hazards that may adversely affect the health of communities and working populations. The course emphasizes harmful effects of non-chemical hazards, such as radiation, noise, hypoxia, and physical agents that lead to morbidity and mortality. However, evaluation and control measures will cover many types of hazardous exposures, including those from chemical exposures. Prereq: CPH 601.

CPH 622 TOXIC AGENTS AND THEIR IMPLICATIONS IN PUBLIC HEALTH. (3)
This course provides an overview of chemical agents within the environment, their interaction with the human organism, and resultant public health implications. The goal of this course is to utilize toxicological information to create, understand, and explain control strategies that protect and improve public health. Prereq: CPH 601.

CPH 623 PUBLIC HEALTH BIOLOGY. (1)
Public Health Biology is a 1 credit course offered over five weeks that will introduce students to some of the basic terminology and concepts of human health.

CPH 630 BIOSTATISTICS II. (3)
Students will learn statistical methods used in public health studies. This includes receiver operator curves, multiple regression logistic regression, confounding and stratification, the Mantel-Haenzel procedure, and the Cox proportional hazardous model. Lecture, two hours; laboratory, two hours per week. Prereq: STA 580 or equivalent. (Same as STA 681.)

CPH 631 DESIGN AND ANALYSIS OF HEALTH SURVEYS. (3)
Students will learn design and analysis issues associated with well-known national health surveys, including reliability and validity of measurements, instrument validation, sampling designs, weighing of responses, and multiple imputations. Students will learn how to use statistical software to analyze data from complex survey designs. Lecture, two hours; laboratory, two hours per week. Prereq: STA 580 or equivalent.

CPH 636 DATA MINING IN PUBLIC HEALTH. (3)
This course concerns statistical techniques for and practical issues associated with the exploration of large public health data sets, the development of models from such data sets, and the effective communication of one's findings. Prereq: STA 570 or 580 and CPH 535, or consent of instructor.

#CPH 640 WOMEN'S HEALTH. (3)
This course will cover a variety of women's health topics including substance abuse, violence against women, nutrition, chronic diseases, reproductive and sexual health, and menopause. The course content will also emphasize the social, economic, environmental, behavioral, and political factors associated with women's health. We will address these content areas using a lifecourse perspective. The epidemiology, measurement and interpretation of these factors, and how these factors can be translated into interventions, programs, and policy, will be of major interest. Our focus will be primarily within the United States though we will touch on some aspects of global health. Prereq: Enrollment in the MPH program or permission of instructor.

CPH 641 PUBLIC HEALTH AND ANTHROPOLOGY. (3)
Examination of how the perspectives and methods of anthropology can be and have been applied in public health research and intervention projects. Prereq: Enrollment in the MPH. or DrPH program, or consent of instructor.

CPH 642 ECOLOGICAL AND ADVANCED HEALTH BEHAVIOR THEORY. (3)
Exploration of ecological model and other advanced theories of health behavior, based on theoretical and case-study literature. Contrasts individual-level and population-level approaches to health behavior. Prereq: CPH 604 or consent of instructor.

***CPH 643 MEASURING HEALTH BEHAVIOR: INDIVIDUALS AND COMMUNITIES. (3)**
This course focuses on measurement, the key component of research. Topics include types of measurement; units of measurement; theory and measurement; reliability and validity; survey development; how and where to find "good" measures of health behaviors; and cultural considerations in measurement. The course relies upon the socioecological framework, acknowledging that health behaviors (as well as their determinants, consequences, and correlates) can and should be measured at all levels of society (e.g., individual, relational, community, and societal). The goal of the course is to train the student in how to measure health behaviors both responsibly and effectively. Prereq: Enrollment in the M.P.H. or Dr.P.H. program, or consent of instructor.

CPH 644 RURAL HEALTH DISPARITIES. (3)
Through class meetings, course readings, and assignments, this course will provide students with a comprehensive overview of issues pertaining to health disparities of rural populations by examining current programs and policies, relevant literature, public health practice, and quantitative and qualitative research pertaining to the health and well-being of rural populations.

CPH 645 FOOD SYSTEMS, MALNUTRITION AND PUBLIC HEALTH. (3)
Exploration of the role of the global food system in shaping food consumption and the implications for public health. Prereq: Enrollment in College of Public Health or consent of instructor.

CPH 646 SPECIAL TOPICS IN BEHAVIORAL HEALTH: (Subtitle required). (1-3)
This course will engage students in readings, projects, lectures and/or discussions to address current topics of special interest or concerns. May be repeated to a maximum of 6 credit hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 647 RESEARCH METHODS FOR PUBLIC HEALTH. (3)
This course provides the student with basic knowledge about the design and analysis of research in the field of health behavior. The theory, design, applications, and analytic strategies used for various types of research are presented in a sequential format. Goals of the course include: 1) gaining the ability to critically evaluate research in health behavior 2) achieving competence in research methodology, and 3) understanding the conceptual application of analytic techniques to data. Prereq: M.P.H., Dr.P.H., or Ph.D. in public health student or permission of instructor.

CPH 648 ELIMINATING RACIAL AND ETHNIC HEALTH DISPARITIES. (3)
This course will help the learner understand differences in minority populations in order to help build and lobby for the infrastructure needed to prevent excess disease and death among underserved populations. A special emphasis in this class will be placed on understanding the role of culture in influencing the adaptation of health attitudes, practices, and behaviors. An additional focus will be placed on health status, current trends, and health indicators for special populations. Prereq: Graduate student in Public Health and others by instructor permission.

CPH 649 INDEPENDENT STUDIES IN HEALTH BEHAVIOR. (1-3)
Designed for advanced students with research or special study interest in Behavioral Health. Students are under guidance and confer individually with faculty. May be repeated to a maximum of 6 credit hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 650 MANAGEMENT OF PUBLIC HEALTH ORGANIZATIONS. (3)
This course teaches the theories and practice of administration as they are applied in public health settings. It addresses knowledge and applications of the functions of public health management and their relationship to organizational effectiveness. Prereq: College of Public Health major or by permission of instructor.

CPH 652 FINANCE MANAGEMENT FOR HEALTH CARE DELIVERY/PUBLIC HEALTH ORGANIZATION. (3)
This course is an overview of financial practices in public health care organizations, including government, non-profit, insurance and direct providers. Prereq: Enrollment in a Public Health degree program and CPH 602/HSM 601, or consent of instructor.

***CPH 653 PUBLIC HEALTH LAW & POLICY. (3)**
Overview of public health law with emphasis on topics and materials used by public health practitioners, as well as the use of law to advance a public health agenda. Prereq: Graduate status or approval of instructor.

CPH 655 PUBLIC HEALTH ACCOUNTING AND FINANCE. (3)
This course is designed to introduce the use of accounting and financial management techniques in the management of public health organizations. Emphasis will be on the use of accounting and financial information to achieve management functions such as planning, staffing, organizing, controlling, and directing. Prereq: Enrollment as an MPH student.

CPH 658 PUBLIC HEALTH ECONOMICS. (3)
This course describes the role and methods of economics as applied to public health care delivery in the United States. Prereq: Enrollment in a Public Health degree program, CPH 602/HSM 601, or consent of instructor.

CPH 660 GIS AND PUBLIC HEALTH. (3)
This course will introduce students to the ArcView Geographic Information System (GIS) to map and spatially analyze public health data. Prereq: Public Health graduate student or permission of instructor.

CPH 661 BIOETHICS FOR PUBLIC HEALTH PROFESSIONALS. (3)
This course will engage students in readings, projects, and discussions to address controversial issues of bioethics for public health professionals. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 662 PUBLIC HEALTH RESPONSE TO TERRORISM, DISASTERS AND EMERGENCIES. (3)
This course will focus on the public health concepts, history, methods, planning, and response preparedness to weapons of mass destruction, terrorism, natural and human-made disasters, and other health emergencies. Prereq: Enrollment in a Public Health degree program and CPH 605, or consent of instructor.

CPH 663 INTRODUCTION TO PUBLIC HEALTH PRACTICE AND ADMINISTRATION. (3)
This course is to be a practical application of the principles of health care organization to public health at the national, state, and local levels. Prereq: Health care organization course.

CPH 664 DESIGN AND ANALYSIS OF CLINICAL TRIALS. (3)
This course will introduce the fundamental concepts used in the design of Phase II/V clinical trials and statistical methodology associated with trial data analysis. Prereq: STA 570 or permission of instructor.

CPH 665 ETHICAL ISSUES IN CLINICAL RESEARCH. (3)
Based on NIH guidelines for Responsible Conduct of Research, this course will present ethical and regulatory guidelines for conducting clinical research. Prereq: Participation in curriculum leading to Graduate Certificate in Clinical Research Skills, or permission of instructor. (Same as PHR 665.)

CPH 666 PRACTICUM IN CLINICAL RESEARCH I. (1)
This course for participants in the curriculum leading to the Graduate Certificate in Clinical Research Skills includes participation in a mentored research experience with the final goal of a presentation at a local program-specific retreat; attendance at monthly journal club meetings, two annual retreats, and special seminars; and completion of research reports. Prereq: Participation in curriculum leading to the Graduate Certificate in Clinical Research Skills.

CPH 667 PRACTICUM IN CLINICAL RESEARCH II. (1)
Participants working toward Graduate Certificate in Clinical Research Skills earn credit for associated activities and an abstract for a national meeting. Prereq: Participation in curriculum leading to Graduate Certificate in Clinical Research Skills.

CPH 668 PRACTICUM IN CLINICAL RESEARCH III. (1)
Participants working toward Graduate Certificate in Clinical Research Skills earn credit for associated activities and a journal article or funding proposal. Prereq: Participation in curriculum leading to Graduate Certificate in Clinical Research Skills.

CPH 669 METHODS AND TECHNOLOGIES IN CLINICAL AND TRANSLATIONAL SCIENCE. (3)
This overview course is designed to introduce the student to the major methods and technologies of clinical and translational science. The course will consist of 14 presentations followed by open discussion of the presentation and assigned readings by class members. The location of classes may change based on the content of the lecture. Homework assignments will provide experiential opportunities to work with the various methods and technologies. Active participation by all members is expected. Each weekly presentation is designed to provide a general overview of a method or technology commonly used in clinical and translational science. Discussions are intended to integrate the information across traditional disciplinary boundaries. Homework assignments are designed to provide practical experience with the discussion topic. Prereq: Graduate standing.

CPH 670 INTERDISCIPLINARY PROTOCOL DEVELOPMENT. (2)
This course is designed to orient students to leadership and teamwork processes involved in clinical and translational research and to train students to function effectively in team settings. Students will be assigned to multidisciplinary teams with a designated principal investigator. Each team will be assigned to develop an integrated multidisciplinary grant application to address an assigned clinical research topic. Students are expected to apply their knowledge of effective scientific communication, responsible conduct of research, and methods and technologies of clinical and translational science to the grant application. The course will consist of four class periods. The first three classes will consist of an orientation to communication and the role of leadership and teamwork in multidisciplinary clinical and translational research. The final class period will be reserved for a teams organizational meeting. Supplemental team meetings are optional. Each team member will be required to complete an individual five-page research methods report that is integrated into a multidisciplinary research application addressing a clinical research topic assigned to the team under the direction of an assigned principal investigator. Prereq: Graduate standing.

CPH 671 SEMINAR IN CLINICAL AND TRANSLATIONAL SCIENCE. (1)
This seminar course is designed to orient students to clinical and translational research community and activities at the University of Kentucky and to incorporate a multidisciplinary cooperative approach to clinical and translational research. Students are expected to apply their knowledge of effective scientific communication, responsible conduct of research, and methods and technologies of clinical and translational science to ongoing discussions. The course will

consist of seven evening seminars focusing on different topics of clinical and translational research. Students will be required to present a description of their research interests and activities during one seminar. Homework assignments will require students to summarize the key elements of each seminar as related to clinical and translational research and the relevance of these issues to their own research interests and career plans. Active participation by all members is expected. Prereq: Graduate standing.

#CPH 672 EVIDENCE-BASED PUBLIC HEALTH PLANNING AND PRACTICE. (3)
This course provides the student with knowledge and skills in evidence-based public health: applying scientific reasoning, systematic use of data and information systems, and appropriate behavioral science theory to the development, implementation, and evaluation of effective programs and policies in public health. The course will emphasize online data, tools, and other resources that support the evidence-based decision making process. Prereq: CPH 604 or permission of instructor.

***CPH 695 PUBLIC HEALTH PRACTICE THROUGH SERVICE LEARNING. (1-3)**
This course will provide students the opportunity to gain first hand public health experience by participating in projects in a community setting. Number of credit hours, associated contact hours, and assignments to be determined in consultation with the instructor. Prereq: Enrollment in a Public Health degree program and completion of the core curriculum, or consent of instructor.

CPH 698 OCCUPATIONAL SAFETY AND HEALTH: FIELD SURVEYS. (3)
The course provides students with the opportunity to visit various work sites and industries in the Appalachian region. This course will provide students with onsite, direct experience recognizing hazards and evaluating control measures to reduce occupational health and safety risks. This is a cross-disciplinary course for graduate students in occupational safety, industrial hygiene, environmental health, occupational health nursing, ergonomics, injury prevention, agricultural health and safety, occupational epidemiology and occupational medicine. Prereq: CPH 620 Occupational Health.

CPH 701 CURRENT ISSUES IN PUBLIC HEALTH. (1)
This seminar course will introduce M.S. and Ph.D. students to the critical role of public health in protecting, maintaining, and improving the health of the population. Specific emphasis will be directed to the "Ten Essential Functions of Public Health" through weekly lectures, readings, and writing assignments. While all five core areas of public health will be introduced. Prereq: Admission to College of Public Health M.S. or Ph.D. program.

CPH 709 GLOBAL HEALTH INTERNSHIP. (3)
This course will consist of an internship in a foreign country, preferably in a resource-limited setting. Students will have both a University of Kentucky and a local mentor, and will develop a plan for participating in some type of health-related project or activity during a four-week period. A paper or presentation summarizing the key components of the internship experience will be submitted upon returning to Lexington. Prereq: Enrollment in the Graduate Certificate in Global Health Program, and completion of the course CPH 751, Introduction to Global Health, or approval from the Director of the certificate.

#CPH 710 ADVERSE EVENTS IN HEALTHCARE: EPIDEMIOLOGY AND PREVENTION. (3)
This course will focus on the epidemiology, history, methods, and ancillary laboratory tools used in the study and control of healthcare associated adverse events, including discussions of key concepts and theory, basic types of epidemiological investigations and study designs, and distinctive problems associated with specific risk factors. Adverse events will be discussed as components of patient safety and the quality of care.

CPH 711 CHRONIC DISEASE EPIDEMIOLOGY. (3)
A survey course on the leading chronic diseases in the U.S., including cardiovascular disease, cancer and diabetes with focus on surveillance and risk factors. Prereq: Enrollment in a Public Health degree program, CPH 605/PM 620 Introduction to Epidemiology or consent of instructor.

CPH 712 ADVANCED EPIDEMIOLOGY. (3)
Introduction to specialized epidemiologic content areas as well as methods designed to meet the research and practice of health professionals. Lecture, two hours; laboratory, two hours each week. Prereq: Enrollment in a Public Health degree program and CPH 605/PM 621 or consent of instructor.

CPH 713 PHARMACOEPIDEMIOLOGY. (3)
This course will provide an overview of the field of pharmacoepidemiology and its relationship to health care research. Various topics including methodology and analytical issues relevant to the conduct of pharmacoepidemiologic research will be covered. Time will also be spent reviewing existing papers in the field of pharmacoepidemiology. Prereq: CPH 605 and STA 580 or equivalent; may be concurrent. (Same as PPS 701.)

CPH 714 MATERNAL AND CHILD HEALTH INFORMATION AND DATA SYSTEMS. (3)
This course will equip participants with basic skills in identifying, accessing, interpreting and utilizing U.S. maternal and child health data systems at the national and state level. Participants will learn the essential ways that secondary data sources inform public health practice and how to interpret and present information from these sources. They will also learn key skills in data interpretation, data linkage, working with small numbers, stratifying data by population subgroups and examining trends over time.

CPH 715 PERINATAL EPIDEMIOLOGY. (3)
This course will equip participants with basic skills in the field of perinatal epidemiology and its application in the field of Maternal and Child Health. Students will work with birth and death data using SAS, SPSS or STATA to gain experience in secondary data analysis; from initial data base organization and cleaning through descriptive analysis and interpretation of the content. Topics such as proper data coding, the use of prenatal indices and an introduction to data linkage will be included.

CPH 718 SPECIAL TOPICS IN EPIDEMIOLOGY: (Subtitle required). (1-3)
This course will engage in readings, projects, lectures and/or discussions to address current topics of special interest or concerns. May be repeated to a maximum of 6 semester hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 719 INDEPENDENT STUDIES IN EPIDEMIOLOGY. (1-3)
Designed for advanced students with research or special study interests in Epidemiology. Students are under guidance and confer individually with faculty. May be repeated to a maximum of 6 semester hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 725 CLINICAL PREVENTIVE SERVICES. (3)
Disease prevention and control have been recognized as more efficient and effective in extending the quality and quantity of human life. As a core part of the Preventive Medicine-Public Health Residency curriculum, this course will focus on up-to-date, clinically relevant information and cutting edge research results regarding clinical preventive medicine and public health issues. The primary focus of this course will be 1) evidence based preventive health care services, and 2) recommendations of the United States Preventive Services Task Force for screening and preventive health care services. Prereq: Permission of instructor.

CPH 728 SPECIAL TOPICS IN OCCUPATIONAL/ ENVIRONMENTAL HEALTH: (Subtitle required). (1-3)
This course will engage students in reading, projects, lectures and/or discussions to address current topics of special interest or concerns. May be repeated to a maximum of 6 semester hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 729 INDEPENDENT STUDIES IN OCCUPATIONAL/ENVIRONMENTAL HEALTH. (1-3)
Designed for students with research or special study interest in Occupational and Environmental Health. Structured activities with goals, objectives, and deliverables are designed with individual faculty. May be repeated to a maximum of 6 credit hours per semester. Prereq: Enrollment in a College of Public Health program or consent of instructor. This is a controlled enrollment course; see instructor for additional information.

CPH 738 SPECIAL TOPICS IN BIOSTATISTICS: (Subtitle required). (1-3)
This course will engage students in readings, projects, lectures and/or discussions to address current topics of special interest or concerns. May be repeated to a maximum of 6 credit hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 739 INDEPENDENT STUDIES IN BIOSTATISTICS. (1-3)
Designed for advanced students with research or special study interest in Biostatistics. Students are under guidance and confer individually with faculty. May be repeated to a maximum of 6 credit hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 740 INTRODUCTION TO MATERNAL AND CHILD HEALTH. (3)
This course will acquaint students with the major issues and challenges of working in the area of maternal and child health. Prereq: UK graduate or professional school student status.

CPH 748 RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CPH 750 LEGAL BASIS OF PUBLIC HEALTH. (3)
Introductory course for non-lawyers in selected aspects of the law relating to public health. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 751 INTRODUCTION TO GLOBAL PUBLIC HEALTH. (3)
This course will acquaint students with the major issues and challenges for public health in a variety of wealthy, emerging, and impoverished nations and with the impact of local or regional issues on national and/or global levels. Prereq: UK graduate or professional school student status.

***CPH 752 LEADERSHIP IN HEALTH ORGANIZATIONS. (3)**
This course is designed to explore the dimensions of leadership as presented in both the traditional and contemporary literature. It focuses student understanding on their leadership qualities and the ways to apply them in the current public health environment.

CPH 754 HEALTH CARE ACCESS AND COVERAGE. (3)
This course offered gives students a greater understanding of programs available to underserved populations, how the changes in the health care market impacts care provided to underserved populations, and policy and programmatic options to address the needs of underserved populations. Prereq: Graduate or post-baccalaureate student status.

***CPH 758 SPECIAL TOPICS IN HEALTH MANAGEMENT POLICY: (Subtitle required). (1-3)**
This course will engage students in readings, projects, lectures and/or discussions to address current topics of special interest or concerns. May be repeated to a maximum of 6 credit hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

***CPH 759 INDEPENDENT STUDIES IN HEALTH MANAGEMENT POLICY. (1-3)**
Designed for students with research or special study interest in Health Services Management. Students must develop a prospectus that specifies goals, objectives, and deliverables with individual faculty. May be repeated to a maximum of 6 credit hours per semester. Prereq: Enrollment in a College of Public Health degree program or consent of instructor. This is a controlled enrollment course; contact instructor for additional information.

#CPH 763 ETHICS FOR PUBLIC HEALTH. (3)
The focus of this class is on applied ethics and its application to public health issues. In addition to examining current issues that might arise during the timeframe of the course, we will address the following: ethical frameworks, theories, and approaches; a unique public health ethics; social justice; ethics surrounding infectious diseases, including surveillance and control; health disparities; environmental and occupational health issues; genetics; smoking cessation; end-of-life issues; conundrums regarding vulnerable populations; public health research; and ethical leadership of public health organizations. Prereq: Enrollment in the MPH program or consent of instructor.

CPH 767 DISSERTATION RESEARCH CREDIT. (2)
Students will enroll in this course to complete their research for their dissertation. Prereq: Approval of DGS.

CPH 768 RESIDENCY CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 credits. Prereq: All course work toward the degree must be completed.

CPH 778 SPECIAL TOPICS IN PUBLIC HEALTH: (Subtitle required). (1-3)
This course will engage in reading, projects, lectures and/or discussions to address current topics of special interest or concern in public health. May be repeated to a maximum of 6 semester hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 779 INDEPENDENT STUDIES IN PUBLIC HEALTH. (1-3)
Designed for advanced students with research or special study interests in Public Health. Students are under guidance and confer individually with faculty. May be repeated to a maximum of 6 semester hours. Prereq: Enrollment in a Public Health degree program or consent of instructor.

CPH 786 DOCTORIAL SEMINAR. (1)
Students will attend colloquium sessions that will supplement the core curriculum with additional application. Prereq: Enrollment in the Ph.D. in Epidemiology and Biostatistics program.

***CPH 790 WATER SANITATION AND HEALTH. (3)**
Prevention of water-related diseases by appropriate supply and sanitation practices with designs applicable to small systems and rural areas of developing nations. (Same as CE 655.)

CPH 841 ORIENTATION TO MEDICAL BEHAVIORAL SCIENCE. (1)
This course offers a structural exposure of students to the varieties of basic and clinical science research and current issues in health care policy under discussion at the University Medical Center. Following weekly attendance at research seminars and clinical rounds, students will present their observations in follow-up discussion groups. May be repeated to a maximum of three credits. (Same as BSC 620.)

CPH 901 PUBLIC HEALTH DOCTORAL PROFESSIONAL COLLOQUIUM. (1)
Seminar course designed as the integrative introduction, consideration, capstone for the Doctor of Public Health (Dr.P.H.) degree. Offered each semester of enrollment. Prereq: Admission to the Dr.P.H. program.

CPH 910 TOPICS IN ADVANCED EPIDEMIOLOGY AND LABORATORY. (3)
Provides the student with an introduction to advanced epidemiologic content areas as well as methods designed to meet the research and practice needs of health professionals. Lecture, two hours; laboratory, two hours per week. Prereq: Admission to the Dr.P.H. program, completion of MPH/MSPH core or equivalent, or approval of instructor.

CPH 911 PROFESSIONAL SEMINAR IN EPIDEMIOLOGY. (3)
Professional Seminar in Epidemiology is an advanced course in one of the five content areas of public health designed as the link between academic work in epidemiology and application in Public Health practice. Prereq: Admission to the Dr.P.H. program, completion of CPH 910, or approval of instructor.

CPH 920 ADVANCED ENVIRONMENTAL HEALTH. (3)
This professional seminar in Environmental Health is designed to provide comprehensive coverage of the principles upon which the Environmental Health field relies. Prereq: Admittance into the Dr.P.H. curriculum.

CPH 921 PROFESSIONAL SEMINAR IN ENVIRONMENTAL HEALTH. (3)
Designed as the link between academic work in environmental health and application health practice, and to prepare the student for a leadership role in public health. Prereq: Admission to the Dr.P.H. program, completion of MPH/MSPH core or equivalent, or approval of instructor.

CPH 930 BIOSTATISTICS CONCEPTS FOR THE PUBLIC HEALTH PRACTITIONER. (3)
This course covers topics relating to applications of biostatistics in public health. It provides a conceptual introduction to statistical methods commonly used in public health practice. Topics include data visualization, summary statistics, statistical testing, estimation, confounding, and an introduction to regression (linear, logistic, proportional hazards). Prereq: Doctor of Public Health Student.

CPH 931 PROFESSIONAL SEMINAR IN BIOSTATISTICS. (3)
Designed as the link between academic work in biostatistics and application in public health practice; and to prepare the student for a leadership role in public health. Prereq: Admission to the Dr.P.H. program, CPH 930, or approval of instructor.

CPH 940 HEALTH-RELATED BEHAVIORS: MODELS AND APPLICATIONS. (3)
This course evaluates the use of models of health on related behavior and their applications for intervention in public health problems. Prereq: Admission to the Dr.P.H. program, completion of MPH/MSPH core or equivalent, or approval of instructor.

CPH 941 PROFESSIONAL SEMINAR IN HEALTH ENHANCEMENT. (3)
Designed as the opportunity to link academic work in health enhancement with application in public health practice and to prepare the student for a leadership role in public health. Prereq: Admission to the Dr.P.H. program, CPH 940, or approval of instructor.

CPH 942 SEMINAR IN PUBLIC HEALTH COMMUNICATION. (3)
This seminar in Public Health Communication is intended to acquaint students with theory and current research related to communication in public health settings. It is designed to provide insight into the communication that serves as the lifeblood of the organized institutions which promote public health. Those who wish to have a significant role in the management of public health practitioners, improve their understanding of organizations, understand how groups and individuals fit into the larger mission, need to apply advanced information and communication technologies, and desire to become more effective communicators will find this course worthwhile. This course is primarily designed to give students a background in theories, perspectives, concepts, and approaches to understanding communication. Thus, it seeks to promote student understanding, analytical skills, and critical thinking necessary for such professions as consulting, research, and management and for their own personal development.

CPH 949 DOCTORAL CAPSTONE RESEARCH. (0)
This course will allow Dr.P.H. students to remain in a full-time enrollment status at the University of Kentucky while working on their doctoral capstone. Enrollment is restricted and by special permission only; students may only register for this course after all for-credit course work has been completed.

CPH 950 WELL MANAGED PUBLIC HEALTH CARE ORGANIZATION. (3)
The Well Managed Public Health Care Organization is an advanced course addressing effective senior management of public and private organizations focusing upon public health. Prereq: Admission to the Dr.P.H. program, completion of MPH/MSPH core or equivalent, or approval of instructor.

CPH 951 PROFESSIONAL SEMINAR IN PUBLIC HEALTH MANAGEMENT AND PRACTICE. (3)
Designed to link academic work in public health management with application in public health practice, and to prepare the student for a leadership role in public health. Prereq: Admission to the Dr.P.H. program, CPH 950, or approval of instructor.

CPH 952 SEMINAR IN ADVANCED LEADERSHIP. (3)
This course provides the opportunity to link academic work in public health leadership with application in public health practice and to prepare the learner for a leadership role in public health. This will be accomplished through readings, case studies, exercises, and individual research relevant to the disciplines of the profession of public health and leadership. Prereq: Enrollment as a Dr.P.H. student or permission of the instructor.

CPH 953 SEMINAR IN ETHICAL AND MORAL DECISION-MAKING. (3)
This course provides the opportunity to link academic work in public health decision-making with its application to public health practice and to prepare the learner for the practice of public health decision-making based on ethical and moral principles. This will be accomplished through readings, case studies, exercises, and individual research relevant to the disciplines of the profession of public health decision-making. The period of Nazi Germany 1933-1945 will compose the underlying case study. The seminar will consider in depth the decisions made by Nazi political and military leaders, citizens, religious leaders, concentration camp commanders, guards, and prisoners, physicians, scientists and business leaders. Films will be used extensively in the seminar. Prereq: Enrollment as a Dr.P.H. student or permission of the instructor.

CPH 954 SEMINAR IN ADVANCED PUBLIC HEALTH FINANCE AND ECONOMICS. (3)
This course provides the opportunity to link academic work in public health finance and economics with application in public health practice and to prepare the learner for key leadership roles in public health. This will be accomplished through readings, case studies, exercises, and individual research relevant to the disciplines of the profession of public health finance and economics. Prereq: Enrollment as a Dr.P.H. student or permission of instructor and approval of the Associate Dean for Admissions and Student Affairs.

CPH 955 PLAGUES AND POLITICS. (3)
This course provides the opportunity to link the political aspects of national and international epidemics and diseases, while understanding the responsibility of the US Public Health Service for developing and implementing policies and procedures for dealing with them.

CPH 956 PROGRAM EVALUATION FOR PUBLIC HEALTH PROFESSIONALS AND LEADERS. (3)
This course is designed to provide Dr.P.H. students the knowledge and skills to guide and critically review program evaluations in their roles as public health professionals and leaders. The course focuses on providing an overview of the key concepts, methods, and approaches to program evaluation with an emphasis on public health practice. Topics include approaches to program evaluation, defining evaluation questions, managing an evaluation, program evaluation standards, program evaluation designs, reporting and disseminating results and findings, and political issues of evaluation. Prereq: Enrollment as a Dr.P.H. student or by permission of the instructor.

CPH 960 BIOLOGY OF AGING. (3)
This course will focus on the recognition and discussion of the outcomes of biological changes in terms of the effects of aging on the individual's physical and psychosocial systems. It will be organized utilizing a systems approach to presentations, class discussions, class readings and on-line discussions. Prereq: Enrollment as a Dr.P.H. student or by permission of the instructor.

CPH 961 A STUDY OF THE OLDER PERSON. (3)
An increasing elderly population during this century has created a variety of pressing social issues. Underscoring such issues is a long-standing cultural view of elders as a homogenous group of people who are "different" from younger labor force participants, a view that has resulted in pervasive "ageism" – the collection of attitudes and practices that may reflect discrimination against elders. A properly informed public is necessary to combat ageism and establish sound economic, social, cultural and health care policies that successfully encompass all ages of society. Gerontology is a field of study designed to provide knowledge and a sound data base for dealing with present and future issues of aging and the older population, especially within the realm of public health. This course has been designed to give students pursuing a Dr.P.H. with a concentration in gerontology a broad yet comprehensive graduate-level introduction to the field and to the experience of an older individual that will provide a solid foundation for subsequent courses, and more importantly, personal scholarly development in the program. An array of topics and themes will be presented to adequately represent the multidisciplinary nature of gerontology. Through critical examination of such topics and themes the learner will gain a conceptual foundation for developing effective skills in interdisciplinary inquiry. Prereq: Enrollment as a Dr.P.H. student or by permission of the instructor.

CPH 993 PROFESSIONAL SEMINAR IN FOUNDATIONS OF PUBLIC HEALTH PRACTICE. (3)
A culminating experience professional seminar linking evidence-based academic work in public health with the foundations of practice. A fundamental part of the course is to prepare the learner for a community advocacy role in public health using skill sets found in critical analysis and leadership. Prereq: All 9X0 and 9X1 courses in the Dr.P.H. program.

CPH 994 PROFESSIONAL SEMINAR IN LEADING PEOPLE–MANAGING CHANGE. (3)
A culminating experience professional seminar linking academic work in public health leadership, management and ethics with application to public health practice and preparing learners for a leadership role in public health. Prereq: All five 9X0 and three 9X1 courses in the Dr.P.H. program.

CPH 995 DOCTORAL SEMINAR IN PUBLIC HEALTH RESEARCH METHODS. (3)
A survey course in a seminar style covering both classical and recent literature in public health services, including description and critique of research. Prereq: HSM 601/CPH 602, STA 570 or 580, and admission to the Dr.P.H. program or post-doctoral fellowship; or consent of instructor.

CPH 996 PUBLIC HEALTH PROJECT OR DISSERTATION RESEARCH. (1-12)
Public health project or dissertation research for residency credit. To be repeated unlimited. Prereq: Completion of the Dr.P.H. Determinative Examination.

CPH 997 DOCTORAL PUBLIC HEALTH FIELD PRACTICUM. (2-4)
Required public health field work is the integrative component of the curriculum and an opportunity to apply and test didactic learning. May be repeated twice. Laboratory, eight to sixteen hours per week. Prereq: Admission to the Dr.P.H. program, completion of MPH/MSPH core or equivalent, second year status, or approval of instructor.

CPH 998 SPECIAL TOPICS IN PUBLIC HEALTH (Subtitle required). (1-4)
Designed to address contemporary topics of significance in the field of public health as well as the study of specific topics and problems. May be repeated three times. Prereq: Admission to the Dr.P.H. program, consent of instructor.

CPH 999 DIRECTED STUDIES IN PUBLIC HEALTH. (1-4)
Study and research on contemporary and specific topics and problems of significance to the field of public health, and the interests of individual students. May be repeated to a maximum of six hours. Prereq: Admission to the Dr.P.H. program, consent of instructor.

CS Computer Science

CS 100 THE COMPUTER SCIENCE PROFESSION. (1)
An introductory seminar which covers the fundamental activities, principles, and ethics of the computer science profession. An overview of the discipline of computer science, examples of careers, the history of computing and experience with elementary computing tools are included.

CS 101 INTRODUCTION TO COMPUTING I. (3)
An introduction to computing and its impact on society from a user's perspective. Topics include computation using spreadsheets, beautification using text formatters and word processors, information management with database managers, and problem solving through program design and implementation using a simple programming language. Not open to students who have received credit for higher level computer science courses.

CS 115 INTRODUCTION TO COMPUTER PROGRAMMING. (3)
This course teaches introductory skills in computer programming using a high-level computer programming language. There is an emphasis on both the principles and practice of computer programming. Covers principles of problem solving by computer and requires completion of a number of programming assignments.

CS 215 INTRODUCTION TO PROGRAM DESIGN, ABSTRACTION, AND PROBLEM SOLVING. (4)
The course covers introductory object-oriented problem solving, design, and programming engineering. Fundamental elements of data structures and algorithm design will be addressed. An equally balanced effort will be devoted to the three main threads in the course: concepts, programming language skills, and rudiments of object-oriented programming and software engineering. Prereq: CS 115, 221, or equivalent.

CS 216 INTRODUCTION TO SOFTWARE ENGINEERING TECHNIQUES. (3)
Implementation of large programming projects using object-oriented design techniques and software tools in a modern development environment. Software engineering topics to include: life cycles, metrics, requirements specifications, design methodologies, validation and verification, testing, reliability and project planning. Prereq: CS 215.

CS 221 FIRST COURSE IN COMPUTER SCIENCE FOR ENGINEERS. (2)
Characteristics of a procedure-oriented language; description of a computer as to internal structure and the representation of information; introduction to algorithms. Emphasis will be placed on the solution of characteristic problems arising in engineering. Prereq: Not open to students who have received credit for CS 115.

CS 261 SOCIAL NETWORKS: METHODS AND TOOLS. (3)
The complex connectedness of the modern society is a multifaceted phenomenon resulting from the growing density of the human population, the advent of fast global mass transportation infrastructure, the emergence of global companies and markets, and spurred by the Internet and its applications such as the Web, Facebook and Twitter. In this course, we learn about graph theory, game theory and computational tools required to model and analyze social networks, matching markets, web search, network externalities, tipping points, information cascades, epidemics, small worlds, and voting schemes. The course requires no programming background and has no university-level prerequisites.

#CS 270 SYSTEMS PROGRAMMING. (3)
This course provides an introduction to computer systems and explores computer architecture, operating systems, and networks from a programmer's perspective. The course also introduces advanced programming and debugging tools. Topics include hardware instruction sets, machine language and C language program representations, linking/loading, operating systems (process management, scheduling, memory management, interprocess communication, and file systems), network programming (socket programming and web protocols), and common security attacks and solutions. Prereq: EE 280 and CS 216.

CS 275 DISCRETE MATHEMATICS. (4)
Topics in discrete math aimed at applications in Computer Science. Fundamental principles: set theory, induction, relations, functions, Boolean algebra. Techniques of counting: permutations, combinations, recurrences, algorithms to generate them. Introduction to graphs and trees. Prereq: MA 113, CS 115.

CS 315 ALGORITHM DESIGN AND ANALYSIS. (3)
Introduction to the design and analysis of algorithms. Asymptotic analysis of time complexity. Proofs of correctness. Algorithms and advanced data structures for searching and sorting lists, graph algorithms, numeric algorithms, and string algorithms. Polynomial time computation and NP-completeness. Prereq: CS 215, CS 275, and engineering standing.

CS 316 WEB PROGRAMMING. (3)
This course introduces students to the World Wide Web, languages and techniques used for web programming, data transfer over the Internet, and the tools available in the web environment. Prereq: CS 216.

CS 321 INTRODUCTION TO NUMERICAL METHODS. (3)
Floating point arithmetic. Numerical linear algebra: elimination with partial pivoting and scaling. Polynomial and piecewise interpolation. Least squares approximation. Numerical integration. Roots of nonlinear equations. Ordinary differential equations. Laboratory exercises using software packages available at computer center. Prereq: MA 114 and knowledge of a procedural computer language is required. (Same as MA 321.)

CS 335 GRAPHICS AND MULTIMEDIA. (3)
This course focuses on the graphical human-machine interface, covering the principles of windowing systems, graphical interface design and implementation, and processing graphical data. There is an emphasis on medium-scale programming projects with graphical user interfaces using a high-level procedural programming language and concepts such as object-oriented design. Prereq: CS 216 and engineering standing.

CS 340 APPLICABLE ALGEBRA. (3)
Topics include: Euclid's algorithm, unique factorization moduli arithmetic, Fermat's and Euler's theorems, Chinese remainder theorem, RSA public key encryption, Pollard rho factoring, pseudo primes, error correcting codes, Hamming codes, polynomial rings and quotient rings, field extensions, finite fields and BCH codes. Prereq: MA 322 or MA 213. (Same as MA 340.)

#CS 371 INTRODUCTION TO COMPUTER NETWORKING. (3)
Introduction to the principles and concepts of the Internet; data communications and digital channel characteristics; networking applications and protocols, client-server paradigm and network programming; reliable data transfer, end-to-end transport; addressing, forwarding and routing, datagram networks; media access control, data link control; selected topics from cloud computing, network security and network management. Concepts are combined with programming and other hands-on assignments to enhance the learning of these topics. Prereq: CS 270, CS 315.

CS 375 LOGIC AND THEORY OF COMPUTING. (3)
Topics in logic and discrete math aimed at applications in Computer Science. Propositional calculus: truth tables, logical relations, proofs, tautologies, soundness. Predicate calculus: variables, quantifiers, equivalencies. Models of computation: logic circuits, finite automata, Turing machines. Prereq: MA 113, CS 215, CS 275 and engineering standing.

CS 378 INTRODUCTION TO CRYPTOLOGY. (3)
The study of secrecy in digital systems. Methods of keeping information secure from classical systems dating from ancient times to modern systems based on modern mathematics. Basic methods of encryption using public key systems, block ciphers, and stream ciphers. The mathematical tools for the design and analysis of such systems. Topics will include classical cryptography, modern methods of public and private key encryption, authentication and digital signatures, hashing, and passwords. Number theory, abstract algebra, combinatorics, and complexity theory necessary for the design and analysis of cryptographic systems. Prereq: CS 315 and STA 281, or instructor's consent.

CS 380 MICROCOMPUTER ORGANIZATION. (3)
Hardware and software organization of a typical computer; machine language and assembler language programming, interfacing peripheral devices, and input-output programming; real-time computer applications, laboratory included. Prereq: EE 280 or CS 245. (Same as EE 380.)

CS 383 INTRODUCTION TO EMBEDDED SYSTEMS. (3)
A course in the hardware and software of microprocessors. Assembly language programming, address decoding, hardware interrupts, parallel and serial interfacing with various special purpose integrated circuits. Each student is expected to do homework assignments using microprocessor hardware. Prereq: EE 280 and EE/CS 380. (Same as EE 383.)

CS 395 INDEPENDENT WORK IN COMPUTER SCIENCE. (1-2)
A course for computer science majors only. A topic, approved by the chairperson of the department, provides an opportunity for supervised individual research and study. May be repeated to a maximum of four credits. Prereq: Consent of instructor.

CS 405G INTRODUCTION TO DATABASE SYSTEMS. (3)
Study of fundamental concepts behind the design, implementation and application of database systems. Brief review of entity-relationship, hierarchical and network database models and an in-depth coverage of the relational model including relational algebra and calculi, relational database theory, concepts in schema design and commercial database languages. Prereq: CS 315 and graduate or engineering standing.

CS 415G COMBINATORICS AND GRAPH THEORY. (3)
A basic course in the theory of counting and graph theory. Topics in enumerative combinatorics may include: generating functions, compositions, partitions, Fibonacci numbers, permutations, cycle structure of permutations, permutations statistics, Stirling numbers of the first and second kind, Bell numbers, inclusion-exclusion. Topics in graph theory may include: Eulerian and Hamiltonian cycles, matrix tree theorem, planar graphs and the 4-color theorem, chromatic polynomial, Hall's marriage theorem, stable marriage theorem, Ramsey theory, electrical networks. Prereq: MA 213 or MA 322. (Same as MA 415G.)

***CS 416G INTRODUCTION TO OPTIMIZATION. (3)**
The course is an introduction to modern operations research and includes discussion of modeling, linear programming, dynamic programming, integer programming, scheduling and inventory problems and network algorithms. Prereq: MA 213 or equivalent. (Same as MA 416G.)

CS 422 NUMERICAL SOLUTIONS OF EQUATIONS. (3)
Linear equations: Gaussian elimination, special linear systems, orthogonalization, eigenproblem, iterative methods. Nonlinear equations: solutions of equations in one variable, solutions of systems of nonlinear equations. Optimization. Prereq: CS/MA 321 and MA 322; or consent of instructor. (Same as MA 422.)

CS 441G COMPILERS FOR ALGORITHMIC LANGUAGES. (3)
The techniques of processing, specifying, and translating high-level computer languages are studied. Topics include finite state machines and lexical analysis, context-free grammars for language specification, attributed translation grammars, language parsing, and automatic generation of compilers by SLR, LALR, and other methods of analyzing context-free grammars. Other topics may include code optimization, semantics of programming languages, and top-down parsing. Prereq: CS 315 and engineering standing.

CS 450G FUNDAMENTALS OF PROGRAMMING LANGUAGES. (3)
An intensive study of fundamental programming concepts exhibited in current high level languages. Concepts include recursion, iteration, coroutines, multiprocessing, backtracking, pattern-matching, parameter passing methods, data structures, and storage management. Typical languages studied are SNOBOL, LISP, PASCAL, and APL. Prereq: CS 370. Restricted to computer science and electrical engineering majors. Others by permission.

CS 460G MACHINE LEARNING. (3)
Study of computational principles and techniques that enable software systems to improve their performance by learning from data. Focus on fundamental algorithms, mathematical models and programming techniques used in Machine Learning. Topics include: different learning settings (such as supervised, unsupervised and reinforcement learning), various learning algorithms (such as decision trees, neural networks, k-NN, boosting, SVM, k-means) and crosscutting issues of generalization, data representation, feature selection, model fitting and optimization. The course covers both theory and practice, including programming and written assignments that utilize concepts covered in lectures. Prereq: Strong programming ability (CS 315), basic probability and statistics (STA 281), and basic concepts of linear algebra (MA/CS 321 or MA/CS 322), or instructor's consent.

CS 463G INTRODUCTION TO ARTIFICIAL INTELLIGENCE. (3)
The course covers basic techniques of artificial intelligence. The topics in this course are: search and game-playing, logic systems and automated reasoning, knowledge representation, intelligent agents, planning, reasoning under uncertainty, and declarative programming languages. The course covers both theory and practice, including programming assignments that utilize concepts covered in lectures. Prereq: CS 315, CS 375, and engineering standing.

CS 470G INTRODUCTION TO OPERATING SYSTEMS. (3)
This course provides an introduction and overview of operating system design, internals, and administration. Topics include classical operating systems (process management, scheduling, memory management, device drivers, file systems), modern operating systems concepts (kernel/microkernel designs, concurrency, synchronization, interprocess communication, security and protection), and operating system administration. Prereq: CS 315, CS 380, and graduate or engineering standing.

CS 471G NETWORKING AND DISTRIBUTED OPERATING SYSTEMS. (3)
Broad overview of concepts in networking and distributed operating systems with examples. Topics will include protocol stacks, link, network, transport, and application layers, network management, the client-server model, remote procedure calls, and case studies of distributed OS and file systems. Prereq: CS 315 and graduate or engineering standing.

CS 480G ADVANCED COMPUTER ARCHITECTURE. (3)
This course focuses on advanced computer architectures and low-level system software. Topics include RISC architectures, vector and multiprocessor architectures, multiprocessor memory architectures, and multiprocessor interconnection networks. Peripheral devices such as disk arrays, NICs, and video/audio devices are covered. Topics also include device drivers, interrupt processing, advanced assembly language programming techniques, assemblers, linkers, and loaders. Prereq: CS/EE 380. (Same as EE 480.)

CS 485G TOPICS IN COMPUTER SCIENCE (Subtitle required). (2-4)
Studies of emerging research and methods in computer science. A review and extension of selected topics in the current literature. When the course is offered, a specific title with specific credits, the number of hours in lecture-discussion and laboratory will be announced. Lecture/discussion, two-four hours; laboratory, zero-four hours per week. May be repeated up to the discretion of the department.

CS 499 SENIOR DESIGN PROJECT. (3)
Projects to design and implement complex systems of current interest to computer scientists. Students will work in small groups. Prereq: CS 315 and engineering standing.

CS 505 INTERMEDIATE TOPICS IN DATABASE SYSTEMS. (3)
The course introduces a variety of modern techniques in database and distributed database systems. The major topics include, but are not limited to: object-oriented database systems; distributed, heterogeneous and web-based databases; knowledge based systems; physical database design; and security. The course covers a variety of methods that allow for a solution of database problems where the traditional relational database techniques are not viable or not sufficient. Prereq: CS 405 or consent of instructor.

CS 515 ALGORITHM DESIGN. (3)
The design and analysis of efficient algorithms on data structures for problems in sorting, searching, graph theory, combinatorial optimization, computational geometry, and algebraic computation. Algorithm design techniques: divide-and-conquer, dynamic programming, greedy method, and randomization, approximation algorithms. Prereq: CS 315 and engineering standing.

CS 521 COMPUTATIONAL SCIENCES. (3)
Study of computer science techniques and tools that support computational sciences and engineering. Emphasis on visualization, performance evaluation, parallel computing, and distributed computing. Prereq: CS 115, CS/EE 380, and engineering standing.

CS 522 MATRIX THEORY AND NUMERICAL LINEAR ALGEBRA I. (3)
Review of basic linear algebra from a constructive and geometric point of view. Factorizations of Gauss, Cholesky and Gram-Schmidt. Determinants. Linear least squares problems. Rounding error analysis. Stable methods for updating matrix factorizations and for linear programming. Introduction to Hermitian eigenvalue problems and the singular value decomposition via the QR algorithm and the Lanczos process. Method of conjugate gradients. Prereq: MA 322. (Same as MA 522.)

CS 535 INTERMEDIATE COMPUTER GRAPHICS. (3)
Three-dimensional graphics primitives such as 3D viewing, lighting, shading, hidden line/surface removal, and more advanced topics such as solid modeling, image storage and representation, advanced raster graphics architecture and algorithms, advanced modeling techniques, and animation will be covered. Prereq: CS 335, CS 315, CS 321, and engineering standing.

CS 536 SITUATED COMPUTING. (3)
This course covers the fundamental concepts involved in understanding and engineering a closed-loop, sensing, reasoning, and actuating agent. Biological models of sensing and actuation will be discussed and related to modern artificial counterparts. The course consists of three major topic areas: vision, brain, and robotics. It will introduce students to the issues in computer and biological vision, to models of belief representation and modification, architectures for percept processing and reasoning, machine learning for vision, neural networks, path planning, intelligent localization based on visual cues, and to forward and inverse kinematics, intelligent grasping, and the integration of perception and action. Prereq: CS 460G or consent of instructor.

CS 537 NUMERICAL ANALYSIS. (3)
Floating point arithmetic. Direct methods for the solution of systems of linear algebraic equations. Polynomial and piecewise polynomial approximation, orthogonal polynomials. Numerical integration: Newton Cotes formulas and Gaussian quadrature. Basic methods for initial value problems for ordinary differential equations. The emphasis throughout is on the understanding and use of software packages for the solution of commonly occurring problems in science and engineering. Prereq: CS/MA 321 or equivalent or graduate standing or consent of instructor. Knowledge of a procedural computer language is required. (Same as EGR/MA 537.)

CS 541 COMPILER DESIGN. (3)
Intermediate aspects of a compilation process with an emphasis on front-end issues. Practical issues in using compiler writing tools. Code generation for expressions, control statements and procedures (including parameter passing). Symbol tables, runtime organization for simple and structured variables. Using compilers and translators for automation (filters, programs writing programs). Prereq: CS 441 or consent of instructor.

CS 555 DECLARATIVE PROGRAMMING. (3)
The course covers fundamentals of propositional and predicate logic, and their uses in declarative programming to model and solve computational problems. Topics include propositional satisfiability, satisfiability testing techniques such as the DPLL algorithm, automated reasoning techniques for predicate logic such as resolution with unification and logic programming. Prereq: CS 315 and CS 375 or consent of instructor.

CS 570 MODERN OPERATING SYSTEMS. (3)
Brief review of classical operating system concepts (process and memory management, process coordination, device drivers, file systems, starvation/deadlock). Modern topics of files systems (log-structured file systems, distributed file systems, memory-based file systems), operating system design (monolithic, communication-kernel, extensible/adaptable, distributed shared memory), multiprocessor issues (scheduling, synchronization, IPC), security (internet attacks, encryption, defenses). Inspection and modification of actual operating system code (Linux). Prereq: CS 470 and engineering standing.

CS 571 COMPUTER NETWORKS. (3)
Principles of computer networks using current Internet technologies and protocols as examples. Routing algorithms and protocols; end-to-end transport; flow control; congestion avoidance and control; mail, web, and file transfer protocols; designing and implementing applications using common network APIs. Advanced topics, included as time permits, include network security, multicast, and quality of service. Prereq: CS 471G or consent of instructor.

CS 575 MODELS OF COMPUTATION. (3)
The formal study of computation, including computability and computation with limited resources. Church's thesis and models of computation. Formal languages and machines as recognizers of languages. The Chomsky Hierarchy of language types. Topics may include Turing machines or other basic models of computation; decidability and undecidability; basic complexity theory; finite automata and regular languages; pushdown automata and context-free languages. The course will cover primarily theory, including assignments that utilize concepts covered in lectures. Prereq: CS 375 and engineering standing, or consent of instructor.

CS 585 INTERMEDIATE TOPICS IN COMPUTER SCIENCE (Subtitle required). (3)
Topics to be selected by staff. May be repeated to a maximum of six credits, but only three credits may be earned by a student under the same topic. Prereq: Restricted to computer science and electrical engineering majors. Others by permission.

CS 587 MICROCOMPUTER SYSTEMS DESIGN. (3)
A course in the design of microcomputer systems for hardware engineers which includes the following topics: use of uncommitted logic arrays in instruction set design; hardware support for operating systems and programming languages; customizing microcomputers for specific execution environments; and control of concurrency. Prereq: EE 581 and EE 583, or consent of instructor. Engineering standing or upper division computer science standing. (Same as EE 587.)

CS 610 MASTER'S PROJECT. (3)
Design and implementation of a large computing project under the supervision of a member of the graduate faculty. Prereq: Satisfactory completion of the departmental foundational examinations.

CS 611 RESEARCH IN COMPUTER SCIENCE. (3-9)
Doctoral students conduct research work in computer science under supervision of a faculty member from the Department of Computer Science. May be repeated to a maximum of 4 semesters (18 credits, maximum). Prereq: 36 credit hours of graduate course work in computer science and approval of the Departmental Committee on Higher Degrees.

CS 612 INDEPENDENT WORK IN COMPUTER SCIENCE. (1-3)
Reading course for graduate students in computer science. May be repeated to a maximum of nine credits. Prereq: Overall standing of 3.0, and consent of instructor.

CS 616 SOFTWARE ENGINEERING. (3)
This course provides an overview of the software engineering discipline: software requirements, software design, software construction, software management, and software quality. Testing and validation techniques will be emphasized throughout the course. Programs and program fragments will be developed and studied throughout the course to illustrate specific problems encountered in the lifecycle development of software systems. Prereq: At least nine hours of graduate computer science courses.

CS 617 REQUIREMENTS ENGINEERING. (3)
The course examines the requirements phase of the Systems Engineering and Software Engineering lifecycles in detail. Topics include: requirements elicitation, requirements specification, and requirements analysis. Verification and validation techniques are emphasized throughout the course. Students work in small groups to research and present a related topic. Prereq: Nine hours of graduate study.

CS 618 SOFTWARE DESIGN. (3)
This course provides an overview of the software design field: software design overview, software design process, a survey of software design method (such as structured design methods, object-oriented design methods, concurrent design methods), design reviews, as well as discussing current topics such as aspect-oriented programming, refactoring, and design patterns. Testing and validation techniques are emphasized through the course. Program designs are developed and validated throughout the course. Readings and summaries of current and seminal journal papers and texts are required. Prereq: Nine hours of graduate study.

CS 621 PARALLEL AND DISTRIBUTED COMPUTING. (3)
This course provides graduate students in computer science and in other fields of science and engineering with experience of parallel and distributed computing. It gives an overview of parallel and distributed computers, and parallel computation. The course addresses architectures, languages, environments, communications, and parallel programming. Emphasis on understanding parallel and distributed computers and portable parallel programming with MPI. Prereq: Two 500 level CS courses, or consent of the instructor.

CS 622 MATRIX THEORY AND NUMERICAL LINEAR ALGEBRA II. (3)
Numerical solution of matrix eigenvalue problems and applications of eigenvalues. Normal forms of Jordan and Schur. Vector and matrix norms. Perturbation theory and bounds for eigenvalues. Stable matrices and Lyapunov theorems. Nonnegative matrices. Iterative methods for solving large sparse linear systems. Prereq: MA 522 or equivalent. (Same as MA 622.)

CS 623 PARALLEL ITERATIVE COMPUTING. (3)
The course will present advanced computational science techniques needed to support large scale engineering and scientific computations. Emphasis on iterative methods for solving large sparse linear systems and parallel implementations of iterative techniques. Prereq: CS 537 or consent of the instructor.

CS 630 FREE-FORM SOLID MODELING. (3)
This course covers the path from a conceptual vision of a shape to a concrete computer-based description that is suitable for manufacturing. It covers various solids modeling techniques, including volume representations, boundary representations, instantiation and Boolean combinations of shapes, and procedural generation such as sweeps. It discusses effective data structures and consistent and unambiguous part description formats to transfer a shape from a designer to a fabrication house, as well as problems with maintaining unambiguous topology in the presence of finite-precision geometry. Prereq: CS 535 or consent of instructor.

CS 631 COMPUTER-AIDED GEOMETRIC DESIGN. (3)
Overview of current concepts and issues in CAGD with emphasis on free-form surface design; mathematics of free-form curve and surface representations, including Coons patches, Gregory patches, Bezier method, B-splines, NURBS, triangular interpolants, and their geometric consequences; creating objects with smooth surfaces, covering assembling spline patches, geometric and parametric continuity, texture mapping onto complex shapes, subdivision surfaces, surface evolution, and global optimization. Prereq: CS 535 and CS 321, or consent of instructor.

CS 633 3D COMPUTER ANIMATION. (3)
This course covers the underlying principles and techniques of 3D computer animation. The topics covered include (1) modeling: the process of building the forms that will be animated, (2) rendering; the process of defining how the final picture in the model will look, (3) animation

KEY: # = new course * = course changed † = course dropped

techniques: the process of creating in-between frames and keyframes, (4) compositing and special effects: the process of assembling various pieces of an image to get special two-dimensional effects, and (5) recording: the principles and techniques involved in putting animation frames onto film or video. Prereq: CS 335 or CS 535, or consent of instructor.

CS 634 MULTIMEDIA SYSTEMS. (3)
This course covers fundamental techniques in multimedia systems for capturing, managing, accessing and delivering digital media over local, wide-area and wireless network technology. The core topics will emphasize the digital media (images, video, audio) and the algorithms to generate, store, access and process it. Network concepts will be presented at a high level only. Prereq: CS 335 or consent of instructor.

CS 635 IMAGE PROCESSING. (3)
The course outlines applications of image processing and addresses basic operations involved. Topics covered include image perception, transforms, compression enhancement, restoration, segmentation, and matching. Prereq: Graduate standing and consent of instructor. (Same as EE 635.)

CS 636 COMPUTER VISION. (3)
This course covers digital image processing as well as advanced topics in computer vision. Initial topics include image formation, digital filtering, sensor modeling and feature detection techniques. The course will discuss how these algorithms are used to address general computer vision problems including three-dimensional reconstruction, scene understanding, object recognition, and motion analysis. Prereq: CS 536 or consent of instructor.

CS 637 EXPLORING VIRTUAL WORLDS. (3)
This course covers a mixture of core techniques related to systems for constructing and modeling virtual environments, such as model-building, image-based rendering, head-mounted hardware, stereo image generation, head-tracking, and immersive display technology. The core topics will be presented using textbooks and papers from the current literature. A substantial group project will provide hands-on experience with the concepts, algorithms and technology. Prereq: CS 335 and CS 635.

CS 642 DISCRETE EVENT SYSTEMS. (3)
The objective of the course is to prepare students for research in the field of supervisory control of discrete event systems (DES's). Logical models, supervising control. Stability and optimal control of DES, complexity analysis and other related research areas will be covered. Prereq: Graduate standing or consent of instructor. (Same as EE 642.)

CS 655 PROGRAMMING LANGUAGES. (3)
Overview of programming-language styles: imperative, functional, declarative, object-oriented, concurrent, simulation, glue. Non-local referencing environments, combinatorial control structures (backtracking, coroutines), higher-order types, lazy/eager evaluation. This course looks at features, not complete languages, touching on such languages as Ada, CLU, FP, Haskell, Icon, Lisp, ML, Modula-2, Modula-3, Pascal, Post, Prolog, Russell, CSim, Simula-67, and Smalltalk-80. Students will not become proficient in any of these languages, but rather will learn what contributions each has made to the state of the art in language design. Compiler-construction issues will be touched on only in passing. Prereq: CS 450G or consent of instructor.

CS 660 TOPICS IN ARTIFICIAL INTELLIGENCE (Subtitle required). (3)
Advanced topics chosen from the following: knowledge representation, knowledge acquisition, problem solving, very high-level programming languages, expert systems, intelligent and deductive databases, automated theorem proving. May be repeated to a maximum of six credits, but only three credits may be earned under the same topic. Prereq: CS 505 and CS 560 or consent of instructor.

CS 663 ARTIFICIAL INTELLIGENCE. (3)
Overview of modern artificial intelligence. Covers topics such as searching and game trees, knowledge representation techniques, methods to represent uncertain information and to reason about it, reasoning about action and planning, expert systems, machine learning and neural networks. Prereq: CS 555 or consent of instructor.

CS 670 DISTRIBUTED OPERATING SYSTEM THEORY. (3)
This course covers advanced distributed operating system algorithms and theory. Topics such as distributed mutual exclusion, distributed event ordering, distributed deadlock detection/avoidance, agreement protocols, consistent global snapshot collection, stable predicate detection, failure recovery, faulty-tolerant consensus, leader election, process groups and group communication. Case studies of distributed operating systems such as LOCUS, Grapevine, V System, ISIS, Amoeba, Sprite, and Mach will be used as illustrations of the above algorithms. Prereq: CS 570 or consent of instructor.

CS 671 ADVANCED COMPUTER NETWORKS. (3)
This course is intended to provide students with a solid understanding of the state of the art in computer network systems and protocols. Topics are covered in some depth, including both abstract and concrete aspects. The course begins with a study of implementations of the current Internet Protocols (TCP, UDP and IP); this provides a concrete backdrop for the rest of the course. The emphasis is on learning by doing, with programming and other hands-on assignments associated with most topics. Prereq: CS 571 or consent of instructor.

CS 673 ERROR CORRECTING CODES. (3)
The problem of correct transmission of data in a noisy environment. The design and analysis of codes that efficiently (in terms of data rate and encryption and decryption speed) correct errors. Linear and nonlinear block codes, general encoding and decoding techniques, fundamental bounds, dual codes, cyclic codes. Specific codes will be studied, including Hamming, BCH, Reed-Muller, Reed-Solomon, trellis, and convolutional codes. Prereq: CS 515 or consent of the instructor.

CS 674 HEURISTIC ALGORITHMS. (3)
Solving problems that are intractable. Exact techniques such as search integer programming and dynamic programming. Approximation techniques including local search, divide and conquer, and greedy algorithms. Methods based upon natural models such as force-directed iteration, simulated annealing, genetic algorithms, and neural networks. Examples will be selected from active research areas. Prereq: CS 515 or consent of instructor.

CS 675 COMPUTABILITY AND COMPLEXITY. (3)
The formal study of computation, including computability and computation with limited resources. Church's thesis and models of computation. Topics will include Turing machines or other basic models of computation; reductions; computable and computably enumerable sets; Rice's Theorem; decidability and undecidability; basic complexity theory; NP-completeness and notions of intractability. Additional topics may include primitive recursive functions and Grzegorczyk hierarchy; nondeterminism; the arithmetic hierarchy; formal complexity measures; time and space hierarchy theorems; the polynomial hierarchy and PSPACE; probabilistic complexity classes; circuit complexity. Prereq: CS 575 or consent of instructor.

CS 677 COMPUTATIONAL GEOMETRY. (3)
Design and analysis of algorithms and data structures for geometric problems. The particular groups of problems addressed include convex hull construction, proximity, Voronoi Diagrams, geometric search, intersection. Prereq: CS 580.

CS 678 CRYPTOGRAPHY. (3)
The study of security in communications and electronic computing. The encryption of data using public key systems, block ciphers, and stream ciphers. The basic tools for the design and analysis of such systems. Topics may include information theory, authentication, digital signatures, secret sharing schemes, complexity theoretic issues, probabilistic encryption, electronic commerce and others. Prereq: CS 515 or consent of the instructor.

CS 680 SEMINAR IN COMPUTER SCIENCE. (2)
May be repeated to a maximum of four credits. Prereq: Consent of instructor, or two 500-level computer science courses.

CS 683 FINITE-STATE MACHINES. (3)
Analysis and synthesis of sequential machines via state-tables and regular expressions. Equivalence, minimization and decomposition of machines. Partitions and structure-theory. Identification and diagnosis of finite-state machines by means of input-output experiments. Linear, finite-memory, and information-lossless machines. Prereq: EE 280.

CS 684 SPECIAL TOPICS IN VISION, GRAPHICS AND MULTIMEDIA (Subtitle required). (3)
Advanced topics in computer graphics, computer vision, and multimedia systems. Specific topics include but are not limited to: isophotes, volume rendering, displacement mapping, geographic information systems (GIS), remote sensing topics, large scale sensor networks, video and audio encoding, visualization, immersive environments, and multimedia interfaces. May be repeated to a maximum of up to 6 credit hours, with no more than 3 in the same topic. Prereq: Consent of instructor.

CS 685 SPECIAL TOPICS IN COMPUTER SCIENCE (Subtitle required). (3)
Topics to be selected by staff. May be repeated to a maximum of six credits but only three credits may be earned under the same topic. Prereq: Consent of instructor or two 500-level computer science courses.

CS 686 SPECIAL TOPICS IN THE THEORY OF COMPUTATION (Subtitle required). (3)
Advanced topics in the theory of computation and the design and analysis of algorithms, including heuristic approaches for algorithm design, parallel computation, flow problems, parallel and concurrent processes and other areas of current research interest. May be repeated to a maximum of six credits but only three credits may be earned under the same topic. Prereq: Consent of instructor or CS 575 and CS 580.

CS 687 SPECIAL TOPICS IN SYSTEMS. (3)
This course is a special topics course. The topic and syllabus will change each time the course is offered, reflecting the interests of the instructor. Typically the course will survey new research in the topic area but may also look back at canonical and ground breaking work from the past. Example course topics might include things such as web operating systems, global file systems, distributed object-based systems, fault tolerance/distributed check pointing, high-speed networking, network security, active networking, group communication models, compilers for parallel/distributed computing, recent programming languages, and data mining. Prereq: Consent of instructor.

CS 689 SPECIAL TOPICS IN NUMERICAL AND SCIENTIFIC COMPUTING (Subtitle required). (3)
Advanced topics in numerical analysis, scientific computation, and complexity of continuous problems. Specific topics may include, but are not limited to: iterative methods, advanced parallel algorithms in numerical linear algebra, multivariate function approximation and integration. Prereq: CS 537 or consent of instructor.

CS 690 OPERATING SYSTEMS THEORY. (3)
An advanced study of operating systems theory including cooperating sequential processes, processor scheduling, paging systems, and memory management. Prereq: CS 570.

CS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

CS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

CS 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

CS 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

CSC Clinical Sciences

CSC 528 LABORATORY TECHNIQUES FOR CLINICAL SCIENCES STUDENTS. (2)
Basic clinical laboratory principles and techniques; includes laboratory safety, sterilization procedures, pipetting, microscopy, routine culture and staining procedures, chamber counts, laboratory math calculations and statistics. Consent of instructor required for non-CS or non-CLS students.

CSC 600 HUMAN PATHOPHYSIOLOGY. (4)
A study of disease processes, pathognomonic parameters, and pathologic factors that mediate disease. Diagnostic testing used to validate disease process will be used to emphasize to the student the role of clinical sciences in the diagnosis of these complex disease states. Variances in disease in relationship to age will be examined. Prereq: Admission to the Clinical Sciences graduate program or consent of the course faculty committee.

CSC 601 HEALTH CARE POLICY AND ETHICS. (3)
The focus of this integrative course will be on policy and ethical issues confronting health care providers, health care systems, and particularly those issues specific to clinical sciences. Emphasis will be placed on current trends and anticipated challenges in providing humane and cost-effective health care services, with particular reference to the medically underserved and other at-risk populations. The different needs of special populations such as the aging, socioeconomically disadvantaged, insured and underinsured persons, ethically and culturally diverse groups such as recent immigrants and minorities will be explored. Discussion of technology dissemination delivery models, funding sources, human resources required to provide health care, alternative methods of coordinating these resources, and shifting from an "illness" orientation to a "wellness" approach will be included. The bioethics of health care delivery addressed will also include global considerations relative to health care, population dynamics, health care rationing, health care economics and assisted reproduction and transplantation issues.

CSC 602 CLINICAL SCIENCES SEMINAR (Subtitle required). (1)
Provides skills required of successful scientist to communicate effectively with peers, clients and general public. Each student will demonstrate an ability to interact with community, to function in an educator role by investigating a topic and preparing and delivering a presentation to the class and a community group. May be repeated up to five times. Prereq: Admission to the Clinical Sciences graduate program or consent of instructor.

CSC 603 QUALITY ASSURANCE AND LABORATORY REGULATIONS. (4)
Accreditation processes are evaluated with special emphasis on standards established by agencies and organizations such as JCAHO, CAP, FDA, NCCLS (FCC). The continuing quality control demands of the Clinical Laboratory Improvement Act of 1988 (CLIA '88) and the various accrediting bodies are addressed through a statistical approach that examines descriptive and inferential analysis to include hypothesis testing (t-test), power and confidence intervals, OVA-testing and regression analysis, TEA algorithms, reference range establishment, interference studies, bias studies, method comparison, validation studies, and, unstable error studies. Performance and utilization management systems, standard compliance issued related to Medicare laboratory fee schedules, CPT and ICD coding, reimbursement strategies and other billing practices are presented. The course concludes with a unit on OSHA that delineates chemical and infectious hazards and safety in the laboratory. Prereq: Admission to the Clinical Sciences graduate program or consent of the course faculty committee.

CSC 604 RESEARCH METHODS FOR THE CLINICAL SCIENCES. (3)
Introduction to experimental design, data collection and data analyses for clinical biomedical research. Students will also examine ethical issues in biomedical science research using a case-study approach. Representative issues to be addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, review of protocols by human studies committees (institutional review boards or IRB) and informed consent.

CSC 605 EPIDEMIOLOGY AND BIOSTATISTICS. (3)
This course will provide a foundation in the principles and methods of the epidemiological investigation of disease with special emphasis on the distribution and dynamic behavior of disease in a population. Etiologic factors, modes of transmission and pathogenesis will be examined. Topics to be covered include epidemics and the spread of infectious disease, epidemiological aspects of non-infectious disease; rates of morbidity and mortality; sensitivity, specificity, and predictive values; strategies used in epidemiological studies to include measures of disease effect, validity, reliability, sampling methods and computer-based biostatistical analysis that emphasize the generalized linear model and forms of SEM.

CSC 606 ADVANCED LABORATORY STATISTICS AND ADMINISTRATIVE ANALYSIS. (3)
Applications-based statistical and analytical software is used to demonstrate Continuing Quality Improvement (CQI) adherence to Federal regulation, NCCLS/IFCC protocols, and other accrediting agency requirements. Special emphasis is on defining and controlling unstable error through a statistical modeling approach. Documentation structures for quality operations policy; and processes, procedures and implementation of a quality system are examined with special attention to assuring quality of point-of-care testing. Detailed computerized study of method comparison includes receiver operator charting (ROC). Computerized diagnostic screening programs are used to evaluate prevalence, sensitivity, specificity, and predictive values. Utilization of management systems to track expenses, budget/inventory management, employee scheduling, productivity evaluations, process improvement and restructuring are demonstrated. Computerized performance management systems and innovations in compliance strategies are featured. Student evaluation will be based on examinations, projects, and papers.

CSC 615 REPRODUCTIVE LABORATORY SCIENCE. (1)
The course includes basic cell biology and principles of genetics; a review of the male reproductive system including hormonal control, early development, spermatogenesis and fertilization; a review of the female reproductive system including hormonal control, early development, oogenesis, the menstrual cycle, fertilization and early implantation.

CSC 616 ANDROLOGY. (1)
The course will include a review of male physiology, spermatogenesis and fertilization. The procedures appropriate for evaluation of male fertility will be presented and conditions and diseases associated with male factor infertility will be discussed. Basic and advanced andrology tests and procedures for both diagnostic and treatment purposes will be reviewed. Micromanipulation procedures (intracytoplasmic injection ICSI) and treatments using epididymal and testicular sperm will be introduced. Prereq: CSC 528, CSC 615 or consent of the instructor.

CSC 617 REPRO MICROBIOLOGY AND IMMUNOLOGY. (1)
A review of basic immunology will be covered including an overview of the organs, tissues and cells that comprise the immune system, different forms of immunity and the basis of the immune response. The reproductive immunology segment will focus on antibodies associated with infertility and reproductive failure, and also will include properties of the immune system during pregnancy. Microbiology will be covered as it pertains to assisted reproductive technology, focusing on: (1) causes of infertility may be transmitted in the assisted reproductive technology (ART) laboratory and (3) prevention of contamination in the ART facility. Prereq: CSC 528, CSC 615 or consent of instructor.

CSC 618 LABS IN ANDROLOGY, REPRODUCTIVE MICROBIOLOGY AND IMMUNOLOGY. (1)
Student laboratories will focus on semen analysis, sperm function tests, and preparation of partner and donor semen for artificial insemination. Advanced andrology procedures, including the sperm penetration assay and the hemi-zona assay, will be discussed and protocols provided. Reproductive Immunology: Students will perform procedures for detecting anitisperm antibodies in semen and in serum. Sperm- cervical mucus testing and cross-testing will be performed using controlled donor semen and bovine cervical mucus. Reproductive Microbiology: Organisms associated with sexually transmitted diseases, infertility, and reproductive failure will be demonstrated with representative demonstrations consisting of: stained slide of bacteria, fungi and parasites and electron micrographs of viruses; organisms on appropriate culture media; examples of testing for identification. Students will use data from the demonstrations to develop summaries for the correct isolation and identification of these organisms. Prereq: CSC 528, CSC 615, CSC 616, and CSC 617 or consent of instructor.

CSC 620 ANDROLOGY. (3)
Review of the male reproductive system including hormonal control, early development, spermatogenesis and fertilization. Basic and advanced andrology procedures will be discussed and laboratories will focus on semen analysis, sperm function tests, and preparation of partner and donor semen for artificial insemination. Prereq: BIO 549.

CSC 621 EMBRYOLOGY/ASSISTED REPRODUCTIVE TECHNOLOGY. (3)
Review of female reproductive system including hormonal control, early development, oogenesis, the menstrual cycle, fertilization and early implantation. Assisted reproductive technology procedures will be discussed with the aid of photographs and videos and laboratories will focus on culturing and manipulating mouse embryos. Prereq: BIO 549, CSC 620.

CSC 623 REPRODUCTIVE IMMUNOLOGY. (1)
Immunology associated with fertilization, implantation, and early development in humans. Various procedures for detecting antibodies associated with reproduction will be discussed and the laboratories will assess both direction and indirect antibodies on spermatozoa. Prereq: BIO 494G, CSC 620, CSC 621.

CSC 624 CRYOPRESERVATION OF REPRODUCTIVE TISSUES. (2)
Principles of methods of cryopreservation will be covered and procedures for freezing human oocytes, embryos, and ovarian and testicular tissues will be detailed. Legal, ethical and policy

issues associated with cryopreservation will be introduced. Laboratory sessions will focus on freezing human spermatozoa and mouse gametes and embryos. Prereq: CSC 620 and CSC 621.

CSC 625 POLICY, MANAGEMENT, ETHICAL AND LEGAL ISSUES IN ASSISTED REPRODUCTION. (2)
Current and anticipated regulations of assisted reproductive technology will be discussed. Legal and ethical concerns associated with ART will be introduced and case studies will focus on specific issues. Prereq: CSC 620, 621, 624.

CSC 626 CLINICAL PRACTICUM IN ANDROLOGY LABORATORY. (2)
Students must complete the checklist procedures while working under supervision. Andrology procedures will include semen analysis, sperm function tests, microbiology, preparation for artificial insemination, and cryopreservation of male gametes. Prereq: CSC 620, 621, 623, 624, 625.

CSC 627 CLINICAL PRACTICA IN ART LABORATORY. (3)
Students must complete the checklist procedures while working under supervision. All ART procedures including in vitro fertilization, ICSI, zona hatching and cryopreservation of gametes and embryos will be practiced under supervision using appropriate models for practice. Prereq: CSC 620, 621, 623, 624, 625.

CSC 628 RLS SEMINAR. (1)
Students in the RLS seminar will critique research papers in the field, will develop and present PowerPoint presentations on subjects covering andrology, ART, cryopreservation of human reproductive tissue, management issues in the reproductive laboratory, and policy, ethical and legal issues in ART. May be repeated for total of two credits. Prereq: CSC 528, CSC 615, CSC 616, CSC 617, CSC 618, CSC 619, CSC 621, CSC 624, CSC 625 or consent of instructor.

CSC 630 RLS RESEARCH. (1-5)
Research projects for students in Reproductive Laboratory Science. Students will complete web-based modules, "The Scientific Method and the Art of Research" prior to project initiation. Projects should be related to the student's individual interest and should address an area in reproductive laboratory science. Projects should be under the supervision of a faculty member with expertise in the project area. Prereq: CSC 528, CSC 615, CSC 616, and CSC 617 or consent of instructor. Additional CSC courses in the RLS track may be required as prerequisites depending on the nature of the research project.

CSC 670 HISTOCOMPATIBILITY AND IMMUNOGENETICS. (3)
In-depth study of the human histocompatibility polymorphisms will include genetic inheritance, alleles, typing methodologies, and matching requirements for solid organ and tissue transplantation. The human leukocyte antigen (HLA or MHC) system and its role in transplant rejection will be the major focus, however minor histocompatibility systems will also be examined. Specific and detailed correlation of didactic information will be integrated with case studies to explore current concepts of immunologically-based molecular methods of antigen detection and their impact on clinical practice. Prereq: Immunology course.

CSC 671 MOLECULAR IMMUNOPATHOGENESIS. (3)
Human immunology with an emphasis on experimental methods, signal transduction, cell-cell interactions, cytokine production and activity, cell marker expression during normal cell development, pathogenic expression of cell markers and their detection, immunotherapy, vaccine production and acquired immunity. Analysis of immunologic systems mediating the response to allogenic foreign molecules such as transplanted tissues and organs will be emphasized. Contemporary issues and trends in immunology, with an emphasis on malignancy and immunodeficiencies, will be examined. Prereq: Immunology course.

CSC 672 TRANSPLANTATION SCIENCE. (3)
Course content includes immunological, biochemical and genetic concepts and molecular biology related to the clinical process of transplantation. Cellular and molecular mechanisms will be an intense focus of this course. Solid organ and tissues transplantation, the need for donor organs and tissues, compatibility requirements for successful transplantation of each type of organ and tissue, immunosuppressive therapy, and research opportunities that may impact successful transplantation and tissue availability will be examined. Literature review and presentation of papers on assigned topics will be required. Prereq: CSC 670 or consent of instructor.

CSC 673 FLOW CYTOMETRY. (3)
This course focuses on principles, applications and quality assurance of flow cytometry in research and clinical use in hematology and transplantation. Emphasis is placed on the biological and physical principles underlying flow cytometry, specimen processing, operation and specific application in the identification of various hematopoietic and other cells. The use of flow cytometry to screen transplant recipients, cross-match donor and potential recipient, post-transplant monitoring, identifying HLA antigens, diagnosing hemoproliferative disorders, monitoring immunosuppressive therapy and stem cell isolation is presented. Evolving applications in other disciplines such as microbiology and clinical chemistry, will also be explored. Prereq: CSC 670, or CSC 674 and CSC 675, or consent of instructor.

CSC 674 HEMOPOIESIS. (3)
Normal and abnormal hemopoiesis is examined. Special emphasis is placed on understanding the relationship of hemopoiesis to hemoproliferative and immunologic disease; transplantation science, and medical applications. Prereq: Course(s) in hematology and hematologic disease, or consent of instructor.

CSC 675 MYELOPROLIFERATIVE DISORDERS. (3)
Advanced review of hemoproliferative disorders, including acute and chronic leukemia, and lymphomas. Current knowledge and theory of disease course, laboratory diagnosis, testing techniques, and treatment are emphasized. Prereq: CSC 674.

CSC 676 ADVANCED HEMOSTASIS. (3)
This course will review current knowledge and hypotheses regarding both hypo and hyper coagulable states, drug induced disorders of hemostasis, treatment regimes, and the present state of the art in laboratory testing for high-risk individuals. Prereq: Course in hemostasis including normal mechanisms and pathological states, or consent of instructor.

CSC 677 ERYTHROCYTE DISORDERS. (3)
Advanced review of inherited and acquired disorders of erythrocyte production, destruction and loss including the hemoglobinopathies. The course will address the pathophysiology, laboratory testing and treatment of each disorder. Prereq: CSC 674.

CSC 690 CLINICAL SCIENCES THESIS RESEARCH. (1-6)
Research, design, protocol development and production of thesis are included. Grade will be reported following evaluation of written product by the thesis committee. Prereq: Successful completion of final/comprehensive examinations for the Clinical Sciences graduate program.

CSC 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of CSC 769 residence credit following the successful completion of the qualifying exams.

CSC 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

CSC 789 RESEARCH APPRENTICESHIP. (1-4)
The goal of this course is to ensure that the student understands and can apply research methods to identifying a research problem, developing a proposal, conducting an investigation, and preparing a journal-quality research paper. Students will work closely with a clinical sciences researcher to develop these research skills. The course requirements and format will vary depending upon the student's prior experience. Prereq: Admission to the Clinical Sciences doctoral program.

CSC 790 CLINICAL SCIENCES DISSERTATION RESEARCH. (0-12)
Research design, protocol development and production of written dissertation after completion of the dissertation research. Grade will be issued following evaluation of the dissertation by committee. Candidates for the degree must complete nine credit hours in each of two successive semesters of dissertation research. Prereq: Successful completion of the Clinical Sciences qualifying examinations.

CSD Communication Sciences and Disorders

***CSD 220 AMERICAN SIGN LANGUAGE I AND THE CULTURE OF THE DEAF COMMUNITY IN AMERICA. (3)**
An introductory course in American Sign Language (ASL), the native language of the Deaf community in America, this course lays a foundation for effective, respectful, participation in a culturally and linguistically diverse society. The course will employ an immersion approach to develop basic skills in conversational ASL and fingerspelling, as well as an appreciation of the basic grammatical principles of ASL, the historical and cultural background of the language, linguistic and ethical principles related to use of ASL, and the role of Deaf culture in society. Prereq: CSD or HHS majors or permission of the instructor.

CSD 277 INTRODUCTION TO COMMUNICATION DISORDERS. (3)
An introduction to disorders of speech, language, and hearing. The course includes definitions, symptomatology, etiologies, and basic intervention principles for these disorders.

CSD 285 APPLIED PHONETICS. (3)
Study of the phonetic structure of the English language with requirement of mastery of the International Phonetic Alphabet. Emphasis will be placed on phonetic transcription, and application will be made for students interested in communication disorders, communications, telecommunications, and theater.

CSD 320 AMERICAN SIGN LANGUAGE II AND THE CULTURE OF THE DEAF COMMUNITY IN THE US. (3)
An intermediate level course in American Sign Language (ASL), the native language of the Deaf community in America, this course will use an immersion approach to develop skills in conversational ASL and fingerspelling, as well as an appreciation of the grammatical principles of ASL, the historical and cultural background of the language, linguistic and ethical principles related to use of ASL, appropriate use of interpreters, and the role of Deaf culture in society. Prereq: Successful completion of CSD 220 (ASL I) or permission of instructor.

CSD 378 ANATOMY AND PHYSIOLOGY OF SPEECH. (3)
A detailed investigation of structures and functions supporting speech production: respiration, phonation, articulation, and resonance. Neural bases of speech and language will also be introduced. Prereq: CSD major or permission of instructor.

CSD 402 SPEECH AND HEARING SCIENCE. (3)
Investigation of the physiological and acoustic bases of speech and hearing; the physics of sound and the scientific bases of human speech production. Students will have exposure to instrumentation designed to increase understanding of human communication. Prereq: CODI major or permission of instructor.

CSD 410 LANGUAGE DEVELOPMENT THROUGH THE LIFESPAN. (3)
An introduction to the normal development of language in individuals from birth to advanced age. Topics include theories of language acquisition; prelinguistic development; development in each of the language domains (phonology, semantics, morphology and syntax, and pragmatics); the relationships between oral language, written language, and academic progress; and cultural differences. Prereq: CODI major or consent of instructor.

CSD 420 AMERICAN SIGN LANGUAGE III. (3)
This course is designed to build receptive and expressive language abilities in American Sign Language (ASL). You will learn to translate and produce narrative language. Instruction includes an advanced level vocabulary, the structure of the language, as well as an expanded exposure to the history and culture of Deaf people. ASL III is taught solely in ASL by an instructor who only uses ASL to communicate. You will not be allowed to use your voice in this class at all. The American Sign Language Teaching Association (ASLTA) recommended curriculum will be followed. Prereq: Successful completion of CSD 320 or permission of the instructor.

#CSD 424 AMERICAN SIGN LANGUAGE IV. (3)
This course is designed to further develop your intermediate receptive and expressive language ability in American Sign Language (ASL). You will learn to translate and produce narrative language, temporal & distributional inflections, ASL numbers and ASL classifiers. Instruction includes an upper intermediate level vocabulary, the structure of the language, as well as an expanded exposure to ASL literature. ASL IV is taught solely in ASL by a native speaker of ASL to communicate as recommended by American Sign Language Teachers Association (ASLTA). The ASLTA curriculum will be followed. Prereq: Successful completion of CSD 420 or permission of the instructor.

CSD 481 CLINICAL EXPERIENCE IN COMMUNICATION DISORDERS. (3)
Supervised observation and shadowing of assessment and intervention to familiarize students with diagnostic and clinical services in communication disorders at various settings such as schools, clinics, long term care, home health, and/or hospitals. Lecture: 1 hour; laboratory: 4 hours per week. Prereq: CSD 402 or consent of instructor; CODI majors only.

CSD 482 CLINICAL MANAGEMENT OF COMMUNICATION DISORDERS I. (3)
Introduction to remediation of speech disorders in individuals from birth through adulthood and from culturally and linguistically diverse backgrounds. Emphasis on strategies to deal with disorders in voice, fluency, and articulation. Prereq: CSD 402 or consent of instructor; CODI majors only.

CSD 483 CLINICAL MANAGEMENT OF COMMUNICATION DISORDERS II. (3)
Introduction to remediation of language disorders in individuals from birth through adulthood and from culturally and linguistically diverse backgrounds. Emphasis on strategies to deal with disorders in child language, aphasia, and other language-based disorders, including Alzheimer's Disease and dementia. Prereq: CSD 402 or consent of instructor; CODI majors only.

CSD 484 INTRODUCTION TO DIAGNOSTIC PROCEDURES IN SPEECH-LANGUAGE PATHOLOGY. (3)
Introduction to the principles, techniques, and tools used to develop and implement a diagnostic protocol. Prereq: CSD 402 or consent of instructor; CODI majors only.

CSD 491 AUDIOLOGY. (3)
Introduction to symptomatologies and etiologies of hearing impairment and principles of hearing assessment. Topics include: peripheral hearing impairment; central and nonorganic hearing impairment; screening for hearing impairment; hearing conservation; pure tone air and bone conduction threshold testing; basic speech audiometry; masking; audiometric calibration; and acoustic immitance screening. Prereq: CSD 402 or consent of instructor; CODI majors only.

CSD 500 INTEGRATIVE CARE FOR HEALTH SCIENCES. (1-3)
Integrative care involves using the best possible treatments from both complementary/alternative and allopathic medicine, based on the patient's individual needs and condition. The selection of health care providers should be based on good science and this course will introduce students to complementary and alternative health care providers and the practices and beliefs of these practices as well as the scientific evidence in support of these practices. The course integrates successes from both worlds and describe the safest, least invasive, most cost-effective approach while incorporating a holistic understanding of the individual. May be repeated to a maximum of 3 credits (1 credit didactic and up to two credits experiential/research). (Same as AT 500, HS 500, CLS 500, CNU 500, PAS 500.)

CSD 520 INTRODUCTION TO MANUAL COMMUNICATION. (2)
An introduction to manual communication systems, including American Sign Language and other commonly-used manual sign systems. Includes study of the characteristics and use of existing manual communication systems. Students will learn to code and decode sentences using a combination of signs and fingerspelling. Lecture: one hour; laboratory: two hours per week.

CSD 521 NONSPEECH COMMUNICATION. (3)
Addresses the use of nonspeech communication systems with moderately to severely handicapped individuals. This course encompasses two basic components: 1) a lecture/discussion component which examines the full range of nonspeech communication systems, including evaluation and training considerations, and 2) a manual sign component which provides students with a basic functional receptive and expressive manual sign vocabulary. Prereq: EDS 375 or equivalent or permission of instructor.

CSD 571 NEURAL BASES OF SPEECH, LANGUAGE, AND HEARING. (3)
Detailed investigation of the neuroanatomy and neurophysiology of speech, language, and hearing from a communication sciences perspective. Emphasis on anatomy and physiology of the central nervous system, neurodevelopment, and normal neural substrates involved in speech, language, and hearing. Prereq: CSD 378 or permission of the instructor.

CSD 588 VARIABLE TOPICS IN COMMUNICATION DISORDERS (Subtitle required). (1-3)
In-depth study of a current problem or issue related to the communication disorders profession. May be repeated for a maximum of 6 credits. A title is assigned each time the course is offered. Prereq: Undergraduate or master's level CODI majors only and consent of the instructor.

CSD 589 INDEPENDENT STUDY IN COMMUNICATION DISORDERS. (1-6)
Independent study for undergraduate or master's level graduate students with an interest in a specific problem or issue in communication disorders. May be repeated for a maximum of six credits. Prereq: Undergraduate or master's level graduate CODI majors only and consent of the instructor.

CSD 591 AURAL REHABILITATION. (3)
Management strategies for people with hearing loss. Topics include: variables affecting hearing handicap; characteristics, selection, counseling, and orientation in regard to amplification systems; acoustic, perceptual and visual aspects of speech; assessment and management of problems resulting from hearing loss across the lifespan. Prereq: CSD 420 or consent of instructor; undergraduate and graduate CODI majors only.

CSD 610 ETHICS IN CLINICAL SCIENCES RESEARCH. (1)
Students will examine ethical issues in biomedical research using a case-study approach. Representative issues addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, scientific misconduct, and informed consent. Prereq: Graduate student status. (Same as CLS/CNU/PT/RAS 610.)

CSD 621 ALTERNATIVE AND AUGMENTATIVE COMMUNICATION. (3)
A detailed investigation of the use of augmentative and alternative communication systems with individuals with moderate to severe communication disorders. Participants will examine the full range of augmentative/alternative communication systems and the related assessment and intervention considerations. Prereq: EDS 375 or equivalent or graduate status in CODI or RHB, or consent of instructor.

CSD 647 LANGUAGE DISORDERS IN DEVELOPMENTALLY YOUNG INDIVIDUALS. (3)
A detailed investigation of language disorders and language intervention in developmentally young populations. Includes an in-depth discussion of prevention strategies, service delivery models, assessment tools and paradigms, and intervention strategies. Provides practice in self-directed inquiry. Prereq: Graduate status in CODI or RHB or consent of instructor.

CSD 648 LANGUAGE DISORDERS IN SCHOOL-AGE POPULATIONS. (3)
A detailed investigation of language disorders and language intervention in school-age populations. Includes an in-depth discussion of prevention strategies, service delivery models, related cultural diversity issues, and assessment and intervention principles and strategies. Prereq: Graduate status in CODI or RHB or consent of instructor.

CSD 649 COMMUNICATION, AAC, AND TECHNOLOGY FOR INDIVIDUALS WITH AUTISM SPECTRUM DISORDERS. (3)
This course prepares persons who will be serving individuals with ASD. The focus of the course is on developing communication in this population, exploring augmentative and alternative communication devices, and using technology to teach individuals with ASD. The course will provide information on (a) typical language development, (b) characteristics of persons with autism and their unique communication needs, (c) assessment of communication needs, (d) development of communication goals, (e) development and delivery of effective strategies for teaching communication, and (f) use of technology to teach individuals with ASD. The objectives of this course are designed to provide students with a comprehensive knowledge of the communication characteristics of persons with autism, the state-of-the-art techniques in providing communication services for this population, and research-based strategies utilizing technology in teaching individuals with ASD. This course will be taught jointly by the Department of Special Education & Rehabilitation Counseling and the Department of Communication Sciences and Disorders. Prereq: EDS 601, EDS 661, EDS 662. (Same as EDS 662.)

CSD 654 CLINICAL ORIENTATION IN COMMUNICATION DISORDERS. (3)
A lecture-laboratory experience designed to orient the student to the professional activities in speech-language pathology. Lecture, one hour; laboratory, four hours per week. Prereq: Graduate status in CODI or consent of instructor.

CSD 655 ADVANCED DIAGNOSTIC PROCEDURES IN SPEECH-LANGUAGE PATHOLOGY. (3)
Study of the principles of assessment and a critical review of existing standardized and non-standardized assessment tools in the field of speech-language pathology. Emphasis on selection of assessment tools for clients from diverse ethnic backgrounds with a variety of communication disorders, administration of selected tools, and organization of diagnostic information. Prereq: CSD 384 or permission of instructor; CODI majors only.

CSD 657 CLINICAL PRACTICUM IN SPEECH-LANGUAGE PATHOLOGY. (1-3)
Experience with children and adults in the assessment and management of communication and swallowing disorders. Lecture, one hour; practicum, four hours per week. May be repeated to a maximum of 12 credits. Prereq: Graduate status in CODI, CSD 481 or equivalent, and CSD 654.

CSD 659 CLINICAL ROTATION IN SPEECH-LANGUAGE PATHOLOGY. (1-12)
Supervised clinical experience in the evaluation and management of children and adults. Up to 40 laboratory hours per week (at site all day). May be repeated up to 36 hours. Prereq: Graduate status in CODI, successful completion of 6 hours of graduate clinical practicum and consent of instructor.

CSD 661 PHONOLOGICAL DEVELOPMENT AND DISORDERS. (3)
A comprehensive course in phonological theory, assessment, and treatment. Advanced principles of diagnosis and remediation for patients across the age span and from culturally and linguistically diverse backgrounds. Prereq: Graduate status in CODI or RHB or consent of instructor.

CSD 670 VOICE DISORDERS. (3)
Assessment and management of adults and children with disorders of voice and resonance. Includes laryngectomy. Prereq: Graduate status in CODI or RHB or consent of instructor.

CSD 674 DISORDERS OF FLUENCY. (3)
Analysis, identification and management of fluency disorders. Prereq: Permission of instructor.

CSD 675 LOW INCIDENCE COMMUNICATION DISORDERS (Subtitle required). (1)
Assessment and management of adults and children with low incidence communication disorders including disorders of fluency, craniofacial anomalies and tracheostomy. Topics may vary depending on current trends in the discipline. Prereq: Graduate status in CODI or consent of instructor.

CSD 677 APHASIA AND RELATED DISORDERS. (3)
Identification, appraisal, diagnosis, and clinical management of persons with aphasia and related disorders. Primary emphasis is given to aphasia and apraxia of speech in adults. Prereq: Graduate status in RHB or CODI or consent of instructor.

CSD 701 RESEARCH METHODS IN COMMUNICATION DISORDERS. (3)
Principles and methods for designing research in communication sciences and disorders. Topics include: introduction to the scientific method, research designs, measurement techniques, formulating research questions, writing and evaluating research reports, and ethics of research. Prereq: Graduate standing in Communication Disorders.

CSD 710 COGNITIVE COMMUNICATION DISORDERS. (3)
The class will focus on the neuroanatomy and pathology of traumatic brain injury, right hemisphere disorders, and dementia. Students will learn current theory regarding differential diagnosis and treatment of these disorders. Prereq: CSD 571 or permission of instructor.

CSD 744 ADULT SWALLOWING AND MOTOR SPEECH DISORDERS. (3)
Analysis, identification and management of adult neurogenic disorders of speech and swallowing. Emphasis will be placed on clinical management of adult dysarthria and the concomitant communication and swallowing disorders. Prereq: CSD 571 or permission of instructor.

CSD 745 PEDIATRIC FEEDING AND MOTOR SPEECH DISORDERS. (3)
Analysis, identification and management of pediatric disorders of speech, feeding and swallowing. Emphasis will be placed on clinical management of dysarthria and the concomitant communication, feeding and swallowing disorders. Prereq: CSD 571 or permission of instructor.

CSD 747 SEMINAR IN LANGUAGE DEVELOPMENT IN CHILDREN. (3)
A contemporary overview of processes governing language acquisition and their role in atypical language development. Topics include: theories of language acquisition; roles of perception, cognition, social interaction, and genetics on language acquisition; and influence of atypical situations on language. Prereq: Admission to the Communication Disorders graduate program or the Rehabilitation Sciences Ph.D. program or consent of the instructor.

CSD 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

CSD 761 APPLIED PHONOLOGY: DEVELOPMENT AND DISORDERS. (3)
Critical review and discussion of clinical and developmental phonology research and phonological theories. Study of the bases for normal and disordered phonological development from birth through age twelve. Study of procedures for assessment and treatment of children with phonological disorders including the development of individualized remediation plans for expediting intelligibility gains. Course will include information regarding second language acquisition and oral and written language as these relate to phonological systems. Prereq: Admission to the Communication Disorders graduate program or the Rehabilitation Sciences Ph.D. program or consent of the instructor.

CSD 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

CSD 771 DYSPHAGIA. (3)
This course includes a review of the anatomy and physiology of normal deglutition; the nature and characteristics of swallowing disorders; methods of evaluation and management of dysphagia in adults and children; and consideration of medical conditions such as aspiration pneumonia, tracheostomy, and other complicating factors associated with dysphagia. Also included is a brief review of professional issues relating to efficacy of treatment; third party reimbursement; and roles and responsibilities of other health care professionals in feeding and swallowing. Prereq: Admission to the Communication Disorders graduate program or the Rehabilitation Sciences Ph.D. program or consent of the instructor.

CSD 772 ADVANCED SEMINAR IN APHASIA. (3)
Critical review of the literature in disturbances in symbolic behavior in adults resulting from a variety of etiologies. The course includes aphasia, as well as adult communication disorders associated with dementia, agnosia, right hemisphere injury, traumatic brain injury, and schizophrenia. Prereq: Admission to the Communication Disorders graduate program or the Rehabilitation Sciences Ph.D. program or consent of the instructor.

CSD 775 SEMINAR IN LITERATE LANGUAGE. (3)
A review and discussion of the literature concerning literate language. Topics include: 1) characteristics of literate language; 2) differences between literate and oral language; 3) emergent literacy; 4) theories of the reading and writing processes; 5) components, development, strategies, and factors involved in typical reading and writing; 6) literate language and speaking; and 7) issues pertaining to atypical readers and writers. Prereq: Admission to the Communication Disorders graduate program or the Rehabilitation Sciences Ph.D. program or consent of the instructor.

CSD 788 VARIABLE TOPICS IN COMMUNICATION DISORDERS (Subtitle required). (1-3)
In-depth study of a current problem or issue related to the communication disorders profession. May be repeated for a maximum of nine credits. A title is assigned each time the course is offered. Prereq: Graduate status in RHB or CODI or consent of instructor.

CSD 789 INDEPENDENT STUDY IN COMMUNICATION DISORDERS. (1-6)
Independent study for graduate students with an interest in a specific problem in communication disorders. May be repeated to a maximum of 12 credits. Lecture, 1-6 hours; laboratory, 2-12 hours per week. Prereq: Graduate status and consent of instructor.

DES Design

DES 100 DESIGN IN YOUR WORLD. (3)
Understanding how design unfolds from and informs culture, students garner appreciation for and creatively experiment with the embedded practice of design as a basic human response for inhabitation, work, play, and worship.

DHN Dietetics and Human Nutrition

DHN 101 HUMAN NUTRITION AND WELLNESS. (3)
Food composition, digestion, absorption and metabolism as related to selection of nutrients essential for human life, growth, reproduction, lactation, wellness and physical activity. Not open to DHN majors except hospitality management students.

DHN 212 INTRODUCTORY NUTRITION. (3)
An elementary study of the principles of nutrition and the application of these principles to providing adequate nutrition to humans. The chemical and physiological approach to nutrition is emphasized. Prereq: CHE 105 or CHE 103 or CHE 108; plus, past or concurrent BIO 103 or BIO 148 or BIO 152 or BIO 208.

DHN 241 FOOD SERVICE SANITATION. (1)
This course covers the principles of food microbiology, important food borne diseases, standards that are enforced by regulatory agencies, and applied measures for the prevention of food borne diseases and other microbiological problems. It leads to certification from the National Restaurant Association.

DHN 301 DIETETICS PRACTICE. (2)
This course provides a study of dietetic practice including professional ethics, standards of practice, scope of practice, educational pathways, credential attainment and maintenance, competencies required for entry level practice, responsibilities as a professional. Experiences allow exploration of dietetics practice in medical nutrition therapy, food service management and delivery of nutrition services. Prereq: DHN 212 and completion of dietetics premajor requirements with a cumulative GPA of 2.4

DHN 302 PRINCIPLES OF FOOD PREPARATION. (3)
The physical and chemical principles involved in the preparation of foods and the application of these principles to control for quality outcomes. Laboratory experiences link theory to practice to ensure that the standards of safety and overall quality factors are applied to maximize nutrient retention while maintaining the acceptability and nutritional qualities of foods produced for individuals and groups. Lecture, one hour; laboratory, four hours. Prereq: DHN 241; limited to DHN and Family and Consumer Science (FSC) department majors and with permission of instructor.

DHN 304 EXPERIMENTAL FOODS. (3)
Chemical and physical properties of food and the changes resulting from processing and preparation. Experimental study of variations in ingredients and preparation methods on food quality. Design, execute and report an independent research project. Lecture, two hours; laboratory and discussion, three hours per week. Prereq: DHN 302; CHE 230 or CHE 236.

DHN 311 NUTRITIONAL BIOCHEMISTRY. (3)
An introductory study of the biochemical basis of nutrition – the physiochemical properties of nutrients and other essential biochemicals and their role in physiological and metabolic processes. Prereq: CHE 230 or CHE 236 must be completed prior to DHN 311; PGY 206 must be taken concurrently or prior to DHN 311.

DHN 312 NUTRITION AND WELLNESS IN THE LIFE CYCLE. (3)
A study of the physiological changes occurring in the life cycle with associated nutrient needs. The course focuses on assessment and determination of nutrition issues and nutrition education for individuals from in-utero to geriatrics. Prereq: DHN 212; limited to Dietetics and Human Nutrition majors only.

DHN 315 NUTRITION ISSUES IN PHYSICAL ACTIVITY. (3)
This course explores the special nutritional needs of a person engaged in regular physical activity. Emphasis will be placed on selecting a diet to achieve optimal performance and overall wellness. Athletic performance enhancing supplements will be examined to determine the efficacy and safety of such products. Prereq: DHN 212 and restricted to Dietetics or Human Nutrition majors.

#DHN 318 HUNGER, FOOD BEHAVIOR, AND THE ENVIRONMENT. (3)
This course brings together the role of the biological processes that influence hunger with the physiological responses to cues in the social and neighborhood environment that influence what we eat. The connection between what we eat and lifelong health consequences of dietary patterns can be seen at the individual, familial, and community level. Topics in this course will include hunger and satiety, taste preferences and food aversions, food policy, sustainability, the role of the food environment, and nutrition policy. Prereq: DHN 101, DHN 212, or consent of instructor.

DHN 340 INSTITUTIONAL PURCHASING. (3)
Fundamental principles and purchasing techniques for the selection of food and nonfood items in a food service system. Prereq: ECO 201 or 202; limited to Dietetics and Hospitality Management and Tourism majors only.

DHN 342 QUANTITY FOOD PRODUCTION. (4)
An introduction to the production and service of food in quantity, to include the application of production techniques and controls, menu planning and service. Lecture, two hours; laboratory, 4.5 hours per week. Prereq: DHN 302 or HMT 308; DHN 241; limited to Dietetics and Hospitality Management and Tourism majors.

DHN 346 HUMAN RESOURCES MANAGEMENT FOR THE FOOD AND HOSPITALITY INDUSTRIES. (3)
Exposes the student to all aspects of human resources management in the hospitality and health care industry context. Topics covered include planning, selection, placement, training, disciplining employees, labor relations and compensation. Prereq: Hospitality and Tourism major or Dietetics major.

DHN 374 RESEARCH AND WRITING IN DIETETICS. (3)
Study of research, ethics, and methodology for designing, managing, and synthesizing evidence based research in dietetics. Students develop critical thinking, writing, and oral communication skills through scientific literature searches, interpretation of data, and development of a news brief, newsletter article, and literature review with accompanying oral presentations. Prereq: DHN 212 and STA 210; limited to Dietetics majors only.

DHN 403 COMMUNITY NUTRITION AND WELLNESS. (3)
Study of nutrition education programs on a community level. Experience is provided for presenting nutrition in health clinics, health camps, schools, state institutions, family resource centers, and corporate wellness programs. Attention is paid to special populations, including pregnant women, children, adults, the elderly, and persons with disabilities. Prereq: DHN 312.

DHN 408G SEMINAR IN DIETETICS AND HUMAN NUTRITION. (1)
Investigation of recent research in dietetics and human nutrition. May be repeated to a maximum of three credits. Nutritional Sciences graduate students may not enroll for graduate credit. Prereq: DHN 510 or consent of instructor.

DHN 474 RESEARCH IN NUTRITION: THEORY. (3)
A required course which allows the student to explore research opportunities in the health field, identify potential funding sources, review institutional review board requirements, and develop a grant proposal based on their own interests in nutrition. Prereq: Human Nutrition majors only. Senior standing. DHN 311 (may be taken concurrently with consent of instructor).

DHN 475 RESEARCH IN NUTRITION: APPLICATION. (3)
A required course which allows the student to design a research study, write a grant, prepare a comprehensive literature review, design a survey, conduct statistical analyses on collected data, and prepare a professional article and poster to present at University and regional events. Prereq: Human Nutrition majors only. Grade of C or better in DHN 474. This is a writing-intensive (W) course approved to fulfill the upper tier of the graduation writing requirement (GWR). To receive W credit for this course, you must have successfully completed the first-year writing requirement (ENG 104 or its equivalent) and have completed at least 30 hours of course work.

DHN 480 DIETETICS PRE-PROFESSIONAL PRACTICE. (1-6)
Pre-professional experiences are designed to allow students to apply knowledge and skills in assessing, planning, implementing, and evaluating nutrition care in various health delivery systems. Student experience will include opportunities to link theory and practice while developing the skills and attitudes essential to practice in the dietetics profession. Placement of experiential settings must have the approval of the appropriate Director of Dietetics in Nutrition and Food Science. A minimum of 60 supervised practice hours will constitute one semester credit hour with prior approval. May be repeated to a maximum of six credits. Prereq: Consent of instructor and senior status in the Dietetics Didactic Program.

DHN 510 ADVANCED NUTRITION. (3)
Application of biochemistry, physiology and nutrition to the understanding of the utilization and function of nutrients in the body as related to the structure, function and metabolic needs of cells/organ systems. Prereq: DHN 311 or BCH 401G or equivalent; PGY 206; Dietetics and Human Nutrition Majors or admission to DHN/NS graduate program.

DHN 512 MEDICAL NUTRITION THERAPY I. (4)
This course explores changes in nutrient metabolism related to biochemical and physiological alterations in disease conditions and application of the Nutrition Care Process. Content includes case study evaluations, medical nutrition therapies for disease conditions, and current research in the field. Prereq: DHN 311 and 312; plus, past or concurrent DHN 510. Enrollment is restricted to dietetics majors only.

DHN 514 DIETETICS: COUNSELING AND COMMUNICATION THEORIES AND APPLICATIONS. (3)
Counseling and communication theories are combined to study specific applications which include disease prevention, disease management and refinement of communication skills to enhance effectiveness as a practicing RD. Students will enhance their capacity to motivate others to practice healthy food behaviors. Active learners will develop a conceptual framework for future professional practice in dietetics as ethical counselors and facilitators of behavior change. Three credit hours. Prereq: DHN 403, DHN 510, DHN 512; must be taken concurrently with DHN 517. Enrollment is restricted to Dietetics majors.

DHN 515 MEDICAL NUTRITION THERAPY. (5)
This capstone course explores changes in nutrient metabolism related to biochemical, physiological, and pathophysiological alterations in disease conditions, application of the Nutritional Care Process and Model, and development of medical nutrition therapy intervention. Content includes case study evaluations, nutritional therapies for disease conditions, including enteral and total parenteral nutrition, and current research in the field. Prereq: DHN 311, 312, 403 and 510 and concurrent with DHN 514. Enrollment is limited to dietetics majors.

DHN 516 MATERNAL AND CHILD NUTRITION. (3)
Food selection for optimal nutrition during pregnancy and lactation and for infant and child development through preadolescence. Cultural, social, and psychological aspects of food selection and dietary patterns, as they relate to mental and physical development. Prereq: DHN 312 or consent of instructor.

DHN 517 MEDICAL NUTRITION THERAPY II. (3)
This course continues study of medical nutrition therapy topics, including trauma and enteral and parenteral nutrition. Content includes more advanced case study evaluations, medical nutrition therapies, and current research in the field. Prereq: DHN 512 and concurrent with DHN 514 and enrollment is limited to dietetics majors.

DHN 518 EVALUATION OF DIETETIC ISSUES AND LEADERSHIP. (2)
Course provides opportunities for the development of competencies, attitudes and values expected of the entry level professional. Lectures, presentation of individual case studies and research projects are conducted. Opportunities are provided for transfer of theory to practice, interpretation of research, discussion of professional literature and application of leadership and communication skills in addressing issues of professional dietetic practice. This web enhanced didactic course is taught via distance learning coupled with on campus sessions. Prereq: Admission to the Coordinated Program or Dietetic Internship.

DHN 591 SPECIAL PROBLEMS IN DIETETICS AND HUMAN NUTRITION. (1-3)
Intensive work on an independent project related to dietetics and human nutrition. Senior or graduate standing. May be repeated for a maximum of six credits. Prereq: Consent of instructor.

DHN 600 RESEARCH METHODS IN NUTRITION AND FOOD SYSTEMS. (3)
Students will study accepted research methodologies and scientific approaches in human nutrition and food systems. Emphasis is placed on understanding the research methods, study design, data collection, and evaluation of various nutrition related studies. Discussions include development of research aims and hypothesis, internal review board, collecting of primary and secondary data, measurement approaches, study designs, and key considerations in developing a thesis for publication. Prereq: Admission to graduate program and selection of graduate faculty mentor with approved research topic.

DHN 603 ADVANCED COMMUNITY PROGRAM DEVELOPMENT. (3)
The course focuses on concepts and theories of program development, use of planned goals and objectives such as Healthy Communities-goals and objectives, use of data from national monitoring, survey and surveillance programs, and community assessment to guide decision making for program development. Program marketing, staffing formulas, and grant writing and grant management, cost analysis and cost effectiveness reporting, and formative and summative evaluation of community programs complete the study. Prereq: Admission to graduate program.

#DHN 605 FOOD SYSTEMS AND SOCIETY. (3)
Food Systems and Society tracks food from farm to table, including growing, harvesting, processing, packaging, transporting, marketing, consumption, and disposal. Policy and culture determine who eats what and who benefits and loses in any given food system. As a result food systems vary considerably across the world with each evolving to affect overall health. The course will assess sustainability of food systems and explore the ethical, economical, socio-ecological, and environmental factors that affect local, regional, national, and global food system development. Content includes case study evaluations and current research in the field. Prereq: Graduate standing.

DHN 607 FOOD RELATED BEHAVIORS. (3)
This team-taught course will provide background in topics and methods in food related behaviors to students in Nutritional Sciences and other interested students. The course will follow a problem-based learning approach, and will consist of 3 out of 4 modules in any given year. The four modules will be Social and Cultural Perspectives on Food, Psychological Perspectives on Food and Food Behaviors, Challenges to Community Food Security, and International Issues in Nutrition.

#DHN 608 CHRONIC DISEASE MANAGEMENT AND PROCESS. (3)
This course focuses on the etiology and pathophysiology of nutrition-related chronic diseases and conditions including obesity, hypertension, dyslipidemia, heart disease, diabetes, and cancer. Emphasis is placed on the biochemical and physiological mechanisms involved by which nutrients impact the prevention, nutrition care process-diagnosis, assessment, implementation of care, monitoring and evaluation, and progression of chronic diseases and conditions. Prereq: Graduate standing and minimum 3 credit hours of upper level advanced nutrition or DHN 510.

DHN 610 MARKETING IN HOSPITALITY AND DIETETICS. (3)
This course overviews the discipline of marketing as it relates to the hospitality and dietetics professions. Special emphasis will be placed on the analysis of the marketing environment, marketing strategies and the diversity of marketing practices used by the hospitality industry and dietetics profession. This course will provide opportunities for students to develop appropriate marketing approaches in today's increasingly competitive and complex global marketplace. Prereq: MKT 300 or HMT 320 or equivalent course.

DHN 620 NUTRITION AND AGING. (2)
Emphasis on current research in nutrition and aging, nutrition needs of the elderly and nutrition-related diseases associated with aging. Prereq: DHN 510 and 511 or equivalent. (Same as NS 620.)

DHN 630 ADVANCED COMMUNITY NUTRITION. (3)
Study of nutrition surveys and of bases for judging community nutrition. Emphasis is placed upon economic, geographic, social and educational causes of malnutrition. Experience is given in development of nutrition programs. May be repeated to a maximum of six credits. Prereq: DHN 503. (Same as NS 630.)

DHN 640 HUMAN NUTRITION: ASSESSMENT. (3)
Assessment of dietary, anthropometric and biochemical parameters of nutritional status in health and disease. Lecture, two hours; laboratory, three hours per week. Prereq: DHN 510, DHN 511 or equivalent. (Same as NS 640.)

DHN 648 MANAGEMENT OF HOSPITALITY AND DIETETICS ORGANIZATIONS. (3)
This course will engage students with the theories and their application in the area of leadership and management of people, resources, finances, information and internal and external customers as they relate to dietetics, food service and hospitality professions. Prereq: Admission to graduate program, DHN 346 or equivalent course.

DHN 690 ADVANCED WORK IN DIETETICS. (3)
Evaluation of administrative practices in dietetics. This course will examine topics related to managing dietetics services including medical nutrition therapy protocols, dietetics outcomes research, parenteral and enteral support, clinical pathways, JCAHO requirements, state and institutional policy controls, reimbursement for dietetics services, in-patient and out-patient quality management, and hospital outreach programs. Prereq: Admission to graduate program. Lecture only course.

DHN 704 CURRENT TOPICS IN NUTRITIONAL SCIENCES. (1)
This course is designed to develop the student's independent thinking and critical analysis related to various nutritional sciences issues. These skills will be developed through reading assignments and group discussion related to current topics in nutrition. Prereq: Consent of instructor. (Same as CNU/NS 704.)

DHN 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed. (Same as NS 748.)

DHN 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours. (Same as NS 768.)

DHN 770 SEMINAR IN HOSPITALITY AND DIETETICS ADMINISTRATION. (1)
Investigation of recent research in Hospitality and Dietetics Administration. May be repeated to a maximum of three credits.

DHN 772 CURRENT TOPICS IN HOSPITALITY AND DIETETICS ADMINISTRATION. (2)
Faculty from different disciplines will provide in-depth coverage of selected topics in Hospitality and Dietetics Administration.

#DHN 774 SEMINAR IN NUTRITION AND FOOD SYSTEMS. (3)
This advanced participatory seminar focuses on the latest in nutrition and food systems research. Students will be expected to apply their knowledge of effective scientific communication, responsible conduct of research, and methods and technologies in nutrition and food systems through weekly readings, presentations, and class discussions. Prereq: Graduate standing and upper level graduate statistics.

DHN 782 SPECIAL PROBLEMS. (1-6)
Independent advanced work on a special problem in nutritional sciences. Prereq: Consent of graduate advisor. (Same as CNU/NS 782.)

DHN 784 SPECIAL PROBLEMS IN FINANCIAL MANAGEMENT. (3)
A current events approach to the financial and accounting decision-making process in dietetics and hospitality administration. The course will prepare advanced students in dietetics and hospitality administration to analyze and make sound financial decisions in settings relevant to the dietetics profession and the hospitality industry. Prereq: Admission to graduate program, ACC 201, ECO 201 and either FIN 300 or (DHN 340, DHN 342, and DHN 346).

DHN 790 RESEARCH IN NUTRITIONAL SCIENCES. (0-6)
Research work involving original investigation. May be repeated to a maximum of 18 credits. Prereq: Consent of graduate advisor. (Same as CNU/NS 790.)

DHN 800 NUTRITION IN THE LIFE CYCLE: PRACTICUM. (1)
Course content will provide an introductory supervised practice for Coordinated Program dietetic students. Experiences include nutrition services provided at various stages in the life cycle, including pregnancy, infancy, preschool, elementary and high school, and geriatric. Laboratory, three hours per week. Prereq: Admission to Coordinated Program/AP4.

DHN 808 COMMUNITY NUTRITION II: SUPERVISED PRACTICE. (2)
Supervised practice in community nutrition. Experiences include public and private agencies/organizations that provide food and nutrition services, public policy and program development, and nutrition education for various socioeconomic groups. Prereq: Admission to UK DHN Supervised Practice Program (SPP); concurrent enrollment in DHN 800.

DHN 810 MEDICAL NUTRITION THERAPY I: SUPERVISED PRACTICE. (5)
Supervised practice in health care facilities. Course focuses on patient assessment, diet planning, care plan implementation, and nutritional evaluation. Prereq: Admission to UK DHN Supervised Practice Program (SPP); concurrent enrollment in DHN 518 and DHN 812.

DHN 812 FOOD SERVICE SYSTEMS MANAGEMENT: SUPERVISED PRACTICE. (5)
Supervised practice in food service management in a variety of food service operations. Experience may include participation in management functions including procurement, production, financial and human resources management, marketing, and training. Prereq: Admission to UK DHN Supervised Practice Program (SPP); concurrent enrollment in DHN 810 and DHN 518.

DHN 814 FOOD SERVICE SYSTEMS MANAGEMENT II: SUPERVISED PRACTICE. (3)
In-depth application of food service management in a variety of food service operations. Provides variety of experience in operations, financial, and managerial aspects of food services. Experience based on performance requirements established by the Commission on Accreditation for Dietetics Education for the entry-level generalist dietitian. Prereq: Admission to UK DHN Supervised Practice Program (SPP); concurrent enrollment in DHN 518 and DHN 816.

DHN 816 MEDICAL NUTRITION THERAPY II: SUPERVISED PRACTICE. (3)
In-depth clinical application of the principles of dietetics in a hospital setting. Focuses on the team concept of patient care. Provides a variety of dietetic practice experiences with opportunity to test and evaluate results. Experiences based on performance requirements established by the Commission on Accreditation for Dietetics Education for the entry-level generalist dietitian. Prereq: Admission to UK DHN Supervised Practice Program (SPP); concurrent enrollment in DHN 518 and DHN 814.

DIP Diplomacy and International Commerce

DIP 600 SPECIAL TOPICS. (1-3)
This course will vary in content depending on special needs or faculty availability.

DIP 700 DYNAMICS OF DIPLOMACY. (3)
This course explores the historical evolution of diplomacy, then focuses on post WWII diplomatic practice and especially the dynamics of diplomacy since the end of the Cold War. Emphasis will be placed on diplomacy's role in the international system, new tasks for diplomacy, and enhancing diplomatic skills in a new paradigm. Prereq: Permission of instructor.

DIP 710 GREAT BOOKS OF WORLD POLITICS. (3)
Overview of classic texts on war and statecraft. Prereq: Consent of instructor. (Same as PS 734.)

DIP 712 WEAK STATES AND INTERNATIONAL SECURITY. (3)
This course reviews how the policy community has measured the weak state, revealing discrepancies in the quantifiable parameters, definitions, and categorizations, and analyze the efforts taken to address state weakness, particularly foreign economic and security assistance. It will review the five theoretical approaches to the weak state in the literature, which are informed by the international community's concerns with state weakness: development, intervention, post-colonialism, globalization and terrorism. The theory will be applied to specific cases of weak states in several regions (e.g., Africa, Asia, the Balkans, Latin America, the Middle East, and the Former Soviet States) and analyzes the threats they pose to international security.

DIP 715 DEMOCRACY AND INTERNATIONAL AFFAIRS. (3)
Discussion of the impact of the global spread of democracy on foreign policy and war. Prereq: Graduate status and consent of instructor. (Same as PS 735.)

DIP 716 INTERNATIONAL TRADE POLICY AND PRACTICE. (3)
This course is designed to prepare students to function comfortably in either the trade policy formulation (public trade policy producers) or commercial environment (policy consumers). Although the course is organized in two discrete sections, throughout the course, the implications of policy on commercial practice and the reverse will be stressed.

DIP 720 ECONOMIC STATECRAFT. (3)
This seminar course will explore how economic values and choices shape economic options, and the techniques used to pursue them in the diplomatic arena. Trade and fiscal techniques, financial policies, and sanctions will be explored in relationship to the interplay between economic and political/international relations theory, and the relevance of economic statecraft to achieving both economic and noneconomic goals.

DIP 725 GEOPOLITICAL MODELING. (3)
Course uses large user friendly computer model of world's political/economic systems to explore topics such as globalization, development, energy security, and political instability from a theoretical and quantitative viewpoint. Prereq: STA 570 or permission of instructor.

DIP 726 INTRODUCTION TO INTELLIGENCE. (3)
This course will introduce the student to the role of intelligence in U.S. national security policy-making.

DIP 727 ANALYTICAL METHODS FOR INTELLIGENCE ANALYSIS. (3)
This course will introduce the student to the role of intelligence analysis in U.S. national security policy-making. It will be discussed and put to practical use the various analytical methods and techniques that are used by analysts within the Intelligence Community.

DIP 730 CROSS-CULTURAL NEGOTIATION AND BARGAINING. (3)
A multidisciplinary graduate course using contemporary studies of negotiation and bargaining from the individual to the international level. Uses both public (Diplomatic) and private (Commercial) examples, including case studies and practice negotiations. Group and national differences are explored as well as the content and environment of negotiations. Prereq: Any one graduate course plus consent of instructor.

DIP 734 AFRICA'S DEVELOPMENT CHALLENGES. (3)
Examination of challenges facing sub-saharan African countries in developing economic and politically sustainable societies.

DIP 735 ENERGY SECURITY. (3)
This course uses the tools of economic analysis and economic statecraft to examine energy security. It will look at the connection between energy and the economy in both the U.S. and other states and the connections between energy and military security and power. It will include a detailed review of the U.S. energy economy, the international energy market, the economies of the major Middle Eastern states, and the Russian economy. At the end of the course each student will understand the history of energy security, be aware of the data sources for current policy analysis, be able to use the relevant tools of economic analysis including econometrics, and be familiar with the energy security policy debate both in the United States and in key foreign countries. Prereq: DIP 740 or ECO 672 or at least two semesters of undergraduate economic theory with grades of B or better. DIP 720 and DIP 750 recommended.

DIP 740 GLOBALIZATION. (3)
This course examines the phenomenon of globalization by applying core theories of the international political economy. Subjects to be covered include economic and political definitions of globalization, the technological, economic, and political causes of globalization, and the effects of globalization on national politics and wealth. By the end of the course, students should be able to apply the basic international political economy analysis to both trade and financial issues, giving them the necessary skills to prepare convincing policy analyses, political advocacy programs, and business plans. Lecture/Discussion hours per week. Prereq: Graduate status, a modest undergraduate or graduate background in Foreign Affairs or permission of the instructor.

DIP 742 NATIONAL SECURITY POLICY. (3)
This course provides a foundation in the major debates on national security policy.

DIP 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

DIP 750 DEFENSE STATECRAFT. (3)
Students will gain familiarity with the key military policy issues that confront government officials, and they will learn to evaluate the claims of journalists and advocacy organizations that confront informed American opinion on a day-to-day basis. Prereq: Graduate status.

DIP 755 POLITICS AND DIPLOMACY OF THE MIDDLE EAST. (3)
Analyzes the interplay between politics and diplomacy in the Middle East. Prereq: Permission of instructor.

DIP 756 DIPLOMACY OF NUCLEAR WEAPONS. (3)
This course explores diplomatic issues with developing and maintaining, securing, restricting and eliminating nuclear weapons.

DIP 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

DIP 777 RESEARCH PROBLEMS IN INTERNATIONAL RELATIONS. (3)
This seminar focuses on research strategies that can be utilized in dealing with problems in international relations. May be repeated once with consent of instructor. Prereq: PS 674 or consent of instructor.

DIP 780 INTERNATIONAL SCIENCE AND TECHNOLOGY POLICY. (3)
A multidisciplinary graduate course that investigates policy questions and the policy process surrounding developments in international sciences and technology. This course will focus on the intersection of scientific research, technological applications and change, and business and governmental activities in these areas that impact upon international relations. Prereq: Consent of instructor.

DIP 795 SPECIAL PROBLEMS IN DIPLOMACY AND INTERNATIONAL COMMERCE. (3)
Specially designed independent study course taken under the supervision of various instructors. May be repeated to a maximum of six credits. Prereq: Permission of instructor.

DIS Decision Science and Information Systems

DIS 600 PRODUCTION MANAGEMENT. (3)
This course exposes the MBA generalist to the functional area of production in both manufacturing and service sectors. Topics include tactical decisions in production and operative relationships with corporate strategy. The course emphasizes operations planning and control. Prereq: Graduate standing; MGT 611, ECO 610, ACC 628, DIS 650, ECO 611, FIN 600, DIS 651, MKT 600.

DIS 611 THE MANAGEMENT OF COMPUTER INTEGRATED MANUFACTURING. (3)
This course is to provide a broad introduction to the state of the art developments in computer integrated manufacturing systems and the problems of managing such technologies and systems. Topics dealing with the evolving "factory of the future" such as computer aided design, computer aided manufacturing, group technology, flexible manufacturing systems, etc., will be studied. Strategic and managerial implications will be emphasized. Prereq: DIS 600.

DIS 612 SUPPLY CHAIN OPERATIONS. (3)
An introduction to the terminology, concepts, and skills related to supply chain management. Students develop an understanding of the complexities associated with the movement of goods and information, and how they affect the mission of the firm. Discussions address the various processes and activities within an organization and how they interface with other members of the supply chain.

DIS 620 MANAGEMENT INFORMATION SYSTEMS IN DECISION MAKING. (3)
In-depth consideration of the value of information in managerial decision making. Topics include issues in design and evaluation of management information systems, decision support systems, and business expert systems. Prereq: DIS 651.

DIS 621 BUSINESS EXPERT SYSTEMS. (3)
Introduction to expert systems and artificial intelligence in the business setting. Discussions include past and current applications of expert systems in business and considerations of future application possibilities. Prereq: DIS 620.

DIS 622 BUSINESS DATA SYSTEM ANALYSIS AND DESIGN. (3)
An introduction to the comparative analysis and business use of various data models. Topics include the theory and design of information storage and retrieval procedures in the context of business information needs. Prereq: DIS 620, CS 101 or consent of instructor.

DIS 623 BUSINESS DECISION SUPPORT SYSTEMS. (3)
Discussion of business decision support system concepts and the applications of these concepts in business organizations. The theoretical development of the decision support system concept is analyzed through review of important literature in this area. Emphasis is placed on the impact of technological advances which form the basis of decision support system software. Current decision support systems are studied and future likely applications considered. Prereq: DIS 620.

DIS 624 MANAGEMENT OF INFORMATION RESOURCES. (3)
The course is designed to prepare students to understand and analyze major issues related to the management of information resources, evaluate the current state of information resources

management within an organization, and participate in the management of such resources. Prereq: DIS 620 or consent of instructor. (Same as MGT 624.)

DIS 651 QUANTITATIVE ANALYSIS IN BUSINESS DECISION MAKING. (3)
A study of key problem formulation and solution procedures in business decision making. The topics studied include statistical techniques integrated in decision making under uncertainty, decision trees, queuing problems, and value of information. A major segment of the course is devoted to the study of linear programming problems, sensitivity analysis, assignment problems and transportation problems. Prereq: MBA standing.

DIS 695 INDIVIDUAL WORK IN DSIS. (3)
Students confer individually with instructor. May be repeated to a maximum of six credits. Prereq: Consent of the instructor.

DIS 700 TOPICS IN OPERATIONS MANAGEMENT. (3)
To review the various topics of operations management and to survey the status of the art research in each topic area. Research methodology and research opportunities in each topic area will be identified. May be repeated to a maximum of nine credits.

DIS 720 MANAGEMENT INFORMATION SYSTEMS THEORY. (3)
A theoretical consideration of the role of MIS in managerial decision making. Emphasis is placed on current research in MIS and interrelationships with management science and operations management. Prereq: Consent of instructor.

DIS 753 SEMINAR IN MANAGEMENT SCIENCE. (3-6)
Each semester some topic in management science such as simulation, queuing theory, stochastic processes, numerical methods, and Bayesian Decision Theory will be studied intensively. Prereq: DIS 751, 752.

DIS 780 STUDIES IN DECISION SCIENCE AND INFORMATION SYSTEMS. (3)
This course will analyze the current research topics of interest in the decision sciences. Possible areas of study may include: network management, multiple-criteria decision making; data envelopment analysis, combative decisions, and models for service organizations. May be repeated to a maximum of nine credits. Prereq: DIS 751 or consent of instructor.

DIS 790 SPECIAL TOPICS IN MANAGEMENT DECISION SYSTEMS (Subtitle required). (3)
This is a variable topic course enabling focused doctoral student investigation of current research areas. It is anticipated that the course grade will be based on individual student semester research papers in the course topic area. May be repeated to a maximum of 12 credits under different subtitles. Prereq: Consent of instructor.

DMT Interior Design, Merchandising, and Textiles

DMT 520 TEXTILES FOR INTERIORS. (3)
Selection, cost, expected performance and care of textiles used in residential and commercial interiors. Prereq: MAT 120.

DR Diagnostic Radiology

DR 815 FIRST-YEAR ELECTIVE, DIAGNOSTIC RADIOLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Diagnostic Radiology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

DR 825 SECOND-YEAR ELECTIVE, DIAGNOSTIC RADIOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Diagnostic Radiology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

DR 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the Third and Fourth Year Curriculum and Student Progress Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or by the permission of Third and Fourth Year Curriculum and Student Progress Committee.

Approved electives:
DR 850 FOURTH-YEAR ELECTIVE IN DIAGNOSTIC RADIOLOGY
DR 851 RESEARCH IN DIAGNOSTIC RADIOLOGY
DR 855 NUCLEAR MEDICINE
DR 856 PEDIATRIC RADIOLOGY
DR 890 OFF-SITE CLERKSHIP IN DIAGNOSTIC RADIOLOGY

DSP Discovery Seminar Program

DSP 110 SOCIAL SCIENCES: (Subtitle Required). (3)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the social science requirement in the University Studies Program. Each proposal must include the discipline in which the course is being offered and the options available to the student to complete the USP social science requirement. Each proposal must be approved by the College of Arts and sciences and the Dean of Undergraduate Studies.

DSP 120 HUMANITIES: (Subtitle Required). (3)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the humanities requirement in the University Studies Program. Each proposal must include the discipline in which the course is being offered and the options available to the student to complete the USP humanities requirement. Each proposal must be approved by the College of Arts and sciences and the Dean of Undergraduate Studies.

DSP 130 NATURAL SCIENCES: (Subtitle Required). (3)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the natural science requirement in the University Studies Program. Each proposal must include the discipline in which the course is being offered and the options available to the student to complete the USP natural science requirement. Each proposal must be approved by the College of Arts and sciences and the Dean of Undergraduate Studies.

DSP 200 GENERAL RESEARCH SKILLS: (Subtitle Required). (3)
Course provides the basic skills required to conduct research and other scholarly activities. Prereq: All students must be actively engaged (for an average of at least ten hours per week) in a research or other scholarly activity under the mentorship of a UK faculty member through the UK Undergraduate Research Program (UKURP).

EAP Education Abroad Program

EAP 400G EDUCATION ABROAD ON UK-SPONSORED PROGRAM. (1-18)
A course designed for undergraduate, graduate and non-degree students who participate in a UK-Sponsored Education Abroad Program. Registration in the course would constitute full-time status. This course may only be taken Pass-Fail. Students will be enrolled in the course upon payment of the non-refundable program fee deposit. The balance of the program fees will be charged as an EAP 500 course fee. The suffix indicates the particular UK-sponsored program. Upon completion of the program, Education Abroad at UK will submit to the Registrar the credit and grades given by the Program Director for the approved program courses. Prereq: Approval by each student's academic advisor, the program director and Education Abroad at UK.

EAP 431G EDUCATION ABROAD ON EXCHANGE PROGRAM: TFE. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. TFE-Tuition/Fees. Prereq: Approval by each student's academic advisor and Education Abroad at UK.

EAP 432G EDUCATION ABROAD ON EXCHANGE PROGRAM: TLM. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. TLM-Tuition/Lodging/Meals.

EAP 433G EDUCATION ABROAD ON EXCHANGE PROGRAM: TLO. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. TLO-Tuition/Lodging.

EAP 434G EDUCATION ABROAD ON EXCHANGE PROGRAM: TMO. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. TMO-Tuition/Meals.

EAP 435G EDUCATION ABROAD ON EXCHANGE PROGRAM: TPE. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. TPE-Tuition/Plus Other.

EAP 436G EDUCATION ABROAD ON EXCHANGE PROGRAM: ISEP. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. ISEP.

EAP 437G EDUCATION ABROAD ON EXCHANGE PROGRAM: DES. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. DES.

EAP 438G EDUCATION ABROAD ON EXCHANGE PROGRAM: HSC. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. HSC.

EAP 440G EDUCATION ABROAD ON EXCHANGE PROGRAM: BUS. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. BUS.

EAP 441G EDUCATION ABROAD ON EXCHANGE PROGRAM: BAE. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. BAE.

EAP 442G EDUCATION ABROAD ON EXCHANGE PROGRAM: EGR. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. EGR.

EAP 443G EDUCATION ABROAD ON EXCHANGE PROGRAM: CHS. (0-1)
A course designed for undergraduate, graduate and non-degree students who participate in a UK Exchange Program. Students will be enrolled in this course by their Education Abroad advisor upon submission of the required application materials to Education Abroad at UK. Enrollment in this course will generate the appropriate exchange fee depending on the type of exchange. The type of exchange will be indicated by the title suffix. CHS.

ECO Economics

ECO 101 CONTEMPORARY ECONOMIC ISSUES. (3)
A basic course in the analysis of contemporary economic issues with emphasis on current economic topics such as inflation, poverty and affluence, urban congestion, and environmental pollution. (Credit will not be given for this course to students who have received prior credit in ECO 201 and/or 202.)

ECO 201 PRINCIPLES OF ECONOMICS I. (3)
The study of the allocation of scarce resources from the viewpoint of individual economic units. Topics include household and firm behavior, competitive pricing of goods and resources, and monopoly power.

***ECO 202 PRINCIPLES OF ECONOMICS II. (3)**
A study of how society's needs are satisfied with the limited resources available. Topics include contemporary issues such as inflation, unemployment, economic growth, international dependencies, and how public policy deals with them. A critical understanding of the U.S. and global economies will enhance your value as a manager or executive of a business (whether for-profit or non-profit), as a family member dealing with jobs and financial decisions, and as a voter in a democracy. The course will allow you to become knowledgeable of, and able to critically think about, the major macroeconomic issues of unemployment, jobs, recessions, economic growth, inflation, deflation, oil prices, monetary policy, the Federal Reserve, fiscal policy, budget deficits, the national debt, international trade, international finance, and the financial system. Prereq: ECO 201.

ECO 327 STRATEGIC DECISION MAKING: AN INTRODUCTION TO GAME THEORY. (3)
The course is an introduction to strategic decision making and game theory. Ideas such as Nash equilibrium, dominant strategies, evolutionary stability, and asymmetric information are applied to a variety of strategic decision making problems taken from economics, computer science, politics, and biology. Prereq: A grade of B or better in MA 113 or MA 132 or MA 137 or consent of department. Students should have a strong background in first semester calculus. (Same as MA 327.)

ECO 370 THE GLOBAL ECONOMY. (3)
This course explores the theoretical foundations of International Trade including the basics of why countries trade, factors that explain the pattern of trade, the effects of trade on welfare and the distribution of income, and various policy issues. The course also provides an examination of topics in International Finance such as how international financial markets are structured and how currencies across countries relate to each other in foreign exchange markets. Prereq: Courses include ECO 201 AND ECO 202. Students who have already taken ECO 471 or ECO 472 may not take ECO 370 and ECO 370 may not be taken concurrently with ECO 471 or ECO 472. Students majoring in economics may NOT take ECO 370.

#ECO 379 THE ECONOMICS OF PUBLIC POLICY, LAW, AND GOVERNMENT. (3)
This course develops the economics view of the role of government from both normative and positive perspectives. Conditions under which markets perform well are presented, as well as cases where there is market failure. Legal and social institutions that support markets are discussed, as are government policies to intervene in markets. Economic models of the operation of government are developed to understand possible shortcomings of government action, as well further linkages of economics to law. The economics perspective on income redistribution is presented along with examples from specific government programs. Prereq: ECO 201.

ECO 391 ECONOMIC AND BUSINESS STATISTICS. (3)
A survey of statistical techniques relevant to modern economics and business, with major emphasis on correlation and regression, Bayesian decision theory, index numbers, time series analysis, and forecasting models. Prereq: STA 291 or equivalent.

ECO 395 INDIVIDUAL WORK IN ECONOMICS. (1-6)
Students confer individually with the instructor. Written paper usually expected and filed in chairperson's office. May be repeated to a maximum of six credits. Prereq: GPA of 3.0 in major, approval of instructor and chairperson.

ECO 401 INTERMEDIATE MICROECONOMIC THEORY. (3)
An analysis of the behavior of consumers and firms, price determination, various market structures, and income distribution. Prereq: ECO 201 or equivalent with a grade of C or higher and ECO 202 or equivalent with a grade of C or higher.

ECO 402 INTERMEDIATE MACROECONOMIC THEORY. (3)
National income concepts, the determination of aggregate income and employment, the theory of money and inflation and problems of economic growth. Prereq: ECO 202 or equivalent and ECO 401 taken previously or permission of instructor.

ECO 410 CURRENT ISSUES IN ECONOMICS (Subtitle required). (3)
The course addresses relevant topics in economics. May be repeated for a maximum of six credits under different subtitle. Prereq: ECO 202 and/or ECO XXX to be identified by instructor upon time of offering.

ECO 411 BUSINESS ECONOMICS. (3)
Applies basic economic principles to the types of problems faced by business decision makers. Particular attention is paid to the economics of organizations and to the economics of firm strategy. Topics covered will include the nature of the firm, the make or buy decision, corporate governance, distribution channels, external market structure, selling decisions, and rivalry and strategy. Prereq: ECO 202 or equivalent.

ECO 412 MONETARY ECONOMICS. (3)
A detailed discussion of the financial sector of basic static macroeconomic models, including views of both the monetarist and new-Keynesian schools. Institutional aspects of the financial system are discussed. The course stresses problems of economic stabilization. Prereq: ECO 202 or equivalent.

ECO 450G THE ECONOMICS OF POVERTY AND WELFARE PROGRAMS. (3)
Examines the economic conditions of the poor in the U.S., theories of poverty, and major redistribution programs in the U.S. The course will study the economic impacts of such programs as Social Security, Medicare, Aid to Families with Dependent Children, Food Stamps, Medicaid, and child care subsidies. Prereq: ECO 401 or equivalent or consent of instructor.

ECO 461 MARKET STRUCTURE AND ANTI-TRUST POLICY. (3)
A study of the relationship between industry performance and market structure, and the role and effect of the government's anti-trust policies. Prereq: ECO 401 or equivalent.

ECO 465G COMPARATIVE ECONOMIC SYSTEMS. (3)
This course deals with the theoretical underpinning of the major economic systems in existence today. The classical model of competitive market capitalism is reviewed first, followed by the Marxian and neo-Marxian (Leninist) critique of capitalism. Next, the contemporary Keynesian and the neo-Keynesian models are analyzed. This course concludes with a review of the Lange model of decentralized (market) socialism. Prereq: ECO 401 or equivalent or consent of instructor.

ECO 467 AMERICAN ECONOMIC HISTORY. (3)
The development of the American economy will be examined within the general framework of economic theory. Major emphasis will be given to the long-run process of economic growth of the economy from the colonial period to the present. Prereq: ECO 401 or equivalent.

ECO 471 INTERNATIONAL TRADE. (3)
This is advanced economic course in international trade. The first part of the course covers the basics of why countries trade, what explains the pattern of trade that we observe and what are

KEY: # = new course * = course changed † = course dropped

the effects of trade on welfare and the distribution of income. The second part of the course covers issues concerning trade policy and looks at the positive and normative effects of trade policy and trade agreements as well as investigating topics of current interest. While the focus of the course is on theory, students will also be exposed to many applications of the theory as a means of both explaining the economic intuition and encouraging students to analyze the world around them from an economic perspective. Prereq: ECO 401 or equivalent. (Same as AEC 471.)

ECO 472 INTERNATIONAL MONETARY ECONOMICS. (3)
This course deals with macroeconomic and financial aspects of the open economy. Main subjects include the balance of payments, exchange rate determination, and macroeconomic theory and policy in an open economy. Students are exposed to basic concepts such as purchasing power parity, interest parity, monetary models of the exchange rate, and the Mundell-Fleming model. Current issues for discussion include currency crises, pros and cons of international capital flows, and the choice of exchange rate regime. Prereq: ECO 402 or consent of instructor.

ECO 473G ECONOMIC DEVELOPMENT. (3)
A comparative study of economic progress in selected countries; growth patterns, theories of development and capital formation, interaction of social and economic change. Prereq: ECO 401 or equivalent or consent of instructor.

ECO 477 LABOR ECONOMICS. (3)
Application of economic principles to analyze the operation of labor markets. Topics covered include: theories of labor movements, comparative analysis of unionism in different economies, labor supply, labor demand, human capital, collective bargaining, public policy and the operation of labor markets. In addition, selected topics such as female and minority employment, social security, and industrial conflict will be covered. Prereq: ECO 401 or equivalent.

ECO 479 PUBLIC ECONOMICS. (3)
An application of economic analysis to the study of the role of government. Emphasis is on the reasons for and the effects of government intervention in the economy. Topics covered include: market failure, public goods and externalities, welfare policy, voting and public choice, taxation, public debt and cost-benefit analysis. Prereq: ECO 401 or equivalent. Agricultural Economics majors may substitute AEC 303 for this prerequisite. (Same as AEC 479.)

ECO 491G APPLIED ECONOMETRICS. (3)
To provide the student with a firm foundation in the design and estimation of economic models, empirical analysis of economic relationships, and forecasting. Emphasizes the structure and utilization of economic models. Prereq: ECO 391, ECO 401, and ECO 402 or equivalent or consent of instructor.

ECO 499 SEMINAR IN ECONOMICS (Subtitle required). (3)
Reading, research and discussion in a seminar format to illuminate problems of historical and contemporary interest in areas of special faculty competence. May be repeated to a maximum of nine credits, but may not be repeated under the same subtitle. Will be limited to a maximum of 15 students. Prereq: ECO 391, ECO 401, and ECO 402 or equivalent.

ECO 590 INTRODUCTION TO QUANTITATIVE ECONOMICS I. (3)
An introduction to mathematical approaches to economic theory. Emphasis on linear models, constrained optimization, and techniques used in comparative statics. Prereq: ECO 401 and MA 113, or consent of instructor. (Same as AEC 590.)

ECO 601 ADVANCED MICROECONOMIC THEORY. (3)
An intensive course covering microeconomic theory and its various methodological and analytical techniques. Prereq: ECO 401 or consent of instructor.

ECO 602 MACROECONOMIC THEORY. (3)
An analysis of a market clearing, general equilibrium macroeconomic model. Emphasis on theoretical foundations of relevant behavioral functions and comparative statics. Not open to those with credit in ECO 761. Prereq: ECO 402 or consent of instructor.

ECO 603 RESEARCH METHODS AND PROCEDURES IN ECONOMICS. (3)
The basic procedures and methods of research in economics are considered from the standpoint of their applicability to problem solving and discovery of new scientific facts and generalizations in economics. Definition of the problem, statement of hypothesis, research design, data collection methods, and data analysis constitute the major topics. Attention is given to proper style and preparation of research reports in economics.

ECO 610 MANAGERIAL ECONOMICS. (3)
Analysis of applications of economic theory to management decision making. Such problems as demand and cost determination, pricing, and capital budgeting are treated. Prereq: Graduate standing, MA 123 or its equivalent.

ECO 652 PUBLIC POLICY ECONOMICS. (3)
Principles and practices of economical resource management in the governmental sector: tax and expenditure types, intergovernmental fiscal cooperation, debt financing, budgeting and financial planning. Prereq: ECO 201 or equivalent and MPA or MPP program status or permission of department. (Same as PA 652.)

ECO 653 HEALTH ECONOMICS. (3)
This course applies general theoretical principles of economics to the health care sector. The basic approach is to recognize the importance of scarcity and incentives, allowing for differences peculiar to health. The demand and supply of health and medical care are examined as they involve physicians, nurses and hospitals. The competitiveness of their markets, health insurance and the role of government are explored. Special topics include regulation and planning, benefits-cost analysis, and reform health plans. Prereq: The economics prerequisite can be met in three ways: (a) an undergraduate principles course in microeconomics and HA/PA 652; (b) an undergraduate microeconomics principles course and a graduate course in managerial economics; or (c) an undergraduate microeconomics principles course and an intermediate microeconomics course. (Same as PA 636.)

ECO 654 BENEFIT-COST ANALYSIS. (3)
Principles, practices and applications of applied welfare analysis are the content of this course. The basic theory of benefit-cost analysis is presented and the relevance of implementation analysis in policy analysis is established. Prereq: PA 652. (Same as PA 680.)

ECO 670 ECONOMICS OF INTERNATIONAL FINANCIAL INSTITUTIONS. (3)
An in-depth study of financial markets, commercial banking, and business finance in an international setting. Prereq: ECO 471 and ECO 412 or consent of instructor.

ECO 672 WORLD TRADE AND COMMERCIAL POLICY. (3)
An analysis of trade patterns and the implication of government policy on trade, in the light of both economic theory and empirical findings. Prereq: Successful completion of an upper division undergraduate or graduate level economics course.

ECO 674 AGRICULTURE AND ECONOMIC DEVELOPMENT. (3)
Analytical consideration of the role of agriculture in economic development in relation to overall development strategy at various stages of growth. Theoretical and policy issues of particular relevance to the agricultural development in underdeveloped agrarian economies with various resource, social, political and economic systems. Prereq: ECO 473G or consent of instructor. (Same as AEC 626.)

ECO 692 ECONOMETRICS FOR POLICY ANALYSTS. (3)
Maximum likelihood estimation, ordinary least squares (OLS) regression, instrumental variables (IV) regression, heteroscedasticity-consistent regression, fixed and random effects models, probit, logit and tobit models, and identification and two-state least squares estimation of simultaneous equations models. Prereq: Any undergraduate statistics course. MPA, MPP or PUAD program status for priority registration, other students with permission of instructor. (Same as PA 692.)

ECO 700 TEACHING METHODS IN BUSINESS. (1)
A three part course that examines what constitutes good teaching and explores effective techniques for college instruction. Seminars emphasize practical information for both the principal activities and the details of teaching. Departmental discussions allow students to discuss issues that arise in their teaching practice. Reviews of classroom performance provide professional feedback in order to enhance on-the-job learning. Seminar, two hours per week. Prereq: Approval of Director of Graduate Studies. (Same as BA 700.)

ECO 701 NEOCLASSICAL MICROECONOMIC THEORY. (3)
The Neoclassical theory of consumer behavior, production, market equilibrium and imperfect competition. Prereq: ECO 601 and ECO 590, or consent of instructor.

ECO 702 ADVANCED MACROECONOMIC THEORY. (3)
Analysis of general equilibrium macroeconomic models and factors responsible for deviations from general equilibrium. Emphasis on issues from recent professional literature. Prereq: ECO 602 or consent of instructor.

ECO 703 INTRODUCTION TO ECONOMETRICS I. (3)
The first course in the introduction to econometrics. A comprehensive survey of the general linear regression, autocorrelation, errors in variables and distributed lag models. Prereq: ECO 590 and either ECO 603 or STA 525, or consent of instructor.

ECO 704 GENERAL EQUILIBRIUM ANALYSIS AND WELFARE ECONOMICS. (3)
Existence, stability, efficiency and Pareto satisfactoriness of competitive equilibrium. Recent developments in general equilibrium and welfare theory. Prereq: ECO 701 or consent of instructor.

ECO 705 MACROECONOMIC DYNAMICS. (3)
Theoretical and empirical assessment of dynamic issues in macroeconomics. Topics include neoclassical and endogenous growth models and vector autoregressions. Prereq: ECO 702 or consent of instructor.

ECO 706 INTRODUCTION TO ECONOMETRICS II. (3)
The second course in the introduction to econometrics. A comprehensive survey of identification, estimation and hypothesis testing in the context of simultaneous equations model. Prereq: ECO 703 or consent of instructor.

ECO 707 RESEARCH SEMINAR IN ECONOMICS. (3)
This course will help students develop research skills by requiring them to work through an independent project from start to finish. The student will review the literature and select a topic in an area of economics of interest. The student will then complete the project under the guidance of the instructor. Students will discuss their ongoing work in class with other students and in individual meetings with the instructor. The final output of the course will be a finished paper suitable for submission to a scholarly journal for publication. Prereq: Passing the Theory Exams or permission of the instructor.

ECO 710 ECONOMICS OF ORGANIZATION. (3)
The Economics of Organization applies transactions costs and principal-agent theories to study the internal organization of the firm. Topics covered include the boundaries of the firm, corporate governance, and internal incentive systems. Prereq: ECO 610 or equivalent.

ECO 711 ECONOMICS OF FIRM STRATEGY. (3)
The Economics of Firm Strategy applies economic tools to the analysis of firm strategy. Topics to be covered include basic cost and demand conditions, economies of scale and scope, product differentiation, entry and mobility conditions, price discrimination and commodity bundling, vertical control, and rivalry and strategy. Prereq: ECO 610 or equivalent.

ECO 721 ENVIRONMENTAL ECONOMICS, REGULATION AND POLICY. (3)
This course takes a balanced practitioner approach to the problems of the environment and environmental regulation. Efficiency aspects will be developed carefully, so as to provide a background for an extensive coverage of various available alternative policies. Prereq: PA 652 and MPA or economics program status or consent of instructor. (Same as PA 727.)

ECO 724 ENVIRONMENTAL ECONOMICS. (3)
This seminar in environmental economics deals with market failure, benefit-cost analysis, no market failure, valuations of environmental changes, and selected topics in environmental economics. Central to the course is valuing changes in health risks, risk perception, and behavior related to health risk. Selected topics include international issues, environmental equity and markets for environmental quality. This course and ECO 725 Health Economics are the two courses that are the basis for the area in Environmental and Health Economics in the Ph.D. Program in Economics. Prereq: ECO 601 and ECO 703 or consent of instructor.

ECO 725 HEALTH ECONOMICS. (3)
This course rigorously examines the organization, financing, and management of the US health care system and programs, and emphasizes economic analysis contemporary health policy concerns. By the end of the semester, students should have the institutional knowledge and analytic tolls needed to contribute to current public policy debates about health and medical care. This course and ECO 724 Environmental Economics are the two courses that are the basis for the area in Environmental and Health Economics in the Ph.D. program in Economics. Prereq: ECO 601 and 703 or consent of instructor.

ECO 726 ENVIRONMENTAL AND NATURAL RESOURCE ECONOMICS. (3)
This course is a graduate-level survey of environmental and natural resource economics. Students will use mathematical models and econometric analysis to address topics including externalities and other market failures, environmental policies, management of renewable and nonrenewable resources, and non-market valuation. Prereq: ECO 701 and 703 (or equivalent courses), or consent of instructor. (Same as AEC 745.)

ECO 731 LABOR ECONOMICS I. (3)
The theory and estimation of the demand for and the supply of labor are introduced. Topics include demographic changes, minimum wages, retirement, and secular trends in labor force participation. The concept of human capital is examined, including applications to income distribution. Theory and evidence on the structure of wages in the U.S. is considered. Topics include compensating wages and race and gender differences. Prereq: ECO 601 or consent of instructor.

ECO 732 LABOR ECONOMICS II. (3)
Dynamic and cyclical labor demand are examined theoretically and empirically. Models of unemployment are considered, including search theory and the implicit contract model. Aspects of labor unionism are examined including changes in union membership, strikes, and union wages and employment. The incentive effects of compensation are discussed, including sorting models and the principal-agent problem. Prereq: ECO 601 or consent of instructor.

ECO 741 THEORY OF THE FIRM AND MARKET STRUCTURE. (3)
A study of firms and markets covering such topics as organizational structure and objectives of firms; product selection, advertising and quality; price discrimination; vertical control; entry, accommodation and exit; cost structure and market organization, market structure and performance; and public policy. Prereq: ECO 601 or consent of instructor.

ECO 742 INDUSTRIAL ORGANIZATION. (3)
A comprehensive survey of the literature in industrial organizations including static theories of oligopoly, dynamic theories of oligopoly, information about strategic behavior, research and development, patents, and adoption of new technology.

ECO 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

ECO 751 PUBLIC ECONOMICS. (3)
An advanced study of both how government activities influence allocation, relative prices and welfare and what is the proper role of the public sector in resource allocation. Relevant topics include: public goods, externalities, tax incidence, optimal taxation, benefit-cost analysis, public pricing, fiscal federalism, state-municipal finance and public choice. Prereq: ECO 601 or consent of instructor.

ECO 752 ADVANCED TOPICS IN PUBLIC FINANCE. (3)
Principles of taxation and expenditure; applications to federal, state, and local policy; fiscal federalism; international public finance. Prereq: PA 752, ECO 701 or permission of the instructor. (Same as PA 754.)

ECO 753 URBAN AND REGIONAL ECONOMICS. (3)
An intensive study of the theory, evidence and policy concerning urban areas and regions. Topics typically covered include: nature of regions and urban areas, size and distribution of cities, location decisions, housing, transportation, migration and regional growth. Prereq: ECO 601 or consent of instructor.

ECO 761 MACRO AND MONETARY ECONOMICS I. (3)
Advanced study of business cycle fluctuations. Theoretical and empirical investigations of the causes of business cycles; evaluating the effectiveness of monetary, fiscal, and other policies to affect inflation, unemployment, and short-run economic goals. Emphasis on current academic research. Prereq: ECO 701, ECO 702 or consent of instructor.

ECO 762 MACRO AND MONETARY ECONOMICS II. (3)
Advanced study of long-run macroeconomic issues. Theoretical and empirical examinations of the determinants of economic growth; analysis of government policies, country endowments, and institutional factors in determining growth rates and income levels. Emphasis on current academic research. Prereq: ECO 702 or consent of instructor.

ECO 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

ECO 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ECO 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

ECO 771 INTERNATIONAL ECONOMICS: INTERNATIONAL MONEY AND FINANCE. (3)
International finance and open economy macroeconomics; the balance of payments; theory of exchange rate determination; macroeconomic policy issues in open economies. Prereq: ECO 602.

ECO 772 INTERNATIONAL ECONOMICS: TRADE THEORY AND POLICY. (3)
Theory and empirical analysis of the effects of trade and trade policy. Prereq: ECO 601.

ECO 773 OPEN ECONOMY MACROECONOMICS. (3)
Development of rigorous models to enhance knowledge of open economies. Topics include: impact on an economy of changes in trade, the current account balance, exchange rates, and international financial markets. Prereq: ECO 702.

ECO 790 TIME SERIES ANALYSIS. (3)
Time series and stochastic processes, auto-correlation functions and spectral properties of stationary processes; linear models for stationary processes, moving average, auto-regressive and mixed auto-regressive-moving average processes; linear nonstationary models, minimum mean square error forecasts and their properties; model identification, estimation and diagnostic checking. Prereq: STA 422G or its equivalent. (Same as STA 626.)

ECO 796 SEMINAR. (1-6)
An extended original investigation of some specific topic with a view to giving training in methods of research and studying intensively a particular subject in the field of economics. May be repeated to a maximum of six credits.

ECO 797 RESEARCH PROBLEMS IN ECONOMICS. (1-9)
Students confer individually with the instructor. May be repeated to a maximum of nine credits. Prereq: Permission of the Director of Graduate Studies is required.

EDC Curriculum and Instruction

EDC 317 INTRODUCTION TO INSTRUCTIONAL MEDIA. (1)
An introductory instructional media experience including basic production and utilization techniques for media materials and operation of commonly used educational media equipment. Topics include graphic preservation, transparency production, audio materials, motion pictures, 35mm photographic techniques, and an introduction to videotape television. Prereq: Admission to a Teacher Education Program.

EDC 322 ELEMENTARY PRACTICUM. (1-3)
Planned and supervised practicum in teaching elementary science, reading, social studies, and mathematics. Observation, selecting objectives and materials, questioning strategies, learning centers, instructional units, and assessment techniques will be emphasized. May be repeated to a maximum of three credits. Lecture, one hour; laboratory, six to twelve hours per week. Prereq: Admission to Early Elementary TEP. Concur: EDC 323, EDC 326, SEM 328, SEM 337, and EDC 339.

EDC 323 CLASSROOM MANAGEMENT AND DISCIPLINE. (3)
EDC 323 should be taken in conjunction with EDC 329. Prereq: Admission to Teacher Education Program.

EDC 326 TEACHING SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. (3)
A study of methods and materials for teaching social studies at the elementary level. The course will include a critical analysis of a variety of objectives, instructional materials and strategies, and evaluation techniques for elementary social studies. Consideration will be given to addressing the individual needs of a diverse student population. Special emphasis is placed on instruction in grades K-4. Twenty hours of field experience are required in conjunction with EDC 322. Prereq: Admission to TEP and 15 hours of social sciences. Coreq: EDC 322.

EDC 327 READING IN THE CONTENT AREAS. (3)
A study of materials and techniques useful in the diagnostic teaching of reading and other language arts with students in grades 5-9. The course will emphasize materials, techniques, and procedures, which diagnose individual strengths and weaknesses, and prescriptive instruction based upon the diagnosis. Lecture, three hours; laboratory, one hour. This course is in conjunction with a guest field experience to occur in a 16-week placement at one school site. Prereq: Admission to teacher education or permission of instructor.

EDC 329 TEACHING READING AND LANGUAGE ARTS. (3)
Development of competencies for the teaching of reading and other language arts to groups. Course will also provide an overview of the nature of reading and language arts development from grade K-8. Twenty hours of laboratory work in the schools are required. Prereq: Admission to Early Elementary Education TEP or Middle School TEP.

EDC 330 WRITING IN THE CONTENT AREAS. (3)
Development of competencies for the teaching of writing and other language arts, including digital texts and other 21st century platforms, to groups. This course is in conjunction with a four-week field experience, consisting of 2 two-week placements in the candidate's areas of content concentration. Prereq: EDC 327, or permission of instructor.

EDC 334 ORAL AND WRITTEN LANGUAGE DEVELOPMENT IN THE ELEMENTARY SCHOOL. (3)
A study of language differences, methods for teaching children with language differences, ways to integrate oral language instruction with the total curriculum, ways to enhance students' expressive writing abilities, and ways to teach grammar, spelling, and handwriting through functional and creative writing activities. Prereq: EDC 329 and admission to the elementary teacher education program.

EDC 339 DESIGNING A READING AND LANGUAGE ARTS PROGRAM FOR THE ELEMENTARY SCHOOL. (3)
A study of materials and procedures for developing reading and language arts skills with elementary students, with an emphasis on grades K-4. Course will emphasize how to diagnose individual student skill strengths and weaknesses and build a prescriptive program based upon the diagnosis. Prereq: EDC 329; admission to the TEP or permission of instructor. Coreq: EDC 322.

EDC 341 THE EARLY ADOLESCENT LEARNER AND METHODS IN MIDDLE LEVEL EDUCATION. (3)
An examination of the nature of early adolescents as well as the history and characteristics of the schools designed to teach them. Focus is on responsive pedagogy, especially the rationale behind the middle school concept and the generic techniques of teaching as an individual and as a member of an interdisciplinary team. Lecture, three hours; laboratory, one hour. This course is in conjunction with a guest field experience to occur in a 16-week placement at one school site. Prereq: Admission to Teacher Education or permission of instructor.

EDC 342 STUDENT TEACHING IN ART. (3-12)
Designed to give the student practical experience through observation, planning, teaching, and evaluating procedures. The student works with children on all grade levels under the guidance of the supervising teacher. Offered on a pass-fail basis only. Prereq: Admission to the Teacher Education Program or permission of instructor.

EDC 343 METHODS AND MANAGEMENT IN MIDDLE LEVEL EDUCATION. (3)
A study of classroom management in theory and practice, with a focus on planning and assessment in middle level classrooms. This course is in conjunction with a four-week field experience, consisting of 2 two-week placements in the candidate's areas of content concentration. Prereq: EDC 341, or permission of instructor.

EDC 346 METHODS OF TEACHING MIDDLE LEVEL SOCIAL STUDIES. (3)
Introduction to theory, research, purposes, methods and materials appropriate to social studies instruction in the middle grades. This course is in conjunction with a four-week field experience, consisting of 2 two-week placements in the candidate's areas of content concentration. Prereq: Admission to Teacher Education, 12 hours in approved social studies courses, or permission of instructor.

EDC 347 METHODS OF TEACHING MIDDLE LEVEL ENGLISH LANGUAGE ARTS. (3)
This course introduces teacher candidates to the fundamentals of theory and practice for teaching English Language Arts at the middle level (grades 5-9) as they develop an understanding of state and national standards. Course work includes current issues and recent developments in curriculum and methodology in the teaching of middle level English Language Arts with emphases on the integration of reading, writing, listening, speaking, and language use. Course includes a four-week field placement in middle school settings. Prereq: Admission to Teacher Education, 9 hours in English, or permission of instructor.

EDC 362 FIELD EXPERIENCES IN SECONDARY EDUCATION. (1-3)
Supervised experiences in schools, other education agencies, and the community. Required of all students receiving a bachelors degree in secondary education. Includes field trips, work in schools, and involvement in community projects.

EDC 377 STUDENT TEACHING IN MUSIC. (3-12)
A course planned for teachers who expect to become either instructors or supervisors of music in the public schools. Observation, teaching, work on research problems, and conferences with the supervising teacher included. Offered on a pass-fail basis only. Prereq: Admission to the Teacher Education Program or permission of instructor.

EDC 421 SURVEY OF SECONDARY MATHEMATICS CURRICULUM. (3)
This course will examine the content of the mathematics curriculum of the secondary school and issues related to that curriculum. Students are expected to demonstrate competency in this content.

EDC 433 STUDENT TEACHING IN THE ELEMENTARY SCHOOL. (3-12)
A course designed to give the student experience with and practice in the program of an elementary school. Actual work with children in all learning situations is the basic part of the course. A required weekly seminar will include sessions on: beginning teacher internship, school law and students' rights, administrative organization, and professional development. Offered on a pass/fail basis only. Prereq: Must meet the published college requirements for student teaching.

EDC 446 APPLICATIONS OF TEACHING MIDDLE LEVEL SOCIAL STUDIES. (3)
This course emphasizes analyzing and assessing teaching and learning appropriate to inquiry-based social studies instruction in the middle grades. This course is in conjunction with an eight-week field experience. Prereq: EDC 346 or permission of instructor.

EDC 501 TEACHING INTERNSHIP. (1-12)
Supervised practice teaching under competent leadership. Observation, instruction, independent study which parallels field experience, and conferences with supervising instructor included. This course is designed primarily for students in Allied Health Professions, Education, Library and Information Science, Home Economics, and Social Work. May be repeated to a maximum of 12 hours. Prereq: EDC 500 or permission of instructor.

#EDC 504 LITERATURE AND RELATED MEDIA FOR YOUNG ADULTS. (3)
A study of literature and related materials for use with young people in grades 6-12. Emphasis is placed on the special characteristics and needs of young people and the evaluation of materials for this age group. (Same as LIS 514.)

EDC 509 COMPOSITION FOR TEACHERS. (3)
A course covering the basic studies helpful to teachers of English composition at the secondary level. Focuses on the teaching of grammar, punctuation, usage, etc., and on theme planning, correction, and revision. Students are required to do quite a bit of writing. Provides ENG Major Elective credit and ENG minor credit. (Same as ENG 509.)

EDC 513 TEACHING ENGLISH AS A SECOND LANGUAGE. (3)
The course examines the current theories and methods of teaching English as a second language. The course will include (1) language learning theory as it relates to other disciplines; (2) methods and techniques of contrastive analysis. Prereq: One course in linguistics or consent of instructor. Provides ENG Major Elective credit and ENG minor credit. (Same as ENG/LIN 513.)

EDC 514 TESL MATERIALS AND METHODS. (3)
An extension to ENG/EDC 513, this course will include examination and evaluation of published materials designed for teaching English to speakers of other languages. Students will create individualized teaching materials and gain practical experience in applying the methods and using their own materials. Prereq: ENG/EDC 513 or consent of instructor. Provides ENG Major Elective credit and ENG minor credit. (Same as ENG/LIN 514.)

EDC 520 ASSESSMENT AND ACCOUNTABILITY IN MIDDLE LEVEL EDUCATION. (3)
This capstone course is taken during the student teaching experience and is taught via an online modality. The purpose of the course is to investigate and document teaching effectiveness. Candidates design an integrated unit of study, pre and post test student learning, analyze learning gains drawing on formative and summative measures, and make modifications and accommodations based on the results. Prereq: Admission to Teacher Education.

EDC 522 PSYCHOLOGICAL AND EDUCATIONAL TESTS AND MEASUREMENTS. (3)
Problems of measurement with emphasis on standardized tests. General principles of test construction and evaluation, for standardized assessments and/or teacher-made tests, examinations, criteria for evaluation and marking and other rating systems. (Same as EDP/EPE 522.)

EDC 533 TEACHING LITERACY ACROSS THE DISCIPLINES. (3)
This course provides an in-depth study of theories and teaching methods for integrating literacy (including digital literacy) instruction into content area classrooms at the K-12 levels. Instructional strategies, procedures, and assessments designed to increase vocabulary learning and comprehension of expository texts are emphasized. Prereq: Graduate standing or consent of the instructor.

EDC 534 READING AND STUDY SKILLS IN ENGLISH. (3)
An introductory course for teachers of English. The emphasis is on developing competencies necessary for teaching reading and study strategies in the English and humanities curriculum,

especially at the junior and senior high school levels. Lecture, three hours; laboratory, one hour. Prereq: Junior standing, admission to the TEP in English education, or consent of instructor.

***EDC 537 ADVANCED APPLICATIONS OF TEACHING WRITING. (3)**
This course promotes the thoughtful examination of writing instruction at the middle and high school levels Throughout the course, learners are introduced to strategies and skills they can use to enhance their own writing and the writing of their students. Using a process approach, students learn how to communicate ideas effectively in a variety of genres and for a multitude of purposes. Based on the most current research in the field, this course explores such topics as writers workshop, conferencing, assessment of struggling writers, reading/writing connections, writing in the disciplines, revision and editing, the use of digital media to support writers, and the management of writing instruction. This course is offered in conjunction with an eight-week clinical field experience. Prereq: EDC 347, graduate standing, or permission of instructor.

***EDC 541 READING AND UNDERSTANDING EDUCATIONAL RESEARCH. (3)**
The purpose of this course is to learn how to critically read, analyze, and reflect upon educational research from quantitative, qualitative, and mixed methods perspectives.

EDC 543 DIGITAL GAME BASED LEARNING AND INSTRUCTION. (3)
Digital game-based video applications as prominent video-based vehicles for distance education and multimedia development through multi-user and virtual platforms. Classroom exercises and projects develop basic video game production skills including the use of graphical and video assets, flash animations storyboarding, equipment, terminology and systems, message design issues and research on DGBL.

EDC 544 USE AND INTEGRATION OF INSTRUCTIONAL MEDIA. (3)
Students use a range of traditional, interactive, and emerging technological interventions in analog and digital formats. Students gain skill in the operation, production, and integration of basic media such as video, graphics, videodisk, and CD-ROM in a variety of instructional settings (training, exploratory learning, on-line databases, etc.). Students demonstrate skills via the composition and production of several media documents using available tools and resources.

EDC 547 TECHNOLOGY IN INSTRUCTION PRACTICE. (3)
Students use instructional computing applications and understand the roles and uses of computers in instruction. Students select and use instructional computing hardware and software appropriate to instructional goals and settings. Students use electronic networks for instructional purposes. Students demonstrate skill using basic productivity software through structured assignments and collaborative projects.

EDC 548 INSTRUCTIONAL TECHNOLOGY LEADERSHIP. (3)
Students develop skill in advanced aspects of the operation and use of the range of instructional technologies from desktop to distributed computing environments. Students use operating systems, learn network administration, do technology planning, and work with basic authoring tools. Skill is demonstrated through a series of projects including development of a technology plan for a specified work setting and authorship of a prototype program.

EDC 549 MIDDLE LEVEL STUDENT TEACHING. (3-15)
This course provides candidates with the opportunity to participate in a full-time, supervised internship in middle grade classrooms. The student teaching experience occurs in a 5-9 school setting. Offered on a pass-fail basis only. Repeated for up to 15 hours. Prereq: Must meet published college requirements for student teaching.

EDC 550 EDUCATION IN A CULTURALLY DIVERSE SOCIETY. (3)
This course assists future educators in developing strategies to create an equitable teaching/learning environment where all students are validated, stimulated, and nurtured. Course participants explore the rationale for their current belief systems and perceptions of other cultures; investigate how and why their personal attitudes, behaviors, and expectations affect the academic and social development of children and youth, and examine contemporary educational issues. (Same as AAS 550.)

EDC 554 CULTURE, EDUCATION AND TEACHING ABROAD. (3)
Introduction to theory and practice of intercultural communication, cross-cultural (especially international experience), and teaching with a global perspective, plus an opportunity for country-specific research. Required for those wishing to student teach overseas. (Same as EPE 554.)

EDC 565 MODERN EDUCATIONAL PROBLEMS. (GENERAL CURRICULUM). (3)

EDC 575, 576 MODERN EDUCATIONAL PROBLEMS. (UNCLASSIFIED). (3 ea.)

EDC 580 INTRODUCTION TO GIFTED EDUCATION. (3)
This course reviews the historical development of and the theoretical and empirical support for differentiated educational programs for gifted and talented children. Specific issues addressed include defining and identifying giftedness, teacher competencies and training, providing differentiated curricula and program evaluation. (Same as EDP 580.)

EDC 601 THEORIES, PERSPECTIVES, TRENDS AND ISSUES IN MULTICULTURAL EDUCATION. (3)
This course provides students with a critical analysis of multicultural education theories, perspectives, current issues, and trends. Students will develop the competencies needed to write scholarly literature reviews, identify areas in multicultural education needing further research studies, and submit papers for review and presentation at professional meetings. Prereq: Graduate standing, EDP 557 or consent of instructor. (Same as AAS 601.)

EDC 602 CURRICULA AND PROGRAMMING FOR THE GIFTED. (3)
Students in this course will examine and evaluate curricular models appropriate of gifted students, and will consider methods for adapting existing curricula to meet the needs of gifted students. The design, implementation and evaluation of program delivery models will be discussed. Prereq: EDC/EDP 580 and teacher certification, or consent of instructor.

EDC 605 DISTANCE LEARNING RESEARCH AND DESIGN. (3)
Study of the design and development of distributed learning systems in education and training. Topics include: foundations of distance education, distance learning research, and the design and development of e-learning courses and workshops. Student involvement in the design of an e-learning course or workshop will be emphasized.

EDC 607 INSTRUCTIONAL DESIGN I. (3)
Introduction to the instructional design process from needs assessment and goal definition through evaluation. Each student will design prototype instructional materials based on an instructional design model and/or procedures. The course will also introduce students to the field of instructional design and technology.

EDC 608 INSTRUCTIONAL DESIGN II. (3)
Critical analysis of instructional design models and their theoretical foundations including the impact of various models and perspectives on the practice and the products of instructional design. Prereq: EDC 607 or consent of instructor.

EDC 609 INTERACTIVE MULTIMEDIA AND USER DESIGN. (3)
The goal of this course is to examine the theoretical foundations and best practices involved in multimedia research and interface design. These investigations are anchored in user-centered design and the methodology explored in the course is research to practice in usability testing and iterative program design. Prereq: EDC 544.

EDC 610 DISCIPLINE AND CLASSROOM MANAGEMENT. (3)
The course is designed to examine the causes of and solutions to disruptive and noncompliant behavior and classroom management problems that are within the control of the classroom teacher. The course content is designed around two approaches: (1) identifying prevalent problems and exploring specific solutions to them; (2) presenting selected strategies and applying them to a variety of problems. In both cases, alternatives are considered in the light of relevant theory, law, research and experience. Prereq: Teacher certification and EDP 203.

EDC 611 AUTHORING APPLICATIONS FOR TECHNOLOGY-BASED INSTRUCTION. (3)
Focuses on individual and collaborative authoring applications for technology based instructional materials. Topics include linear and non-linear information structures, instructional message design, compositional issues related to audience focus, information density, language control, and organization, and prototype production with industry standard authoring software. Prereq: EDC 547 and EDC 607 or consent of instructor.

EDC 612 INSTRUCTIONAL DESIGN AND TECHNOLOGY FOUNDATIONS. (3)
Provides an in-depth survey of the field of instructional design and technology. Topics covered include the history of instructional design and technology, critical issues, current trends and future prospects for the field, instructional development, research, certification, and professional development.

EDC 615 ADVANCED INSTRUCTIONAL APPLICATIONS FOR THE EARLY ADOLESCENT LEARNER. (3)
This course for middle school teachers examines the complex nature of the 10 to 14 year old student. Analysis of recent research-based effective instructional strategies to meet the needs, interests, and characteristics of these students will be included. Prereq: Teacher Certification or consent of instructor.

EDC 616 THE MIDDLE SCHOOL. (3)
The purpose of this course is to provide middle school teachers with an in-depth analysis of the characteristics of effective middle school facilities. An examination of current curricular models, issues, trends, and exemplary middle schools will comprise the primary focus of this course. Prereq: EDC 615 or consent of instructor.

EDC 618 ADVANCED STUDY IN THE TEACHING OF READING. (3)
An advanced course for classroom teachers which focuses on selection and implementation of reading assessment and instructional procedures. The theoretical bases of the reading process and the knowledge of research in reading will be related to the design of classroom instruction. This course is to become an option in Area 7 of both the Elementary and Secondary Standard Certification programs. Prereq: EDC 330 or 339 or 533 or equivalent.

EDC 619 ASSESSMENT OF READING GROWTH AND DEVELOPMENT. (3)
Clinical techniques for the diagnosis of reading disabilities. A course designed to develop both theoretical understandings and operational skills in clinical diagnosis of reading problems. Classroom application of the techniques is discussed. Prereq: EDC 330, or EDC 533, or EDC 534, or permission of instructor.

EDC 620 DESIGN AND IMPLEMENTATION OF READING INSTRUCTION. (3)
Clinical techniques used in the remediation of reading problems. It is a course designed to develop individualized procedures related to diagnosis. Classroom applications of the instructional procedures are discussed. This course is a combination of lecture and application with a student client. Prereq: EDC 619, or permission of instructor.

EDC 620 DESIGN AND IMPLEMENTATION OF READING INSTRUCTION. (3)
Clinical techniques used in the remediation of reading problems. A course designed to develop

individualized procedures related to diagnosis. Classroom application of the instructional procedures is discussed. Lecture, two hours; laboratory, two hours. Prereq: EDC 619, or consent of instructor.

EDC 621 LANGUAGE AND LITERACY DEVELOPMENT. (3)
A study of language and literacy development (oral and written language development, first and second language development, etc.) across the lifespan to provide a foundation for literacy instruction and curriculum development. Prereq: EDC 641 or equivalent course in research foundations.

#EDC 625 LITERACY LEADERSHIP P-12. (3)
The purpose of this course is to prepare literacy professionals to facilitate positive change in school and community settings through program development and evaluation, mentoring, and advocacy. Students will: understand and assume various roles as literacy leaders; learn how to develop, implement, and evaluate effective research-based literacy programs and practices; learn how to design, facilitate, lead, and evaluate effective professional development programs for professional educators; learn how to mentor colleagues and work collaboratively with families, teachers, administrators, policymakers, and community members in individual and group contexts; and learn how to influence local, state, and national policy decisions related to literacy education.

#EDC 626 CURRENT ISSUES IN LITERACY EDUCATION. (3)
"Current Issues in Literacy Education" (EDC 626) is an advanced course for graduate students, which focuses on contemporary matters in literacy education and learners. An emphasis on social, historical, and political factors affecting the literacy learning is included.

EDC 632 SOCIAL STUDIES PEDAGOGY IN THE SECONDARY SCHOOL. (0-3)
Through campus and school-based experiences, students will learn how to engage young people in learning social studies and how to make decisions about planning instruction and develop assessment based on a sound knowledge base for applying content, materials, and methods (including educational technology) appropriate for high school students. May be repeated to a maximum of three credits. Lecture, 1-3 hours; laboratory, 3-6 hours per week. Prereq: Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education).

EDC 633 BUSINESS PEDAGOGY IN THE SECONDARY SCHOOL. (0-3)
Through campus and school-based experiences, students will learn how to engage young people in learning business and how to make decisions about planning instruction and develop assessment based on a sound knowledge base for applying content, materials, and methods (including educational technology) appropriate for high school students. May be repeated to a maximum of three credits. Lecture, 1-3 hours; laboratory, 3-6 hours per week. Prereq: Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education).

EDC 635 ENGLISH PEDAGOGY IN THE SECONDARY SCHOOL. (0-3)
Through campus and school-based experiences, students will learn how to engage young people in learning English and how to make decisions about planning instruction and develop assessment based on a sound knowledge base for applying content, materials, and methods (including educational technology) appropriate for high school students. May be repeated to a maximum of three credits. Lecture, 1-3 hours; laboratory, 3-6 hours per week. Prereq: Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education).

EDC 636 METHODS OF TEACHING FOREIGN LANGUAGE, K-12. (3)
The course provides training in teaching and managing instruction in second languages, modern and classical, grades K-12. It anticipates and integrates the objectives, content, and performance outcomes of the Field Experiences course and the Student Teaching experience. Topics include: the history and issues of foreign language education in the United States; current trends and research in language acquisition, learning, and teaching; proficiency-based models of instruction and assessment compatible with national standards and the Kentucky Education Reform framework; selection and development of instructional materials; the integration of technology; curriculum development; school reform, peer assistance, and advocacy. Prereq: Admission to the M.A./M.S. or Kentucky State Teacher Certification in Foreign Languages or in English as a Second Language.

EDC 637 CLASSROOM MANAGEMENT IN SECONDARY EDUCATION. (1)
The Classroom Management component course is designed to prepare future teachers to effectively manage aspects of their instruction, interactions with students, and student behavior in the secondary classroom. Causes of and solutions to disruptive and noncompliant behavior and classroom management problems that are within the control of the classroom teacher will be examined. Prereq: Admission to the M.A. Education (Secondary Education with Initial Certification).

EDC 638 TECHNOLOGY IN SECONDARY EDUCATION. (1-3)
This course emphasizes the use of several key interactive technologies for problem solving – problem solving that occurs on several levels: (1) instructional problem solving (using technology to support various kinds of learning outcomes for students), (2) content problem solving (using games/software/websites to learn to solve problems that reflect the principles and core concepts in your discipline, (3) assessment problem solving (using technologies to support authentic challenging assessments that support evaluation of what students know and are able to do).

EDC 639 MULTICULTURALISM IN SECONDARY EDUCATION. (1)
This course explores the influence of self-concepts and past experiences on current attitudes, perceptions and behaviors; investigates the effects of cultural traditions, political mandates, educational trends and school curriculums on student achievement; and develops strategies to create equitable teaching/learning environments in secondary education that validate, stimulate, and nurture all students. Prereq: Admission to M.A. in Education (Secondary Education with Initial Certification).

EDC 642 RESEARCH AND THEORY IN LITERACY EDUCATION. (3)
The purpose of this course is to critically examine, analyze, and reflect upon research and theory pertaining to the production and understanding of oral and written language (reading, writing, speaking, listening, viewing, and visually representing). Prereq: EDC 641 or equivalent course in research foundations.

EDC 676 PRACTICUM IN GIFTED EDUCATION. (3)
Supervised experience in the instruction of gifted children. Requires placement in an approved program designed for serving gifted children plus participation in a weekly supervisory seminar. Lecture, two hours; laboratory, nine hours per week. Prereq: EDP 580, EDC 602, EDP 612 or consent of instructor. (Same as EDP 676.)

EDC 709 SOCIAL MEDIA AND INTERACTIVE SYSTEMS DESIGN. (3)
The purpose of this course is to examine the growing research and design literature for on-line communities and networked learning groups that support cooperative, collaborative and social instructional activities. Framed by concepts from Activity Theory, Social Networking Theory and Social Learning Models students will read current books, research articles and be introduced to research methods and tools (such as tracking utilities and on-line data collection) for examining on-line communities. Students will design and collect data for an original research project as part of required course work. Prereq: EDC 608, EDC 612, or consent of instructor.

EDC 710 ADVANCED TOPICS IN INSTRUCTIONAL DESIGN. (3)
An identification and analysis of current theories and programs of research in instructional systems design. Students will develop the skills necessary to conduct and write a scholarly literature review and identify potential areas and questions needing further study. Prereq: EDC 608, EDP 610, EDC 612, or consent of instructor.

EDC 712 THE ELEMENTARY SCHOOL. (3)
Recent research and modern trends in teaching the skills and content subjects in the elementary school. Planned for supervisors, superintendents, principals, and teachers for better understanding of a modern elementary school.

EDC 714 THE SECONDARY SCHOOL. (3)
A course designed to acquaint the secondary teacher and the administrator with the nature and function of the secondary school.

EDC 724 GUIDING AND ANALYZING EFFECTIVE TEACHING. (3)
A course designed for educators who are preparing to supervise teachers and who wish to analyze their own practice. Research, policies, and trends are examined and practices analyzed in the context of how to promote effective teaching. Principles apply to elementary and secondary education.

EDC 726 CURRICULUM INQUIRY MIXED METHODS RESEARCH. (3)
A mixed methodology conceptual framework is used to examine various approaches for designing, implementing, and analyzing practitioner data generated in a variety of instructional settings. Topics include epistemological, methodological, and ethical issues involved in action research, classroom discourse analyses, and mixed methods curriculum inquiry. Prereq: EDP/EPE 558 and EPE 663 or permission of instructor.

EDC 730 PROBLEMS OF THE SCHOOL CURRICULUM. (3)
Problems in the field of the school curriculum and in the preparation of instructional materials. Students enrolling in this course are required to leave on file with the College of Education a complete report of each problem studied. May be repeated once for a maximum of six credits.

EDC 731 SOCIAL STUDIES SEMINAR: HISTORY EDUCATION. (3)
Advanced study of the purposes and practices that characterize K-12 history education in diverse settings, critical analysis of research on the development of children's and adolescents' historical thinking and the introduction of classroom-based techniques for assessing students' historical understanding. Prereq: Graduate standing.

EDC 732 CURRICULUM DESIGN FOR LEARNING AND LEADING. (3)
Critical analysis, design, and implementation of curricula. Survey of theoretical foundations, in-depth applied research experiences, design of curriculum resource materials, and implementation of curriculum designs.

EDC 733 LEADERSHIP IN ADVANCED INSTRUCTIONAL PRACTICE. (3)
Course participants will develop leadership skills in curriculum and instruction through a variety of research-based analytic practices such as lesson study, observation, mentoring, dialogic and collaborative work in the context of a school learning community. Clinical/field/practicum experiences provide experience identifying a research problem, planning a course of action, and implementing and evaluating the action plan to improve learning results in K-12 classrooms. This course is designed as a hybrid workshop as follows. The class begins with a one-week intensive summer experience. Online and distance learning instruction will be conducted throughout the fall semester as students engage in their course work through clinical/field/practicum experiences. During the semester, two in-class meetings will serve as midpoint and final assessments of student progress toward meeting course objectives. Clinical/field work will be conducted in school classrooms. Prereq: Graduate-level curriculum course, graduate-level assessment course, and a minimum of two years' K-12 teaching experience.

EDC 740 PRACTICUM IN TEACHING READING AND RELATED LANGUAGE ARTS. (3)
Supervised practicum in analyzing problems in reading and related language arts and providing remedial work. Requires six hours per week in practicum with individual children or groups, plus two hours per week in seminar. May be repeated to a maximum of six credits. Prereq: EDC 619, 620.

EDC 746 SUBJECT AREA INSTRUCTION IN THE SECONDARY SCHOOL. (0-9)
Students will teach in their subject areas in the schools full-time, meet regularly to discuss teaching effectiveness and strategies for improvement and develop their professional portfolios. May be repeated to a maximum of nine credits. Lecture, 3-9 hours; laboratory, 6-18 hours per week. Prereq: The appropriate methods course in the subject area (SEM 631, EDC 632, EDC 633, SEM 634 or EDC 635). Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education). (Same as SEM 746.)

EDC 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

EDC 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

EDC 750 INTERNSHIP IN INSTRUCTIONAL SYSTEMS DESIGN. (3)
Students will apply their knowledge of instructional systems design in a real-life setting. The work setting will be selected based on the professional goals of each student and student work will be supervised and reviewed by the internship coordinator. May be repeated to a maximum of nine credits. Prereq: Consent of program coordinator.

EDC 755 INSTRUCTIONAL SYSTEMS DESIGN RESEARCH COLLOQUIUM. (1)
Students and faculty will discuss current research and related issues in instructional systems design. May be repeated to a maximum of two credits. Prereq or concur: EDC 547 and EDC 608.

EDC 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

EDC 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

EDC 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

EDC 777 SEMINAR IN CURRICULUM AND INSTRUCTION (Subtitle required). (1-3)
A critical analysis of recently developed materials and techniques in curriculum and instruction for precollege education. Includes analysis of evaluative research related to new materials and techniques. May be repeated to a maximum of nine credits. Prereq: Consent of instructor.

EDC 781 INDEPENDENT STUDY IN CURRICULUM AND INSTRUCTION. (1-3)
An independent study course for graduate students who have completed at least half of the program course requirements in clinical and college teaching, curriculum and instruction, early childhood education, elementary education, reading or secondary education. May be repeated to a maximum of nine credits. Prereq: Consent of the Director of Graduate Studies.

EDC 791 RESEARCH PROBLEMS IN CURRICULUM AND INSTRUCTION. (1-3)
A research problems course for graduate students who have completed at least half of the program course requirements in clinical and college teaching, curriculum and instruction, early childhood education, elementary education, reading or secondary education. May be repeated to a maximum of nine credits. Prereq: Consent of the Director of Graduate Studies.

EDL School Administration

EDL 401 THE PROFESSIONAL TEACHER: LEGAL PERSPECTIVES. (1)
Study of legal concerns of public school teachers. Emphasizes legal rights and responsibilities of teachers and pupils. Lecture, two hours per week for eight weeks. Prereq: Admission to the Teacher Education Program.

EDL 402 PRINCIPLES OF LEADERSHIP. (3)
This course is designed to provide an introduction to leadership. Its focus is the development of an understanding of leadership theories and styles. You will also learn strategies for successful leadership. The introduction will include: 1) historical, theoretical, and cultural perspectives of leadership, 2) leadership skills and styles and strategies for success, and 3) examination of the responsibilities of leadership. Prereq: Admission to the program or consent of instructor. (Same as CLD 402.)

EDL 403 LEADERSHIP AND COMMUNICATION. (3)
This course is designed to expand student understanding of the theory and practice of leadership, conflict management, and decision-making. It is also designed to focus on issues of cohesiveness, trust, motivation, vision, and goals. Students must integrate their personal ethics and definition of leadership in various course assignments and projects. Prereq: Admission to the program or consent of instructor. (Same as CLD 403.)

EDL 404 CONTEMPORARY LEADERSHIP APPLICATIONS. (3)
This course supplements and integrates previous learning and is designed to provide maximum exposure to various concepts and perspectives of leadership through observational experiences, critical thinking, and self-analysis. It is also designed to allow the demonstration of previously learned leadership theories, styles, and strategies. Students must integrate their personal ethics and vision of leadership in their examination of various contemporary leadership contexts. Prereq: Admission to the program or consent of instructor. (Same as CLD 404.)

EDL 571 DESIGN THINKING IN EDUCATION. (3)
This course exposes students to many facets of design thinking and provides them with an interdisciplinary perspective about the role of design in addressing the world's challenges. This course also raises awareness about the value and power of design thinking our culture. Students will work in collaborative teams on semester-long projects in collaboration with client organizations, field liaisons, and a set of multidisciplinary experts. Students are exposed to the process of human-centered design, and hone their skills in need finding, problem definition, brainstorming, prototyping, and user testing. The course will consist of lecture, hands-on practicum, and guest speakers.

EDL 601 INTRODUCTION TO SCHOOL LEADERSHIP AND ADMINISTRATION. (3)
Study of school leadership and administrative responsibilities, with emphases on understanding schools as complex organizations and facilitating leadership to create a work climate supportive of excellence in teaching and learning.

EDL 610 SCHOOL LEADERSHIP PRACTICUM I. (1)
Study and observation of the role and responsibilities of the school principal in practice. Practicum students are required to spend time at school site locations. Prereq: Twelve hours of program course work completed, or consent of instructor.

EDL 611 SCHOOL LEADERSHIP PRACTICUM II. (1)
Study and observation of the role and responsibilities of the school principal in practice. Practicum students are required to spend time at school site locations. Prereq: Twelve hours of program course work completed and EDL 610 completed, or consent of instructor.

EDL 612 SCHOOL LEADERSHIP PRACTICUM III. (1)
Study and observation of the role and responsibilities of the school principal in practice. Practicum students are required to spend time at school site locations. Prereq: Twelve hours of program course work completed and EDL 610, EDL 611 completed, or consent of instructor.

EDL 625 SCHOOL SAFETY AND DISCIPLINE LEADERSHIP. (3)
Study of processes and programs effective in promoting school wide safety and discipline. Emphasis on school connections to community security and resources. Prereq: Admission to Department Program or Consent of instructor.

EDL 627 SCHOOL FINANCE AND SUPPORT SERVICES. (3)
Study of concepts in school finance and school business management. Attention is given to national, state, and local issues. Emphasis is also given to school support services including transportation, facility planning and maintenance, food service, and risk management. Prereq: Program status or consent of instructor.

EDL 628 SCHOOL LAW AND ETHICS. (3)
Study of legal and ethical issues as related to practical problems of school administration. Constitutional provisions and court decisions are examined as they impact education. Prereq: Program status or consent of instructor.

EDL 631 LEADERSHIP FOR SCHOOL PROGRAM COLLABORATION. (3)
This course prepared school leaders to administer integrated instructional support programs in schools and districts. Attention is also given to leadership requirements needed to facilitate collaboration among school and community-based programs that provide and support student learning. Prereq: Program status or consent of instructor.

EDL 634 LEADERSHIP FOR HUMAN RESOURCES DEVELOPMENT IN SCHOOLS. (3)
Study of human resources development practices in school systems, with emphases on central office and school unit responsibilities for attracting, selecting, developing, evaluating, and retaining competent faculty and staff. Prereq: Program status or consent of instructor.

EDL 638 THE SUPERVISOR OF INSTRUCTION. (3)
A study of the role and responsibilities of the supervisor of instruction as a member of the leadership team for the school district. Prereq: Admission to program or consent of instructor.

EDL 646 SCHOOL AND COMMUNITY COLLABORATION LEADERSHIP. (3)
Study of issues in administering integrated support programs in schools and districts serving specific student or community populations while increasing school and community collaboration. Prereq: Program status or consent of instructor.

EDL 661 SCHOOL TECHNOLOGY LEADERSHIP. (3)
This course provides an introduction to the study of school technology leadership with an

KEY: # = new course * = course changed † = course dropped

emphasis on educational administrators developing a shared vision, planning, and promulgating policies and utilizing resources for the comprehensive integration of technology at the school, district, and state levels. Prereq: Admission to the program or consent of instructor.

EDL 662 DIGITAL AGE LEARNING AND SCHOOL TECHNOLOGY LEADERSHIP. (3)
This course focuses on the role of educational administrators in creating and sustaining a culture of learning that ensures all students have access to an academically rigorous, relevant, and engaging education through the use of appropriate digital technologies. Prereq: Admission to the program or consent of instructor.

EDL 663 LEADERSHIP FOR SCHOOL PROGRAM IMPROVEMENT. (3)
This course addresses the role of the educational administrator in providing professional development that supports communities of practice and the adoption of contemporary technologies and digital resources to enhance student academic learning. The course introduces students to principles of adult learning that characterize effective professional development and planning as it relates to technology adoption at the school, district and state-levels of education.

EDL 664 SCHOOL TECHNOLOGY LEADERSHIP FOR SCHOOL IMPROVEMENT. (3)
This course focuses on educational administrators' use of technology to support data-driven decision-making to support continuous improvement and change at the school, district, and state levels of education. Prereq: Admission to the program or consent of instructor.

EDL 665 SCHOOL TECHNOLOGY LEADERSHIP FOR DIGITAL CITIZENSHIP. (3)
This course examines school administrators' social, ethical, and legal issues and responsibilities all students, including those with disabilities and special needs, for digital citizenship. Facilitating understanding of evolving virtual school environments and modeling digital citizenship at the school, district, and state levels are also addressed. Prereq: Admission to the program or consent of instructor.

EDL 669 LEADERSHIP FOR CREATIVE PROBLEM SOLVING. (3)
Study of diverse strategies and protocols used to identify authentic problems of practice in educational settings, diagnose potential options, determine innovation solutions, and assess impact by using diverse data sources.

EDL 676 THE SCHOOL SUPERINTENDENCY. (3)
Role of the school district superintendent is studied including: historical and current job responsibilities of the position; knowledge, skills and dispositions necessary to serve successfully in the position; future challenges of the position. Prereq: Admission to the program and consent of instructor.

EDL 677 SCHOOL SYSTEM ADMINISTRATION. (3)
Study of overall school district management and operations including administration of auxiliary services, federal programs, financial management, and human resources. Prereq: Admission to program or consent of instructor.

EDL 678 STRATEGIC MANAGEMENT IN EDUCATION. (3)
Study of strategic management procedure applications in school administration utilized at both the school district and individual school site levels. Prereq: Admission to program or consent of instructor.

EDL 679 SCHOOL SUPERINTENDENT PRACTICUM I. (1)
Study and observation of the role and responsibilities of the school superintendent in practice. Students are required to spend time in field settings. Prereq: Admission to school superintendency certificate program or consent of instructor.

EDL 680 SCHOOL SUPERINTENDENT PRACTICUM II. (1)
Study and observation of the role and responsibilities of the school superintendent in practice. Students are required to spend time in field settings. Prereq: Admission to school superintendency certificate program and completion of EDL 679 or consent of instructor.

EDL 681 SCHOOL SUPERINTENDENT PRACTICUM III. (1)
Study and observation of the role and responsibilities of the school superintendent in practice. Students are required to spend time in field settings. Prereq: Admission to school superintendency certificate program and completion of EDL 679 plus EDL 680, or consent of instructor.

#EDL 682 LEADING DISTRICT CHANGE AND INNOVATION. (3)
This course focuses on understanding the role of the school district superintendent in leading system-wide change and innovation, educational reform in national, state and local contexts and change models and processes. Students will collaborate with a superintendent mentor in completing field-based, work-embedded assignments. Prereq: Admission to the Superintendent Certification Program or consent of the instructor.

EDL 694 LEADERSHIP IN CAREER AND TECHNICAL EDUCATION. (3)
A course designed for superintendents, high school principals, and other leaders. Its purpose is to prepare administrators and supervisors for leadership in career and technical education. (Same as CLD 694.)

EDL 700 KNOWLEDGE BASE FOR LEADERS. (3)
This course reviews the quest for a knowledge based in educational administration. It begins with a survey of the history of education and organizational thought in the United States, examining scientific management, human relations, bureaucracy, and the theory movement. The course also reviews more recent attempts to capture the knowledge base including the University Council of Educational Administration's article bank, PRIMIS, and the Standards for School Leaders from the Interstate School of Leadership Licensure Consortium. The course emphasizes epistemologies used to generate a knowledge base in educational administration tracing the evolution of thought and vocabulary within the profession. Prereq: Permission of instructor.

EDL 701 LEADERSHIP IN EDUCATIONAL ORGANIZATIONS. (3)
A study of leadership with particular emphasis on understanding the nature, defining characteristics, responsibilities, contextual determinants, and importance of leadership within educational organizations. Prereq: Admission to Department program or consent of instructor.

EDL 702 LEADERSHIP FOR ORGANIZATIONAL LEARNING. (3)
This course examines theories associated with organizational learning and change processes that can be used by leaders of 21st century educational systems. Theories are then used to examine prevailing practices within organizations and to inform the development of action plans appropriate for improved organizational performance. Prereq: Admission to Department program or consent of instructor.

EDL 703 LEADING ORGANIZATIONAL CHANGE. (3)
This course focuses on understanding the field of organizational change as well as emphasizing the nature, characteristics, responsibilities, and contextual determinants that influence a leader's role in changing educational organizations. Prereq: Admission to Department program or consent of instructor.

EDL 704 POLITICS OF EDUCATIONAL LEADERSHIP. (3)
This course provides a study of the political contexts in which educational leaders must operate. The course explores the roles of policy actors, institutions, ideologies, and competing interests, both internal and external to education institutions. The course places emphasis on the ways that race, class, and income factor into political decision making in education. Prereq: Graduate standing. (Same as EPE 603.)

EDL 705 INTERNATIONAL PERSPECTIVES ON EDUCATIONAL REFORM. (3)
The course focuses on international education reform, the function of schools in national social, economic and political development, as well as emerging perspectives on educational leadership and professional preparation. Prereq: Admission to a doctoral degree program at the University of Kentucky, completion of EPE 555, its equivalent, or consent of the instructor.

EDL 706 LEADERSHIP FOR LEARNING-CENTERED SCHOOLS I. (3)
EDL 706 is the first in a two-course series that examines theories associated with learning-centered leadership in P12 educational organizations with emphasis on the roles and responsibilities of a principal in supervising a school's instructional program to improve student learning and school performance. Prereq: Admission to Ed.D. program or permission of instructor.

EDL 707 LEADERSHIP FOR LEARNING-CENTERED SCHOOLS II. (3)
EDL 707 is the second in a two-course series that examines theories associated with learning-centered leadership in P12 educational organizations with emphasis on the roles and responsibilities of principal in monitoring learning assessment, evaluation, and accountability to improve achievement for all students. Prereq: Admission to Ed.D. program or permission of instructor.

EDL 708 ORGANIZATIONAL LEARNING IN P12 SCHOOLS. (3)
EDL 708 examines theories associated with organizational learning and change processes that can be used by principals to create learning-centered schools. Students conduct disciplined inquiry within P12 schools to identify current practices and then develop action plans to improve school performance.

EDL 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

EDL 751 FOUNDATIONS OF INQUIRY. (3)
Introductory study of assumptions and procedures of systematic inquiry used to investigate administrative, leadership and supervisory phenomena in education. Issues regarding quantitative, qualitative and mixed methods models of inquiry are included.

EDL 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

EDL 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

EDL 770 TOPICAL SEMINAR IN EDUCATIONAL LEADERSHIP. (1-3)
Advanced graduate students enroll in this topical seminar to enhance their portfolios for educational leadership through concentrated study of innovations in the specialized functions of leadership. These specializations include, but are not limited to, the study of curriculum and instructional leadership, educational law, personnel administration, school and community relations, education for diverse populations, budgeting and financing of schools. May be repeated to a maximum of nine credits. Prereq: Admission to program or consent of instructor.

EDL 771 SEMINAR IN LEADERSHIP. (1-3)
A variable topic seminar on selected problems in educational leadership. Activities are designed to improve skill in planning, data-informed decision making, organizing, communicating, evaluating, negotiating, and problem solving will be provided as appropriate. Educational innovations and processes of implementing change may be analyzed. May be repeated to a maximum of nine credits. Prereq: Admission to program or consent of instructor.

EDL 785 INDEPENDENT WORK IN EDUCATIONAL LEADERSHIP. (3)
Includes research on a practical problem in educational leadership. Open only to students with at least one semester of graduate work in education. May be repeated to a maximum of nine credits. Prereq: Consent of instructor.

EDL 792 RESEARCH IN EDUCATIONAL LEADERSHIP. (3)
Critical examination of representative research studies in leadership and related fields. Emphasis upon the students' defining and delimiting an appropriate problem in educational leadership, generating a design appropriate to the problem and selecting appropriate techniques of analysis. Prereq: Admission to program.

EDP Educational and Counseling Psychology

EDP 202 HUMAN DEVELOPMENT AND LEARNING. (3)
Theories and concepts of human development, learning, and motivation are presented and applied to interpreting and explaining human behavior and interaction in relation to teaching across the developmental span from early childhood to adulthood. A field experience in a school or other educational agency is a required and basic part of the course. Prereq: PSY 100.

EDP 203 TEACHING EXCEPTIONAL LEARNERS IN REGULAR CLASSROOMS. (3)
An introduction to the characteristics and instructional needs of exceptional learners is presented with an overview of principles, procedures, methods, and materials for adapting educational programs to accommodate the integration of exceptional children in regular classrooms, when appropriate. A field experience in a school or other educational agency is a required and basic part of the course. Lecture, three hours per week; laboratory, two hours per week for a maximum of six weeks. Prereq: Successful completion of EDP 202 with an earned grade of C or higher.

EDP 303 TEACHING EXCEPTIONAL LEARNERS IN THE ELEMENTARY CLASSROOM. (2)
This course is designed to introduce students to issues related to classroom instruction to meet the needs of ALL students. We will examine the concept of the "least restrictive environment" (LRE) for learners and will discuss a variety of individual and group differences and exceptionalities, including various disabilities, giftedness, multicultural and diversity issues that teachers encounter in the regular classroom. The emphasis will be on understanding the needs and abilities of exceptional learners in order to make appropriate, reflective decisions about their instruction. Prereq: Admission to the Elementary Teacher Education Program and successful completion of EDP 202, or an equivalent.

EDP 518 CONTEMPORARY TOPICS IN UNIVERSITY RESIDENTIAL LIVING. (3)
An exploration of topic areas such as conflict mediation, crisis management, communication skills, student development theories, and wellness designed to provide new Resident Life Advisors with the skills and knowledge essential for being successful. Prereq: PSY 100, PSY 215, or EDP 202 and must be a Residence Life Advisor.

EDP 522 PSYCHOLOGICAL AND EDUCATIONAL TESTS AND MEASUREMENTS. (3)
Problems of measurement with emphasis on standardized tests. General principles of test construction and evaluation, for standardized assessments and/or teacher-made tests, examinations, criteria for evaluation and marking and other rating systems. (Same as EDC/EPE 522.)

EDP 548 EDUCATIONAL PSYCHOLOGY. (3)
An introduction to the application of principles of psychology to classroom learning and teaching problems.

***EDP 557 GATHERING, ANALYZING, AND USING EDUCATIONAL DATA. (3)**
This course is rooted in the conceptual understanding of statistics and covers applications of statistical and graphical methods for educational and evaluation data. Basic descriptive statistics, correlation, normal distributions and hypothesis testing will be covered. An emphasis is placed on exploratory data analysis and interpretation of results within the broad contexts of education and evaluation. Statistical literacy exercises will be used for comprehension and application of materials. In addition, applications of statistical software will be demonstrated. Prereq: MA 109 or equivalent; undergraduate of Education; or consent of the instructor. (Same as EPE 557.)

EDP 558 GATHERING, ANALYZING, AND USING EDUCATIONAL DATA II. (3)
The course covers applications of statistical and graphical methods for educational and evaluation data. Topics to be covered include descriptive statistics, correlation, normal distributions, hypothesis testing, regression, ANOVA, and power. General goals include: developing an understanding of statistical concepts, improving reasoning and critical thinking skills, and to prepare for more advanced quantitative courses. Students will gain valuable statistical computing skills via stats Software. Prereq: EDP/EPE 557 or equivalent. (Same as EPE 558.)

EDP 570 INTRODUCTION TO PSYCHOLOGICAL SERVICES IN SCHOOLS. (3)
A review of the historical development and models of organization and administration in the field of school psychology and the relationship between school psychology and other educational and psychological specialties. Prereq: Admission to School Psychology Program or consent of instructor.

EDP 580 INTRODUCTION TO GIFTED EDUCATION. (3)
This course reviews the historical development of and the theoretical and empirical support for differentiated educational programs for gifted and talented children. Specific issues addressed include defining and identifying giftedness, teacher competencies and training, providing differentiated curricula and program evaluation. (Same as EDC 580.)

EDP 600 LIFE SPAN HUMAN DEVELOPMENT AND BEHAVIOR. (3)
A survey of human development across the life span of the individual from conception to death. Content includes changes in motor skills, biological growth and decline, learning behavior, language, social, emotional, moral, and intellectual development as well as the roles of the family, the school, peers, and work in relation to individual development. Critical evaluation of current theories which describe human development.

EDP 603 HUMAN COGNITIVE DEVELOPMENT. (3)
Theory and research concerning the development of attitudes, motives, self-concept and other cognitive processes are presented and the educational implications explored. Prereq: EDP 548 or EDP 610 or EDP 600.

EDP 604 LIFESPAN GENDER DEVELOPMENT. (3)
An in-depth examination of theory, research, and personal attitudes concerning gender development over the lifespan. Interaction of gender with effective personal functioning in family, educational, and work-related settings. Prereq: EDP 600 and 601 or equivalent.

EDP 605 INTRODUCTION TO COUNSELING: TECHNIQUES I. (3)
A survey of counseling psychology, philosophy, procedures and practices. Consideration of the roles of the counselor in relation to counseling services in the community and educational settings. In-depth training in initial counseling skills, interviewing (listening) and relationship building skills. Prereq: Acceptance to the graduate program in counseling psychology with the following major codes: RECO, ECGO, CPEC, ECPY, ECPC, CNPS, ESPP, ESPY, ECPP, or consent of instructor via permit.

EDP 606 PROFESSIONAL ISSUES IN COUNSELING PSYCHOLOGY. (3)
A first course in the graduate curriculum in counseling psychology. Addresses professional identity, A.P.A. ethical guidelines, legal aspects of psychological practice including licensing and confidentiality, historical perspectives, training issues, and current topics of professional concern in counseling psychology. Prereq: Enrollment in a post-master's program in counseling psychology.

EDP 610 THEORIES OF LEARNING IN EDUCATION. (3)
Consideration of the theoretical origins of learning within the context of education. Topics include major theories of learning, physiological bases for learning, relationships between learning theory and instruction, and major applications of learning theories in educational settings.

EDP 611 HUMAN COGNITIVE LEARNING. (3)
Major cognitive learning theories which explain thinking and problem-solving behavior are compared and contrasted, especially as they are applied to arrange for effective instruction. Prereq: EDP 610 or EDP 548 or PSY 507 or equivalent.

EDP 612 DEVELOPMENT OF CREATIVITY AND CRITICAL THINKING. (3)
Reviews the theoretical and empirical literature related to developing creativity and critical thinking and describes practical and effective methods of measuring and developing these cognitive abilities in gifted and nongifted students. Prereq: EDP 580 or consent of instructor.

EDP 613 SOCIAL ASPECTS OF BEHAVIOR. (3)
This course is designed to meet the needs of graduate students in the College of Education, particularly those in educational, school, and counseling psychology, for a course in theory and principles of social psychology. The course will cover the basic concepts and theories in social psychology. The theories of attitude formation, group dynamics, and biases will be surveyed, with an application to the professional fields of psychology. In addition to the theories and principles of social psychology, research paradigms, social change, social influence, system consultation, and community issues as they relate to social psychological considerations will be addressed. Prereq: One course in psychology or consent of instructor.

EDP 614 MOTIVATION AND LEARNING. (3)
This course will provide a review of current educational and psychological theories of motivation. After examining various theories (e.g., attributions, goals, self efficacy, expectancy X value), the course will examine applications of these theories to contemporary issues such as violence, substance abuse, dropping out of school, health maintenance, etc.

EDP 615 PROSEMINAR IN HISTORY AND SYSTEMS OF PSYCHOLOGY. (3)
A study of the philosophical precursors and scientific traditions of psychology. The schools of 19th and 20th century psychology are surveyed as are the major theoretical positions and content areas of contemporary psychology. Prereq: Graduate standing in department of Psychology or department of Educational and Counseling Psychology. (Same as PSY 620.)

EDP 616 MULTICULTURAL PSYCHOLOGY. (3)
This course is designed to increase one's sensitivity to and respect for individual differences. Models, frameworks, techniques and experiential exercises are presented to increase one's skill level in working with persons from racially and ethnically diverse backgrounds. Prereq: EDP 600 or equivalent or consent of instructor. (Same as AAS 616.)

EDP 620 TOPICS AND METHODS OF EVALUATION. (3)
An examination of a subset of evaluation methods, topics, and problems. An introductory course in the area with minimal emphasis on quantitative methods. The course is designed to: provide a perspective from which evaluation studies may be viewed; and, to provide experiences for those who will learn from or conduct evaluations. Prereq: Consent of instructor, and a basic course in statistics or research. (Same as ANT/EPE 620/SOC 622.)

EDP 621 ADVANCED TOPICS AND METHODS OF EVALUATION. (3)
An advanced course in evaluation methods and techniques with an emphasis on quantitative methodology. State of the art ideas and methods of conducting evaluation studies and analyzing data from those studies are presented. The course is designed primarily for those who are conducting or will conduct evaluation studies. Prereq: A basic course in statistics or its equivalent; EDP/EPE/ANT 620; and consent of instructor. (Same as ANT/EPE 621.)

EDP 630 PRINCIPLES OF PSYCHOLOGICAL ASSESSMENT. (3)
An overview of the principles and methods of psychological assessment including observational methods, interviewing, behavioral analysis, and standardized psychological testing as a means of arriving at a comprehensive individual analysis and of creating a treatment plan for both children and adults. Students develop skills in selection and evaluation of psychological tests (personality, interests, and aptitudes), integration of multi-modal assessment methods, and report writing. Prereq: Acceptance to the graduate programs in Educational and Counseling Psychology with the following major codes: CPEC, ECPY, ECPC, CNPS, ECPP, ECPE, EEPS, ESPY, ECPS, ESPP or consent of the instructor via permit.

EDP 640 INDIVIDUAL ASSESSMENT OF COGNITIVE FUNCTIONING. (3)
This course provides theoretical material and advanced laboratory practice in the measurement of intelligence by individual techniques. Lecture, two hours; laboratory, two hours. May be repeated to a maximum of six credits. Prereq: PSY 535 (with a grade of "B" or better) or equivalent, enrollment in a professional program in Educational, School, and Counseling Psychology or consent of instructor.

EDP 642 INDIVIDUAL ASSESSMENT OF PERSONALITY FUNCTIONING. (3)
An in-depth study of the nature and measurement of human emotion, temperament and personality. Laboratory and field experience in the administration, scoring, and interpretation of tests related to personality functioning and underlying dynamics of personality. May be repeated to a maximum of six credits. Prereq: Successful completion of PSY 535 (or equivalent) with a grade of "B" or better and enrollment in a professional program in Educational, School, and Counseling Psychology.

EDP 649 GROUP COUNSELING. (3)
An overview of the theoretical bases and practical procedures used in the organization, and effective use of group counseling in the facilitation of psychological and educational goals. Prereq: EDP 605, EDP 652 and EDP 661 (all with grades of "B" or better), or consent of instructor.

EDP 650 DIAGNOSIS AND PSYCHOPATHOLOGY IN COUNSELING PSYCHOLOGY. (3)
An integrative seminar in diagnosis and application of theories, techniques and assessment tools in Counseling Psychology. Special consideration of classification of psychological states and characteristics including DSM-IV temperament, analysis, and other research methods of integrating assessment and treatment alternatives. Prereq: PSY 535 or equivalent, EDP 652, and EDP 661 (all with a "B" or better) and admission to a program in Educational, School, and Counseling Psychology or consent of the instructor.

EDP 652 THEORIES OF COUNSELING. (3)
A survey of theories and methods in facilitating personality growth, character maturation, problem solving, decision making, crisis resolutions, and behavior change, through individual and group counseling. Prereq: Acceptance to a graduate program in EDP with the following major codes: EGCO, CPEC, ECPY, ECPC, ESPP, ECPS, ECPE, EEPS, CNPS, EDPS, or consent of instructor via permit.

***EDP 656 RESEARCH METHODS. (3)**
An introduction to research methods applicable to education, the scientific method, research designs, measurement techniques, statistical analysis, and writing the research report. Prereq: EDP/EPE 557, EDP/EPE 558, or equivalent, but preferred EDP/EPE 558.

EDP 657 MAJOR THEORIES IN LEARNING IN SECONDARY EDUCATION. (1)
This course will provide an overview of some of the major theories of human learning as they relate to formal education and schooling. We will attempt to examine such theories of human learning while paying close attention to the roles that philosophy, history, the humanities, the natural sciences, and psychology have played in their development. Also, throughout the course, we shall attempt to explore current topics in the formal educational experiences of elementary, secondary and postsecondary students in order to link such theories to known educational practice. Finally, in the interest of advancing the current learning theories, we will offer critical evaluations of the presented learning theories and use these in the development of our own ideas, conceptualizations and theoretical developments regarding human learning. Prereq: Admission to the M.A. in Education (Secondary Education with initial certification option).

EDP 658 PROBLEMS IN EDUCATIONAL PSYCHOLOGY. (1-3)
Special topics in psychological theories and research applicable to educational practices. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

***EDP 660 RESEARCH DESIGN AND ANALYSIS IN EDUCATION. (3)**
This is a statistics-oriented course that focuses on various aspects of regression analysis (general and generalized linear models). Topics to be covered include, but are not limited to, simple correlation and regression, multiple regression (with and without interaction/moderation terms, with/without nonlinear terms, contrast variable coding for categorical predictors, nested model comparison for hierarchical regression, etc.), regression diagnostics (outlying and influential cases identification and assessment, collinearity evaluation, residual analysis, etc.), logistic regression (with a comparison of the logit model with other commonly used classification models like probit model, decision tree model, etc.), among other things. The course will familiarize students with cleaning data for regression analysis, building regression models, conducting statistical inference of regression models, selecting the optimal regression model(s) for the data in hand, and interpreting regression analysis results using the right language. Students will gain requisite foundation knowledge necessary to learn more complex statistical tests and procedures, and become more critical of statistical presentations in academic journals and the mass media. Students will also become proficient in using at least one major statistics computer program (SPSS, Minitab, SAS, Stata, or R). Prereq: EPE/EDP 558 or consent of instructor. (Same as EPE 660.)

EDP 661 TECHNIQUES OF COUNSELING II. (3)
Practice in interviewing, simulated problems, observational techniques, role of the counselor. Study of films, tapes and transcripts of leading practitioners of several schools of counseling. Supervised practice with selected clients. Lecture, two hours; laboratory, two hours. Prereq: EDP 652, PSY 535 (both with a grade of "B" or better), and consent of instructor.

EDP 662 DOCTORAL PRE-PRACTICUM SEMINAR. (1)
Preparation for UK Counseling Center Doctoral Level practicum will include starting to develop an integrative understanding of theory, assessment, ethics, and practice as it relates to effective work with university students. The course introduces the application of traditional individual and group psychotherapy and the provision of effective outreach and consultation on a university campus. Lecture, one hour, fifteen minutes. Prereq: Approval for doctoral-level practicum at UK Counseling & Testing Center.

EDP 664 PRE-MASTERS PRACTICUM IN COUNSELING PSYCHOLOGY. (3-6)
Supervised experience in application of diagnostic and interviewing techniques in a counseling service. May be repeated to a maximum of 12 credits. Lecture, three hours; laboratory, eight hours per three credit hours. Prereq: All required counseling coursework. EDP 605, PSY 535 or equivalent, EDP 652, EDP 688, and EDP 661 (minimum competency courses with grades of "B" or better), application for practicum the semester prior to practicum placement and permission of CPAC.

EDP 665 POST-MASTERS PRACTICUM IN COUNSELING PSYCHOLOGY. (1-6)
Supervised experience in application of diagnostic and interviewing techniques in a counseling service. Prereq: PSY 535 or equivalent, EDP 605, EDP 652, EDP 661, EDP 649, and EDP 688 or equivalent (all with grades of "B" or better). Application for practicum the semester prior to practicum placement and permission of CPAC.

EDP 666 PSYCHOLOGY OF CAREER COUNSELING. (3)
A survey of theories and methods used in Career Counseling. Contemporary approaches to career counseling are studied within developmental and decision-making frameworks. Prereq: EDP 652 and PSY 535 or equivalent (both with a grade of "B" or better).

EDP 669 DIAGNOSTIC CLASSIFICATION IN SCHOOL PSYCHOLOGY. (3)
Review of theory and research related to individual differences in physical, intellectual, social, and emotional development of preschool and school-aged children and adolescents. Compares psychological and educational approaches to diagnostic classification of such differences. Prereq: PSY 533 or consent of instructor.

EDP 670 PSYCHOEDUCATIONAL STRATEGIES OF INTERVENTION. (3)
A general review of and development of basic competence in the major intervention strategies applicable to the amelioration of children's common learning and adjustment difficulties in the school setting. Prereq: EDP 640, EDP 669 and Admission to School Psychology Program.

EDP 671 SEMINAR IN PSYCHOEDUCATIONAL CONSULTATION IN SCHOOLS. (3)
A study of the rationale and techniques used in consultation with teachers, parents, administrators and other school personnel for the purpose of both preventing and alleviating the learning and adjustment difficulties of individual or groups of school-aged children. Prereq: Admission to School Psychology Program, advanced standing in a professional educational program or permission of the instructor.

#EDP 674 SCHOOL-BASED PRACTICUM IN SCHOOL PSYCHOLOGY. (1-6)
Supervised experience in the application of psychoeducational, diagnostic assessment, intervention, and consultation services in a school setting. Requires minimum three hours of on-site activities per credit hour. Students will have a primary supervisor at their school site. Students will attend class meetings in a didactic format. Students will have a university supervisor who will serve as a secondary supervisor and communicate and coordinate on-going communication with the school-based supervisor. May be repeated to a maximum of 18 credits. Prereq: Admission to the School Psychology Program and consent of instructor.

EDP 675 PRACTICUM IN SCHOOL PSYCHOLOGY. (1-6)
Supervised experience in the application of psychoeducational, diagnostic assessment, intervention, and consultation services in a clinic, school, or community setting. Requires three hours of on-site activities per credit hour and weekly supervision meetings. May be repeated to a maximum of 18 credits. Prereq: Admission to the School Psychology Program and consent of instructor.

EDP 676 PRACTICUM IN GIFTED EDUCATION. (3)
Supervised experience in the instruction of gifted children. Requires placement in an approved program designed for serving gifted children plus participation in a weekly supervisory seminar. Lecture, two hours; laboratory, nine hours per week. Prereq: EDP 580, EDC 602, EDP 612 or consent of instructor. (Same as EDC 676.)

EDP 679 INTRODUCTION TO MEASUREMENT THEORY AND TECHNIQUES. (3)
This is a measurement-oriented course that focuses on introducing measurement theory and techniques used in education and evaluation. Topics to be covered include, but are not limited to, measurement models, bivariate measures of association, norms, standardized score scales, scaling, reliability, validity, item analysis, factor analysis, confirmatory factor analysis, test construction for affective and cognitive instruments, Item Response Theory, and Rasch. The course aims to familiarize students with measurement terminology, possess a detailed strategy for constructing an instrument suitable for research purposes, become familiar with statistical procedures and software for implementing measurement techniques, gain requisite foundation of knowledge necessary to learn more complex measurement models, and become more critical of measurement presentations in academic journals and the mass media. Prereq: EDP/EPE 660, EPE 621, or equivalent. (Same as EPE 679.)

EDP 680 PARENT AND CHILD COUNSELING. (3)
Theories, methods, and techniques of counseling psychology as applied to planned interventions with parents and their children. Contemporary approaches to family and child dysfunctioning are studied within a framework of human development; applied practice utilizing simulated problems. Prereq: EDP 652 and EDP 661 (both with a grade of "B" or better) or consent of instructor.

EDP 683 TOPICS IN COUNSELING PSYCHOLOGY. (1-3)
Counseling for special problems with special methods. Topics may vary from semester to semester. Seminar, one-three hours per week. May be repeated to a maximum of 12 credits. Prereq or coreq: EDP 652 and consent of instructor.

EDP 685 ISSUES AND TECHNIQUES IN THE COUNSELING OF WOMEN. (3)
The course is designed to improve students' knowledge of the special counseling needs of women and to facilitate students' development of highly skilled techniques for counseling with women. Skill and knowledge areas include such topics as rape, spouse abuse, mastectomy, career, assertiveness, single parenting, and sex discrimination. Prereq: EDP 652 and EDP 661 (both with a grade of "B" or better) or corequisite EDP 604 or consent of instructor.

EDP 686 THEORY AND METHODS IN MARRIAGE AND FAMILY THERAPY. (3)
A survey of theories and methods used in marriage and family therapy. Designed to provide students with a knowledge of the theoretical bases for marriage and family therapy, including an introduction to procedures used to assess, diagnose and treat marriage and family dysfunctions. Prereq: Consent of instructor and EDP 661 (with a grade of "B" or better).

EDP 688 ETHICAL AND LEGAL ISSUES IN PSYCHOLOGY. (3)
This course is designed to educate students about ethical and legal issues related to the practice of psychology. An emphasis is placed on learning the current APA ethical code of conduct, mental health laws, and ethical decision-making models. Prereq: EDP 605 and 661, or consent of the instructor.

EDP 701 COGNITIVE-BEHAVIORAL COUNSELING. (3)
Theory and applications of cognitive-behavioral techniques. Assessment, intervention, and evaluation procedures are applied to problems treated by cognitive-behavioral counseling. Prereq: EDP 652 and EDP 661 (both with a grade of "B" or better) or consent of instructor.

EDP 703 SEMINAR IN CLINICAL SUPERVISION AND CONSULTATION. (1-3)
An advanced seminar covering theories, issues, methods and techniques used in supervision of counseling and psychotherapy and in consultation with groups and organizations. Seminar topics will vary depending on the interests of the professor and students. May be repeated to a maximum of six credits. Prereq: EDP 652, EDP 661, and EDP 665 or equivalent.

EDP 707 MULTIVARIATE ANALYSIS IN EDUCATIONAL RESEARCH. (3)
Multivariate statistics will prepare student to understand multivariate statistical methods and draw the link between statistics previously learned. Students will be able to conduct, interpret, and critique procedures such as factorial ANOVA, multiple regression, MANOVA, ANCOVA, MANCOVA, PCA, EFA, discriminant function analysis, logistic regression, canonical correlation, hierarchal linear regression, and multivariate analysis of change. Become familiar with statistical software for implementing multivariate procedures. Develop an understanding of the concepts, terms, and symbols used in multivariate statistics (e.g., Matrix Algebra, effect sizes). Gain an appreciation of the role of multivariate procedures in the research process. Gain requisite knowledge necessary to learn more complex statistical procedures. Prereq: EDP/EPE 660 or equivalent. (Same as EPE 707.)

***EDP 708 INTERNSHIP IN EDUCATIONAL, SCHOOL, AND COUNSELING PSYCHOLOGY. (0-9)**
Full-time practice in an operational setting such as a school or government agency, with on-site supervision provided by the host agency and with academic supervision provided by a University faculty member. Practicum: full-time field experience. May be repeated to a maximum of 12 credits. Prereq: Completion of a minimum of one year of graduate study in the department and consent of instructor.

EDP 711 ADVANCED QUANTITATIVE METHODS. (3)
This course is intended to familiarize students with advanced quantitative techniques. Topics include structural equation modelling, item response theory, rasch modelling, hierarchical linear modelling, and data mining. Other specific analysis techniques may also be explored. Prereq: Intermediate Statistics. (Same as EPE 711.)

EDP 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

EDP 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

EDP 765 INDEPENDENT STUDY IN COUNSELING PSYCHOLOGY. (1-4)
Independent study course for advanced graduate students who desire to investigate special problems in counseling psychology. May be repeated to a maximum of six credits. Prereq: One year of graduate work in counseling psychology and consent of instructor.

EDP 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

EDP 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

EDP 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

EDP 770 LEGAL ETHICAL PSYCHOLOGY. (3)
The goal of this course is to provide students with knowledge of ethics and law that pertain to the theory, research, and practice of school psychology. This course will provide experiential and problem-based learning in the area of professional standards and ethics for the field of school psychology. Professional standards and ethics will be drawn from the codes of the American Psychological Association, the National Association of School Psychologists, and the Association of State and Provincial Psychology Boards. Students will translate ethical principles and standards into guidelines for decision making and practice. Prereq: Admission to School Psychology graduate program or permission of instructor.

EDP 776 SEMINAR IN SCHOOL PSYCHOLOGY (Subtitle required). (3)
Topical consideration of philosophical, technical, professional and theoretical positions in school psychology theory and practice. May be repeated to a maximum of nine credits under different subtitles. Prereq: Graduate standing in School Psychology or consent of instructor.

EDP 777 SEMINAR IN COUNSELING PSYCHOLOGY. (1-3)
Topical consideration of philosophical, technical and theoretical positions in counseling theory and practice. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

EDP 778 SEMINAR IN EDUCATIONAL PSYCHOLOGY (Subtitle required). (3)
Intensive study of selected topics in human learning and development. Particular emphasis on research topics. Students will design sample studies in their areas of interest. May be repeated to a maximum of nine credits under different subtitles. Prereq: Doctoral standing in the College of Education or consent of instructor.

EDP 782 INDEPENDENT STUDY IN EDUCATIONAL PSYCHOLOGY. (1-3)
Independent study course for advanced graduate students who desire to investigate special problems and conduct research in educational psychology. May be repeated to a maximum of 12 credits. Prereq: One year of graduate work in educational psychology and consent of instructor.

EDS Special Education

EDS 357 INITIAL PRACTICUM IN SPECIAL EDUCATION. (1)
An introductory supervised field experience for special education majors. Students will participate in two special education programs as teacher aides. Placements will include public schools and other agencies serving children with disabilities. May be repeated to a maximum of three credits. Lecture, one hour; field experience, three hours per week. Prereq or concurrent: EDS 375 (may be a co-requisite); restricted to declared majors in Learning and Behavioral Disorders (SELB) and Moderate and Severe Disabilities (SEMS).

EDS 375 INTRODUCTION TO EDUCATION OF EXCEPTIONAL CHILDREN. (3)
An introduction to the various contemporary areas of special education. Topics include special education diagnostic categories, programming, service delivery models, career education, child advocacy and litigation affecting public education for students with disabilities.

EDS 395 INDEPENDENT STUDY IN SPECIAL EDUCATION. (1-6)
An independent study course for undergraduate students with an interest in a specific problem in special education. Offered by appointment.

EDS 447 STRATEGIES FOR INCLUDING STUDENTS WITH DISABILITIES IN THE ELEMENTARY CLASSROOM. (2)
This course will focus on inclusion of students with disabilities in all aspects of the elementary classroom. The course will prepare general education elementary teachers to collaborate with special education teachers and other professionals in planning and implementing instruction, behavioral supports, and assessments. Prereq: Elementary Education major, admission to Teacher Education Program, successful completion of EDP 303 and EDC 322, and concurrent enrollment in EDC 433.

EDS 459 STUDENT TEACHING IN SPECIAL EDUCATION. (3-12)
Supervised student teaching experience utilizing the special techniques used in working with individuals with exceptional educational problems such as speech handicaps, physical handicaps, visual impairments, hearing disabilities, neurological impairments (learning disabilities), mental retardation, and the gifted. To be offered only on a pass-fail basis. Prereq: Must complete the published College requirements for admission to student teaching; admission to the Teacher Education Program or permission of instructor.

EDS 513 LEGAL ISSUES IN SPECIAL EDUCATION. (3)
A review of pertinent legislation concerning human and constitutional rights related to persons with disabilities. Teachers' specific responsibilities and liabilities are described and related to current requirements for development of appropriate educational programs. Emphasis is given to how, through active parent participation, teachers can facilitate each student's developmental progress. Prereq: EDS 375 or consent of instructor.

EDS 514 INSTRUCTIONAL TECHNOLOGY IN SPECIAL EDUCATION. (3)
An overview of ways technology can be used to facilitate the education of students with disabilities. Topics include personal computer operation, personal productivity tools, instructional software evaluation and integration into the curriculum, multimedia applications, telecommunications, and emerging technologies. Lecture, three hours; laboratory, two hours per week. Prereq: EDS 375 or EDP 203.

EDS 516 PRINCIPLES OF BEHAVIOR MANAGEMENT AND INSTRUCTION. (3)
Basic principles of applied behavior analysis and modification which employ social learning theory and operant conditioning models are taught. Emphasis is placed on designing individualized learning environments, selecting and implementing behavior management strategies, writing behavior objectives, and performing task analyses. Prereq: EDS 375 or permission of the instructor.

EDS 517 ASSISTIVE TECHNOLOGY IN SPECIAL EDUCATION. (3)
A general introduction to the theory, need, and use of assistive devices in the classroom. Review of physical disabilities and basic operation, maintenance, and trouble shooting techniques will be presented. Service personnel typically associated with training in the use of assistive devices will be discussed. Students will be required to simulate a disability and use an assistive device. Prereq: EDS 375 or permission of instructor.

EDS 522 CHILDREN AND FAMILIES. (3)
The purpose of this course is to provide students with information related to working with young children with and without disabilities and their families. This course will focus both on presenting new information and providing opportunities for students to practice skills necessary for working with families. (Same as IEC 522.)

EDS 528 EDUCATIONAL ASSESSMENT FOR STUDENTS WITH MILD DISABILITIES. (3)
Procedures for administering formal and informal tests to determine specific educationally relevant strengths and deficits of children with learning and behavior disorders. The characteristics of children with learning and behavior disorders are surveyed, as they relate to special education programming. Lecture, three hours; field experience, two hours. Prereq: EDS 375, EDS 516 and admission to the Teacher Education Program; or consent of instructor.

EDS 529 EDUCATIONAL PROGRAMMING FOR STUDENTS WITH MILD DISABILITIES. (3)
Design, implementation, and evaluation of individualized programs based on the educationally relevant characteristics of children with mild disabilities. Includes educational assessment and programming in reading, math, and language. Prereq: Admission to the Teacher Education Program, EDC 329, EDS 513, and 516, or consent of instructor; prereq or concur: EDS 528.

EDS 530 MODERATE AND SEVERE DISABILITIES. (3)
Special education issues with individuals exhibiting moderate to severe intellectual and developmental disabilities. A critical examination of contemporary research with regard to the educational, behavioral, developmental issues of individuals exhibiting moderate to severe intellectual and developmental disabilities. Issues and research describing the full educational inclusion and community integration of persons with moderate to severe intellectual and developmental disabilities will be addressed. Lecture, three hours; field experience, three hours.

EDS 546 TRANSDISCIPLINARY SERVICES FOR STUDENTS WITH MULTIPLE DISABILITIES. (3)
This course will focus on the philosophical issues related to teaching students with deaf-blindness and other multiple disabilities. Professionals will discuss pertinent information related to planning for this population of students, particularly in the areas of communication, physical management, health, sensory input, and vitality. Students will utilize information obtained to plan for a student with deaf-blindness or other multiple disabilities. Strategies presented for planning will include transdisciplinary assessment, person-centered planning, and activity-based instruction. Prereq: EDS 375 or EDS 600.

EDS 547 COLLABORATION AND INCLUSION IN SCHOOL AND COMMUNITY SETTINGS. (3)
This course will focus on inclusion of students with moderate to severe disabilities in all aspects of school and community life, with special consideration given to the individual student planning variables that must be addressed in meeting the needs of each school-age student and for preparing students to function as fully and independently in their communities as possible. The course is designed to meet the needs of those pursuing certification in Moderate and Severe Disabilities and pursuing degrees in Elementary and Secondary Education, Vocational Rehabilitation, School Psychology, Social Work, Physical Therapy, Communication Disorders, and related disciplines. Prereq: Consent of instructor. (Same as RC 547.)

EDS 548 CURRICULUM DESIGN FOR STUDENTS WITH MODERATE AND SEVERE DISABILITIES. (3)
Educational and adaptive behavior assessment and curriculum prescription for individuals exhibiting moderate intellectual and development disabilities. The course participant will acquire skills in the use of current formal and informal educational and adaptive behavior assessment procedures for use in prescribing curriculum, instructional, behavioral intervention with individuals exhibiting moderate intellectual and developmental disabilities. Specific attention will be focused on procedures for using assessment data and curriculum prescription that enhances the full inclusion of school age individuals with disabilities with their non-disabled peers. Lecture, three hours; field experience, four to six hours per week. Prereq: EDS 516, 530; or consent of instructor.

EDS 549 METHODS FOR STUDENTS WITH MODERATE AND SEVERE DISABILITIES. (4)
The course participant will serve as a teacher aide in a classroom or other service delivery setting under the supervision of a person certified to teach students with moderate to severe disabilities. Course requirements include application of direct observation, formal and informal assessment of pupil performance, clinical writing and instructional and behavioral intervention in both individualized and small group settings. Practicum settings used by course participants will model best practices with regard to instruction, behavior management, and the full inclusion of persons with moderate to severe disabilities with their non-disabled peers. Lecture, two hours; field experience, six to eight hours per week. Prereq: Admission to the Teacher Education Program, EDS 516, 548, or consent of instructor.

EDS 550 STUDENT TEACHING: MODERATE/SEVERE DISABILITIES. (6-12)
Student teaching in the low-incidence disabilities classroom. Supervised student teaching in a classroom for students identified has having moderate to severe disabilities. To be offered on a letter grade basis only. Prereq: Must complete the published College requirement for admission to student teaching, including admission to the Teacher Education program; or consent of instructor.

EDS 558 ISSUES IN SPECIAL EDUCATION. (1-9)
In-depth study of a current and topical problem or issue in the education of exceptional children and youth. May be repeated to a maximum of nine credits. A title is assigned each time the course is offered.

EDS 570 EMOTIONAL AND BEHAVIORAL DISABILITIES. (3)
The emotional and behavioral problems of exceptional children and youth are considered in the context of normal child development. A survey of the major categories of emotional and behavioral disabilities includes identification, description, and etiology, with material drawn from clinical, theoretical, and research sources. Approaches to remediation cover both community resources and the roles of various professional personnel. Prereq: EDS 375 or equivalent.

EDS 589 FIELD EXPERIENCES: MILD DISABILITIES. (3)
Supervised pre-student teaching experiences with children having learning and behavioral disabilities, including practica experience with public school students in at least two different special education sites. Approximately two hours lecture-discussion and two three-hour observations and/or practica per week. Prereq: EDS 513, 516, admission to the Teacher Education Program; or consent of instructor. Prereq. or concur: EDS 528. Must takes EDS 529 concurrently. Must not take concurrently with the Middle School methods block (EDS 330, EDS 343, and two methods classes).

EDS 600 SURVEY OF SPECIAL EDUCATION. (3)
A survey of current status of the field of special education. Emphasis is on analysis of the major research literature pertaining to exceptional children and their education. Prereq: Graduate standing.

EDS 601 APPLIED BEHAVIORAL ANALYSIS. (3)
The focus of this course is on the technology of applied behavior analysis, including the functional analysis of children's behavior and the development, implementation, evaluation of behavior management programs with children and youth. Prereq: Completion of EDS 516 or equivalent, with a grade of "B" or better.

EDS 602 ADMINISTRATION AND PROGRAMS IN SPECIAL EDUCATION. (3)
The organization, management and supervision of programs for exceptional children at the local, state and national levels. Roles and functions of the special education administrator are considered. Experiences drawn from special residential, private and public day schools are studied. Prereq: Certification in special education; six hours of course work in educational administration and supervision.

EDS 603 BEHAVIORAL CONSULTATION IN THE SCHOOLS. (3)
Principles and techniques of behavioral consulting with classroom teachers and other school personnel, with particular focus on supporting handicapped children in mainstream education programs. The consultant's role in providing indirect service to children, through inservice teacher training and consultation, is emphasized. Lecture, two hours; laboratory, two hours. Prereq: EDS 601, or equivalent; EDP 671 (may be taken concurrently); or permission of instructor.

EDS 604 SPECIAL EDUCATION FOR SECONDARY EDUCATION. (1)
This course is designed for secondary teachers who encounter students who require special education services. As such, it is intended to provide an in-depth examination of issues in the education of individuals with disabilities. The course is organized in a seminar format with the intent of creating a dialogue among the participants and the instructors. Emphasis will be placed on the development of concepts and the acquisition of a body of knowledge, which relate to issues, processes and procedures to facilitate the inclusion of all student and collaboration across disciplines. The course takes a broad view of inclusion in all aspects of school and community life. Special consideration is given to the individual student planning variables that must be addressed in meeting the needs of each school-age student with a disability in a variety of integrated school and community settings. Prereq: Admission to the M.A. in Education – Secondary with Initial Certification.

EDS 610 ADVANCED EDUCATIONAL ASSESSMENT FOR STUDENTS WITH MILD DISABILITIES. (3)
This course examines factors that contribute to the reliable and valid measurement and diagnosis of students with mild disabilities. Emphasis is placed on evaluating standardized, norm-referenced instruments according to their technical characteristics and merits, developing curriculum-based measures for classroom use, and critiquing emerging systems of determining eligibility for special education Prereq: EDS 528 or consent of instructor.

EDS 611 CONTEMPORARY TRENDS AND ISSUES IN THE EDUCATION OF STUDENTS WITH MILD DISABILITIES. (3)
This course examines trends and issues in the education of students with mild disabilities (e.g., learning disabilities, mild cognitive disability, ADHD, and emotional/behavioral disabilities). The professional literature is examined to identify emerging methods of effective instruction as well as points of controversy in identification, placement, and service. Prereq: EDS 529 and EDS 610 or consent of instructor.

EDS 612 ADVANCED PRACTICUM: SPECIAL EDUCATION. (1-6)
Intensive clinical experience with exceptional children in day and residential schools, hospitals and private agencies. Students engage in prescriptive teaching with persons with disabilities in individualized, small group and special class settings. Laboratory, 6-12 hours per week. Prereq: Graduate standing; major in special education.

EDS 613 LEGAL AND PARENTAL ISSUES SCHOOL ADMINISTRATION. (3)
This course is designed as a required course for certification in the school administration program or elective in graduate or post baccalaureate degree. Essential course questions will emphasize the delivery of a free and appropriate public education for children with disabilities within a practical application format that is accessible and useful to educational professionals. In addition, the course will consider the implications of federal requirements in state and local policy. Particular attention will be given to leadership within an educational reform environment as well as the legal and programmatic implications for children with disabilities and their families. Finally, the course will model appropriate ways in which educational professionals working with families can maximize educational results for children with and without disabilities. Prereq: Be admitted to an Administrator preparation program, or received permission of instructor. (Same as RC 613.)

#EDS 614 PROFESSIONAL ETHICS IN BEHAVIOR ANALYSIS I. (1)
This 1-credit hour course is part of a three-course sequence designed to address ethical, behavioral, and professional conduct for behavior analysts. This course will address content related to the BACB Disciplinary and Ethical Standards and Disciplinary Procedures, as well as the Guidelines for Responsible Conduct for Behavior Analysts. This course prepares students to apply for the Board Certified Behavior Analyst exam. (Must be taken as Co-Requisite to EDS 612: Practicum in Special Education). Prereq: Entrance into the Board Certified Behavior Analyst program, Master's in Applied Behavior Analysis program or permission of instructor.

#EDS 615 PROFESSIONAL ETHICS IN BEHAVIOR ANALYSIS II. (1)
This 1-credit hour course is part of a three-course sequence designed to address ethical, behavioral, and professional conduct for behavior analysts. This course will address content related to the BACB Disciplinary and Ethical Standards and Disciplinary Procedures, as well as the Guidelines for Responsible Conduct for Behavior Analysts. This course prepares students to apply for the Board Certified Behavior Analyst exam. (Must be taken as Co-Requisite to EDS 612: Practicum in Special Education). Prereq: Entrance into the Board Certified Behavior Analyst program, Master's in Applied Behavior Analysis program or permission of instructor.

#EDS 616 PROFESSIONAL ETHICS IN BEHAVIOR ANALYSIS III. (1)
This 1-credit hour course is part of a three-course sequence designed to address ethical, behavioral, and professional conduct for behavior analysts. This course will address content related to the BACB Disciplinary and Ethical Standards and Disciplinary Procedures, as well as the Guidelines for Responsible Conduct for Behavior Analysts. This course prepares students to apply for the Board Certified Behavior Analyst exam. (Must be taken as Co-Requisite to EDS 612: Practicum in Special Education). Prereq: Entrance into the Board Certified Behavior Analyst program, Master's in Applied Behavior Analysis program or permission of instructor.

EDS 630 ADVANCED METHODS FOR TEACHING STUDENTS WITH DISABILITIES. (3)
An intensive study of the principles and procedures used in programming learning activities for students with disabilities, including those with autism spectrum disorders. Topical areas include the acquisition of stimulus control and programming for the generalization and maintenance skills. Lecture, three hours. Prereq: EDS 601 and consent of instructor.

EDS 631 ADVANCED PROGRAMMING FOR STUDENTS WITH MODERATE AND SEVERE DISABILITIES. (3)
Intensive review of instructional programs designed for use with students with moderate and severe disabilities, including autism spectrum disorders. Emphasis is on leadership in assessment and developing individual education programs for students. Lecture, three hours. Prereq: Consent of instructor.

EDS 632 ADVANCED PRACTICUM: MODERATE AND SEVERE DISABILITIES. (1-12)
Intensive educational experience with students with moderate and severe disabilities in educational, residential and hospital settings. Site and practicum responsibilities will be based on students' competencies and area of interest. May be repeated to a maximum of 21 credits. While enrolled in this course, students will be required to apply for the Teacher Education Program. Prereq: Admission to the Master's program in Special Education or permission of the instructor.

EDS 633 SINGLE SUBJECT RESEARCH DESIGN. (3)
Principles and methods in designing single subject research, including those involving students with disabilities. Students will be required to design a research proposal. Prereq: EDS 601 or 630 or consent of instructor.

EDS 634 LEADERSHIP IN SPECIAL EDUCATION. (3)
Students will select from a variety of options that demonstrate leadership in the field of education. Between the course instructor and each student's master's committee, students will complete a variety of activities and experiences that will assist them in completing the capstone requirement. Prereq: EDS 601, 630, 633.

EDS 640 ADVANCED ASSISTIVE TECHNOLOGY. (3)
An advanced study of assistive technology devices and services for individuals with learning, cognitive, physical, and sensory disabilities. The course includes lecture, hands-on experiences, and discussions of current trends and issues in assistive technology consideration and implementation for teachers, families, and administrators. Prereq: EDS 600 or equivalent or permission of instructor.

EDS 641 ASSISTIVE TECHNOLOGY ASSESSMENT. (3)
A study in the evaluation of students with learning, cognitive, physical, and sensory disabilities for assistive technology devices and services. Students implement data-based assistive technology decisions for students with disabilities, locate assistive technologies through a variety of sources, and develop assistive technology implementation plans for individuals with disabilities. Prereq: EDS 640, or permission of instructor.

EDS 645 HYPERMEDIA DEVELOPMENT FOR SPECIAL EDUCATION. (3)
Students will study ways that hypermedia/multimedia can be developed for use in special education programs. Students will examine how theories of human learning and principles of universal design provide a foundation for designing instructional programs that meet the unique needs of all students. Topics will include theories of human learning, principles of universal design, hypermedia/multimedia concepts, interface design guidelines, computer graphics programs, digital scanning of images, accessible text, sound effects, use of digital movies, and multimedia authoring tools. Prereq: EDS 514 and EDS 600, or permission of instructor.

EDS 647 SEMINAR IN SPECIAL EDUCATION TECHNOLOGY (Variable topic). (1-3)
A topical seminar on technology applications in special education. Seminars will address different topics of timely interest, current issues, and various approaches to providing assistive technology and instructional technology services for people with disabilities. Prereq: EDS 514 and EDS 600, or permission of instructor.

EDS 648 COORDINATING ASSISTIVE TECHNOLOGY PROGRAMS. (3)
Students will study procedures for planning and implementing assistive technology programs in schools. Topics will include use of planning models, philosophy and mission development, generating program goals and objectives, procedures for preparing strategic plans, establishing policies and procedures, identifying resource requirements, managing program implementation, evaluation of program effectiveness, and preparation of proposals for funding. Prereq: EDS 640 and EDS 641 or permission of instructor.

EDS 649 ADVANCED PRACTICUM: SPECIAL EDUCATION TECHNOLOGY. (1-9)
Students will engage in supervised practicum activities associated with the delivery of technology services to individuals with disabilities. Practicum settings may include schools, rehabilitation agencies, clinics, hospitals, technology resource centers, administrative offices, and other facilities involved in the development or delivery of technology services. May be repeated to a maximum of nine credits. Prereq: EDS 514 and EDS 600, or permission of instructor.

EDS 651 DISTANCE EDUCATION: DELIVERY. (3)
This course has been designed for those faculty or future faculty who plan to teach via distance education technology. This course will review current literature on how to deliver distance education content with attention to developing materials, setting delivery timelines, facilitating interactions, and using appropriate teaching strategies. Prereq: Master's degree. (Same as CJT 650.)

EDS 652 DISTANCE EDUCATION: MANAGEMENT AND SUPPORT. (3)
This course has been designed for those faculty or future faculty who plan to manage or direct programs delivered through distance education technology. The course will focus on current issues and challenges in distance education administration, including such topics as provision of quality support services; policy issues at the local, state, national, and international level; model administrative structures; instruction and technology funding; and virtual institutions. Prereq: Master's degree. (Same as CJT 652.)

EDS 660 OVERVIEW OF CHARACTERISTICS AND INSTRUCTIONAL STRATEGIES FOR INDIVIDUALS WITH ASD. (3)
This course introduces students to the characteristics, classification systems, etiology and research, screening and assessment strategies/issues, approaches, and research-based interventions related to individuals with autism spectrum disorders. Practical classroom strategies, such as visual strategies and environmental arrangements will also be reviewed. The primary goal of the course is to provide students with a foundational knowledge of the strengths and needs characteristic of individuals with ASD, as well as to provide students with a comprehensive array of research-based instructional approaches for individuals with ASD, and to provide the criteria for determining which approach to use. Prereq: EDS 601.

EDS 661 ADVANCED INSTRUCTIONAL STRATEGIES FOR STUDENTS WITH ASD. (3)
This course builds on topics previously learned in EDS 660. Teachers will learn to critically analyze current trends, issues, and therapies used with individuals with ASDs. Practical classroom strategies detailing what to teach based on assessment results, how to use data-based decisions to guide instruction, and an overview of alignment to state standards based on alternate assessments will also be reviewed. The primary goal of the course is to provide teachers with a comprehensive array of practical research-based instructional approaches for individuals with ASDs, criteria for determining which approaches to use, and planning for access to the general education curriculum for all students across the spectrum. Completion of this course sequence (in combination with EDS 660, EDS 662, and EDP 671) will prepare teachers for applications in the ASD Institute (EDS 663). Prereq: EDS 601 and EDS 660.

EDS 662 COMMUNICATION, AAC, AND TECHNOLOGY FOR INDIVIDUALS WITH AUTISM SPECTRUM DISORDERS. (3)
This course prepares persons who will be serving individuals with ASD. The focus of the course is on developing communication in this population, exploring augmentative and alternative communication devices, and using technology to teach individuals with ASD. The course will provide information on (a) typical language development, (b) characteristics of persons with autism and their unique communication needs, (c) assessment of communication needs, (d) development of communication goals, (e) development and delivery of effective strategies for teaching communication, and (f) use of technology to teach individuals with ASD. The objectives of this course are designed to provide students with a comprehensive knowledge of the communication characteristics of persons with autism, the state-of-the-art techniques in providing communication services for this population, and research-based strategies utilizing technology in teaching individuals with ASD. This course will be taught jointly by the Department of Special Education & Rehabilitation Counseling and the Department of Communication Sciences and Disorders. Prereq: EDS 601, EDS 661, EDS 662. (Same as CSD 649.)

EDS 663 SERVING INDIVIDUALS WITH ASD INSTITUTE. (3)
Students will connect content knowledge with skills from courses taken in the Autism Certificate courses (EDS 660, EDS 661, EDS 662, and EDP 671). Students will demonstrate skills in areas such as implementing research-based strategies and/or behavior supports, collaborating for planning and delivery of instruction, working with diverse families and service providers, and evaluating appropriate technologies based on student needs. Students will demonstrate proficiency via role-play, case studies, video examples, and/or direct observation of individuals with ASD. Students will have an opportunity to learn from one another and experts in the field in a face-to-face format. Prereq: EDS 601 and EDS 660, EDS 661, EDS 662, EDP 671.

***EDS 701 SEMINAR FOR EDSRC LEADERSHIP PERSONNEL. (1)**
Study of issues and topics affecting the preparation of Rehabilitation Counseling, Special Education, and Early Childhood personnel and of research issues involving persons with disabilities and educational and rehabilitation programs. May be repeated to a maximum of six credits. Lecture, two hours per week. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as IEC/RC 701.)

EDS 710 SEMINAR IN MILD DISABILITIES. (3)
Advanced study of issues related to mild disabilities in children, including etiology, assessment, intervention, theories, and contemporary research findings. Prereq: Admission to Ed.S. or Ed.D. program in Special Education or consent of instructor.

EDS 711 SEMINAR IN MODERATE AND SEVERE DISABILITIES. (3)
Advanced study of issues related to moderate and severe disabilities, including problems of identification and assessment, program alternatives, curricula, theories, and contemporary research findings. Prereq: Admission to Ed.S. or Ed.D. program in Special Education or consent of instructor.

***EDS 712 SEMINAR IN EDSRC PROFESSIONAL SERVICES. (3)**
Education and Rehabilitation professional services including consultation, technical assistance, continuing education programs, professional organization development, committee and advisory board involvement, professional writing and editing, leadership training, and funding proposal development. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as IEC/RC 712.)

EDS 713 DESIGNING CLASSROOM-BASED INTERVENTION RESEARCH IN SPECIAL EDUCATION. (3)
The purpose of this course is to acquaint students with methods for designing and conducting experimental and quasi-experimental intervention studies in school-based settings. Students will have the opportunity to conceptualize a study based on their interests and propose procedures for implementing it. Although knowledge of basic statistics would increase understanding, the substance of the course focuses primarily on designing studies that test for the presence of a distinct cause-and-effect relationship between variables.

***EDS 720 SEMINAR IN EDSRC TEACHER PREPARATION. (3)**
Rehabilitation Counseling and Special Education college/university professor preparation, including syllabus development, organization of class presentations, instructional alternatives, scheduling, student assessment, professor-student interactions, student advising, resource identification and utilization and program evaluation. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as IEC/RC 720.)

***EDS 721 PRACTICUM IN EDSRC PERSONNEL PREPARATION. (1-9)**
Professional preparation of Rehabilitation Counselors or Special Education Teachers, including practice in delivering lectures, conducting class discussions, leading seminars, directing independent studies, guiding student research projects, demonstrating instructional methods and materials, supervising rehabilitation counselors or special education student teachers, and advising. Laboratory, three-nine hours. May be repeated to a maximum of nine credits. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as IEC/RC 721.)

EDS 730 SEMINAR IN SPECIAL EDUCATION ADMINISTRATION. (3)
Administration of special education programs at the local and state levels. Emphasis is on program planning, staffing, fiscal management and program evaluation. Prereq: EDS 602 and admission to the Ed.S. or Ed.D. program in special education or consent of instructor.

EDS 731 ADVANCED PRACTICUM: SPECIAL EDUCATION ADMINISTRATION. (1-9)
Supervised practicum experiences related to the administration of special education programs at the local and state levels, and project management, including staff management and development, program planning, evaluation, fiscal management, organization, reporting, communications, and coordination. Laboratory, three-nine hours. May be repeated to a maximum of nine credits. Prereq: Admission to the Ed.S. or Ed.D. program in special education administration or in certification program for special education administrators.

EDS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

EDS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

EDS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as IEC/RC 767.)

EDS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

EDS 769 RESIDENCE FOR THE DOCTORAL DEGREE. (0-12)
May be repeated indefinitely.

EDS 779 SEMINAR IN SPECIAL EDUCATION (Variable topic). (1-3)
Study of philosophy, principles, trends and research in education of exceptional children. Students will carry on an extensive study of a problem dealing with education of the exceptional child. May be repeated to a maximum of nine credits.

EDS 789 INDEPENDENT STUDY IN SPECIAL EDUCATION. (1-6)
An independent study course for advanced graduate students with an interest in a specific problem in special education. Class hours by appointment. Prereq: Minimum of 12 semester hours in graduate work and consent of instructor.

EDU Education

***EDU 300 SPECIAL COURSE. (1-9)**
This course is an opportunity for experimental, topical or interdisciplinary experience for up to 9 hours of credit without creating a permanent course. The description and course subtitle will be submitted each time the course is offered. Subtitle required.

EDU 305 CONTEMPORARY ISSUES FACING THE AT-RISK SCHOOL-AGE/ADOLESCENT CHILD. (3)
To provide background information, experience, and skills for undergraduate students to interact with elementary and middle school children in a consulting role. Special emphasis will address the needs of the "at-risk" student population. The "at-risk" student is associated with families with incomes below the poverty level, as well as other significant problems which plague contemporary society-e.g., homelessness, child abuse/neglect, single parent homes, non-English speaking parents, fetal alcohol or substance abuse syndrome, mentally and/or physically handicapped parents or siblings, and high incidence of academic achievement declines and dropout rates. Lecture, two hours; laboratory, two hours per week. Prereq: Consent of instructor.

EDU 645 FOUNDATIONS OF PEDAGOGICAL THEORY AND PRACTICE IN THE SECONDARY SCHOOL. (0-9)
Students will participate with other secondary education majors in a variety of disciplines in the reflective study of adolescent behavior, secondary school curriculum, school law, learning theory, learning styles, effective teaching and learning, instructional technology, working with special populations, cultural diversity in the schools, school context, and professional development. Students will spend time in the schools applying concepts. May be repeated to a maximum of nine credits. Lecture, 3-9 hours; laboratory, 6-18 hours per week. Prereq: Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education).

EDU 745 INTERDISCIPLINARY INSTRUCTION IN THE SECONDARY SCHOOL. (0-3)
Students will participate with other secondary education majors from a variety of disciplines in the reflective study of the context of schooling, classroom management, individual student differences, and professional development. Students will be in the schools applying concepts on a full-time basis. May be repeated to a maximum of three credits. Lecture, 1-3 hours; laboratory, 3-6 hours per week. Prereq: Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education).

EDV Vocational Education

AGRICULTURAL EDUCATION

EDV 580 MATERIALS AND METHODS FOR TEACHING VOCATIONAL AGRICULTURE. (3)
Designed to develop teacher competency in methods of teaching with emphasis on the problem-solving procedure and use of demonstrations, field trips, and audiovisual materials. Evaluation of teaching-learning is emphasized. A study of facilities and instructional materials needed by a department of vocational agriculture is made. Prereq: Admission to the Teacher Education Program or permission of instructor.

BUSINESS EDUCATION

EDV 626 CLASSIFICATION AND POSSIBLE USE OF COMMUNITY RESOURCES IN BUSINESS EDUCATION. (3)
Course provides for community analysis, and the development of possible ways and means to supplement the business education course in the secondary school with a study of vital community resources.

DISTRIBUTIVE EDUCATION

EDV 517 DETERMINING TEACHING CONTENT IN MARKETING AND DISTRIBUTIVE EDUCATION. (2-3)
Course construction in the field of marketing education. This course is planned to meet the needs of persons engaged as instructors in the field of marketing education. May be repeated to a maximum of six credits.

EDV 528 TECHNIQUES OF TEACHING MARKETING AND DISTRIBUTIVE EDUCATION. (2-3)
A study of the methods of teaching as applied to marketing education. The purpose of the course is to train prospective teachers to teach in the field of marketing education. May be repeated to a maximum of six credits.

VOCATIONAL EDUCATION

EDV 501 PRACTICUM IN VOCATIONAL EDUCATION. (1-12)
Planned and supervised practicum in teaching agriculture, business, home economics and vocational industrial education at middle and high school levels. Requires the integration of observation skills, application of instructional objectives, teaching strategies, selection of instructional materials, assessment of student progress, and use of student organizations. Regularly scheduled seminars included as an integral part of course. Open only to students in the master's degree combined with initial teaching certification program. May be repeated to a maximum of 12 credits. Prereq: Consent of instructor.

EDV 516 PROBLEMS OF THE COORDINATOR IN VOCATIONAL EDUCATION. (2-3)
A course to prepare coordinators of vocational education programs, including planning of local or area programs, use of advisory committees, selection of instructional materials and equipment, organizing instructional programs, and overall planning and operating of the program. May be repeated to a maximum of six credits.

EDV 520 THE ADULT LEARNER IN VOCATIONAL SETTINGS. (3)
An overview of adult education practices and their relevance to adult learning in the work setting. Prereq: EDV 211 or consent of instructor.

EDV 535 PRINCIPLES AND PHILOSOPHY OF VOCATIONAL EDUCATION. (2-3)
Study is made of philosophy, accepted principles, and legislation affecting programs in vocational education. May be repeated to a maximum of six credits.

EDV 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

EDV 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

EDV 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

EE Electrical Engineering

EE 101 CREATIVITY AND DESIGN IN ELECTRICAL AND COMPUTER ENGINEERING. (3)
This course provides an introduction to the process and application of creative design and problem solving within science and engineering. Emphasis is placed on applications and case studies in the areas of electrical and computer engineering. Several laboratory-based engineering problems are used to provide practical settings in which to apply and evaluate constraint- and product-focused strategies for creative design and problem solving. In addition to technical and aesthetic considerations, ethical and cultural influences on the creative process will also be discussed.

EE 167 FUNDAMENTALS OF NANOTECHNOLOGY AND APPLICATIONS IN RENEWABLE ENERGY. (3)
In 6 lecture modules and 4 observational visits to laboratories on UK campus, this course covers: effects of small size (1 nm to 100 nm) on the electro-optical properties of materials; fundamental principles of quantum mechanics; applying quantum mechanics to understand the changes in material properties like color, luminescence and electrical conductance at nanoscale; operating principles, basic theory and design issues in solar cells; nanotechnology applications for enhancing the performance of renewable energy generation and storage systems, especially solar cells and batteries. Prereq: Proficiency in mathematics, physics and chemistry at the high school graduate level.

EE 211 CIRCUITS I. (4)
Fundamental laws, principles and analysis techniques for DC and AC linear circuits whose elements consist of passive and active components used in modern engineering practice including the determination of steady state and transient responses. Prereq: MA 114; prereq or concur: PHY 232, 242.

EE 221 CIRCUITS II. (3)
Analysis and design methods for analog linear circuits whose elements consist of passive and active components used in modern engineering practice, including transfer functions, network parameters, and a design project involving modern design practices. Prereq: EE 211. Concur: MA 214.

EE 222 ELECTRICAL ENGINEERING LABORATORY I. (2)
Laboratory exercises in the use of measuring instruments. Experiments in R-L-C circuit analysis. Lecture, one hour; laboratory, three hours. Prereq or concur: EE 221.

EE 280 DESIGN OF LOGIC CIRCUITS. (3)
Boolean algebra; combinational logic circuits; synchronous sequential circuits; asynchronous sequential circuits; design problems using standard integrated circuits. Prereq: CS 115.

EE 281 LOGICAL DESIGN LABORATORY. (2)
A laboratory involving the design and implementation of logic circuits. Combinational and sequential (both synchronous) design examples using small and medium scale integrated circuits. Lecture, one hour; laboratory, one three-hour session. Prereq: EE 280.

***EE 305 ELECTRICAL CIRCUITS AND ELECTRONICS. (3)**
A service course covering electrical engineering principles for engineering or science students with majors outside of electrical engineering. Topics include: AC and DC circuits analysis. Prereq: MA 114, PHY 232.

EE 360 INTRODUCTION TO SEMICONDUCTOR DEVICES. (3)
Electronic properties of solid-state materials and calculation of charge carriers in semiconductors; structure and physical model of p-n junctions and various diode devices, bipolar transistors, field effect transistors; semiconductor fabrication technologies and microelectronics manufacturing issues. Prereq: PHY 232 and CHE 105.

EE 380 MICROCOMPUTER ORGANIZATION. (3)
Hardware and software organization of a typical computer; machine language and assembler language programming, interfacing peripheral devices, and input-output programming; real-time computer applications, laboratory included. Prereq: EE 280 or CS 245. (Same as CS 380.)

EE 383 INTRODUCTION TO EMBEDDED SYSTEMS. (3)
A course in the hardware and software of microprocessors. Assembly language programming, address decoding, hardware interrupts, parallel and serial interfacing with various special purpose integrated circuits. Each student is expected to do homework assignments using microprocessor hardware. Prereq: EE 280 and EE/CS 380. (Same as CS 383.)

EE 395 INDEPENDENT WORK IN ELECTRICAL ENGINEERING. (1-6)
Special research and problems for individual students who are capable of pursuing independent investigations. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

EE 402G ELECTRONIC INSTRUMENTATION AND MEASUREMENTS. (3)
Elementary treatment of electronic circuits emphasizing laboratory work. Topics include AC circuits, filters, theory and operation of transistors and other semiconductor devices and a simple treatment of operational amplifiers. Lecture, two hours per week; laboratory, three hours per week. Prereq: PHY 242 or EE 305 or consent of instructor. (Same as PHY 402G.)

EE 415G ELECTROMECHANICS. (3)
Study of electric machines and electromechanical systems. Prereq: EE 221 with a C or better and PHY 232.

EE 416G ENERGY CONVERSION LABORATORY. (2)
Laboratory practice and experimental studies related to EE 415G. Lecture one hour; laboratory, three hours. Prereq or concur: EE 415G.

EE 421G SIGNALS AND SYSTEMS. (3)
An introduction to continuous and discrete signal and system models and analyses. Topics include discrete and continuous convolution, Fourier series, Fourier transforms, and Laplace transforms and Z-transforms with application examples including AM modulation and the sampling theorem. Prereq: MA 214 and a C or better in EE 221.

EE 422G SIGNALS AND SYSTEMS LABORATORY. (2)
Lectures and laboratory exercises on signal and systems modeling. Topics include noise models and analysis, filter design, modulation techniques, sampling, discrete Fourier Transforms, State Variable Models, and feedback design with an emphasis on using computer software for analysis and simulation. Prereq: EE 421G, MA 320.

EE 461G INTRODUCTION TO ELECTRONICS. (3)
Analysis and design of electronic circuitry incorporating nonlinear electronic elements such as transistors, FET's, and vacuum tubes. Applications to amplifiers. Prereq: A grade of C or better in EE 221.

EE 462G ELECTRONIC CIRCUITS LABORATORY. (2)
Experimental exercises in the design and analysis of useful electronic circuits incorporating semiconductor devices: transistors, tunnel and Zener diodes; also, vacuum tubes, integrated circuits and operational amplifiers. Lecture, one hour; laboratory, three hours. Prereq: EE 222 and EE 461G.

EE 468G INTRODUCTION TO ENGINEERING ELECTROMAGNETICS. (4)
Applications of electromagnetic theory; electrostatic and magnetostatic fields; Maxwell's field equations; plane waves; transmission lines and waveguides; antennas and radiation. Prereq: MA 213; prereq or concur: EE 221.

EE 480 ADVANCED COMPUTER ARCHITECTURE. (3)
This course focuses on advanced computer architectures and low-level system software. Topics include RISC architectures, vector and multiprocessor architectures, multiprocessor memory architectures, and multiprocessor interconnection networks. Peripheral devices such as disk arrays, NICs, and video/audio devices are covered. Topics also include device drivers, interrupt processing, advanced assembly language programming techniques, assemblers, linkers, and loaders. Prereq: CS/EE 380. (Same as CS 480G.)

EE 490 ELECTRICAL ENGINEERING CAPSTONE DESIGN I. (3)
The first semester of a two-semester design sequence for senior students in electrical engineering with an emphasis on the engineering process. Topics important in product design and manufacturing are included, including considerations of economics, safety, and communication. Students are expected to formally propose a design project that includes a problem definition that incorporates engineering standards and realistic constraints. Students work in teams to develop and complete the designs. Lecture, two hours; laboratory, three hours per week. Prereq: Engineering standing and completion of all other required 400-level EE courses, excluding EE 491.

EE 491 ELECTRICAL ENGINEERING CAPSTONE DESIGN II. (3)
The second semester of a two-semester design sequence for senior students in electrical engineering with an emphasis on the engineering process. Students work in teams to develop and complete the designs. Topics to include engineering ethics, design, documentation, and communication. Prereq: EE 490 completed in the previous semester and Engineering standing.

EE 511 INTRODUCTION TO COMMUNICATION SYSTEMS. (3)
An introduction to the basic signal processing operations in communications systems. Topics include frequency and time domain signal and system representation, random signals, modulation, sampling, pulse modulation, information theory. Prereq: EE 421G, MA 320, and engineering standing.

EE 512 DIGITAL COMMUNICATION SYSTEMS. (3)
A treatment of the basic signaling concepts involved in the communication of digital information. Topics include transmission requirements and distortion of digital signals; discrete amplitude, frequency, and phase modulation; error control coding. Prereq: EE 421G, EE 422G, engineering standing or consent of instructor.

EE 513 AUDIO SIGNALS AND SYSTEMS. (3)
An introduction to digital signal processing and classification methods for audio signals. Topics include signal analysis and system design using correlation functions, power spectra, difference equations, and transfer functions; implementations of filters, classifiers, and audio effects; characteristics and modeling of common audio signals such as speech, music, and noise. Prereq: EE 422G, engineering standing.

EE 517 ADVANCED ELECTROMECHANICS. (3)
Dynamics of electromechanical systems and rotating electrical machines. Applications of electro-magnetic theory to electrical machines. Certain special topics of current interest. Prereq: EE 415G, EE 421G, and engineering standing.

EE 518 ELECTRIC DRIVES. (3)
Introduction to common power electronic converters used in electric motor drives. Steady-state analysis methods for electric machines fed by power conditioning converters. Performance prediction of electric machines by electromagnetic field theory and by coupled oil models. Prereq: EE 415G, EE 421G, and engineering standing.

EE 521 INTRODUCTION TO WIRELESS COMMUNICATIONS. (3)
Study of analog RF electronics for wireless communications through a combination of course and laboratory work. Topics covered in the course include: modulation/demodulation, filters, RF transformers, mixers, transistor switches and amplifiers, class A, B, AB, C, D, E, and F amplifiers, quartz crystals, transmission lines, impedance inverters, acoustics, oscillators, audio circuitry, noise and inter-modulation, and antennas. Prereq: Engineering standing.

EE 522 ANTENNA DESIGN. (3)
Principles of radiation, potential solution to Maxwell's equations for current in empty space, electrically small antennas, antenna arrays, wire antenna principles, introduction to numerical methods, aperture antennas, frequency scaling antennas, receiving properties of antennas, antenna measurement techniques. Prereq: EE 468G and engineering standing.

EE 523 MICROWAVE CIRCUIT DESIGN. (3)
Physical and mathematical descriptions of wave propagation in guided structures; microstrip lines; microwave integrated circuits; passive components; two-terminal devices; four-terminal devices; S-parameter concept; equivalent circuit concept; solid state microwave amplifiers and oscillators. Prereq: EE 468G and engineering standing.

EE 524 SOLID STATE PHYSICS. (3)
Introductory solid state physics with emphasis on the properties of electrons in crystals; crystal structure, crystal diffraction, reciprocal lattice, lattice vibrations and phonons, free electron theory, energy bands in solids, semiconductors. Prereq: PHY 520, or consent of instructor. Engineering standing required for EE 524. (Same as PHY 524.)

EE 525 NUMERICAL METHODS AND ELECTROMAGNETICS. (3)
This course covers the basics of numerical methods and programming with applications in electromagnetics. Examples range from statics to radiation/scattering problems involving numerical solutions to integro-differential and finite difference equations. Prereq: EE 468G and engineering standing, or consent of instructor.

EE 527 ELECTROMAGNETIC COMPATIBILITY. (3)
Design of electronic systems to minimize 1) emission of electromagnetic signals that cause interference in other electronic systems, 2) the susceptibility of that system to electromagnetic signal from other electronic systems, and 3) the susceptibility of that system to its own, internally generated signals. A set of brief laboratory experiments demonstrate the design principles and provide familiarity with modern test equipment. Prereq: EE 468G and engineering standing.

EE 531 ALTERNATIVE AND RENEWABLE ENERGY SYSTEMS. (3)
Study of non-traditional, electric generating systems, and the use of renewable energy sources. Energy sources include solar, wind, hydro, and biomass/biogas. Generating technologies include both inverter based equipment and rotating machinery. Prereq: EE 415G, Engineering Standing or consent of instructor.

EE 532 SMART GRID: AUTOMATION AND CONTROL OF POWER SYSTEMS. (3)
This course covers introduction to smart grid, key technologies in transmission and distribution systems enabling smart grid, power market structure, and real time pricing. Prereq: Engineering standing, or consent of instructor.

EE 535 POWER SYSTEMS: GENERATION, OPERATION AND CONTROL. (3)
This course covers essential aspects of the energy management system of power systems. Will cover topics: power system economics, state estimation, power system stability, power quality, and fault location. Prereq: EE 537 or concurrent, and Engineering Standing.

EE 536 POWER SYSTEM FAULT ANALYSIS AND PROTECTION. (3)
This course teaches computer based methods for performing fault analysis of power systems, and principles for protecting power systems. Prereq: EE 537, or concurrent, and Engineering Standing.

EE 537 ELECTRIC POWER SYSTEMS I. (3)
A study of power flow, elements of power factor correction, the one-line diagram, the per-unit system, transformer modeling, generator modeling, transmission line modeling, transmission line performance calculations from equivalent circuits, and general methods for network calculations. Prereq: EE 468G and engineering standing.

EE 538 ELECTRIC POWER SYSTEMS II. (3)
Introduction to modern power system practices, basic transient and steady-state stability analysis with emphasis on digital techniques. Prereq: Engineering standing and consent of instructor.

EE 539 POWER DISTRIBUTION SYSTEMS. (3)
Study of electric utility distribution power systems. Topics include configurations, equipment, customer class data, load flow, phase balancing, capacitor placement, system protection, power quality, and distributed generation. Prereq: EE 537, engineering standing or consent of instructor.

EE 546 ELECTRIC POWER SYSTEM FUNDAMENTALS. (3)
Introduction to power transmission basics, power system components, power flow, fault analysis and protection, control, stability, and economic operation of the power grid. This course will also introduce modern trends such as distributed generation, communications, and cybersecurity. Prereq: Graduate or engineering standing and EE 221, EE 305, or equivalent. (Same as EGR 546.)

EE 555 INTRODUCTION TO MICRO-/ NANO-ELECTROMECHANICAL SYSTEMS. (3)
This course provides an overview of micromachined structures with an emphasis on operational theory and fabrication technology. Prereq: Engineering standing or consent of instructor. (Same as ME/MSE 555.)

EE 560 SEMICONDUCTOR DEVICE DESIGN. (3)
Theory, development and discussion of equivalent circuit models of transistor devices, negative resistance, semiconductor devices and praetersonic devices based on electronic processes in solid state elements. High and low frequency, as well as the Ebers-Moll and charge control switching models and their application in computerized electronic circuit analysis will be developed. Prereq: EE 461G or equivalent, and engineering standing.

EE 561 ELECTRIC AND MAGNETIC PROPERTIES OF MATERIALS. (3)
Study of dielectric and magnetic materials. Topics include dielectric relaxation, conduction and breakdown mechanisms, liquid crystals, ferroelectrics, magnetic resonance and relaxation, measurement techniques. Prereq: MSE 212 and PHY 361 or EE 461G or consent of instructor. (Same as MSE 561.)

EE 562 ANALOG ELECTRONIC CIRCUITS. (3)
Feedback amplifiers, tuned and untuned amplifiers, oscillators, AM and FM transmitters. Prereq: EE 360, EE 461G and engineering standing.

EE 564 DIGITAL ELECTRONIC CIRCUITS. (3)
Timing, scanning, trigger/logic and pulse circuits; video and broad band R-F amplifiers. Prereq: EE 360, EE 461G and engineering standing.

EE 567 INTRODUCTION TO LASERS AND MASERS. (3)
Basic principles of laser action; atomic transitions; population inversion; two and three level systems; optical resonators; pumping methods; applications. Prereq: EE 360, EE 468G, or PHY 417G, or consent of instructor. (Same as PHY 567.)

EE 568 FIBER OPTICS. (3)
The course presents theory and practice related to (a) fiber optic cable and their fabrication, (b) fiber optic transmitters and detectors, (c) fiber optic communication systems and (d) fiber optic remote sensors. Prereq: EE 468G. (Same as MSE 568.)

EE 569 ELECTRONIC PACKAGING SYSTEMS AND MANUFACTURING PROCESSES. (3)
Study of packaging systems which interconnect, support, power, cool, protect, and maintain electronic components. The course will address systems at the chip, board, and product levels. Topics include design, properties, materials, manufacture, and performance of various packaging systems. Laboratory will provide familiarity with design software and production equipment and processes. Prereq: EE 211 or EE 305, EE 360 or MSE 402G, or consent of instructor. (Same as MSE 569.)

EE 570 FUNDAMENTALS OF NANOELECTRONIC DEVICES AND MATERIALS. (3)
Energy bonds in crystals; heterostructures; quantum wells and low dimensional systems; the two-dimensional electron gas and MODFET; transmission in nanostructures; current topics in nanoscale devices. Prereq: EE 360 and engineering standing, or consent of instructor. (Same as ME/MSE 570.)

EE 571 FEEDBACK CONTROL DESIGN. (3)
System representation via transfer function and state variables, root locus analysis; Bode plots; compensation by root-locus and frequency response methods; state variable feedback; sensitivity analysis; tracking via output feedback; digital control systems. Prereq: EE 421G, EE 422G, engineering standing, and consent of instructor.

EE 572 DIGITAL CONTROL OF DYNAMIC SYSTEMS. (3)
Zero and first order hold, theory of analog to digital and digital to analog conversion. Z-transform analysis, discrete state variable analysis, discrete estimation techniques, error analysis of discrete systems. Prereq: EE 422G, engineering standing.

EE 575 INDUSTRIAL CONTROL. (3)
Control technologies for industrial and process control systems, including sensors, actuators, PLCs, and hydraulic and pneumatic control elements. Prereq: Engineering standing or graduate standing.

EE 579 NEURAL ENGINEERING: MERGING ENGINEERING WITH NEUROSCIENCE. (3)
A multidisciplinary approach combining engineering principles for systems analysis and control, knowledge of biological control mechanisms, and computational properties of biological neural networks in the development of engineering neural networks for control applications. Topics include: equivalent circuit models for biological neurons and networks, non-linear differential equation representations, biological control strategies for rhythmic movements, design and development of controller for robot function, proposal development and presentation. Prereq: EE 422G and Engineering Standing or consent of instructor. (Same as BME 579.)

EE 581 ADVANCED LOGICAL DESIGN. (3)
Medium-scale and large-scale digital components; register-transfers; bus-structures; controller/process organizations. Design of arithmetic processors and stored-program computers. Microprogramming. Prereq: EE 280 and EE/CS 380; engineering standing or upper division computer science standing.

EE 582 HARDWARE DESCRIPTION LANGUAGES AND PROGRAMMABLE LOGIC. (3)
A study of hardware description languages including netlists, VHDL and Verilog; their use in digital design methodologies including modeling techniques, design verification, simulation, synthesis, and implementation in programmable and fabricated logic media. Programmable logic topics include CPLD and FPGA architectures, programming technologies and techniques. Prereq: EE/CS 380 and engineering standing.

EE 584 INTRODUCTION OF VLSI DESIGN AND TESTING. (3)
Introduction to the design and layout of Very Large Scale Integrated (VLSI) Circuits for complex digital systems; fundamentals of the VLSI fabrication process; and introduction to VLSI testing and structured design for testability techniques. Prereq: Engineering standing and EE 360 or CS 215 or consent of instructor.

EE 585 FAULT TOLERANT COMPUTING. (3)
Fault models in logic networks will be developed and then various testing techniques for detection of faults in logic networks will be discussed. Systematic approach for designing logic networks for testability will be introduced. Self testing and fault tolerant design of logic systems using coding theory will be covered. Prereq: EE 581 or consent of the instructor, engineering standing or upper division computer science standing.

EE 586 COMMUNICATION AND SWITCHING NETWORKS. (3)
Fundamentals of modern communication networking and telecommunications, data transmission, multiplexing, circuit switching networks, network topology routing and control, computer communication, packet switching networks, congestion control, frame relay, ATM switching networks, traffic and congestion control. Prereq: EE 280.

EE 587 MICROCOMPUTER SYSTEMS DESIGN. (3)
A course in the design of microcomputer systems for hardware engineers which includes the following topics: use of uncommitted logic arrays in instruction set design; hardware support for operating systems and programming languages; customizing microcomputers for specific execution environments; and control of concurrency. Prereq: EE 581 and EE 583, or consent of instructor. Engineering standing or upper division computer science standing. (Same as CS 587.)

EE 588 REAL-TIME DIGITAL SYSTEMS. (3)
This course will cover features typically found in real-time and embedded systems. Topics will include scheduling, synchronization, and architectural features of single and multiple processor real-time and embedded systems. Prereq: EE 380, C programming experience, engineering standing or upper division computer science standing, or consent of instructor.

EE 589 ADVANCED VLSI. (3)
An advanced class in topics related to Very Large Scale Integration. Example topics are advanced simulation, yield impact, memory design, statistical analysis and date reduction. Prereq: EE 584, engineering standing.

EE 595 INDEPENDENT PROBLEMS. (1-3)
For electrical engineers. A problem, approved by the chairperson of the department, provides an objective for study and research. May be repeated to a maximum of six credits. Prereq: 2.5 standing and engineering standing.

EE 599 TOPICS IN ELECTRICAL ENGINEERING (Subtitle required). (2-3)
A detailed investigation of a topic of current significance in electrical engineering such as biomedical instrumentation, digital filter design, active networks, advanced electrical devices, digital communications, display of electronics. May be repeated to a maximum of six credits, but only three credits can be earned under the same title. A particular topic may be offered at most twice under the EE 599 number. Prereq: Equivalent of two 400-level courses in electrical engineering, consent of instructor and engineering standing.

PREREQUISITE FOR GRADUATE WORK: *Students desiring to take any of the following courses should have a thorough working knowledge of chemistry, physics and mathematics. For major work, a candidate must hold a bachelor's degree in electrical engineering or its equivalent.*

EE 601 ELECTROMAGNETIC ENERGY CONVERSION I. (3)
Generalized electric machine theory; parameter determination. Energy conversion in continuous media including magnetohydrodynamics. Prereq: Consent of instructor.

EE 603 POWER ELECTRONICS. (3)
Study of solid-state power electronic devices and their applications in power conditioned electric motor drive systems. Examination of control philosophies, steady-state models, and numerical simulation of characterizing differential equations. Current topics of interest from the literature. Prereq: EE 517 and EE 571 or consent of instructor.

EE 604 SWITCH MODE CONVERTERS. (3)
Study of analysis techniques for switching mode converters and associated control practices. Boost, buck, buck-boost, flyback, and Cuk topologies in both continuous and discontinuous conduction modes are presented. Numerical solution, state-space averaging, and linearization techniques are applied to predict performance and formulate transfer characteristics. Prereq: EE 517 or consent of instructor.

EE 605 SYSTEMS FOR FACTORY INFORMATION AND CONTROL. (3)
Systems approach to manufacturing. Hardware and software for real time control and reporting. Sensor and actuators, controllers, networks, databases, hierarchical and distributed control, CAD/CAM systems, flexible manufacturing systems, group technology, modeling and simulation of factory operations. Lecture, two hours; laboratory, two hours. Prereq: MFS 505. (Same as MFS 605.)

***EE 606 GLOBAL ISSUES IN MANUFACTURING. (3)**
The need to increase quality, productivity, efficiency and sustainability in manufacturing operations spanning the product, process and systems (manufacturing systems as well as supply chain) domains is essential for companies to be successful. The increased globalization of markets and manufacturing operations, declining natural resources and negative consequences of some manufacturing practices as well as increased legislation in many regions has led to many new challenges that companies must overcome to be successful in competitive markets. This seminar course will introduce students to a variety of global issues in manufacturing through presentations by leading national and international experts in these domains. The seminars will cover a broad range of manufacturing related topics relevant to many disciplines including manufacturing, mechanical and electrical engineering. The course can also help graduate students identify topical issues that need further investigation and could become potential research topics. (Same as ME/MFS 606.)

EE 611 DETERMINISTIC SYSTEMS. (3)
Concepts of linear systems, singularity functions, convolution and superposition integrals, state-variable method for linear systems, relation between transfer function and state-variable equations, fundamental matrix, state-transition matrix, unit-impulse response matrix, and transmission matrix. Prereq: EE 421G.

EE 613 OPTIMAL CONTROL THEORY. (3)
State-space modeling of control systems; variational techniques; system optimization by maximum principle, dynamic programming; Hamilton-Jacobi equations design of linear optimal systems; computational methods for solving boundary value problems. Prereq: EE 611.

EE 614 ADAPTIVE CONTROL. (3)
Real-time parameter estimation; deterministic self-tuning regulators; stochastic and predictive self-tuning regulators; model-reference systems; auto-tuning; gain scheduling; practical issues; design and simulation projects. Prereq: EE 611.

EE 619 PROBLEMS SEMINAR IN OPERATIONS RESEARCH. (3)
In this course, the student is exposed to the art of applying the tools of operations research to real world problems. The seminar is generally conducted by a group of faculty members from the various disciplines to which operations research is applicable. Prereq: MA 617 and STA 525 or consent of instructor.

EE 621 ELECTROMAGNETIC FIELDS. (3)
Development of electromagnetic field theory from the basic postulates of Maxwell's equations in differential and integral forms, solution to static, quasistatic, and wave-propagation problems. Radiation from dipole antenna elements. Prereq: EE 468G.

EE 622 ADVANCED ELECTRODYNAMICS. (3)
Solution methods for applied electrodynamics problems; uniqueness, equivalence, duality, reciprocity; linear space methods; wave solutions in separable coordinate systems; classical problems in cartesian, cylindrical, and spherical coordinates. Prereq: EE 468G.

EE 624 COMPUTATIONAL ELECTROMAGNETICS: THE FINITE-DIFFERENCE TIME-DOMAIN. (3)
A course on the application of the finite-difference time-domain (FDTD) technique for the full-wave simulation of time-dependent electromagnetic waves in complex media. Representative topics in the course include: The Yee-algorithm, numerical dispersion and stability, physical source models, absorbing boundaries and perfectly matched layered media, near-field to far-field transformations, modeling of microwave circuits and antennas, parameter extraction, lumped load models, non-uniform and non-orthogonal grid methods, and current topics in FDTD. Prereq: EE 621 or consent of instructor.

EE 625 COMPUTATIONAL ELECTROMAGNETICS. (3)
This advanced course in computational electromagnetics primarily covers moment method and finite element method solutions to scattering problems. Representative topics of the course include surface and volume equivalence principles, scattering by material cylinders, scattering by periodic structures and absorbing boundary condition models. Prereq: EE 525, EE 621, or consent of instructor.

EE 630 DIGITAL SIGNAL PROCESSING. (3)
An introductory treatment of the basic concepts of signal processing via time and frequency domain (Z-transform) methods and a survey of procedures for designing, implementing and using digital signal processors. Prereq: EE 512 or consent of instructor.

EE 635 IMAGE PROCESSING. (3)
The course outlines applications of image processing and addresses basic operations involved. Topics covered include image perception, transforms, compression, enhancement, restoration, segmentation, and matching. Prereq: Graduate standing and consent of instructor. (Same as CS 635.)

EE 639 ADVANCED TOPICS IN SIGNAL PROCESSING AND COMMUNICATIONS. (3)
Advanced topics in signal processing and communications research and design topics of current interests, such as optical processing, pattern recognition, satellite systems, and digital communication networks. A review and extension of current literature and selected papers and reports. May be repeated to a maximum of nine credits. Prereq: Advanced graduate standing.

EE 640 STOCHASTIC SYSTEMS. (3)
Random variables, stochastic processes, stationary processes, correlation and power spectrum, mean-square estimation, filter design, decision theory, Markoff processes, simulation. Prereq: EE 421G.

EE 642 DISCRETE EVENT SYSTEMS. (3)
The objective of the course is to prepare students for research in the field of supervisory control of discrete event systems (DES's). Logical models, supervising control. Stability and optimal control of DES, complexity analysis and other related research areas will be covered. Prereq: Graduate standing or consent of instructor. (Same as CS 642.)

EE 661 SOLID-STATE ELECTRONICS. (3)
A study of semiconductor fundamentals including crystal structure, basic quantum mechanics, energy-band theory, carrier distributions, carrier transport, and recombination-generation. Analysis of semiconductor devices including PN junction diodes, bipolar-junction transistors, metal-semiconductor diodes, and metal-oxide semiconductor field effect transistors. Prereq: EE 360 and EE 461G or consent of instructor.

EE 663 OPTOELECTRONIC DEVICES. (3)
Theory and applications of photodetectors, solar cells, semiconductor lasers, light emitting diodes and display devices, nanocrystalline structures and organic semiconductors applications in optoelectronic devices. Prereq: EE 360 or MSE 402G, consent of instructor and/or graduate standing. (Same as MSE 663.)

EE 664 MULTIDISCIPLINARY SENSORS LABORATORY. (3)
A multidisciplinary laboratory course with laboratory experiences in areas related to sensors and sensing architectures, typically including chemistry, chemical and materials engineering, and electrical engineering. Lecture, 1 hour; laboratory, 2 hours. Prereq: One year of college chemistry, calculus and physics. GS 660 or by consent of instructor. (Same as CHE/CME/MSE 664.)

EE 684 INTRODUCTION TO COMPUTER AIDED DESIGN OF VLSI CIRCUITS. (3)
Computer aided design of Very Large Scale Integration (VLSI) circuits. Topics include: VLSI technologies, CMOS circuit characteristics, computer aids in the design of VLSI circuits, use of various CAD tools for layout, circuit design, logic design, and functional design, and the use of VLSI circuits in the system design. A design project is required. Prereq: EE 581 and EE 461G or consent of instructor.

EE 685 DIGITAL COMPUTER STRUCTURE. (3)
Study of fundamental concepts in digital computer system structure and design. Topics include: computer system modeling based on instruction set processor (ISP) and processor-memory-switch (PMS) models, design and algorithms for ALU, processor, control unit and memory system. Special topics include floating-point arithmetic, cache design, pipeline design

technologies, and parallel computer architectures. Prereq: EE 380 and EE 581 or consent of instructor.

EE 686 ADVANCED COMPUTER ARCHITECTURE DESIGN. (3)
A study of current diverse advanced architectures such as microprogrammed, parallel, array and vector, networked, and distributed architectures; applications and example systems employing these architectures; matching applications to architectures; consideration of architectures of the future. Prereq: EE 685.

EE 699 TOPICS IN ELECTRICAL ENGINEERING (Subtitle required). (3)
A detailed study of a topic of current interest in electrical engineering. May be repeated to a maximum of six credits, but only three credits may be earned under the same subtitle. A particular topic may be offered at most twice under the EE 699 number. Prereq: Consent of instructor.

EE 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

EE 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

EE 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

EE 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

EE 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

EE 780 ADVANCED PRACTICE IN ELECTRICAL AND COMPUTER ENGINEERING. (1-3)
Apply advanced training in electrical/computer engineering to solve complex practical problems through analysis, design, implementation, experiments, and/or developments subject to approval of the course instructor. This course may be repeated for a maximum of six credit hours in combination with EE 783. Prereq: 18 hours of graduate courses.

EE 783 SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING. (1-3)
Open to graduate students only. Individual work on an assignment approved by the chairperson of the department. May be repeated to a maximum of nine credits.

EE 784 RESEARCH PROJECT IN ELECTRICAL ENGINEERING. (3)
Individual study related to a special research project supervised by the student's advisor. A final written report on the project is required. This course is open only to and required by students pursuing the MSEE degree with a non-thesis option (Plan B). The course cannot satisfy part of the required 30 hours of course work for Plan B. Prereq: Approval of student's MSEE advisor.

EE 790 RESEARCH IN ELECTRICAL ENGINEERING. (1-9)
Research in any field of electrical and/or computer engineering subject to approval of the Director of Graduate Studies. This course can be taken prior to the qualifying examination, but will not count for pre-qualifying examination residency credit. This course may be repeated to a maximum of 18 credit hours. Prereq: Consent of DGS.

EES Earth and Environmental Sciences

EES 110 ENDANGERED PLANET: AN INTRODUCTION TO ENVIRONMENTAL GEOLOGY. (3)
An introductory course that applies basic geological concepts to current environmental issues including the availability and use of water and soil resources, pollution causes, effects and solutions, and causes and prediction of environmental hazards including floods, landslides, subsidence, earthquakes and volcanoes.

EES 120 SUSTAINABLE PLANET: THE GEOLOGY OF NATURAL RESOURCES. (3)
An introduction to the geologic and societal controls that govern the distribution and cost of using geologic resources: minerals, soils, and energy and industrial materials. Topics include the geological processes responsible for forming these resources, controls on their distribution, quality and abundance, economic factors that drive their recovery, and the legal/political arena in which we attempt to utilize them.

EES 130 DINOSAURS AND DISASTERS. (3)
More than 65 million years ago, dinosaurs and their kin dominated the earth and relegated our mammalian ancestors to positions of unimportance for nearly 155 million years. This course traces the history of dinosaurs from early vertebrate ancestors to their final extinction and surveys the evolutionary, paleogeographic, environmental, and possible extraterrestrial causes for the rise to dominance and sudden fall. Along the way and afterwards, dinosaur interactions with other organisms and the environment, as well as their indirect influence on mammals, particularly on the much later evolution of humankind, will be examined.

EES 150 EARTHQUAKES AND VOLCANOES. (3)
An introduction to earthquakes and volcanoes through theory, active learning assignments, and case studies. Using the basic principles of plate tectonics, students will learn why, where and how earthquakes and volcanoes occur. The hazards associated with earthquakes and volcanic eruptions will be discussed, as well as their societal implications in both the United States and developing world. Earthquake and volcanic hazard mitigation techniques will be addressed. In addition, earthquake hazards in the central United States will be discussed.

EES 151 EARTH DYNAMICS. (3)
A basic problem solving approach to quantifying and predicting how Earth changes through time. Involves application of math skills of sufficient level for UK admission. Satisfies the General Education Quantitative Reasoning requirement; no prerequisites.

EES 155 EARTHQUAKES AND QUANTITATIVE REASONING. (3)
Earthquake phenomena will be introduced in a manner that will allow students to learn why, where, and how earthquakes occur using elements of fundamental topics in algebra and trigonometry. These quantitative foundations will be used to investigate the origins and hazards associated with earthquakes, as well as their societal implications in both the United States and developing world. Students will often work in small groups to increase confidence in orally communicating their quantitative thinking and defending their logic, as well as providing an opportunity to consider alternative problem solving strategies.

EES 160 GEOLOGY FOR TEACHERS. (3)
The basic principles of geologic processes, materials, and history with primary emphasis on inquiry-based laboratory and field activities. The course is designed in conjunction with PHY 160 to provide basic concepts of earth science, astronomy and physics appropriate for elementary and middle school teachers. Both courses are taught with an emphasis on inquiry-based, laboratory activities. Lecture, two hours per week; laboratory, three hours per week. Not available for credit to students who have received credit for EES 220.

EES 170 BLUE PLANET: INTRODUCTION TO OCEANOGRAPHY. (3)
Survey of oceanography, including the geologic evolution of the ocean floor; composition and dynamics of ocean water; interaction of lithosphere with hydrosphere; ocean-atmosphere interaction and oceanic controls on climate dynamics; marine life and ecosystems; impact of human activity on marine ecosystems.

#EES 180 GEOLOGY OF THE NATIONAL PARKS. (3)
The American system of national parks and monuments provides a natural and exciting basis for learning about geology, the scientific study of the Earth. These spectacular, diverse natural classrooms will be used to uncover the origin and variety of Earth materials, probe the dynamic processes that have produced and continue to modify internal and surficial environments over geologic time, critically examine the effects of changing patterns of land use on the natural environment, and recount the conservation efforts that have preserved these unique natural environments for future generations. The course includes a required, two-day (Saturday-Sunday) field trip to Mammoth Cave National Park.

EES 185 QUANTIFYING THE BLUEGRASS WATER SUPPLY. (3)
This course develops the ability to locate and identify data, critically evaluate the data, develop probabilistic models, and present the results of their research. Geology provides important information on the origins of natural resources and the amounts available for exploitation and use. Course focuses on the issues surrounding the water supply and demand in the central Kentucky Bluegrass region, and the impact of global climate change.

†EES 210 HABITABLE PLANET: EVOLUTION OF THE EARTH SYSTEM.

EES 220 PRINCIPLES OF PHYSICAL GEOLOGY. (4)
How the Earth Works: an integrated course in physical geology, covering the physical, chemical and biological processes that combine to produce geological processes. Attention is focused on plate tectonics, earth surface processes, and properties and formation of earth materials. Lab exercises emphasize identification and interpretation of geologic materials and maps. Lecture/Discussion, three hours per week; laboratory, three hours per week.

EES 230 FUNDAMENTALS OF GEOLOGY I. (3)
Field and laboratory methods for identification and description of rocks and minerals with emphasis on sedimentary rocks and rock-forming minerals. Field study of geologic structures. Interpretation of geologic maps. Laboratory, three hours per week. Eight days in the field. Prereq: EES 220.

EES 235 FUNDAMENTALS OF GEOLOGY II. (3)
Laboratory and field methods for identification and description of rocks and minerals with emphasis on igneous and metamorphic rocks and rock-forming minerals. Field study of geologic structures. Interpretation of geologic maps. Laboratory, four hours per week. Four days in the field. Prereq: EES 220 and 230.

EES 295 GEOSCIENCE ORIENTATION. (1)
Survey of geoscience disciplines and post-baccalaureate career options for Geology majors. Introduction to the range of geoscience research approaches and means of dissemination of geoscience information. Guest speakers from industry, government, and academia will discuss career issues specific to geology, including consideration of appropriate educational preparation for potential career paths. Pass/Fail only. Prereq: EES 220 and sophomore standing.

EES 310 EXPLORATIONS OF THE SOLAR SYSTEM. (3)
Fundamental and current topics in the space exploration of our solar system. Topics and examples of themes include: What is a planet; critical evaluation of the evidence for the heliocentric system; electromagnetic waves; the threat of asteroid impact; critical evaluation of the possibilities of extra-terrestrial life; critical evaluation of the evidence for climate change; and other topical items based on the results of on-going space missions. Prereq: Any two university science/math courses or completion of one and concurrent enrollment in another.

†EES 311 WORKSHOP IN ANALYTICAL METHODS FOR THE GEOSCIENCES.

EES 323 FIELD WORK IN REGIONAL GEOLOGY. (6)
Geologic mapping in the field for a six-week period. Description, measurement, and mapping of a wide variety of rocks and structures, and analysis of geologic events in mountainous regions of the Rockies or Appalachians. Includes practice in writing geologic field reports. Offered only during the summer session. At least 40 hours of field-related work per week. Special fee. Prereq: EES 230 and EES 235.

***EES 341 LANDFORMS. (3)**
A study of the origin and distribution of landforms. Lecture, three hours per week. (Same as GEO 351.)

#EES 345 PALEOCLIMATOLOGY: THE SCIENCE. (3)
This course focuses on the science behind our understanding of how our planet's climate has changed over time, in particular from 100 million years ago to the present. The most significant processes, astronomical, geological, oceanographic, and atmospheric, are examined with an emphasis on the broad scales of time and space over which they operate, and drive climatic change. Proxy data records are defined in the context of how they record climatic data, and how we "read" them to learn the climatic history they store. Finally, the course brings us into the historical age, where data stores on climate change are the most diverse, but shortest in duration. The ultimate goal is for students to understand how we know what we know about Earth's past climatic changes, so that we can formulate informed strategies moving forward to mitigate our own species' impact on global climate.

EES 350 REGIONAL HISTORICAL GEOLOGY. (3)
Integration of basic rock types, geologic structures, geomorphology, and natural resources in the context of geologic history of the major regions of North America. Global plate tectonics as a framework for evolution of the North American continent. Prereq: EES 230.

EES 360 MINERALOGY. (4)
The study of mineral structure and composition, and mineral classification through crystallographic and crystal chemical techniques. Laboratory work includes study of minerals via crystallography, X-ray diffraction, mineral chemical analysis, and optical petrographic techniques. Lecture, three hours per week; laboratory, three hours per week. Prereq: CHE 105 and EES 220. Prereq or concur: EES 230 or EES 235.

EES 385 HYDROLOGY AND WATER RESOURCES. (3)
The occurrence, movement, and quality of fresh water in the water cycle, including environmental problems and possible solutions. Case studies are explored through readings, videos, and required field trips. Prereq: EES 220.

EES 395 SPECIAL PROBLEMS IN GEOLOGY. (1-3)
Individual work on a special problem in geology. Report required. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

EES 399 WORK EXPERIENCE IN GEOLOGICAL SCIENCES. (1-6)
Professional-level, pre-planned learning experience in geological sciences in the work place under the supervision of a faculty member. The student will complete work of the type done by professional geoscientists in the same setting. May be repeated to a maximum of six credits. Pass/fail only. Prereq: Approval of learning contract by faculty supervisor, director of undergraduate studies, and department chair.

EES 401G INVERTEBRATE PALEOBIOLOGY AND EVOLUTION. (3)
Basic ecologic and evolutionary framework of common fossil invertebrate taxa. Major principles of paleontology, ecology, systematics, and evolution; and the use of fossils in paleoecology and biostratigraphy. Laboratory work in classification of common fossils. Lecture, two hours; laboratory, three hours per week. Prereq: EES 102/112.

EES 420G STRUCTURAL GEOLOGY. (4)
An introduction to earth structures. Advanced geologic map interpretation. Prereq: EES 230.

EES 450G SEDIMENTARY GEOLOGY. (4)
Basic principles and concepts of stratigraphy and sedimentation. Lithologic correlation and the interpretation of geologic history and paleogeography. Field and laboratory analysis of sedimentary rocks including megascopic and microscopic methods. Lecture, three hours per week; laboratory, three hours per week. Prereq: EES 230 and EES 360.

EES 461 IGNEOUS AND METAMORPHIC PETROLOGY. (4)
Classification and origins of the common igneous and metamorphic rocks. Lecture material will emphasize the mineralogical, chemical, and physical equilibria within the earth. Laboratory topics will stress hand-specimen and microscopic petrography. Lecture, three hours; laboratory, three hours per week. Prereq: EES 230 and 235 and EES 360.

EES 480 ADVANCED TOPICS IN GEOLOGICAL SCIENCES (Subtitle Required). (1-6)
Advanced topical course in the geological sciences. May be repeated to a maximum of six credits under different subtitles. Prereq: Consent of instructor.

EES 490 EARTH DYNAMICS. (3)
Basic planetary changes through geological time, including continental drift, formation of supercontinents, paleoclimate, and the growth of the earth's crust. Students will be required to take the Fundamentals component of the ASBOG professional geologist certification exam (fee required). Prereq: Senior standing with at least 30 credits in a Geological Sciences curriculum.

EES 511 PETROLEUM GEOLOGY. (3)
Survey of the origin, chemical composition, occurrence in the context of stratigraphy, structure, and reservoir types of natural hydrocarbons; exploration methods and production techniques; environmental impacts of exploration and production. Prereq: EES 450G, EES 420G, or equivalent, or consent of instructor.

EES 530 LOW TEMPERATURE GEOCHEMISTRY. (3)
An introduction to sedimentary and environmental geochemistry, including carbonate equilibria, coal and petroleum geochemistry, and the geochemistry of aqueous contaminants. Prereq: EES 360, MA 114, or consent of instructor.

EES 550 FUNDAMENTAL GEOPHYSICS. (3)
Survey of active geophysical measurements and passive geophysical observations and their relation to Earth's structure and composition. Investigation of the relationship between Earth's elastic, potentiometric, and thermodynamic properties and traditional geophysical methods for measurement (e.g., gravity, magnetics, seismic, and heat flow). Material will help students improve their quantitative problem-solving abilities, but will also emphasize the visual learning skills commonly developed in the broader geology curricula. Prereq: MA 113, PHY 211 or 213, or consent of instructor. (MA 114 suggested).

EES 555 STRATIGRAPHY. (3)
Principles of stratigraphy, depositional systems, sequence stratigraphy, and tectonic framework of sedimentation. Prereq: EES 450G.

EES 560 GEOPHYSICAL FIELD METHODS. (4)
An introduction to the principles and applications of geophysics in the field. The course will present the geophysical methods used to assess the configuration and physical properties of the Earth's subsurface, as well as to explore for natural resources. Designed for geology students (upper-division or first-year graduate) and other science or engineering students without prior formal instruction in geophysics. To understand the discussions and exercises, the student should be familiar with first-year calculus and physics. Prereq: MA 113, 114; PHY 211, 213 or PHY 231, 232 or consent of instructor. MA 114, PHY 213 or PHY 232 may be taken concurrently.

EES 570 SEMINAR IN GEOLOGICAL SCIENCES (Subtitle required). (1)
A general seminar in a broad range of topics in the geological sciences. May be repeated to a maximum of six credits under different subtitles. Prereq: Senior or graduate standing in Geological Sciences.

†EES 579 GROUNDWATER GEOPHYSICS.

EES 585 HYDROGEOLOGY. (3)
A study of the physical aspects of groundwater, including regional flow, well hydraulics, and computer simulation. Prereq: EES 220 and MA 113 or 123.

EES 610 TOPICS IN HYDROGEOLOGY AND SURFICIAL PROCESSES (Subtitle required). (3)
Study of topics in hydrogeology and surficial processes. Recent topics include: models of surface processes; contaminant hydrogeology; modeling in hydrogeology. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

EES 620 TECTONICS. (3)
A study of the structural features of the earth's crust with an analysis of the mechanics involved. Prereq: PHY 211, 213; EES 420G.

EES 624 ADVANCED STRUCTURAL GEOLOGY. (3)
An advanced study of the theory, principles, and application of structural geology. Prereq: EES 420G.

EES 625 TOPICS IN APPLIED GEOPHYSICS AND ENGINEERING GEOLOGY (Subtitle required). (3)
Study of topics in Applied Geophysics and Engineering Geology. Past topics include: Seismic Processing; Seismic Stratigraphy; Geologic Hazards. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

EES 626 GRAVITY AND MAGNETIC METHODS. (3)
Theory and practice of the gravity and magnetic methods of geophysical exploration as applied to geological, archeological, environmental, and planetary exploration problems. The course includes principles of instrumentation, surveying, reduction of anomalies, and their interpretation. Prereq: MA 113, MA 114; PHY 211 and PHY 213 or PHY 231 and PHY 232; or consent of instructor. MA 114 and PHY 213 or 232 may be taken concurrently.

EES 645 TOPICS IN PETROLOGY AND GEOCHEMISTRY (Subtitle required). (3)
Study of selected topics in petrology and geochemistry. Past topics include: Carbonate Petrology; Igneous Petrology; Organic Petrology; Isotope Geochemistry. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

EES 652 TECTONICS AND STRATIGRAPHY. (3)
Use of stratigraphic data in the interpretation of tectonic framework of sedimentation, tectonic controls on paleogeography, and interactions between sedimentary rocks and geologic structures. Prereq: EES 420G and 450G or equivalent.

EES 670 EXPLORATION SEISMOLOGY. (3)
Advanced study of the acquisition, processing and interpretation of reflected and refracted seismic waves in layered media with applications to energy and geotechnical exploration. Prereq: EES 550 or EES 560 or consent of instructor.

EES 675 EARTHQUAKE SEISMOLOGY. (3)
A study of the principles and methods of earthquake and engineering seismology. Specifically, the course will focus on the concepts of the seismic source, path, and site effects phenomena, as well as the practical aspects of seismic hazard assessment. Prereq: EES 550 or consent of instructor.

EES 685 GROUNDWATER MODELING. (3)
This course teaches the basic concepts in groundwater modeling and provides basic exposure to standard modeling software. Prereq: EES 585 Hydrogeology; or consent of instructor.

EES 703 PALEOECOLOGY/PALEONTOLOGY SEMINAR (Subtitle required). (1-3)
Discussion and study of advanced topics in paleoecology or paleontology and related fields. One or more field trips required. May be repeated to a maximum of six credits. Prereq: EES 602 or equivalent or consent of instructor.

EES 715 COAL GEOLOGY SEMINAR. (2)
Seminar discussion and presentation of current work in coal geology from current literature or ongoing research. May be repeated to a maximum of eight credits. Prereq: EES 515 or 617 or consent of instructor.

EES 730 SEMINAR IN TECTONICS AND STRATIGRAPHY (Subtitle required). (3)
Seminar in Tectonics and Stratigraphy. Past topics include: Tectonics and Stratigraphy of the Appalachians; Tectonics and Sedimentation; Basin Analysis. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

EES 735 TOPICS IN STRUCTURE AND TECTONICS. (3)
Seminar or new course offering in Structure and Tectonics. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

EES 741 ENVIRONMENTAL CLAY MINERALOGY. (3)
A comprehensive study of the crystal structures of clay minerals commonly found in soils and sediments. Lecture and discussion, two hours; laboratory, three hours. Prereq: EES 360 or consent of instructor. (Same as PLS 741.)

EES 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

EES 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

EES 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

EES 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

EES 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

EES 782 INDIVIDUAL WORK IN GEOLOGY. (1-3)
Problems involving independent laboratory and/or library study conforming to the student's special interest under the direction of an appropriate staff member having proficiency in the area selected. May be repeated to a maximum of nine credits. Prereq: Geology major with graduate standing.

EES 790 RESEARCH IN GEOLOGICAL SCIENCES. (0-6)
Research in the geological sciences. May be repeated to a maximum of twelve credits. Prereq: Approval of instructor and Director of Graduate Studies.

EGR Engineering

EGR 101 INTRODUCTION TO ENGINEERING. (4)
This course introduces the engineering profession and the skills and expectations required for success. Engineering applications of calculus are also presented. Lecture, three hours; laboratory, two hours per week.

#EGR 111 SUCCESS IN ENGINEERING. (1)
EGR 111 reserved for Freshman College of Engineering students who have been admitted into the Engineering Living Learning Community. For registration information contact 859-257-0552.

EGR 120 TECHNOLOGY: BLESSING OR CURSE. (3)
Technology has created the world in which we live. Our wealth, our economy, and the way we live each day have come about due to the emergence of technology over the centuries. The course will examine the relationship between technology and society; how technology influenced the development of society, how society influenced the development of technology, and how people in society view technology. Prereq: Acceptance into SEAM Program.

EGR 199 TOPICS IN ENGINEERING: TITLE TO BE ASSIGNED. (1-6)
An experimental, topical or interdisciplinary course devoted to special topics of interest in engineering. Course offerings must be approved by the Deans and Chairpersons of all cosponsoring academic units. A particular title may only be offered twice under the EGR 199 number. Students may not repeat this course under the same title. May be repeated to a maximum of twelve hours. Prereq: Enrollment in the College of Engineering, or permission of the instructor.

EGR 201 LITERATURE, TECHNOLOGY, AND CULTURE. (3)
EGR 201 focuses on human endeavors in science as refracted through literature. The course brings together two distinct traditions: the study of literature and the practice of technical communication. The course operates from several assumptions: (1) that imaginative treatments of technological subjects offer powerful, useful, and even needed critical perspectives, (2) that authors and engineers both work from written conventions – genres and other tropes – that frame knowledge, (3) that writers benefit from scrutiny of generic conventions, and (4) that creative play with conventional literary genres can inspire engineers to "think outside the box," to think creatively about their own designs and projects and about innovative ways of presenting their work. Prereq: Students must have successfully completed the first course in the General Education Communication sequence (or its transfer equivalent) and must have completed at least 30 hours of course work.

EGR 240 GLOBAL ENERGY ISSUES. (3)
This is a cross-disciplinary course open to all majors. This course critically examines issues associated with the technical, economic, societal, environmental, and geopolitical aspects of energy. The course is taught through lectures, discussions, and invited speakers.

EGR 390 EXPERIENTIAL LEARNING IN ENGINEERING OR COMPUTER SCIENCE. (0-3)
Project or activity led by an engineering faculty member, designed to provide students the opportunity to apply engineering principles in the context of real-world and multi-disciplinary community-based problems. May be repeated to a maximum of three credits. Prereq: Engineering standing.

EGR 394 BS/MBA SEMINAR. (0-1)
Participation in team development exercises, seminars, company visits, and activities associated with the BS/MBA program. Prereq: Admission to the BS/MBA program.

EGR 399 COOPERATIVE ENGINEERING EDUCATION. (1)
A course designed for undergraduate students who, through the engineering cooperative education office, secure full-time, salaried, career-related positions under the supervision of a sponsoring employer. Enrollment in the course constitutes full-time status. Course may be taken on a pass-fail basis only and may be repeated on a rotational basis to a maximum of six credit hours. Prereq: Approval of Coordinator of Cooperative Engineering Education.

EGR 401 CAREER PLANNING/EMPLOYMENT SEMINAR. (1)
This course will introduce students to the various elements involved in obtaining a position in their chosen field of engineering. Prereq: Engineering standing.

EGR 537 NUMERICAL ANALYSIS. (3)
Floating point arithmetic. Direct methods for the solution of systems of linear algebraic equations. Polynomial and piecewise polynomial approximation, orthogonal polynomials. Numerical integration: Newton Cotes formulas and Gaussian quadrature. Basic methods for initial value problems for ordinary differential equations. The emphasis throughout is on the understanding and use of software packages for the solution of commonly occurring problems in science and engineering. Prereq: CS/MA 321 or equivalent, or graduate standing or consent of instructor. Knowledge of a procedural computer language is required. (Same as CS/MA 537.)

EGR 540 POWER ECONOMICS AND PUBLIC POLICY. (3)
This course provides an introduction to the theories and industry practices related to power economics and power public policy. Topics studied include: U.S. power markets, electric utility business regulation, electric utility environmental regulation, public policy theory, political science theory, development of new electric generation facilities, utility business operation, engineering influence on public policy, and engineering economic analysis. Prereq: Engineering standing, graduate standing, or consent of instructor.

EGR 542 ELECTRIC POWER GENERATION TECHNOLOGIES. (3)
Overview of technologies used for generating electricity from location, recovery, transportation and storage of fuel to the types of technologies used to convert the fuel to electricity. Included is a discussion of the advantages and disadvantages of each technology and how they must adapt to be viable in the future. Technologies covered include coal, natural gas, nuclear, biomass, wind, solar and advanced technologies. Prereq: Engineering standing or consent of instructor. (Same as CME 542.)

EGR 546 ELECTRIC POWER SYSTEM FUNDAMENTALS. (3)
Introduction to power transmission basics, power system components, power flow, fault analysis and protection, control, stability, and economic operation of the power grid. This course will also introduce modern trends such as distributed generation, communications, and cybersecurity. Prereq: Graduate or engineering standing and EE 221, EE 305, or equivalent. (Same as EE 546.)

EGR 553 ENVIRONMENTAL CONSEQUENCES OF ENERGY PRODUCTION. (3)
This course will introduce the relationship of energy, pollution control technology, and the environment. The scientific and engineering aspects of energy production are examined and the associated environmental problems and control technologies are discussed. Prereq: CHE 105, MA 214, and engineering standing or consent of instructor. (Same as CE 553.)

***EGR 599 TOPICS IN ENGINEERING (Subtitle required). (1-3)**
An experimental, interdisciplinary course devoted to a topic of interest to students in several departments of the college. Only three credits may be earned under the same title; students may register for more than one section each semester. A particular topic may be offered at most three times under the EGR 599 number. Prereq: Variable, given when topic is identified.

EGR 611 BOUNDARY ELEMENT METHODS IN ENGINEERING. (3)
Introduction of boundary element methods for use in solving common engineering equations, such as the Laplace equation, the Poisson equation, the wave equation, and the diffusion equation. Both the theoretical and numerical aspects of the boundary element technique are presented. Application areas include heat conduction, potential flow problems, acoustic wave propagation, general diffusion, and stress analysis. Prereq: EGR 537 or consent of instructor. (Same as ME 611.)

EGR 649 POWER AND ENERGY EXPERIENCES. (3)
This course will provide unique experiences through visit to a variety of energy-related sites and presentations from topical experts. Each week there will be planned full day field trips to selected energy related sites such as: pumped storage site, coal mine, coal- and gas-fired and nuclear power plants, power operations center, wind farm, hydroelectric generation, landfill gas site, smart grid demonstration center, solar farm, high efficiency building, etc. More than simply tours, these visits will be prepared for through individual reading assignments and summarized by journals. Prereq: EGR 542, EGR 546, admittance to PEIK Certificate Program, and EGR 540 concurrent; or consent of instructor.

ELS Teacher Leadership

ELS 600 LEADERSHIP IN LEARNING-CENTERED SCHOOLS. (3)
ELS 600 is a study of school leadership responsibilities assumed by teachers working collaboratively with colleagues and principals to create learning-centered schools that assure all students learn at their highest potential.

ELS 601 BUILDING A PROFESSIONAL LEADERSHIP COMMUNITY. (1)
ELS 601 is the study of characteristics of school-based professional learning communities with emphasis on shared vision, values and goals, collective inquiry, collaborative teams, action orientation for continuous improvement of student-learning.

ELS 602 LEADERSHIP ROLES IN PROFESSIONAL LEADERSHIP COMMUNITIES. (1)
ELS 602 is the study of professional learning communities with emphasis on essential roles of collaborative leaders (i.e., principals, teachers, students, parents) in creating and sustaining continuous improvement of student-learning.

ELS 603 LEADERSHIP FOR STUDENT LEARNING. (1)
ELS 603 is the study of professional learning communities with emphasis on understanding strategies used by collaborative leaders to ensure all students learn at high levels, with emphasis on establishing instructional priorities, building capacity, planning, data analysis, resource allocation, monitoring and communicating with stakeholders.

ELS 604 LEADERSHIP IN PROFESSIONAL LEARNING COMMUNITIES. (3)
ELS 604 is an introduction to the study of professional learning communities and collaborative leadership roles intended to bring about significant school changes that contribute to all students' learning at high levels.

ELS 605 LEGAL RIGHTS AND RESPONSIBILITIES OF STUDENTS. (1)
Students have both legal rights and responsibilities within the school environment, which teachers must both respect and enforce. ELS 605 provides an overview of rights and responsibilities of students within classrooms (e.g., student expression, discipline, harassment, discrimination, attendance, instruction and testing, privacy).

ELS 606 LEGAL RIGHTS AND RESPONSIBILITIES OF TEACHERS. (1)
Teachers are both primary recipients and implementers of educational laws. Given this front line position, a wealth of legal rights and responsibilities are bestowed on teachers. Likewise, teachers are confronted with myriad policies and procedures to follow (e.g., certification, employment, collective bargaining, termination) and with rights to protect (e.g., expression, privacy, discrimination). An overview of these rights and responsibilities for teachers is examined in ELS 606.

ELS 607 TEACHER RESPONSIBILITIES IN SCHOOL-BASED DECISION MAKING. (1)
School-Based Decision Making (SBDM) Councils have been an integral part of school governance since passage of the 1990 Kentucky Educational Reform Act. Role and responsibilities of SBDM Council are examined with focus on how teachers can use their local Council to assure successful school improvement efforts.

ELS 608 SCHOOL LAW AND GOVERNANCE FOR TEACHERS. (3)
ELS 608 is the study of school operations from a legal perspective with particular focus on mandates of the Kentucky Legislature affecting students, teachers, and schools. Teachers are introduced to the governing regulations of schools to begin to understand how schools and classrooms legally operate and their rights and responsibilities, as well as the rights and responsibilities of their students, in the schooling enterprise.

ELS 609 TECHNOLOGY LEADERSHIP IN SCHOOLS. (1)
The Information Revolution fundamentally changed the way schools operate at the beginning of the 21st century – not only has technology facilitated improved school operations, but also is radically changing how students learn inside and outside of the classroom. ELS 609 emphasizes the role of the teacher leader in improving the school-wide technology integration and use of technology beyond the classroom to link people and resources to integrate more innovation into the school environment.

ELS 610 DISTRIBUTED LEADERSHIP IN SCHOOLS. (1)
ELS 610 is the study of distributed leadership research and related teacher leadership roles and responsibilities through readings, assignments, and collegial discussion. Emphasis placed on building connections between course concepts and activities and students' professional work.

ELS 611 CURRENT ISSUES FOR EDUCATION LEADERSHIP. (1)
ELS 611 is a study of selected issues that face school leaders and reflect differences among community citizens about who schools should serve (equity and justice), what curriculum should be taught (knowledge and literacy), and how schools should be organized and governed (environment).

ELS 612 LEADERSHIP FOR TECHNOLOGY AND INNOVATION. (3)
Successful implementation of innovation in schools requires broad-based leadership. ELS 612 (a) highlights current issues provoking educational innovation nationally and locally, (b) explores how innovations require students and teachers to become technologically competent, and (c) explores distributed leadership research and concepts for improving leadership practice through distributed roles and responsibilities for teacher leaders and other stakeholders.

ELS 613 LEADERSHIP IN THE PUBLIC CONTEXT OF EDUCATION. (1)
ELS 613 is a study of the role of teacher leader whose influence and responsibility transcends school walls to include community and civic leadership.

ELS 614 PARTNERSHIPS FOR CLOSING ACHIEVEMENT GAPS. (1)
ELS 614 is a study of strategies that teacher leaders may utilize for mobilizing school, community, and family resources toward eliminating achievement gaps among students.

ELS 615 LEADERSHIP FOR RESPONSE TO INTERVENTION CLASSROOMS. (1)
ELS 615 is a study of roles of teacher leaders in the Response to Intervention (RTI) model, which serves as both a strategy for providing assistance to children having learning difficulty, as well as a method for diagnosing learning disabilities.

ELS 616 LEADERSHIP FOR SCHOOL AS INCLUSIVE COMMUNITY. (3)
ELS 616 is a study of evolving perspectives of the purposes of public education, leadership within and beyond the school building to support family-community partnerships and networks, and leadership to ensure inclusive classrooms. Curriculum includes how diverse personnel ensure school-wide safety.

ELS 617 TEACHER LEADERSHIP FOR INSTRUCTIONAL TEAMS. (1)
ELS 617 is the study of teacher roles and responsibilities within instructional teams at classroom, school, and district levels. Emphasis is placed on concepts and procedures for creating and sustaining instructional teams, designed to support systemic inquiry and school improvement.

ELS 618 INTRODUCTION TO LEADING ACTION RESEARCH FOR SCHOOL RENEWAL. (1)
ELS 618 is the study of teacher roles and responsibilities within instructional teams at classroom, school, and district levels. Emphasis is placed on concepts and procedures for creating and sustaining instructional teams, designed to support systemic inquiry and school improvement.

ELS 619 EVIDENCE-BASED DECISION MAKING. (1)
ELS 619 is the study of teacher roles and responsibilities when analyzing evidence of student outcomes at classroom and school levels and examination of a model and tools for data analysis and team based discussions, reflection, and decision making.

ELS 620 LEADING ACTION RESEARCH IN SCHOOL RENEWAL I. (3)
ELS 620 is the first course in a two-part sequence that presents concepts and procedures for conducting systematic inquiry to investigate phenomena in classrooms and schools to ensure learning excellence. Emphasis is placed on developing a proposal for disciplined inquiry in classrooms or schools that will be conducted in ELS 621, the second course in the sequence. Prereq: Admission to M.Ed. program or consent of instructor.

ELS 621 LEADING ACTION RESEARCH IN SCHOOL RENEWAL II. (3)
ELS 621 is the second course in a two-part sequence in which action research proposed in ELS 620 is conducted. Emphasis is placed on appropriate use of data for making informed decisions about classroom and school practices. Prereq: Successful completion of ELS 620 or consent of instructor.

ELS 624 LEADERSHIP PRACTICUM: MONITORING LEARNING, ASSESSMENT, AND ACCOUNTABILITY. (3)
ELS 624 is a field-based practicum to explore distributed leadership roles and responsibilities for monitoring assessments and accountability results to guide decisions about curricular or instructional modifications. Students work closely with school principal and leadership team at a P-12 school to examine specific site issue and provide recommendations for action. Prereq: Successful completion of ELS 620 or consent of instructor.

ELS 691 LEGAL PERSPECTIVES FOR TEACHERS. (1)
This course introduces legal concerns for public school teachers. It emphasizes legal rights and responsibilities of both teachers and pupils. Course coverage includes an introduction to governance, liability, church and state, instructional issues, student rights, student discipline, student abuse, teacher rights, and teacher discipline.

EM Engineering Mechanics

EM 221 STATICS. (3)
Study of forces on bodies at rest. Vector algebra; study of force systems; equivalent force systems; distributed forces; internal forces; principles of equilibrium; application to trusses, frames and beams; friction. Prereq or concur: MA 213.

EM 302 MECHANICS OF DEFORMABLE SOLIDS. (3)
A study of stress and strain in deformable solids with application primarily to linear elastic materials: stress and strain transformations; simple tension and compression of axial members; torsion of shafts; bending of beams; combined loading of members; buckling of columns. Prereq: Registration in the College of Engineering or consent of chairperson, and EM 221; prereq or concur: MA 214.

EM 313 DYNAMICS. (3)
Study of the motion of bodies. Kinematics: cartesian and polar coordinate systems; normal and tangential components; translating and rotating reference frames. Kinetics of particles and rigid bodies: laws of motion; work and energy; impulse and momentum. Prereq: Registration in College of Engineering, EM 221; prereq or concur: MA 214.

EMBA Executive Master of Business Administration

EMBA 601 MANAGING PEOPLE. (2)
This course will address the central question of how to manage and motive individuals and teams for high performance in today's organizations including the underlying fundamental and powerful concepts in organizations as open systems, individual behavior, group and social processes, and control and leadership. Prereq: Admission to joint EMBA program.

EMBA 602 BUSINESS MODELS FOR QUANTITATIVE ANALYSIS. (2)
This course introduces students to quantitative techniques commonly used to make effective business decisions. It introduces tools and techniques illustrating the application of the techniques for managerial decision making. Prereq: Admission to the joint EMBA program.

EMBA 603 ECONOMICS I. (2)
This course will apply economic theory to managerial decision making and analysis. Traditional tools of microeconomics will be employed to see how they can be used to evaluation practical business problems. Prereq: Admission to the joint EMBA program.

EMBA 604 STRATEGIC ANALYSIS. (2)
This course provides a framework of competitive analysis and competitive advantage upon which functionally oriented courses in the program may build. It provides an overall picture of the analysis activities and decision-making situations facing a company's top management team (i.e., CEOs, general managers, division managers) focusing on top management decisions relating to the external environment and internal issues. It presents practical experience in recognizing what information is important, sifting it for relevance, and employing the knowledge for the competitive benefit of the firm. Prereq: Admission to the joint EMBA program.

EMBA 605 ECONOMICS II. (2)
This course will apply economic theory to managerial decision making and analysis. It will employ many of the traditional tools of microeconomics to see how they can be used to evaluate practical business problems. Markets and market structures will be studied including competitive markets, monopoly and pricing with market power, and oligopoly, rivalry, and strategic behavior. Particular attention will be paid to the strategy of firms in the marketplace. Prereq: Admission to the joint EMBA program.

EMBA 606 FINANCIAL ACCOUNTING. (2)
This course provides an overview of financial accounting information and the role of that information in the economy. It focuses on the recognition and measurement concepts underlying financial accounting, but also covers the mechanics of recording and reporting accounting information to outside parties. The first portion of the course presents an overview of the accrual accounting model, how information is presented and the mechanics of keeping track of financial accounting information. Prereq: Admission to the joint EMBA program.

EMBA 607 BUSINESS INTELLIGENCE. (2)
This course is an introduction to the field of Business Intelligence (BI), a field that encompasses the use of business performance monitoring, querying/reporting, online analytical processing (OLAP), and business analytics, with particular emphasis on the latter. Prereq: Admission to the EMBA program.

EMBA 608 MANAGERIAL ACCOUNTING. (2)
This course reviews the tools needed by managers to plan and control (evaluate) personnel and operations of the firm. It provides a framework for understanding when and why managers need specific types of accounting information to both facilitate their decision making and influence the decisions of their employees. Techniques covered include: product costing, activity-based costing, planning and controlling costs, budgeting, standard cost systems, new production philosophies and analytical techniques for decision making. Prereq: Admission to the EMBA program.

EMBA 609 FINANCIAL MANAGEMENT I. (2)
The goal of this course is to provide an overview of modern corporate financial methods with an emphasis on practical financial decision that financial managers in the real world need to make on a regular basis. Emphasis will be placed on the investment decision (how firms should spend money). This course takes the perspective of a corporate financial manager attempting to pursue strategies that increase shareholder wealth. Prereq: Admission to the EMBA program.

EMBA 610 MARKETING MANAGEMENT I. (2)
This course will help develop the skills, knowledge and experience required to critically solve marketing problems. It will rely on a mixture of lectures, applications, and cases to add well-established and proven marketing concepts and frameworks to your managerial arsenal. The course is intended to be practical and is focused on developing your ability to be an effective manager and decision maker. Prereq: Admission to the EMBA program.

EMBA 611 FINANCIAL MANAGEMENT II. (2)
This course provides an overview of modern corporate financial methods with an emphasis on practical financial decisions that financial managers in the real world need to make on a regular basis. It will emphasize the financing decision (how firms optimally raise money). Topics will include cost of capital, capital structure, valuation, and issuing securities. The course will take the perspective of a corporate financial manager attempting to pursue strategies that increase shareholder wealth. Prereq: Admission to EMBA program.

EMBA 612 MARKETING MANAGEMENT II. (2)
This course provides students with insight into how profitable branding strategies can be created by addressing three important questions: (1) How do you build brand equity? (2) How do you capitalize on brand equity to expand your business? (3) How can brand equity be measured? Prereq: Admission to the EMBA program.

EMBA 613 LEADING ORGANIZATIONS. (2)
In this course, you will discuss theories, empirical studies, and strategies for improving your effectiveness as a leader, all within a framework designed to enhance your learning experience. Experiential learning, projects, case discussion and critical analysis will be used to help you develop an entirely unique viewpoint on what leadership is, how to be a leader. It will help you begin the process of practicing new leadership skills and how to make them habitual. As a result, you will increase your positive impact now and in the future. Prereq: Admission to the EMBA program.

EMBA 614 MANAGING GLOBAL CHALLENGES. (2)
This course will familiarize students with the foundations of the global economy, current trends in the global business environment, and issues facing countries and individual firms (e.g., foreign market entry modes, global supply chain configurations, global new product development, international joint venture formation, and global competitive rivalry). It will introduce the fundamental principles of international economics, discuss positive and negative impacts of globalization on the domestic economy, labor and product markets. Prereq: Admission to the EMBA program.

EMBA 615 OPERATIONS MANAGEMENT. (2)
This course addresses how to design and operate a manufacturing or service company. The underlying fundamental and powerful concepts include (1) design of a system, (2) operations of a system, and (3) measuring and controlling the performance of a system from effectiveness (e.g., quality of a product) and efficiency (e.g., cost of producing a product) viewpoints. Prereq: Admission to the EMBA program.

EMBA 616 CORPORATE ENTREPRENEURSHIP. (2)
This course introduces entrepreneurship in the corporate setting. The difference between individual entrepreneurial activities and corporate entrepreneurial activities is examined. Models of entrepreneurial activities in established organizations are presented. Prereq: Admission to the EMBA program.

EMBA 617 BUSINESS STRATEGY AND PUBLIC POLICY. (2)
This course will examine how public policy decisions are made at the federal and state level and how they influence business decision making. A managerial perspective is used to examine the interface between business and the external political environments in which they operate. Public policies, from tax or trade policies to regulatory policies affecting the environment,

KEY: # = new course * = course changed † = course dropped

intellectual property, human resources and tort liability are discussed. Prereq: Admission to the EMBA program.

EMBA 618 COMPLEX ORGANIZATIONAL CHANGE. (2)
This course examines both the content and process of complex organizational change. The first part of the course is dedicated to content issues, including an introduction to a systems view of organizations and organization structure, an examination of the role of organizational structure in creating competitive advantage, and understanding how structure and strategy need to be aligned within various environmental constraints. The second part of the course focuses on the complexity and intricacies of the change process, including working with internal and external change agents. Prereq: Admission to the EMBA program.

EMBA 619 NEGOTIATIONS AND CONFLICT RESOLUTION. (2)
This course focuses on negotiation skills and making the student a more confident and judicious negotiator. By the conclusion of this course, you will have improved your daily ability to diagnose negotiation situations, strategize and plan upcoming negotiations, and engage in more fruitful negotiations when you are dealing with difficult negotiation partners. Prereq: Admission to the EMBA program.

EMBA 620 STRATEGIC MANAGEMENT. (2)
This course is an integrative capstone course – the only course that challenges students to study and experience sets of multifunctional problems that confront top management. The course requires students to bring together all of their learned functional skills (i.e., accounting, finance, marketing, etc.) and use them to study organizational problems within the context of hands-on-exercises/stimulations, real-world business case studies, and open discussion forums. Prereq: Admission to the EMBA program.

EMBA 650 SPECIAL TOPICS IN BUSINESS ADMINISTRATION (Subtitle required). (2)
This course is designed to illuminate current topics of special interest to executives in today's organizations. May be repeated a maximum of 6 credit hours when taken under separate subtitles. Prereq: Admission to the joint EMBA program.

END Endodontics

END 820 ANTERIOR ENDODONTICS. (2)
This is a lecture-laboratory course which is designed to introduce the student to the diagnostic terminology of pulpal and periapical disease and the techniques of endodontics in anterior teeth. Lecture, 10 hours; laboratory, 30 hours. Prereq: RSD 812 and RSD 814, or consent of course director.

END 821 CLINICAL ENDODONTICS I. (1)
In this course, students will treat two clinical endodontic cases, one of which shall be a molar. Thirty hours clinic, total. Prereq: END 820.

END 822 POSTERIOR ENDODONTICS. (2)
This is a lecture-laboratory course which is designed to introduce the student to the diagnostic terminology of pulpal and periapical disease and the techniques of endodontic in posterior teeth. Lecture, 10 hours; laboratory, 30 hours; OSCE, one hour (competency/evaluation of preclinical concepts). Prereq: END 820 and RSD 824, or consent of course director.

END 830 ENDODONTICS II. (1)
This course concerns the diagnosis and treatment of endodontically related problems. Traumatic injuries, controversies in instrumentation and filling procedures, periodontic-endodontic consideration, surgical endodontics and other selected topics are discussed in depth. Lecture, 20 hours. Prereq: END 821.

END 831 CLINICAL ENDODONTICS II. (1)
In this course students will treat routine endodontic cases. Clinic, 54 hours. Prereq: END 821.

END 841 CLINICAL ENDODONTICS III. (1)
This course offers dental students further experience in providing endodontic treatment. Clinic, 40 hours. Prereq: END 831 or consent of instructor.

END 880 CLINICAL ENDODONTICS SEMINAR. (1)
This course is designed to give a more in-depth hands- on view of some of the newest concepts in endodontics. Seminars will be presented including new concepts of instrumentation and root canal obturation. Demonstrations and hands on class participation will supplement the seminars. Note: scheduling for this course will take place outside of regularly scheduled class/clinic time. Prereq: END 830, 831, ranked in the upper half of the class, and consent of instructor.

ENG English

ENG 098 ENGLISH FOR SPEAKERS OF OTHER LANGUAGES. (3)
This course is a writing course designed to provide international undergraduate students with a firm basis in the rhetorical patterns of written English and in the grammatical structures and expressions associated with those patterns. It also serves as an introduction to the analysis and organization of information as found in English paragraphs and essays. Emphasis is placed upon writing beyond the sentence level. Students must attain at least a C in order to enter ENG 099. The course may be repeated up to six credits. Students cannot count this credit toward the Freshman Composition requirement or toward the graduation requirement. Lecture, five hours per week.

^ENG 101 WRITING I. (3)
A course in writing emphasizing argument. Instruction and practice in reading critically, thinking logically, responding to texts, developing research skills, writing substantial essays through systematic revision, addressing specific audiences, expressing ideas in standard and correct English. Includes grammar and mechanics review. Notes: (a) Credit not available by special examination; (b) ENG 101 and ENG 102 may not be taken concurrently.

^NOTE: ENG 101 is no longer taught at UK. This course is a placeholder for transfer students only. Along with ENG 102 this course can be used to partially fulfill the Composition and Communication requirements in the UK Core.

^^ENG 102 WRITING II. (3)
Argumentative writing. Emphasis on development of a fluent, precise, and versatile prose style. Continued instruction and practice in reading critically, thinking logically, responding to texts, developing research skills, writing substantial essays through systematic revision, addressing specific audiences, expressing ideas in standard and correct English. Prereq: ENG 101 or equivalent. Notes: (a) Credit not available by special examination; (b) ENG 101 and ENG 102 may not be taken concurrently.

^^NOTE: ENG 102 is no longer taught at UK. This course is a placeholder for transfer students only. Along with ENG 101 this course can be used to partially fulfill the Composition and Communication requirements in the UK Core.

ENG 107 WRITING CRAFT: INTRODUCTION TO IMAGINATIVE WRITING. (3)
An introduction to the genres and craft of imaginative writing, including fiction, nonfiction, and poetry. Students will study and practice writing in various modes through composition, peer critique, and research. Lecture. Offers credit for the UK Core requirement in Intellectual Inquiry in Arts & Creativity. Fulfills ENG premajor requirement and provides ENG minor credit.

***ENG 130 LITERARY ENCOUNTERS. (3)**
This course introduces students to literary works of various styles that deal with current subjects and creative applications. Topics vary by semester and are chosen to give a broad-based understanding of literary works, genres, creative techniques, or cultural trends (e.g., Literature and Other Art Forms; Film, Art, & Social Protest; Creative Writing, Mixed Media, & Social Media). See departmental listings for different offerings per semester. Fulfills ENG premajor requirement or provides ENG Major or Minor Elective credit.

***ENG 142 GLOBAL SHAKESPEARE. (3)**
Global Shakespeare will expose students to selected productions and adaptations of Shakespeare's plays by authors and acting companies from Asia, the Middle East, Africa, the Americas, and from European nations other than Great Britain. In our globally connected age, Shakespeare has crossed borders, occupying an honored place in the school curricula and cultural aspirations of many formerly colonized nations. In a post-colonial age, he has become the medium through which multiple cultures articulate their own values and enter into equal intellectual and aesthetic exchange with the English-speaking west. Students in the course will be asked to ponder what there is about Shakespeare that makes his plays such rich raw material for these encounters and exchanges. Prereq: None. Does not fulfill ENG premajor requirement or provide ENG Major Elective credit. Provides ENG minor credit.

ENG 168 ALL THAT SPEAK OF JAZZ: AN INTELLECTUAL INQUIRY INTO JAZZ AND DEMOCRACY (3)
This course is a hybrid cultural studies seminar and creative composition course that explores jazz theory as a philosophical artistic practice rooted in American democracy. It investigates jazz aesthetics as a literary, visual, and musical art form, and it examines theories of jazz composition as philosophical statements in direct conversation with the principles of U.S. democracy. The course also explores the philosophical and aesthetic connections of jazz literature to surrealist and existentialist artistic movements in modern and postmodern cultural contexts. Artists to be discussed include James Baldwin, Harryette Mullen, and others. The theoretical aspects of this course will demonstrate how jazz has been a source of inspiration for a variety of twentieth-century literatures and theoretical practices. The readings include selections of fiction, poetry, drama, and essays with emphasis on jazz literary modes, creative trends, and political connotations specific to African American literature and culture. (Same as AAS 168.)

ENG 171 GLOBAL LITERATURE IN ENGLISH. (3)
A course exploring the diversity and significance of English literature from across the world. To what extent is English now a global language, no longer the property of any national group? How has fiction contributed to the process of internationalizing English? To answer these questions and others, this course examines the idea of global citizenship and cosmopolitan English through the work of some of the language's most compelling international novelists. Lecture. Offers credit for the UK Core requirement in Global Citizenship. Does not fulfill ENG premajor requirement or provide ENG Major Elective credit. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 181.

ENG 180 GREAT MOVIES (Subtitle required). (3)
A course introducing students to films of various genres and styles, from both historical and contemporary filmmakers, investigating a particular issue or theme. Topics vary by semester and are chosen by faculty to give a broad-based understanding of important cinematic works and trends. Intended as a general humanities course for non-majors. Lecture. See departmental listings for different offerings per semester. Does not fulfill ENG premajor requirement or provide ENG Major Elective credit. Provides ENG minor credit.

ENG 191 LITERATURE AND THE ARTS OF CITIZENSHIP. (3)
A survey and investigation of contemporary literature of modern American citizenship, with an emphasis on questions of race, religion, gender, sexuality, and socioeconomic class. Lecture. Offers credit for the UK Core requirements in either U.S. Citizenship or Intellectual Inquiry in the Humanities. Does not fulfill ENG premajor requirement or ENG Major Elective credit. Provides ENG minor credit.

ENG 207 BEGINNING WORKSHOP IN IMAGINATIVE WRITING (Subtitle required). (3)
A beginning workshop in the craft of writing, teaching students how to read critically and how to revise work in progress. The students provide an audience for each others' work. Exercises involve practice in aspects of craft and promote experimentation with different forms, subjects, and approaches; outside reading provides models and inspiration. May be repeated under different subtitles to a maximum of 6 credits. Does not fulfill ENG premajor requirement. Provides ENG Major Elective credit and ENG minor credit. Required for ENG Imaginative Writing Option.

ENG 209 THE STRUCTURE AND USE OF ENGLISH. (3)
A general survey of the history, structure, and use of the English language. Topics investigated include: the history of the English language; elements of the structure of English; the distinctive characteristics of spoken and written English and the varied registers of English; the diversity of the English lexicon; regional and social dialects of English and their representation in literature; and the ideological dimensions of English language use, especially those relating to social and political issues and controversies. Offers UK Core credit for Intellectual Inquiry in the Humanities. Fulfills ENG pre-major requirement and ENG minor credit. (Same as LIN 209.)

ENG 210 HISTORY OF THE ENGLISH LANGUAGE. (3)
A survey of the historical development of English from its Indo-European origins to the present. Includes an investigation of the principal changes which have affected English phonology, morphology, syntax, semantics, and vocabulary, and of the ways in which these changes are reflected in contemporary English usage; and an examination of the socio-historical factors that have shaped the evolution of the English language. (Same as LIN 210.)

†ENG 211 INTRODUCTION TO LINGUISTICS I.

†ENG 212 INTRODUCTION TO LINGUISTICS II.

ENG 221 INTRODUCTION TO LINGUISTICS I: THEORETICAL FOUNDATIONS AND ANALYSIS. (3)
First of two courses offered in the introductory linguistics sequence, designed for majors and minors in Linguistics. Provides an intense and thorough introduction to the fundamental concepts of the field, including but not limited to: phonetics, phonology, morphology, syntax, and semantics. May be of use to students in other disciplines. Prerequisite for most 500 level LIN courses. Prereq: This course is primarily designed for Linguistics major and minor students, but it is also suitable for students pursuing a major in the following disciplines: English, Modern and Classical Languages, and Communication Science Disorders, or consent of instructor. (Same as LIN 221.)

ENG 230 INTRODUCTION TO LITERATURE. (3)
An introduction to literary analysis through close reading and argumentative writing. The course involves studying selected texts from several genres and investigating a unified theme or set of topics. Students will learn how to read closely, how to relate texts to contexts, and how to use basic literary terms and concepts. Attention will be paid to student writing, particularly to devising a thesis, crafting an argument, and learning how to use supporting evidence. See departmental listings for different offerings per semester. Offers UK Core credit for Intellectual Inquiry in the Humanities. Fulfills ENG premajor requirement. Provides ENG minor credit. Prereq: Graduation Requirement Course – credit is awarded to students meeting the GWR prerequisite.

ENG 241 SURVEY OF BRITISH LITERATURE I. (3)
A survey of British literature from the Anglo-Saxon period to the later seventeenth century, with emphasis on different genres, periods, and cultural characteristics of the early English literary tradition. Texts and authors covered may include *Beowulf* and Old English elegiac poetry; Middle English poetry and selections from Geoffrey Chaucer's *Canterbury Tales*; Renaissance lyrics, sonnets, and narrative poetry; the drama of Shakespeare; selections from John Milton's *Paradise Lost*; and more. Lecture. Fulfills ENG major Historical Survey Requirement and Early Period requirement. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 331.

ENG 242 SURVEY OF BRITISH LITERATURE II. (3)
A survey of British literature from the seventeenth century to the present, with emphasis on different genres, periods, and cultural characteristics of the later English literary tradition. Authors covered may include the Augustan poetry of John Dryden and Alexander Pope; the early and later Romantic movements; novelists and poets of the Victorian period such as Charles Dickens, Alfred Tennyson, and Elizabeth B. Browning; the early twentieth-century Modernism of Virginia Woolf and T.S. Eliot; and more. Lecture. Fulfills ENG major Historical Survey Requirement. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 332.

ENG 251 SURVEY OF AMERICAN LITERATURE I. (3)
A survey of American literature from its colonial origins to the Civil War, with emphasis on different genres, periods, and cultural characteristics of the American Colonies and antebellum United States. The course explores both the social conditions in which authors lived and wrote – such as conflicts over land with Native Americans, slavery, and the emergence of women's rights – as well as the key developments in literary form during this period, such as the rise of the novel, the slave narrative, and the changing shape of poetry. Texts and authors covered may include Susanna Rowson, Herman Melville's *Moby Dick*, Frederick Douglass' *Narrative*, short stories by Edgar Allen Poe, the poetry of Walt Whitman and Emily Dickinson, and more. Lecture. Fulfills ENG major Historical Survey Requirement and Early Period requirement. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 334.

ENG 252 SURVEY OF AMERICAN LITERATURE II. (3)
A survey of American literature from the Civil War to the present, with an emphasis on different genres, periods, and cultural characteristics of later periods in U.S. history. The course explores the changing social conditions in which American literature was produced – such as the Roaring 20's, the Cold War, and the upheaval of the 1960's – and several key literary movements, such as the Harlem Renaissance, Modernism, and Postmodernism. Texts and authors covered may include Edith Wharton's *House of Mirth*, Nella Larsen's *Quicksand*, Ernest Hemingway, Toni Morrison, the poetry of Marianne Moore and Elizabeth Bishop, and more. Lecture. Fulfills ENG major Historical Survey Requirement. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 335.

ENG 260 INTRODUCTION TO BLACK WRITERS. (3)
An introduction to written and oral works by Black authors of Africa, the Caribbean, and the United States. The course includes writers such as Chinua Achebe (Africa), Wilson Harris (Caribbean), and Toni Morrison (USA), as well as others from the diverse field of literature written by African-American authors and authors of color worldwide. Attention will be paid to student writing, particularly to devising a thesis, crafting an argument, and learning how to use supporting evidence. See departmental listings for different offerings per semester. Offers UK Core Credit for Intellectual Inquiry in the Humanities. Does not fulfill ENG premajor requirement. Can be taken for ENG Major Elective credit. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 264. Prereq: Graduation Writing Requirement Course – credit is awarded to students meeting the GWR prerequisite. (Same as AAS 264.)

ENG 265 SURVEY OF AFRICAN-AMERICAN LITERATURE I. (3)
A survey of African-American literature from the mid-eighteenth century to Reconstruction and after, with emphasis on selected genres, periods, and thematic characteristics of the early African-American cultural and literary experience. Topics include colonialism and abolitionism; early black aesthetics, narratives of enslavement, and drama, novels, and poetry. Authors may include Jupiter Hammon, Phillis Wheatley, William Wells Brown, George Moses Horton, Martin Delaney, Frederick Douglass, Harriet Wilson, Ellen Craft, and more. Lecture. Fulfills ENG major Historical Survey Requirement. Provides ENG minor credit.

ENG 266 SURVEY OF AFRICAN-AMERICAN LITERATURE II. (3)
A survey of African-American literature from post-Reconstruction to the Black Arts Movement and beyond, with emphasis on selected genres, periods, and thematic characteristics of the later African-American cultural and literary experience to the present day. Topics include literature of the Reconstruction; poetry and dialect poetry, the "plantation tradition" and black musical traditions; Black Modernism and the Harlem Renaissance; the Black Power movement and Civil Rights. Authors may include Pauline Hopkins, Frances Harper, Sutton Griggs, Oscar Micheaux, W.E.B. DuBois, Langston Hughes, Countee Cullen, Zora Neale Hurston, Richard Wright, Gwendolyn Brooks, and more. Lecture. Fulfills ENG major Historical Survey Requirement. Provides ENG minor credit.

ENG 271 THE BIBLE AS LITERATURE. (3)
A course investigating selections from the Christian Bible (Old and New Testaments) in English, and from related sacred texts, as literary and cultural documents of great significance and literary achievement. Emphasis is on the careful analysis of literary forms and themes within a broadly historical and non-denominational context. Lecture. Does not fulfill ENG premajor requirement or provide ENG Major Elective credit. Provides ENG minor credit.

ENG 274 CLASSICS OF WESTERN LITERATURE. (3)
A study of selected works by major Western authors from the Bible and ancient Greek literature through the Renaissance and Enlightenment periods, and later. Emphasis is on the study of genres, themes, characters, and literary forms that have had an enduring presence in Western culture. Texts may include Homer's *Iliad* and *Odyssey*; selections from the Old Testament; classical Greek drama; Virgil's *Aeneid*; Dante's *Divine Comedy*; Cervantes' *Don Quixote*; and others. Lecture. Does not fulfill ENG premajor requirement or provide ENG Major Elective credit. Provides ENG minor credit.

ENG 280 INTRODUCTION TO FILM. (3)
An introduction to the study of films as narrative art and cultural documents. The course involves viewing and analyzing films from different genres and investigating a unified theme or set of topics. Students will learn how to view films closely, how to relate films to their contexts, and how to employ the basic terms and concepts of film analysis. Attention will be paid to student writing, particularly to devising a thesis, crafting an argument, and learning how to use supporting evidence. Viewing films outside of class is required. See departmental listings for different offerings per semester. Offers UK Core credit for Intellectual Inquiry in the Humanities. Does not fulfill ENG premajor requirement. Can be taken for ENG Major Elective credit. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 281. Prereq: Graduation Writing Requirement Course – credit is awarded to students meeting the GWR prerequisite.

ENG 284 HISTORY OF FILM I. (3)
An introduction to the history of film as art and industry from the invention of the moving picture to World War II. Emphasis is on the artistic development of the silent film in America

and Europe, the rise of the American studio system, and the emergence of sound in film in the 1930's. Filmmakers may include the Lumiere brothers, Georges Meliès, Buster Keaton, D. W. Griffith, Charlie Chaplin, King Vidor, Alan Crosland, Leni Riefenstahl, and others. Lecture. Viewing films outside of class is required. Does not fulfill Historical Survey requirement. Can be taken for ENG Major Elective requirement. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 381.

ENG 285 HISTORY OF FILM II. (3)
A chronological survey of narrative film (primarily American) from World War II to the present, concentrating on both canonical films (such as Hitchcock's *Vertigo*) and often overlooked examples of cult, low budget, and independent film. Many paradigms of the major genres are included: musical, film noir, gangster, screwball comedy, horror and science fiction, western, and more. This survey also examines more idiosyncratic work of auteur directors (Nicholas Ray, Jane Campion), films capturing a specific sociopolitical moment (e.g. Spike Lee's *Do the Right Thing*), and larger cinematic movements such as Italian neo-realism, French New Wave cinema, and the New Hollywood of the 70's. Lecture. Viewing films outside of class is required. Does not fulfill ENG Historical Survey requirement. Can be taken for ENG Major Elective requirement. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 382.

ENG 290 INTRODUCTION TO WOMEN'S LITERATURE. (3)
An introduction to the rich traditions of women's writing, focusing on some important issues and representative examples. Students will read canonical and non-canonical works, discuss continuities and differences among women writers, and master some of the concepts of gender studies. Attention will be paid to student writing, particularly to devising a thesis, crafting an argument, and learning how to use supporting evidence. See departmental listings for different offerings per semester. Offers UK Core credit for Intellectual Inquiry in the Humanities. Does not fulfill ENG premajor requirement. Can be taken for ENG Major Elective credit. Provides ENG minor credit. Credit will not be given to students who already have credit for ENG 234. Prereq: Graduation Writing Requirement Course – credit is awarded to students meeting the GWR prerequisite.

ENG 301 STYLE FOR WRITERS. (3)
This course is designed for those who wish to improve their own writing style or the style of others. While the course may include some account of historical changes in prose style and require some stylistic analysis of literary texts, the emphasis is on editing contemporary prose, both in exercises and in the students' own writing. Students will learn and practice principles such as economy, coordination, subordination, precision, parallelism, balance, coherence, rhythm, clarity, and grace. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent. (Same as WRD 301.)

ENG 310 AMERICAN ENGLISH. (3)
The study of the varieties of modern American English: regional, social, and ethnic varieties, gender differences in communication, creoles and pidgins, stylistic variation. History and methods of American dialect study. No prerequisites. Provides ENG Major Elective credit and ENG minor credit. (Same as LIN 310.)

ENG 330 TEXT AND CONTEXT: (Subtitle required). (3)
The core course in the English Major focusing on the close reading and analysis of a single major literary text, or a focused set of texts, in historical and critical context. Students will develop analytical and interpretive skills that deepen their historical and conceptual understanding of literature, as well as their skills of critical reading, writing, and presentation. See departmental listings for different offerings per semester. ENG major and minor requirement. Prereq: Either ENG 107, or ENG 209, or ENG 230.

***ENG 337 LITERATURE AND GENRE: (Subtitle required). (3)**
An advanced course exploring one or two literary genres or formal categories. It focuses on analyzing the parameters and practices of a broad generic category (e.g. the short story; lyric poetry; epic and mock-epic; autobiography; the bildungsroman; protest literature) or a genre specific to a particular period (e.g. mid-century American crime novels; Elizabethan songs and sonnets; Victorian drama). May be repeated up to 9 hours under different subtitles. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent. Provides ENG Major Elective credit and ENG minor credit. May fulfill ENG Early Period requirement depending on the course: see departmental listings for different offerings per semester.

ENG 338 TOPICS IN LITERATURE (Subtitle required). (3)
An advanced course exploring a focused literary topic across various periods, genres, styles, and media. It focuses on the creative connections in literature unifying a shared set of themes or topical concerns (e.g., narratives of travel; the family through history; stories about work and play; ethnic identities; nature and the natural world). Provides ENG Major Elective credit and ENG minor credit. May be repeated to a maximum of 9 hours under different subtitles. May fulfill ENG Early Period requirement depending on the course: see departmental listings for different offerings per semester. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 339 AUTHOR STUDIES (Subtitle required). (3)
An advanced course exploring the works of a single important author of English literature, or literature in translation, from any period or nationality. It focuses on developing a strong familiarity with the oeuvre of a specific important writer. Provides ENG Major Elective credit and ENG minor credit. May be repeated to a maximum of 9 hours under different subtitles. May fulfill ENG Early Period requirement depending on the course: see departmental listings for different offerings per semester. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 341 CHAUCER AND HIS CONTEMPORARIES. (3)
A course covering medieval English literature from around the years 1350-1450 and centering on the works of Geoffrey Chaucer (c. 1340-1400), particularly his early dream-visions and *The Canterbury Tales*. Other authors and texts may include William Langland's *Piers Plowman*; the poetry of John Gower; *Sir Gawain and the Green Knight* and the works of the Pearl-Poet; Thomas Hoccleve; Margery Kempe; anonymous romances and Arthurian narratives; and more. Topics include courtly love and chivalry; Christian spirituality; women and gender roles; feudal politics and rebellion. Fulfills the ENG Early Period requirement. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 342 SHAKESPEARE. (3)
A course offering advanced study of a representative selection of Shakespeare's plays across the length of his career. It situates Shakespeare within Renaissance theatre culture: the playhouses and audiences he wrote for, the structure of his acting company, and the patronage system that supported their business. Students will learn how his plays departed from received ideas about dramatic genres and in some instances set new standards for how certain types of plays should look and feel. Students will also gain a sense of how interpretations of individual plays have changed over time and how later periods and audiences continue to make Shakespeare their own. Fulfills the ENG Early Period requirement. Provides ENG Major Elective credit and ENG minor credit. Credit will not be given to students who already have credit for ENG 340. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 343 RENAISSANCE DRAMA AND SOCIETY. (3)
This course studies Elizabethan and Jacobean drama by Shakespeare's predecessors and contemporaries. Although most people identify Shakespeare as the representative Renaissance playwright, he was only one member of a distinguished generation. Students will encounter a variety of popular dramatic genres in which Shakespeare either did not work or that he heavily adapted to his own ends: Turk plays, city comedy, unperformed "closet drama," revenge tragedy, pastoral. Readings may include playwrights such as Thomas Kyd, Christopher Marlowe, Elizabeth Cary, Lady Mary Wroth, Thomas Middleton, John Webster, and others; and topics such as tragedy and comedy, sex and romance, urban life and the value of money, and racial and religious difference. Fulfills the ENG Early Period requirement. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 345 BRITISH POETRY. (3)
This course provides a selective encounter with the poetry of the British tradition. Texts and topics may be drawn from the later Renaissance (16th c.) up through the present day, exploring the depth, history, and continued vitality of British poetry. Particular attention is paid to the formal aspects and skills of reading poetry in different periods and styles. Reading may include authors and texts such as the sonnets and songs of Philip Sidney and Shakespeare; the verse of John Milton and other seventeenth-century poets; Alexander Pope and his contemporaries; Victorians and pre-Raphaelites such as E. B. Browning and Christina Rossetti; Modernists such as Ezra Pound, W. B. Yeats, and H.D.; and contemporary British, Irish, and Scottish poets. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 347 THE RISE OF THE BRITISH NOVEL. (3)
What is the novel and how did it begin? Why did it develop at a specific moment in history and what counted as fiction before that time? What makes one novel "literature" and another "trash"? In this course we explore the early decades of the novel to better understand prose fiction and how it came to be a dominant genre in English literature. Readings can include works by Daniel Defoe, Eliza Haywood, Samuel Richardson, Henry Fielding, Laurence Sterne, Frances Burney, Mary Shelley, Jane Austen (including selected cinematic adaptations), and more. Topics can include the novel in history and the history of the novel; the evolving cultural practices of novel-reading; eighteenth-century fiction and contemporary popular culture. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 348 VICTORIAN NOVELS AND THEIR WORLDS. (3)
This course examines the development of the novel as a literary and cultural form at the moment of its greatest impact during the Victorian era (1837-1901). It focuses on the emergence of the realist novel and other modes that intersected and competed with it (e.g. the gothic, the supernatural, sensation fiction, the New Woman novel), to explore the complex ways that represented different realities. The course also addresses contemporary issues such as new ideas about human psychology; gender, domesticity, and The Woman Question; social status and class conflict; science and religion; race and empire. Authors may include Jane Austen, Mary Shelley, Charles Dickens, Mary Elizabeth Braddon, Oscar Wilde, Olive Schreiner, and more. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 349 MODERNISM. (3)
A course on Modernist Literature: British, Irish and American writing from the first half of the twentieth century. Virginia Woolf once tried to explain modernism by claiming, "On or about December 1910 human character changed." Much of the writing of the period might be read as an attempt to record and understand that change. Texts include the fiction, poetry, drama, and essays from writers such as Woolf, James Joyce, T.S. Eliot, W.B. Yeats, Ezra Pound, Wyndham Lewis and Gertrude Stein. The literature of the period will be examined in relation

to various contexts and backgrounds, including the experience of war, the breakup of empire, and other major events and upheavals. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 352 AMERICAN LITERATURE AND CULTURES TO 1900. (3)
This course focuses on selected literary movements and their relationships to American culture up through 1900. Authors studied may include Susanna Rowson, Nathaniel Hawthorne, Herman Melville, Walt Whitman, Harriet Jacobs, and Henry James. Topics may include American imperialism, slavery and abolition, the rise of the historical novel, Sentimentalism, Romanticism, and the emergence of psychological realism. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 353 AMERICAN LITERATURE AND CULTURES POST-1900. (3)
This course focuses on selected literary movements and their relationships to American culture since 1900. Authors studied may include Edith Wharton, F. Scott Fitzgerald, Allen Ginsberg, Ralph Ellison, Toni Morrison, Thomas Pynchon, and others. Topics may include the literatures of World War I, the Cold War, the Beat Generation, the New Social Movements of the 1960's, Postmodernism, and more. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 355 AMERICAN POETIC TRADITIONS. (3)
A course investigating contrasting traditions of American poetry from the nineteenth and twentieth centuries. Several poets are examined within historical and literary contexts, and their poems examined in detail through close reading, with attention paid in particular to stylistic/formal characteristics. Poets studied may include Walt Whitman, Emily Dickinson, William Carlos Williams, Wallace Stevens, and others. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 357 CONTEMPORARY AMERICAN LITERATURE. (3)
A course examining contemporary American fiction primarily since the 1970s and 1980s, as well as the diverse categories by which its critics and readers have sought to identify it: minimalism, hyperrealism, postmodernism, cyberpunk, the magical real. The class investigates contemporary authors in order to generate the key terms and problems for approaching work in diverse current genres, from science fiction and graphic novels to historical novels and self-consciously "literary" fiction. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 359 THE KENTUCKY LITERARY HERITAGE. (3)
A course exploring the rich literary heritage of the Commonwealth of Kentucky and the greater Appalachian region, surveying its local history and diversity as well as its wider significance for American art. Authors covered may include early figures such as William Wells Brown, the first African-American novelist, and John Fox Jr., the first million-selling novelist; Robert Penn Warren, first Poet Laureate of the United States and author of *All the King's Men*; Elizabeth Madox Roberts; Harriette Arnow, winner of the National Book Award in 1954 for *The Dollmaker*; counter-cultural writers of the 60's and 70's such as Hunter S. Thompson, Gurney Norman, and Ed McClanahan; contemporary Kentucky writers such as Wendell Berry, Erik Reece, Bobbie Ann Mason, Sara Jeter Naslund, C. E. Morgan, Kim Edwards, and Gayle Jones; and contemporary award-winning poets such as Frank X Walker, Nikky Finney, and Maurice Manning. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

***ENG 361 EARLY AFRICAN-AMERICAN LITERATURE. (3)**
This course investigates selected writers of the early African-American tradition, primarily from the mid-eighteenth century to post-Reconstruction. Inquiry focuses on the literary modes and genres that were central to the creation of a distinct African-American literary voice and canon, including slave narratives, folklore, poetry, drama, and more. Authors can include Phyllis Wheatley, Frederick Douglass, Harriet Jacobs, William Wells Brown, Frances Harper, Charles Chesnutt, Martin Delaney, Sojourner Truth, and others. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent. ENG 260, 265 or 266 are recommended but not required.

ENG 362 FLIGHTS TO FREEDOM: LITERATURE OF THE GREAT BLACK MIGRATIONS. (3)
Between 1910 and 1930 more than one million African Americans migrated from the rural South to the urban North. This course focuses on the development of African-American migration narratives from the slave era to the contemporary moment. It examines literary, musical, artistic, and journalistic representations of the Great Migrations that capture the experiences of African-Americana as they moved not only from the South to the North, but also from the South to the Midwest and the West in pursuit of better economic opportunities and political freedom. Readings are drawn from writers such as William and Ellen Craft, Frederick Douglass, Harriet Jacobs, Paul Laurence Dunbar, James Weldon Johnson, Jean Toomer, Nella Larsen, Ann Petry, Dorothy West, Pearl Cleage, August Wilson, Toni Morrison, Ishmael Reed, Colson Whitehead, and others. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent. ENG 260, 265, or 266 are recommended but not required.

ENG 368 CONTEMPORARY AFRICAN-AMERICAN VOICES. (3)
Encompassing an array of genres and forms, this course examines black culture, literature, and performance from mid-20th century to present. It engages aesthetic, critical, and political issues related to seminal periods such as the Black Arts Movement of 1960's, the Third Renaissance of 1980's-90's, and the ascent of the first U.S. president of African descent. This course examines how forms of performance such as folklore and work songs, the blues, jazz, and rap, all shape cultural and literary production. Authors may include Lorraine Hansberry, Ernest Gaines, Gloria Naylor, Ice Cube, Cornell West, Marlon Riggs, Tupac, India Arie, Percival Everett, Nikky Finney, Natasha Tretheway, Barack Obama, and others. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 369 AFRICAN AMERICAN WOMEN'S WRITING. (3)
This course analyzes the literary and visual representation of black women from the nineteenth to the twenty-first century. It explores how selected writers, working across different genres, render black female characters in ways that perpetuate, contest, or subvert stereotypical images of black women. Texts and authors may include Harriet Jacobs' *Incidents in the Life of a Slave Girl*, Frances Harper's *Trial and Triumph*, Nella Larsen, Zora Neale Hurston, Gwendolyn Brooks' *Maud Martha* (1953), Toni Cade Bambara's *Gorilla, My Love* (1972), Toni Morrison's *Sula* (1973), and contemporary authors such as Ann Allen Shockley, Gayl Jones, Nikky Finney, and others. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 370 LITERATURE ACROSS BORDERS. (3)
A course examining literature as a product of multiple regional, national, and international contexts. How do texts, ideas, goods, and people move across borders? How are identities and concepts produced through transnational dialogue and exchange? Possible areas of study include transatlantic political or literary movements, border studies, multinational literatures, or literatures of migration and diaspora. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 380 FILM AND GENRE (Subtitle required). (3)
An advanced course exploring one or two film genres, styles, or formal categories. It focuses on analyzing the parameters and practices of a broad generic category (e.g. gangster films; documentaries; biographies; war films) or a genre specific to a particular period (e.g. early silent films; twentieth-century horror films). Viewing films outside of class is required. See departmental listings for different offerings per semester. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent. ENG 280, 284, or 285 are recommended but not required.

ENG 384 LITERATURE AND FILM. (3)
This course explores the relationship between two creative traditions, literature and film, focusing on film adaptations of literary works for the screen. Subjects can include the adaptation of works by a particular writer such as Shakespeare or Jane Austen, or it may range more widely among the thousands of innovative cinematic reinventions of literary texts, e.g. Richardson's *Tom Jones*, Altman's *Short Cuts*. In some semesters the course may focus on a particular topic or genre and its treatment in both literary and cinematic texts, or on a particular moment when cinema and literary writers exerted a strong mutual influence (such as Hollywood in the 1920's). Viewing films outside of class is required. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent. ENG 280, 284, or 285 are recommended but not required.

ENG 391 LITERARY THEORY. (3)
Since the 1940's "literary theory" has emerged as a vibrant and vital aspect of literary studies. The term covers a wide range of formal, historical, and critical approaches to literature and culture that have changed the ways we read. This course investigates selected trends and schools of modern literary theory in diverse texts and contexts. These can include formalism, Practical Criticism, and the New Criticism; French Structuralism and the various modes of post-structuralism (Semiotics, Deconstruction, Reader-response, Speech-act theory); historicism and the New Historicism; as well as broader modes of cultural critique such as Feminism, Marxism, Critical Theory and the Frankfurt School, Post-colonialism, Critical Race Theory, and more. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent.

ENG 395 INDEPENDENT WORK. (1-3)
For undergraduate majors in English with high standing. Students pursue an independent course of study, tutorial, or directed project under the guidance of a faculty member, with appropriate assessment and grading (e.g., term paper(s), examinations, final project). Projects are generally proposed and arranged by students themselves, reflecting individual interests and goals. Limited enrollment. Prereq: ENG major with a major GPA of 3.0 or above; prior permission of faculty advisor and ENG chairperson; approved Learning Contract. May be repeated to a maximum of 6 credits. Contact the Director of Undergraduate Studies for information. Provides ENG Major Elective credit.

#ENG 399 INTERNSHIP IN ENGLISH-RELATED WORK EXPERIENCE. (1-3)
The Department of English internship is available for qualified students to receive academic credit toward the Bachelor of Arts or Bachelor of Science in English through applied and practical experience with a variety of private and public entities, including but not limited to the University Press of Kentucky. The student will identify a field-, community-based, practical or applied educational experience and locate a sponsor to host their internship, which will be supervised by both a responsible person on site and by an English Dept. faculty member. The internship will provide supervised professional experience in public and private sector positions and is intended to introduce students to the skills and working environments of careers for graduates of the English Dept. Students should consult with an English faculty member in advance of registering for this class. A learning contract must be completed by the student, the

faculty supervisor, and the on-site internship supervisor, then filed with the English Dept.'s Director of Undergraduate Studies (DUS) in order to receive credit for this course. Credits: 1-3 credit hours, depending on the time required and nature of the internship. Approximately 10 hours a week of internship work equals three credit hours. At midterm, the faculty and on-site supervisors will communicate about the student's progress so that the faculty member can submit a midterm grade. English 399 will be graded only on a pass-fail basis. Repeatable for a total of up to 6 credit hours. Prereq: To be eligible for the internship, students must (1) be sophomores, juniors or seniors, and (2) have completed both parts of the CCR/composition and communication requirement.

ENG 401 SPECIAL TOPICS IN WRITING (Subtitle required). (3)
Studies of special topics in writing, in areas such as literary nonfiction (essays), responding to literature, cultural critique, and composing law and justice. Topics announced the preceding semester. May be repeated under different subtitles to a maximum of six credits. Prereq: Completion of UK Core Composition and Communication I-II requirement and consent of instructor. (Same as WRD 401.)

***ENG 405 EDITING ENGLISH PROSE. (3)**
This course is designed for students interested in the basics of editing and publishing and offers instruction and extensive practice in editing and revising both the student's own writing and the prose works of others. In addition to learning techniques of revision, verification of sources, and preparation of manuscripts, students will be expected to learn about the editing profession generally and to follow trends in editing and publishing. Not for students with writing deficiencies. Does not fulfill ENG Major 400-level course requirement. Provides ENG Major Elective credit and ENG Minor credit. Prereq: WRD 301, or WRD 306, or consent of instructor. (Same as WRD 405.)

ENG 407 INTERMEDIATE WORKSHOP IN IMAGINATIVE WRITING (Subtitle required). (3)
Continued studies in the writer's craft, focusing on student work but with increased emphasis on outside reading. Areas of workshop practice include Poetry, Fiction, and Creative Non-Fiction. Prereq: ENG 207 or consent of instructor. May be repeated to a maximum of 9 credits. Provides ENG Major Elective credit and ENG minor credit. Can count only once for ENG Major 400-level course requirement. Required for ENG Imaginative Writing Option.

ENG 425 ENVIRONMENTAL WRITING. (3)
Students will consider the way writers address environmental issues by exploring various forms of environmental writing, from personal narrative to literary nonfiction to advocacy. Students will be required to take a mandatory day long field trip to UK's Robinson Forest. All students must participate in this field trip. Prereq: Completion of Composition and Communication requirement or consent of instructor.

ENG 440G STUDIES IN BRITISH LITERATURE: (Subtitle required). (3)
An advanced British Literature course on a period, a theme, a genre, or one or more authors. See departmental listings for different offerings per semester. May be repeated to a maximum of 9 hours under different subtitles. Prereq: ENG 330 Text and Context or consent of the instructor. Fulfills ENG Major 400-level course requirement. Provides ENG Major Elective credit and ENG minor credit.

ENG 450G STUDIES IN AMERICAN LITERATURE: (Subtitle required). (3)
An advanced American Literature course on a period, a theme, a genre, or one or more authors. See departmental listings for different offerings per semester. May be repeated to a maximum of 9 hours under different subtitles. Prereq: ENG 330 Text and Context or consent of the instructor. Fulfills ENG Major 400-level course requirement. Provides ENG Major Elective credit.

ENG 460G STUDIES IN AFRICAN-AMERICAN LITERATURE: (Subtitle required). (3)
An advanced African-American literature course on a period, a theme, a genre, or one or more authors. See departmental listings for different offerings per semester. May be repeated to a maximum of 9 hours under different subtitles. Prereq: ENG 330 Text and Context or consent of the instructor. Fulfills ENG Major 400-level course requirement. Provides ENG Major Elective credit and ENG minor credit.

ENG 470G COMPARATIVE AND TRANSNATIONAL STUDIES IN LITERATURE: (Subtitle required). (3)
An advanced literature course focusing on comparative or transnational periods, themes, genres, national or ethnic traditions, or one or more authors. Possible areas of study include transatlantic connections, diasporic communities, or comparisons between English language authors and foreign authors in translation. See departmental listings for different offerings per semester. May be repeated to a maximum of 9 hours under different subtitles. Prereq: ENG 330 Text and Context or consent of the instructor. Fulfills ENG Major 400-level course requirement. Provides ENG Major Elective credit and ENG minor credit.

ENG 480G STUDIES IN FILM (Subtitle required). (3)
An advanced course in the history, analysis, criticism, and theory of film. Viewing of films outside of class is required. See departmental listings for different offerings per semester. May be repeated to a maximum of 9 hours under different subtitles. Prereq: ENG 330 Text and Context or consent of the instructor. Fulfills ENG Major 400-level course requirement. ENG 280 strongly recommended. Provides ENG Major Elective credit and ENG minor credit.

ENG 490G STUDIES IN LITERATURE AND GENDER: (Subtitle required). (3)
An advanced course focusing on any aspect of gender in literary studies, such as gender and genre, gender issues in a particular literary period, masculinity, minority women writers, or feminist literary theory. See departmental listings for different offerings per semester. May be repeated to a maximum of 9 hours under different subtitles. Prereq: ENG 330 Text and Context or consent of the instructor. Fulfills ENG Major 400-level course requirement. Provides ENG Major Elective credit and ENG minor credit.

ENG 491G STUDIES IN THEORY: (Subtitle required). (3)
An advanced course on any aspect of literary or critical theory, in relation to selected texts. See departmental listings for different offerings per semester. May be repeated to a maximum of 9 hours under different subtitles. Prereq: ENG 330 Text and Context or consent of the instructor. Fulfills ENG Major 400-level course requirement. Provides ENG Major Elective credit and ENG minor credit.

ENG 492G CULTURAL STUDIES: (Subtitle required). (3)
An advanced course on any aspect of cultural studies, in relation to selected texts. See departmental listings for different offerings per semester. May be repeated to a maximum of 9 hours under different subtitles. Prereq: ENG 330 Text and Context or consent of the instructor. Fulfills ENG Major 400-level course requirement. Provides ENG Major Elective credit and ENG minor credit.

ENG 495 MAJOR HONORS SEMINAR (Subtitle required). (3)
An advanced undergraduate seminar in literature, film, or cultural study. Honors seminar topics will be announced the preceding year. Required for graduation with Departmental Honors in English. Enrollment limited to junior and senior ENG majors. May be repeated up to 9 hours under different subtitles. Fulfills ENG Major 400-level course requirement. Provides ENG Major Elective credit. Prereq: ENG major; completion of premajor requirements and ENG 330; ENG major GPA of 3.5 or above. Enrollment limited to junior and senior ENG majors.

ENG 507 ADVANCED WORKSHOP IN IMAGINATIVE WRITING (Subtitle required). (3)
For the student who has shown marked talent and commitment, this course provides a rigorous workshop among peers and includes additional attention to outside reading. Each student will produce a chapbook of poems or stories. See departmental listings for different offerings per semester. Prereq: ENG 207 and ENG 407, or the equivalent, and consent of the instructor. May be repeated with the same or different subtitle to a maximum of 6 credits. Required for the ENG Imaginative Writing Option under two different subtitles. Provides ENG Major Elective credit and ENG minor credit.

ENG 509 COMPOSITION FOR TEACHERS. (3)
A course covering the basic studies helpful to teachers of English composition at the secondary level. Focuses on the teaching of grammar, punctuation, usage, etc., and on theme planning, correction, and revision. Students are required to do quite a bit of writing. Provides ENG Major Elective credit and ENG minor credit. (Same as EDC 509.)

ENG 512 ANALYSIS OF ENGLISH SYNTAX. (3)
Contemporary approaches to the syntactic analysis of Modern English; particular attention is devoted to Chomskyan syntactic theory. Prereq: ENG/LIN 221 or equivalent, or consent of instructor. Provides ENG Major Elective credit and ENG minor credit. (Same as LIN 512.)

ENG 513 TEACHING ENGLISH AS A SECOND LANGUAGE. (3)
The course examines the current theories and methods of teaching English as a second language. The course will include (1) language learning theory as it relates to other disciplines; (2) methods and techniques of contrastive analysis. Prereq: One course in linguistics or consent of instructor. Provides ENG Major Elective credit and ENG minor credit. (Same as EDC/LIN 513.)

ENG 514 TESL MATERIALS AND METHODS. (3)
An extension to ENG/EDC 513, this course will include examination and evaluation of published materials designed for teaching English to speakers of other languages. Students will create individualized teaching materials and gain practical experience in applying the methods and using their own materials. Prereq: ENG/EDC 513 or consent of instructor. Provides ENG Major Elective credit and ENG minor credit. (Same as EDC/LIN 514.)

***ENG 518 ADVANCED HISTORY OF THE ENGLISH LANGUAGE. (3)**
This course explores the development of English from its roots in Indo-European, through Old, Middle, and Early Modern English(es), culminating with a review of the English languages of today. It focuses on the phonological, grammatical, and lexical changes of the language, as well as on the social contexts of the rise and spread of English as a contemporary world language. Special emphasis is given to a linguistically informed understanding of how the language has changed in response to political and historical pressures. Fulfills the ENG Early Period requirement. Provides ENG Major Elective Credit and ENG Minor credit. (Same as LIN 518.)

ENG 519 INTRODUCTION TO OLD ENGLISH. (3)
An introduction to the study of the Old English language and its literature from the 8th to the 11th centuries. Emphasis on learning the basic vocabulary and grammar of Old English in the West Saxon standard written dialect. Readings include excerpts from prose and poetry, the basics of Old English verse forms and alliterative poetry, and some historical and cultural background. The course is particularly recommended for students of European languages (especially German) and Linguistics; some basic background in Linguistics is recommended but not required. Fulfills ENG major Early Period Requirement. Provides ENG Major Elective credit and ENG minor credit.

ENG 570 SELECTED TOPICS FOR ADVANCED STUDIES IN LITERATURE (Subtitle required). (3)
Study of special topics that cut across the normal divisions of genre or periods, such as the relations of literature to other disciplines; metaphor and symbolism; interpretative theory. May be repeated to a maximum of six credits. Prereq: Junior standing or consent of instructor.

PROSEMINARS: *The purpose of the proseminar courses (600 level) is to impart through lectures and discussion both the facts of literary history and the techniques of literary analysis. They are, therefore, designed to go beyond the mere information level to techniques of contemporary literary criticism and scholarship.*

ENG 600 BIBLIOGRAPHY AND METHODS OF RESEARCH. (3)
An introduction to descriptive and enumerative bibliography, textual criticism, and historical scholarship.

ENG 601 ESSAYS AND CREATIVE NONFICTION. (3)
Study and practice in nonfiction writing, including literary nonfiction, literary journalism, personal essays, and creative nonfiction. May not be repeated for graduate credit. Prereq: Admission to the graduate program or consent of instructor.

ENG 605 EDITING. (3)
ENG 605 offers instruction in the history of U.S. publishing and extensive practice in verification of sources, fact checking, copy editing, and manuscript preparation. Prereq: Admission to Graduate School or consent of instructor.

ENG 607 GRADUATE WRITING WORKSHOP (Subtitle Required). (3)
A course for experienced writers who have some knowledge of contemporary American literature. Equal emphasis on students' original work and outside reading. Each student will produce a chapbook of poems or stories and write a short introduction to it. May be repeated with the same subtitle to a maximum of six credits. Prereq: Consent of instructor.

ENG 609 COMPOSITION FOR TEACHERS. (3)
A course in the theory and practice of teaching English composition at the college level. Required of first-year teaching assistants in the Department of English, the course is structured to match the ordering of English 101 so that the practical work of college writing and the theoretical considerations of English 609 will be mutually reinforcing.

ENG 610 STUDIES IN RHETORIC. (3)
This course introduces theories of rhetoric with readings drawn from major theoreticians and rhetoricians; applies theory to the practice of teaching college writing, with special emphasis on argumentation, the subject of English 102; and provides an opportunity for teaching assistants to get help from the teacher and from their peers in responding to and evaluating students' written work. This course, required of second semester teaching assistants in the Department of English, continues the work of English 609. Prereq: ENG 609 or equivalent.

ENG 611 LITERATURE TEACHING SEMINAR. (3)
This seminar prepares graduate students to teach literature classes at the University of Kentucky and elsewhere. It offers instruction and guidance in curriculum design, syllabus creation, reading and work exercises, and more. Students develop a portfolio of course materials and refine skills for teaching literature and film at the introductory as well as advanced levels of an undergraduate curriculum. This course is not a requirement for completing the Ph.D. degree, but it is required for graduate instructors to be approved to teach their own introductory-level literature and film classes in the University of Kentucky English Department curriculum.

ENG 612 STRUCTURE AND STYLISTICS OF FRENCH. (3)
A study of the history and structure of French with an emphasis on contemporary features. (Same as FR/LIN 612.)

†ENG 618 HISTORY OF THE ENGLISH LANGUAGE.

ENG 619 BEOWULF. (3)
Translation and study of *Beowulf*. ENG 518 or ENG 519 recommended as background courses.

ENG 620 STUDIES IN MIDDLE ENGLISH LITERATURE. (3)
A study in depth of selected writers and movements.

ENG 621 STUDIES IN CHAUCER. (3)
A study in depth of selected works of Chaucer, especially *Troilus*, in relation to aspects of the medieval literary tradition.

ENG 622 STUDIES IN RENAISSANCE LITERATURE: 1500-1660. (3)
Intensive study of selections from the drama, poetry, and prose of the period.

ENG 625 STUDIES IN RENAISSANCE DRAMA EXCLUSIVE OF SHAKESPEARE. (3)
A study in depth of selected writers.

ENG 626 STUDIES IN SPENSER, SHAKESPEARE, MILTON. (3)
Intensive study of one or more major authors and the relevant criticism and scholarship. Prereq: ENG 425 or ENG 426 or ENG 428 or equivalent.

ENG 630 STUDIES IN ENGLISH LITERATURE: 1660-1720. (3)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole.

ENG 631 STUDIES IN ENGLISH LITERATURE: 1720-1780. (3)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole.

ENG 635 STUDIES IN ROMANTICISM. (3)
Readings in selected authors and relevant scholarship.

ENG 638 STUDIES IN VICTORIAN LITERATURE. (3)
Readings in the poetry and prose non-fiction of the period with relevant scholarship.

ENG 642 STUDIES IN MODERN BRITISH LITERATURE. (3)
Selected writers, works, and movements in the modern period with concentration on the period from 1890 to 1945.

ENG 651 STUDIES IN AMERICAN LITERATURE BEFORE 1860. (3)
A study in depth of selected writers and movements.

ENG 652 STUDIES IN AMERICAN LITERATURE: 1860-1900. (3)
A study in depth of selected writers and movements.

ENG 653 STUDIES IN AMERICAN LITERATURE SINCE 1900. (3)
A study in depth of selected writers and movements.

ENG 656 BLACK AMERICAN LITERATURE. (3)
An in-depth study of black American literature, with concentration on major texts by major black writers. (Same as AAS 656.)

ENG 660 MODERN CRITICAL THEORY (Subtitle required). (3)
Detailed examination of one or another topic in contemporary theory of interpretation, such as literature and analytical philosophy, phenomenology and literature, structuralism, Marxism, psychoanalysis. May be repeated up to 6 credit hours under different subtitles.

ENG 681 STUDIES IN FILM. (3)
Comprehensive study of the history, theory, and criticism of film, with concentration on a series of major American and foreign films. Viewing of films outside of class is required.

ENG 682 STUDIES IN FICTION. (3)
A study in depth of selected types of fiction.

ENG 690 STUDIES IN LITERATURE AND GENDER (Subtitle required). (3)
This course focuses on gender as a primary category for literary analysis. Topics will vary, from a group of authors, an historical period or an aesthetic movement, to a genre, a theme, or an aspect of literary theory. May be repeated under different subtitles to a maximum of six credits.

ENG 691 READINGS IN RHETORIC (Subtitle required). (1)
This reading course allows graduate students to integrate readings in Rhetoric and Composition scholarship and provides an opportunity to discuss research with faculty associated with Rhetoric and Composition. In addition to readings, students will be expected to keep a reading journal or complete a brief annotated bibliography. May be repeated to a maximum of three credits. Prereq: ENG 609 and ENG 610 or consent of instructor.

ENG 700 TUTORIAL FOR PH.D. CANDIDATES. (3)
This course allows Ph.D. candidates who have completed all course work requirements to work together under the direction of a senior faculty member in preparing for and taking the Qualifying Examination. May be repeated to a maximum of twelve credits. Prereq: Admission to the Ph.D. program and instructor's consent.

ENG 720 SEMINAR IN MEDIEVAL LITERATURE. (3)
Recent topics: medieval fiction; Chaucer and the Gothic mind. May be repeated to a maximum of six credits.

ENG 722 SEMINAR IN RENAISSANCE STUDIES (Subtitle required). (3)
Advanced work on a specific author or topic. Recent topics: Eco-Milton, Romance narrative. May be repeated to a maximum of nine credits.

ENG 730 SEMINAR IN 18th CENTURY LITERATURE. (3)
Recent topics: neoclassic satire. May be repeated to a maximum of six credits.

ENG 735 SEMINAR IN ROMANTIC LITERATURE. (3)
Recent topics: Keats; Wordsworth. May be repeated to a maximum of six credits.

ENG 738 SEMINAR IN VICTORIAN LITERATURE. (3)
Seminar in Victorian literature. May be repeated to a maximum of six credits.

ENG 740 SEMINAR IN 20th CENTURY BRITISH LITERATURE. (3)
Seminar in 20th century British literature. May be repeated to a maximum of six credits.

ENG 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

ENG 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

ENG 750 SEMINAR IN COLONIAL LITERATURE. (3)
Seminar in Colonial Literature; may be repeated to a maximum of six credits.

ENG 751 SEMINAR IN AMERICAN LITERATURE: 1800-1860. (3)
Seminar in American literature 1800-1860. Recent topics: Emerson and Melville; Hawthorne. May be repeated to a maximum of six credits.

ENG 752 SEMINAR IN AMERICAN LITERATURE: 1860-1900. (3)
Seminar in American literature 1860-1900. Recent topics: Whitman and Dickinson. May be repeated to a maximum of six credits.

ENG 753 SEMINAR IN AMERICAN LITERATURE SINCE 1900. (3)
Seminar in American literature since 1900. Recent topics: Faulkner, Wolfe, and Warren. May be repeated to a maximum of six credits.

ENG 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

ENG 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ENG 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

***ENG 771 SEMINAR IN SPECIAL TOPICS (Subtitle required). (1-3)**
Seminar in special topics; includes genres and subject matters such as symbolism which cover more than one period of literature. Recent topics: symbolism and allegory. May be repeated up to 9 credit hours under different subtitles.

ENG 780 DIRECTED STUDIES. (1-6)
Independent work devoted to study and research on specific subjects and problems according to the interests and needs of individual students. May be repeated to a maximum of nine credits. Permission of chairperson required.

ENG 781 SEMINAR IN FILM (Subtitle required). (3)
Seminar in special topics in film, such as directors, genres, historical periods, film and literature, film theories, and film movements. Viewing of films outside of class is required. May be repeated under different subtitle to a maximum of six credits. Prereq: ENG 681 or consent of instructor.

ENS Environmental Studies

ENS 200 INTRODUCTION TO ENVIRONMENTAL STUDIES. (3)
A broad-ranging multidisciplinary introduction to current environmental issues and problem solving presented through a series of case studies. Case studies incorporate contemporary environmental themes including industrialization, resource use, and pollution; changing land use patterns; global warming and deforestation; biodiversity; political regulation; economic resources; cultural attitudes toward nature. Each case study will present environmental issues as scientific problems with social, political, philosophical, and economic causes and consequences. Emphasis is placed on understanding and combining different approaches to environmental problems and on proposing public policy solutions.

ENS 201 ENVIRONMENTAL AND SUSTAINABILITY STUDIES I: HUMANITIES AND SOCIAL SCIENCES. (3)
This course will provide a foundation in the core ideas, theoretical concerns and practical approaches to environmental studies framed within the disciplines of the humanities and social sciences. Students will study human interactions with the environment, both natural and built, and inter-human relations conditioned by local and global environmental factors. Students will obtain a basic conceptual and historical understanding of the nature and value of their local, regional, and global environment.

ENS 202 ENVIRONMENTAL AND SUSTAINABILITY STUDIES II: NATURAL SCIENCE AND POLICY. (3)
This is an introduction to natural science and policy as they pertain to understanding environmental studies. The core ideas include understanding how the ecological theories of population dynamics, community structure, and ecosystems dynamics lay a scientific foundation to understanding the nature of current environmental issues and how they might be addressed individually and through governmental regulation.

ENS 300 SPECIAL TOPICS (Subtitle required). (1-4)
Special topics in environmental studies. This course permits the offering of special topics in order to take advantage of faculty specialties. Course topic must be approved by the Environmental Studies Program Director. Prereq: Variable, when topic is identified.

ENS 395 INDEPENDENT WORK. (1-4)
Under special conditions selected students may investigate specific environmental issues and problems. The instructor and the student will agree on a formal semester plan/learning contract, which will be filed with the Environmental Studies Program Director and will include weekly reports to the instructor. Prereq: Environmental Studies minor, 3.0 G.P.A., consent of instructor.

ENS 400 SENIOR SEMINAR (Subtitle required). (3)
This course will draw on your interdisciplinary understanding of environmental issues and your problem-solving capacities developed while fulfilling Environmental Studies Minor requirements. It is a participatory capstone seminar designed to utilize and test your critical ability for independent thinking organized around specific environmental issues. Independent library work and writing assignments will be required in order to prepare for weekly, interactive topical seminar meetings. Group projects will culminate in individual term papers/projects on different aspects of the environmental issues under discussion. Specific topics will vary. Prereq: ENS 200 and 12 hours of course work from approved Environmental Studies courses (or instructor's consent).

ENT Entomology

ENT 110 INSECT BIOLOGY. (3)
Overview of the biology of insects. Emphasizes how this enormously abundant and important group of animals has resolved the basic challenges of survival and reproduction. Principles of physiology, behavior, ecology, and evolution are introduced using insects as examples. The roles of both beneficial and detrimental insects will be discussed. [*Offered in fall, spring and summer.*]

ENT 300 GENERAL ENTOMOLOGY. (3)
Fundamentals of insect biology and relationships among insects, plants, and other organisms; identification of commonly encountered insects. Beneficial and detrimental effects of insects are discussed. Lecture, two hours; laboratory, two hours per week. Prereq: One course in introductory biology. (Same as BIO 300.) [*Offered in fall only.*]

ENT 310 INSECT PESTS OF FIELD CROPS. (3)
Identification, life histories and control of insects attacking field crops, especially those of importance in Kentucky. The damage that these insects cause, the reasons for their abundance, and alternatives in control practices will also be emphasized. Lecture, two hours per week; laboratory, two hours per week. [*Offered in fall only.*]

ENT 320 HORTICULTURAL ENTOMOLOGY. (3)
A detailed coverage of the insects and mites attacking turf, ornamentals, greenhouse plantings, vegetables and fruits, with emphasis on field recognition of the pests and their damage. Lecture, two hours per week; laboratory, two hours per week. [*Offered in fall only.*]

ENT 340 LIVESTOCK ENTOMOLOGY. (2)
Biology and behavior of insects and other pests attacking livestock, poultry, pets and wildlife. Current control methods are discussed. For students interested in livestock production, farm management, dairy science, poultry science, and preveterinary medicine, as well as general agriculture. [*Offered in spring only.*]

ENT 360 GENETICS. (3)
The basic principles of heredity as currently understood from evidence accumulated in classical, cytogenetic, molecular, and quantitative genetic experiments. Emphasis is placed on a thorough understanding of genetic principles and the relationship of genetics to all biological disciplines. Prereq: Six credits in biological sciences and one course in general chemistry. (Same as ABT/ASC 360.) [*Offered in fall only.*]

ENT 395 INDEPENDENT WORK. (1-3)
Special problems for individual students who are capable of pursuing independent investigations in the various areas of entomology. May be repeated to a maximum of six credits. Prereq: ENT 300. [*Offered in fall, spring and summer.*]

ENT 399 FIELD BASED/COMMUNITY BASED EDUCATION. (1-6)
Field-based or community-based experience in entomology under supervision of a faculty member. Pass/Fail only. Prereq: Permission of faculty member and department chairperson and completion of a departmental learning agreement before registration. [*Offered in fall, spring and summer.*]

ENT 402 FOREST ENTOMOLOGY. (3)
The principles of forest entomology, including the detection, collection, identification, appraisal of damage, and control of forest insect pests. Lecture, two hours; laboratory, two hours. Prereq: One year of biology or consent of instructor. (Same as FOR 402.) [*Offered in fall only.*]

***ENT 460 INTRODUCTION TO MOLECULAR GENETICS. (3)**
Molecular genetics is the study of the biochemical basis of heredity and focuses on the structure and expression of DNA at the molecular and cellular level. The course will provide a detailed understanding of the biochemical events involved in genome replication, prokaryotic and eukaryotic transcription, and translation of DNA, as well as RNA processing, recombination and the theoretical underpinnings of genetic engineering. Prereq: ABT/ENT 360 or BIO 304 or consent of instructor. (Same as ABT 460.) [*Offered in spring only.*]

ENT 461 INTRODUCTION TO POPULATION GENETICS. (3)
This survey course examines the population dynamics and equilibria of genes in nuclei, chloroplasts and mitochondria. Emphasis will be on biological relevance (in plants, animals, and micro-organisms), but some theoretical derivations will also be introduced. Prereq: ABT 360 (or equivalent) and one course in probability/statistics. (Same as ABT/BIO/FOR 461.) [*Offered in spring only.*]

#ENT 505 EVOLUTION IN AGRICULTURE, MEDICINE AND CONSERVATION BIOLOGY. (3)
An introduction to modern evolutionary theory with emphasis on its application to current problems in agriculture, the biomedical sciences, and conservation biology. Prereq: Genetics (ABT 360, BIO 304 or equivalent introductory genetics course). (Same as ABT 505.)

ENT 530 INTEGRATED PEST MANAGEMENT. (3)
Principles of insect damage, populations and distributions. Various types of natural and applied control, including problems of insecticide toxicity, resistance and residues. Prereq: ENT 300 or ENT 310 or ENT 320.

ENT 550 SPIDER ECOLOGY AND BEHAVIOR. (3)
Spiders are fascinating in their own right, and also are major predators in terrestrial food webs. This course examines the ecology and behavior of spiders as model predators in systems ranging from undisturbed forests and meadows to agroecosystems and the urban landscape. While focusing on spiders, the course also intertwines two general sub-themes: (1) the advantages of employing diverse approaches (e.g. field and laboratory experiments, non-manipulative observations, and meta-analyses) in ecological and behavioral research; and (2) the strengths, and limitations, of using model organisms to develop and test theory. Prereq: One year of undergraduate biology.

ENT 561 INSECTS AFFECTING HUMAN AND ANIMAL HEALTH. (3)
Discussion of arthropod parasites and disease vectors. Topics include an overview of disease transmission and public health, epidemiology, vector biology, important arthropod groups and their control. Prereq: One year of biology. (Same as BIO 561.) [*Offered in fall – odd years.*]

ENT 563 PARASITOLOGY. (4)
Protozoan, helminth and arthropod parasites of man and domestic animals, emphasis on etiology, epidemiology, methods of diagnosis, control measures, and life histories. Techniques for host examination and preparation of material for study. Prereq: BIO 150, 151, 152, 153 or consent of instructor. (Same as BIO 563.)

ENT 564 INSECT TAXONOMY. (4)
A study of insect taxonomy including the collection, preparation, and identification of adult insect specimens. Prereq: Consent of instructor. (Same as BIO 564.) [*Offered in fall – even years.*]

ENT 568 INSECT BEHAVIOR. (3)
The principles of animal behavior will be stressed using insects as examples. Physiology, mechanisms, behavioral ecology and evolution of insect behavior will be covered. Prereq: One year of biology. (Same as BIO 568.) [*Offered in spring – odd years.*]

ENT 574 ADVANCED APPLIED ENTOMOLOGY. (4)
The objective of this course is to present the student with advanced concepts of applied entomology in a system-specific context. Each week, the insect problems associated with a different commodity/production system will be presented so as to illustrate a different broadly-based theme. Prereq: An introductory entomology course and consent of instructor.

ENT 605 EMPIRICAL METHODS IN ECOLOGY AND EVOLUTION. (2)
This course provides students with hands-on experience in a diverse array of modern research methods used by ecologists and evolutionary biologists, including techniques used in: molecular genetics, chemical ecology, behavioral studies, motion analyses, using high-speed video, image analyses for morphometrics and color, and field techniques in both aquatic and terrestrial systems. Lecture, one hour; laboratory, three hours per week. Prereq: BIO 325 or FOR 340 or ENT 665, or consent of instructor. (Same as BIO/FOR 605.)

ENT 606 CONCEPTUAL METHODS IN ECOLOGY AND EVOLUTION. (3)
This course provides students with hands-on experience in a diverse array of conceptual research techniques used by ecologists and evolutionary biologists. The focus will be on optimization methods used for predicting animal and plant behaviors and life histories, and on methods for assessing population trends and dynamics. Mathematical techniques used will include graphical analyses, matrix algebra, calculus, and computer simulations. The latter part of the course will consist of collaborative modeling projects, in which small groups of students will work with the instructor to address an important contemporary research problem and will report their results in a public talk and a project writeup. Prereq: One year of calculus and BIO 325 or FOR 340 or ENT 665, or consent of instructor. (Same as BIO/FOR 606.)

ENT 607 ADVANCED EVOLUTION. (2)
This course covers advanced topics in evolution, concentrating on questions central to the understanding of general evolutionary processes. Phenomena occurring both within populations (e.g., selection, inheritance, population subdivision) and between populations (e.g., gene flow, competition) will be addressed. Special attention will be given to modern research approaches and techniques including quantitative genetics, measurement of selection, phylogenetic analyses of comparative data and molecular systematics. Prereq: One year of calculus, genetics (BIO 304 or BIO 461) and BIO 508 or consent of instructor. (Same as BIO/FOR 607.) [*Offered in fall only.*]

ENT 608 BEHAVIORAL ECOLOGY AND LIFE HISTORIES. (2)
This course uses an evolutionary approach to examine behavior and life histories. Topics addressed include: the optimality approach, constraints on optimality, kin and group selection, predator and prey behaviors, social and mating behaviors, and life history evolution. Prereq: BIO 325 and one semester of calculus; or consent of instructor. (Same as BIO/FOR 608.)

ENT 609 POPULATION AND COMMUNITY ECOLOGY. (3)
This course discusses the processes that determine population distributions and dynamics and community structure for both plants and animals. Topics addressed include: population regulation and population stability, community diversity and stability, ecological succession, population interactions (competition, predation, mutualism), coevolution, and the effects of spatial and temporal heterogeneity on population and community patterns. Prereq: BIO 325 or FOR 340 or consent of instructor. (Same as BIO/FOR 609.) [*Offered in fall only.*]

ENT 625 INSECT-PLANT RELATIONSHIPS. (3)
This course examines the natural history, ecology, and evolution of insect/plant relationships. Topics include mechanisms and theory of plant defense, behavioral and physiological adaptations of herbivorous insects, pollination biology, multitrophic-level interactions, causes of insect outbreaks, and applications to managed ecosystems. Critical reading and discussion of current literature is emphasized. Prereq: Two years of college-level biology. (Same as BIO 625.) [*Offered in spring – odd years.*]

ENT 635 INSECT PHYSIOLOGY. (4)
Study of insect physiological processes including development, digestion, reproduction, respiration, excretion, hormones and immunity. Opportunity to learn techniques used in insect physiology and molecular biology. Prereq: Consent of instructor. (Same as BIO 635.) [*Offered in spring – even years.*]

ENT 636 INSECT MOLECULAR BIOLOGY. (4)
Principles of insect molecular biology. Analysis of insect development, reproduction, behavior, immunity, transgenic insects and insecticide resistance at the molecular level. Hands-on experience with molecular biology techniques. Prereq: ENT/BIO 635 or consent of instructor. (Same as BIO 636.) [*Offered in spring – odd years.*]

ENT 660 IMMATURE INSECTS. (3)
Bionomics, structure and classification of immature stages of insects; practice in their identification. Lecture, one hour; laboratory, six hours. Prereq: BIO 570 or ENT 564, or consent of instructor.

ENT 665 INSECT ECOLOGY. (3)
The biotic and physical factors influencing the distribution and abundance of insects and insect populations. Prereq: Consent of instructor. (Same as BIO 665.) [*Offered in fall – even years.*]

ENT 667 INVASIVE SPECIES BIOLOGY. (3)
This course will examine circumstances that allow introduced species to become invasive, how invasive species threaten our resources, and approaches to minimizing the incidence and impact of invasions. Prereq: Graduate standing or consent of instructor. (Same as BIO/FOR 667.) [*Offered in fall – odd years.*]

#ENT 670 SCIENTIFIC PUBLISHING: PROCESS AND ETHICS. (2)
An introduction to scientific publishing, including types of scientific journals, choosing where to publish, the structure of scientific papers, the peer review process, data management and archiving, post-publication promotion of research, metrics of scientific impact such as impact factors and altmetrics, and publication ethics.

ENT 680 BIOLOGICAL CONTROL. (3)
Principles related to the use of arthropods to suppress populations of arthropod pests and weeds. Includes historical perspective, ecological relationships, and contemporary issues related to the conservation and manipulation of arthropod predators, parasitoids, and herbivores. Prereq: ENT 300 or equivalent. [*Offered in spring – even years.*]

ENT 684 PHYLOGENETIC SYSTEMATICS. (3)
Theory and methods of phylogenetic analysis and cladistics will be explained. Applications of phylogenetic analysis, such as historical biogeography, biological classification, and testing of ecological hypotheses will be explored. (Same as BIO 684.)

ENT 695 SPECIAL TOPICS IN ENTOMOLOGY (Subtitle required). (3)
Special topical or experimental courses in entomology for graduate students. Special title required and must be approved by the chairperson of the Department of Entomology. A particular title may be offered twice at most under ENT 695. Students may not repeat under the same subtitle. Prereq: Will be set by instructor. [*Offered in fall and spring.*]

ENT 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed. [*Offered in fall and spring.*]

ENT 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

ENT 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended. [*Offered in fall and spring.*]

ENT 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ENT 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

ENT 770 ENTOMOLOGICAL SEMINAR. (1)
Discussion of current research problems in entomology. May be repeated to a maximum of six hours. [*Offered in fall and spring.*]

ENT 780 SPECIAL PROBLEMS IN ENTOMOLOGY AND ACAROLOGY. (2-3)
Investigations of chosen insect problems, including original work. Discussion and assignment of current insect subjects. May be repeated to a maximum of six credits. Prereq: Consent of instructor. [*Offered in fall and spring.*]

ENT 790 RESEARCH IN ENTOMOLOGY AND ACAROLOGY. (1-6)
Independent research in entomology or acarology. May be repeated to a maximum of 12 hours. Prereq: Consent of instructor. [*Offered in fall and spring.*]

EPE Educational Policy Studies and Evaluation

EPE 174 THEORIES OF COLLEGE STUDENT SUCCESS. (3)
The objective of the course is to introduce theories of student development and the organizational structure of teaching and learning in college. This course satisfies the UK Core requirement for Inquiry in Social Sciences.

EPE 301 EDUCATION IN AMERICAN CULTURE. (3)
Critical examination of contending views, past and present, regarding the nature and role of educational institutions in American society as well as proposed purposes and policies for schools and other educational agencies.

EPE 317 HISTORY OF EDUCATION. (3)
A study of the historical foundations of American education.

EPE 350 TOWN AND GOWN IN FACT AND FICTION: CAMPUS AND COMMUNITY AS LOCAL HISTORY. (3)
The study of campus and community – "Town and Gown" – as part of local history. It includes reading a variety of sources – novels, memoirs, historical documents, and scholarly articles plus field studies. Prereq: Junior standing or higher.

EPE 374 THEORIES OF COLLEGE STUDENT DEVELOPMENT AND MENTORING. (3)
This course will explore the research discourse regarding college student development, behavior, relationship of student personnel to the total college experience, organization and administration of co-curricular academic support, program evaluation and assessment models, and research of models for college student mentoring. Prereq: Sophomore status or higher.

EPE 522 PSYCHOLOGICAL AND EDUCATIONAL TESTS AND MEASUREMENTS. (3)
Problems of measurement with emphasis on standardized tests. General principles of test construction and evaluation, for standardized assessments and/or teacher-made tests, examinations, criteria for evaluation and marking and other rating systems. (Same as EDC/EDP 522.)

EPE 525 SPECIAL TOPICS SEMINAR IN EDUCATIONAL POLICY STUDIES AND EVALUATION (Subtitle required). (3)
Examination of selected topics in educational policy studies and evaluation. May be repeated to a maximum of six credits but no more than three may be earned under the same subtitle. Prereq: Consent of instructor.

EPE 554 CULTURE, EDUCATION AND TEACHING ABROAD. (3)
Introduction to theory and practice of intercultural communication, cross-cultural (especially international experience), and teaching with a global perspective, plus an opportunity for country-specific research. Required for those wishing to student teach overseas. (Same as EDC 554.)

EPE 555 COMPARATIVE EDUCATION. (3)
Analytic and comparative study of contemporary education in selected countries, with emphasis on the historical development and total cultural context of educational programs in non-Western countries. Informal as well as formal agencies and programs will be studied with particular attention to recent reforms and innovations. Prereq: Junior, senior or graduate status, or consent of instructor.

***EPE 557 GATHERING, ANALYZING, AND USING EDUCATIONAL DATA. (3)**
This course is rooted in the conceptual understanding of statistics and covers applications of statistical and graphical methods for educational and evaluation data. Basic descriptive statistics, correlation, normal distributions and hypothesis testing will be covered. An emphasis is placed on exploratory data analysis and interpretation of results within the broad contexts of education and evaluation. Statistical literacy exercises will be used for comprehension and application of materials. In addition, applications of statistical software will be demonstrated. Prereq: MA 109 or equivalent; undergraduate of Education; or consent of the instructor. (Same as EDP 557.)

EPE 558 GATHERING, ANALYZING, AND USING EDUCATIONAL DATA II. (3)
The course covers applications of statistical and graphical methods for educational and evaluation data. Topics to be covered include descriptive statistics, correlation, normal distributions, hypothesis testing, regression, ANOVA, and power. General goals include: developing an understanding of statistical concepts, improving reasoning and critical thinking skills, and to prepare for more advanced quantitative courses. Students will gain valuable statistical computing skills via stats Software. Prereq: EDP/EPE 557 or equivalent. (Same as EDP 558.)

EPE 600 SOCIAL FOUNDATIONS TOPICS FOR SECONDARY EDUCATION. (1)
This course is constructed to link reflective practitioner objectives of the MIC program to scholarly interests of "social foundations" faculty in the UK College of Education. The implicit objective of social foundations courses (e.g., Philosophy of Education, History of Education, Politics of Education, etc.) is to assist students in understanding the social nature of education in our society; to think critically and reflectively about education; and to recognize education as an area of inquiry in which systematic study can benefit practice. In the MIC version of this very abbreviated course, we will attempt to more explicitly link ideas and perspectives in course materials to the aims and interests of future reflective practitioners (you are they). Substantive origins and methodologies found in the "social foundations" course typically come from outside academic specialties like those enumerated above. That is, there are many academic historians and sociologists and political scientists and anthropologists, etc., who are quite interested in formal schooling as a social and cultural enterprise even though they do not work in schools themselves, nor are they interested in "improving" them. Prereq: Admission to the M.A. in Education - Secondary with Initial Certification Option.

EPE 601 PROSEMINAR. (1)
Introductory survey of the bibliographic parameters and research approaches to educational policy studies and evaluation. Graduate faculty resources and typical research problems are introduced. Emphasis upon significance and importance of thesis writing and dissertation in graduate studies. Required, first semester of study, for all degree students in the department. Prereq: Graduate standing or consent of instructor.

EPE 602 SOCIAL POLICY ISSUES AND EDUCATION. (1-3)
Study of philosophical, historical, and sociological dimensions of contemporary educational policy issues. Topical policy controversies, such as equality of educational opportunity, tuition tax credits, and religious education, will be examined.

EPE 603 POLITICS OF EDUCATIONAL LEADERSHIP. (3)
This course provides a study of the political contexts in which educational leaders must operate. The course explores the roles of policy actors, institutions, ideologies, and competing interests, both internal and external to education institutions. The course places emphasis on the ways that race, class, and income factor into political decision making in education. Prereq: Graduate standing. (Same as EDL 704.)

EPE 612 INTRODUCTION TO HIGHER EDUCATION. (3)
This course is intended to give the student a broad overview of contemporary higher education. The course examines major trends, issues, and problems facing colleges and universities from a variety of perspectives, including historical, administrative, public policy, governance, and faculty. The primary objectives of the course are to assist the student in developing an understanding of 1) various components and operations of higher education and 2) the interaction of these components and operations.

EPE 619 SURVEY RESEARCH METHODS IN EDUCATION (Subtitle required). (3)
Survey research is one of the most common and useful methods for gathering data in educational research. Obtaining valid and reliable research results requires the administration of instruments that provide valid and reliable measures of the variables selected for observation. This course will focus on principles of measurement and procedures for developing a variety of survey instruments and for determining their validity and reliability. It is designed to teach students both how to improve the questions and design instruments. The theory and practice of survey research relies on contributions from disciplines such as psychology, sociology, statistics, and computer science. The purpose of this course is to familiarize participants with basic features of the design and implementation of surveys, and acquaint them with some principles and underlying theory from disciplines that have traditionally used surveys most heavily. The course will cover major stages of the survey process, including hypothesis and problem formulation, study design, sampling, questionnaire design, interviewing techniques, pretesting, modes of data collection, and data cleaning, management, and analysis. The course involves lectures, readings, and discussions. Students are encouraged to bring materials related to their own research interests. The course will provide an overview of the theoretical and experimental literature related to question and questionnaire design as well as focusing on practical issues in the design, critique, and interpretation of survey questions that are often not taught in formal courses. There will be exercises both in and outside of class to reinforce both theory and practice. Prereq: EPE/EDP 557 or an equivalent course; an introductory statistics course.

EPE 620 TOPICS AND METHODS OF EVALUATION. (3)
An examination of a subset of evaluation methods, topics, and problems. An introductory course in the area with minimal emphasis on quantitative methods. The course is designed to: provide a perspective from which evaluation studies may be viewed; and, to provide experiences for those who will learn from or conduct evaluations. Prereq: Consent of instructor, and a basic course in statistics or research. (Same as ANT/EDP 620/SOC 622.)

EPE 621 ADVANCED TOPICS AND METHODS OF EVALUATION. (3)
An advanced course in evaluation methods and techniques with an emphasis on quantitative methodology. State of the art ideas and methods of conducting evaluation studies and analyzing data from those studies are presented. The course is designed primarily for those who are conducting or will conduct evaluation studies. Prereq: A basic course in statistics or its equivalent; EDP/EPE 620/SOC 622; and consent of instructor. (Same as ANT/EDP 621.)

EPE 622 COLLEGE AND UNIVERSITY FACULTY. (3)
This course considers college and university faculty in their roles as researchers, teachers, and community/institutional servants. The class considers from various theoretical perspective who faculty are, what they do, and how they relate to the environments and cultures in which they work. Prereq: EPE 612 or consent of instructor.

EPE 628 ETHICS AND EDUCATIONAL DECISION MAKING. (3)
Examination of ethical theories upon which educational evaluations are based and upon which they become the basis for educational policies. Theories considered include classical and rule

utilitarianism, Rawlsian social justice, behavioristic, critical, and hermeneutic theories of value. Prereq: EPE 603 or consent of instructor.

EPE 632 STUDENT SERVICES. (3)
This course focuses on students services (broadly defined) and those who work with college and university students outside of the academic arena. The course not only surveys the history of student services but critically examines its theoretical bases and current practices with special attention paid to the relationship between students services and other segments of campus. Prereq: EPE 612 or consent of instructor.

EPE 640 PHILOSOPHY OF EDUCATION. (3)
The course is designed to enhance the professional educator's competence in analyzing and evaluating educational policies and programs. Theoretical frameworks, philosophical methods, and current educational debates are examined. May be repeated once to a maximum of six credits. Prereq: Twelve semester hours in education or permission of instructor.

EPE 651 HISTORY OF EDUCATION IN THE UNITED STATES. (3)
A history of the growth and development of education in the United States from earliest colonial times to the present, including recent movements and trends.

EPE 652 HISTORY OF EDUCATIONAL THOUGHT. (3)
Description and critical examination of the core ideas of leading educational theorists in the history of Western culture. Emphasis upon the societal and cultural conditions in which the ideas emerged, and the relevance of these ideas to contemporary educational policy concerns.

EPE 653 HISTORY OF HIGHER EDUCATION. (3)
Social and institutional history of higher education which will include selected topics in European culture and education and which will emphasize the development of the American college and university. This is a Distance Learning (DL) course that will be offered via formats and media provided by the University of Kentucky Distance Learning Center. It will be asynchronous in character, using standard Distance Learning internet capabilities.

EPE 655 COMPARATIVE HIGHER EDUCATION. (3)
This seminar will explore comparative methods and theoretical frameworks in international higher education research. Students will examine questions of access, quality, and accountability in tertiary education, student mobility within nations and internationally, and the process of internationalization and regional collaborations in higher education in the US and abroad.

***EPE 660 RESEARCH DESIGN AND ANALYSIS IN EDUCATION. (3)**
This is a statistics-oriented course that focuses on various aspects of regression analysis (general and generalized linear models). Topics to be covered include, but are not limited to, simple correlation and regression, multiple regression (with and without interaction/moderation terms, with/without nonlinear terms, contrast variable coding for categorical predictors, nested model comparison for hierarchical regression, etc.), regression diagnostics (outlying and influential cases identification and assessment, collinearity evaluation, residual analysis, etc.), logistic regression (with a comparison of the logit model with other commonly used classification models like probit model, decision tree model, etc.), among other things. The course will familiarize students with cleaning data for regression analysis, building regression models, conducting statistical inference of regression models, selecting the optimal regression model(s) for the data in hand, and interpreting regression analysis results using the right language. Students will gain requisite foundation knowledge necessary to learn more complex statistical tests and procedures, and become more critical of statistical presentations in academic journals and the mass media. Students will also become proficient in using at least one major statistics computer program (SPSS, Minitab, SAS, Stata, or R). Prereq: EPE/EDP 558 or consent of instructor. (Same as EDP 660.)

EPE 661 SOCIOLOGY OF EDUCATION. (3)
A study of schooling and education using basic analytic paradigms of sociology. Emphasis on schools as formal organizations and education in a changing, technologically oriented and stratified society. Prereq: SOC 101 or equivalent. (Same as SOC 661.)

EPE 663 FIELD STUDIES IN EDUCATIONAL INSTITUTIONS. (3)
Field research in an educational setting. Questions of theory, method, and application examined. Students plan and implement a study under faculty supervision. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

EPE 665 EDUCATION AND CULTURE. (3)
An analysis of the cultural role and function of educational institutions and processes. Topics considered include schooling as cultural transmission, the community context of education, cross-national studies of schools, and implications of anthropological approaches for teacher training.

EPE 667 EDUCATION AND GENDER. (3)
The course examines the relationships between gender and education in U.S. society. The focus will be on the formation and enactment of gender within social and educational institutions. Using a variety of source materials and theories, we will address the following questions. How and what do educational institutions teach about gender? And how do females and males respond to these learning contexts? In what ways are social class, race and ethnicity important to engendering our lives? How does schooling contribute to the differential experiences of women and men in their transitions to adult work in the domestic and waged labor forces? How can education contribute to societal changes in sex equity?

EPE 669 ORAL HISTORY. (3)
This course is an introduction to oral history methodology and theory. It is designed for persons intending to use oral and life history interviews in historical or other qualitative research. The course examines how: oral history projects are initiated, projects are administered, interviews are conducted, and oral history interviews are preserved in archives and libraries. The course also explores the reliability of memory and the utilization of oral histories in public presentations. Readings in the course focus on the development of oral history as a research methodology. Assignments and discussions will provide experience with interviewing, recording and transcribing, editing and publishing oral histories.

EPE 670 POLICY ISSUES IN HIGHER EDUCATION. (3)
A survey of modern tendencies in higher education; scope and development, objectives, organization, administration, curricula, finance, faculty and student personnel. Designed primarily for prospective college administrators, teachers, and registrars.

EPE 672 COLLEGE TEACHING AND LEARNING. (3)
A study of all phases of instruction at the college level. The course will include methods and principles of teaching, utilization of materials in teaching, a consideration of the teaching-learning process as it relates to the individual student, and the evaluation of student progress. A comprehensive course for prospective college teachers.

EPE 674 THEORIES OF STUDENT DEVELOPMENT. (3)
A study of college student behavior, relationship of student personnel to total college program, organization and administration, evaluation, and research of college student personnel.

EPE 675 SOCIOLOGY OF HIGHER EDUCATION. (3)
A study of higher education and society using sociological views and policy perspectives. Topics include inequality and diversity in higher education; universities and colleges as social organizations and cultural institutions; the academic profession, academic departments and disciplines; the social and academic lives of students; as well as the impact of higher education and its relations to labor markets.

EPE 676 ORGANIZATION AND ADMINISTRATION OF HIGHER EDUCATION. (3)
Purposes and scope of higher education, organization, general administration, faculty administration, inter-institutional cooperation, allocation of financial resources, state systems of higher education.

EPE 678 ECONOMICS OF HIGHER EDUCATION. (3)
This course addresses issues of equity and efficiency by analyzing 1) how students, faculty and institutions are influenced by markets and incentives, 2) the economic impact of higher education on students and society, and 3) the financial management of institutions.

EPE 679 INTRODUCTION TO MEASUREMENT THEORY AND TECHNIQUES. (3)
This is a measurement-oriented course that focuses on introducing measurement theory and techniques used in education and evaluation. Topics to be covered include, but are not limited to, measurement models, bivariate measures of association, norms, standardized score scales, scaling, reliability, validity, item analysis, factor analysis, confirmatory factor analysis, test construction for affective and cognitive instruments, Item Response Theory, and Rasch. The course aims to familiarize students with measurement terminology, possess a detailed strategy for constructing an instrument suitable for research purposes, become familiar with statistical procedures and software for implementing measurement techniques, gain requisite foundation of knowledge necessary to learn more complex measurement models, and become more critical of measurement presentations in academic journals and the mass media. Prereq: EDP/EPE 660, EPE 621, or equivalent. (Same as EDP 679.)

EPE 680 POLITICS OF HIGHER EDUCATION. (3)
Survey and analysis of the political forces and processes which influence the development and implementation of higher education policies, financing and programs at the federal, state and institutional levels.

EPE 681 HISTORY OF THE UNIVERSITY: GOVERNANCE AND ITS LEGAL CONTEXT. (3)
Identification and analysis of the legal and governance issues in medieval, reformation and American colonial universities and their implications for contemporary issues of governance, autonomy and academic freedom.

EPE 682 HIGHER EDUCATION AND THE LAW. (3)
Case analysis regarding the university as a legal entity, private universities, the constitutionally autonomous university and other public universities, faculty rights, student rights, miscellaneous issues. Prereq: EPE 681 or consent of instructor.

EPE 683 AFFIRMATIVE ACTION AND FEDERAL REGULATION OF HIGHER EDUCATION. (3)
Affirmative Action as a legal concept; history and current application; sexual harassment; special codes; higher education desegregation cases and other miscellaneous issues including copyright, age discrimination, ADA and the Rehabilitation Acts. Prereq: EPE 682 or consent of instructor.

EPE 684 HIGHER EDUCATION AND ATHLETICS: A HISTORICAL ANALYSIS. (3)
Historical analysis of the politics, economics and philosophical implications of intercollegiate athletics programs as part of the American college and university.

EPE 685 THE RESEARCH UNIVERSITY. (3)
Historical analysis of the changing character, missions and roles of research universities in the United States. Emphasis will be on critical examination of large-scale sponsored research and graduate programs.

EPE 686 PHILANTHROPY AND HIGHER EDUCATION. (3)
Social, historical and philosophical perspective on the development of philanthropy as a significant factor in the character of American higher education and non-profit sector.

EPE 690 THE COMMUNITY COLLEGE. (3)
Comprehensive analysis of community colleges: history, current activity and future; demography, budget, administration. Prereq: EPE 612 or consent of instructor.

EPE 703 PREPARING RESEARCH PROPOSALS. (3)
The goal of this seminar is to provide advanced graduate students with individualized guidance and direction on the preparation of successful research proposals. Typically such proposals will involve masters theses, doctoral dissertations, or various forms of sponsored research. Prior to enrolling in the seminar, students will be expected to have successfully completed graduate level courses in research methodology, data collection techniques, and qualitative and/or quantitative data analysis procedures. Prereq: 6 hours graduate level research methods courses.

EPE 707 MULTIVARIATE ANALYSIS IN EDUCATIONAL RESEARCH. (3)
Multivariate statistics will prepare student to understand multivariate statistical methods and draw the link between statistics previously learned. Students will be able to conduct, interpret, and critique procedures such as factorial ANOVA, multiple regression, MANOVA, ANCOVA, MANCOVA, PCA, EFA, discriminant function analysis, logistic regression, canonical correlation, hierarchal linear regression, and multivariate analysis of change. Become familiar with statistical software for implementing multivariate procedures. Develop an understanding of the concepts, terms, and symbols used in multivariate statistics (e.g., Matrix Algebra, effect sizes). Gain an appreciation of the role of multivariate procedures in the research process. Gain requisite knowledge necessary to learn more complex statistical procedures. Prereq: EDP/EPE 660 or equivalent. (Same as EDP 707.)

EPE 711 ADVANCED QUANTITATIVE METHODS. (3)
This course is intended to familiarize students with advanced quantitative techniques. Topics include structural equation modelling, item response theory, rasch modelling, hierarchical linear modelling, and data mining. Other specific analysis techniques may also be explored. Prereq: Intermediate Statistics. (Same as EDP 711.)

EPE 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

EPE 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

EPE 763 ADVANCED FIELD STUDIES. (3)
This course continues an exploration of qualitative research methods in the study of education. It focuses on advanced data collection techniques and particularly on methods of data analysis, representation and writing. The course revolves around an experiential core of individual student research products. May be repeated to a maximum of six credits. Prereq: EPE 663, other introductory qualitative research methods courses or instructor's permission.

EPE 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

EPE 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

EPE 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

EPE 773 SEMINAR IN EDUCATIONAL POLICY STUDIES AND EVALUATION. (1-3)
Examination of selected problems in educational policy studies and evaluation. May be repeated to nine credits but no more than three credits may be earned under the same title. Prereq: Consent of instructor.

EPE 778 SEMINAR IN HISTORY OF EDUCATION IN KENTUCKY. (3)
Emphasis upon implications of major trends in national historiography for needed research in education in Kentucky. Prereq: A graduate-level course in the history of education or consent of instructor.

EPE 785 INDEPENDENT STUDIES IN EDUCATIONAL POLICY STUDIES AND EVALUATION. (1-3)
Independent study experience for advanced graduate students to investigate special problems and conduct research in educational policy studies and evaluation. Prereq: Permission of department chairperson required.

EPE 790 INTERNSHIP IN EDUCATIONAL POLICY STUDIES AND EVALUATION. (1-6)
Formal assignment to an evaluation and/or policy analysis project in an appropriate educational setting. Student's work directed and evaluated by both departmental faculty and on-site supervisor. Laboratory, 5-20 hours per week. May be repeated to a maximum of 12 credits. Prereq: Twelve hours graduate course work in the department and permission of the director of graduate studies.

***EPE 797 HISTORICAL RESEARCH ON EDUCATION (DL FORMAT). (3)**
Advanced historical research and writing on issues in the study of education taught in Distance Learning (DL) asynchronous format.

EPE 798 SEMINAR IN HIGHER EDUCATION. (3)
A critical study of selected problems in higher education. May be repeated to a maximum of nine credits but no more than three credits may be earned under the same subtitle. Prereq: Consent of instructor.

EPI Epidemiology

EPI 714 EPIDEMIOLOGIC STUDY DESIGN. (3)
This course provides students with advanced course material relevant to the planning and execution of epidemiologic studies of various designs. The course will consider study designs which employ routinely collected data on disease occurrence, such as would be undertaken in government agencies and health departments, and the classic etiologic study designs including the case-control, prospective cohort, retrospective cohort, nested case control, case-cohort and case-crossover designs. The course will focus considerable attention on measurement methods and measurement error, borrowing examples from the subfields of epidemiology including occupational, cardiovascular, and social epidemiology. Given current interest on multilevel methods of analysis, the class will discuss approaches to the incorporation of designing multilevel studies. Finally, we will consider recent advances in experimental epidemiology with consideration of controlled community trials. Prereq: CPH 605 or consent of instructor.

EPI 715 RESEARCH METHODS IN EPIDEMIOLOGY AND BIOSTATISTICS. (3)
This course builds a broad array of skills that are useful for the design and development of research protocols and funding applications for peer review, and for the analysis of resultant scientific data. Prereq: BST 760, EPI 714, and BST 639.

EPI 716 INFECTIOUS DISEASE EPIDEMIOLOGY. (3)
This course provides instruction about the epidemiological and microbiological characteristics of bacteria, fungi, prions, rickettsia and viruses causing emerging and infectious diseases. Prereq: Graduate student or consent of instructor.

EQM Equine Science and Management

EQM 101 INTRODUCTION TO THE HORSE AND THE HORSE INDUSTRY. (2)
An introduction to the horse and its basic biology, behavior and conformation. Additional subjects related to breeds, activities, the industry and current issues will also be covered. Prereq: Restricted to Equine Science and Management majors. [*Offered in fall only.*]

EQM 105 EQUINE BEHAVIOR AND HANDLING. (2)
This course covers basic equine behavior and how to handle horses safely in a variety of management situations. Students will use their understanding of equine behavior to develop management strategies and practices for all classes of horse. Prereq: EQM 101 and restricted to Equine Science and Management majors. [*Offered in spring only.*]

EQM 106 INTRODUCTION TO CAREERS IN THE EQUINE INDUSTRY. (1)
This course will introduce students to more than 30 equine industry related jobs through guest lecturers, career research, and job shadowing. Guest lecturers will represent various jobs in different disciplines. They will explain how they ended up with the career they have and through question and answer sessions discuss how others can find similar careers and share career advice with the class. Students will also learn about benefits including insurance, retirement, 401K plans, housing, time off, etc. and they will study different careers in relation to Myers-Briggs personality types. [*Offered in spring only.*]

EQM 205 EQUINE CAREER PREPARATION. (1)
This course will prepare students for careers in the equine industry by teaching them to prepare for, find, and apply for jobs. It will also help them learn to plan for and design their own business and related marketing, employee relations, and tax issues. [*Offered in fall only.*]

#EQM 300 TOPICS IN EQUINE SCIENCE AND MANAGEMENT. (1-6)
Study in special topics in equine science and management. May be repeated under a different subtitle to a maximum of fifteen credit hours. Hours are variable with each special course. Prereq: As specified by the instructor.

EQM 301 THOROUGHBRED SALES. (1)
This course will introduce students to the thoroughbred sales industry. Students will learn about the different regional and targeted markets as well as the sales process from sales prepping to being auctioned off. Students will learn about the different sales organizations and the different roles of individuals at the sales including consignors, auctioneers, sales companies, veterinarians, owners, pinhookers, and bloodstock agents. Students will also be introduced to the legal aspects of thoroughbred sales from contracts to insurance to financial transactions and conditions of sale. Prereq: EQM 101 or consent of instructor. [*Offered in spring only.*]

EQM 302 EQUINE EVENT PLANNING. (1)
This course will introduce students to planning equine events. Students will learn about the process of event planning including organization, committee work, and preparing timelines. They will also be introduced to numerous marketing strategies and tools and gain experience working with different registration programs. Students will also gain hands on event planning experience by putting on and Equine Career Fair as a class. They will be assigned to committees, responsible for different tasks, and involved in the Equine Career Fair from developing measurable objectives for success to analyzing survey feedback. Prereq: Sophomore level or above. EQM students on first priority registration. [*Offered in spring only.*]

***EQM 351 EQUINE HEALTH AND DISEASES. (3)**
This course will focus on health issues affecting the horse industry. Students will learn about the diseases and parasites affecting horses in Kentucky and across the nation. In addition, discussions will focus on management practices used on horse enterprises to reduce incidence of disease and maintain health for breeding horses, performance horses and the recreational horse. Prereq: ASC 320 and major in Equine Science and Management B.S. degree program. [*Offered in spring only.*]

EQM 399 EQUINE SCIENCE AND MANAGEMENT INTERNSHIP. (1-6)
The equine internship is designed to provide students with experiences in career opportunities related to the horse industry. The internship gives students an educational experience that allows them to see the application of concepts learned in the classroom in an industry setting approved by the instructor. Prereq: Junior standing (minimum of 60 earned credits), at least 12 hours of EQM core courses, 40 hours of verifiable previous work experience in the equine industry, a GPA of 2.0 or above, and an approved learning contract. [*Offered in fall, spring and summer.*]

EQM 490 CAPSTONE IN EQUINE SCIENCE AND MANAGEMENT. (3)
Discussion of the major issues impacting today's equine industry. Students will use concepts from core and discipline related courses to analyze a variety of scenarios related to the industry. The scenarios will range from production to enterprise management, but may also include issues that have the potential to impact all aspects of the industry. Prereq: Senior standing, major in Equine Science and Management degree. [*Offered in fall and spring.*]

ER Emergency Medicine

ER 815 FIRST-YEAR ELECTIVE, EMERGENCY MEDICINE. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Emergency Medicine. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

ER 825 SECOND-YEAR ELECTIVE, EMERGENCY MEDICINE. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Emergency Medicine. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

ER 843 EMERGENCY MEDICINE. (4)
This course will provide the students with an introduction to the field of Emergency Medicine, Emergency Medical Services (EMS), and the approach to the acutely ill or injured patient. The students will complete an ACLS class during this rotation. Laboratory, 40 hours per week. Prereq: Admission to fourth year of medical curriculum. (Same as MD 843.)

ER 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
ER 850 FOURTH-YEAR ELECTIVE EMERGENCY MEDICINE
ER 853 RESEARCH IN EMERGENCY MEDICINE
ER 875 PEDIATRIC EMERGENCY MEDICINE
ER 890 EMERGENCY MEDICINE OFFSITE

ES Environmental Systems

ES 600 ENVIRONMENTAL SYSTEMS SEMINAR. (1)
A series of presentations by experts in the field on environmental systems topics including topics from the fields of law, economics, social sciences, medicine, biology, engineering and physical sciences. May be repeated to a maximum of two credits.

ES 610 ENGINEERING AND PHYSICAL SCIENCES IN ENVIRONMENTAL SYSTEMS. (3)
Earth systems: environmental impacts of natural and human processes; the role of water systems on the earth including surface water systems, groundwater systems, and water quality and contamination systems; the role of atmospheric systems on earth including the nature and source of air pollutants, meteorological principles, radiation balance, climatology and air pollution, and air pollution control methodology; and processes and principles involved in waste producing organizations. Prereq: Freshman chemistry.

ES 620 ENVIRONMENTAL HEALTH. (3)
An introduction to the theory and practice of assessing, correcting, controlling, and preventing environmental health hazards that may adversely affect the health of current and future generations. Prereq: Undergraduate chemistry and biology, or permission of instructor. (Same as CPH 601.)

ES 630 LEGAL, SOCIAL AND ECONOMIC SCIENCES IN ENVIRONMENTAL SYSTEMS. (3)
Jurisprudential history, ethics and rule of law, environmental economics, history of science, governmental structures, process for development and enforcement of standards, social/political implications of environmental systems, regulatory schemes for environmental control.

ESL English as a Second Language

#ESL 090 ENGLISH FOR INTERNATIONAL TEACHING ASSISTANTS. (3)
ESL 090 English for International Teaching Assistants is designed for non-native English-speaking graduate assistants who either placed into or were recommended to take the course during ITA Language Screening conducted by the Graduate College. This course focuses on skills needed for international graduate teaching assistants to be successful in classroom teaching at the university level. Instruction in the course focuses on improving the communication and pronunciation skills of students with special emphasis on listening/speaking skills, presentation skills, negotiation skills, and other classroom management tools such as interactive and pedagogical communication. Students required to take ESL 090 will be reassessed at the completion of the semester to determine types of TA duties they may perform. Students may not count credit from ESL 090 toward their graduate degree requirements.

#ESL 095 ACADEMIC WRITING FOR INTERNATIONAL GRADUATE STUDENTS. (3)
ESL 095 Academic Writing for International Graduate Students is designed to assist international students prepare for academic writing at the graduate level. Particular attention is given to writing conventions in the United States, and there is an emphasis on learning and applying the process of writing (drafting, revision, editing, and proofreading). Students will also learn about the importance of academic honesty at the American University, including how to avoid plagiarism as well as how to evaluate and cite sources in their specific disciplines. May be repeated. Students may not count credit earned in ESL 095 toward their graduate degree requirements.

ESL 100 LISTENING FOR ACADEMIC PURPOSES. (3)
This course cultivates skills to improve academic listening performance for non-native speakers of English enrolled in American university classes. Special attention is given to lecture styles, note-taking, interpersonal communication skills, research projects and presentations. This course is designed to raise students' listening skills so they can participate in academic settings with competencies similar to their native-speaker peers. Prereq: COMPASS Test score determines enrollment.

ESL 110 SPEAKING FOR ACADEMIC PURPOSES. (3)
This course cultivates skills to improve academic speaking performance for non-native speakers of English enrolled in American university classes. Special attention is given to effective academic presentations, interpersonal communication skills, pronunciation and accent. This course is designed to raise students' speaking skills so they can participate in academic settings with competencies similar to their native-speaker peers. Prereq: COMPASS Test determines enrollment.

ESL 120 READING FOR ACADEMIC PURPOSES. (3)
This course cultivates skills to improve academic reading performance for non-native speakers of English enrolled in American university classes. Special attention is given to cross-disciplinary academic reading, reading rates and speeds, effective research methods, documentation and essay exams skills. This course is designed to raise students' reading skills so they can participate in academic settings with competencies similar to their native-speaker peers. Prereq: COMPASS Test determines enrollment for this course.

ESL 130 WRITING FOR ACADEMIC PURPOSES. (3)
This course cultivates skills to improve academic writing performance for non-native speakers of English enrolled in American university classes. Special attention is given to cross-disciplinary research, collaboration, the writing process, content organization and development, editing and proofreading. This course is designed to raise students' writing skills so they can participate in academic settings with competencies similar to their native-speaker peers. Prereq: The COMPASS Test determines enrollment in this course.

EXP Experiential Education

EXP 396 EXPERIENTIAL EDUCATION. (1-12)
A community-based or field-based learning experience under the supervision of a faculty member. May be repeated to a maximum of 30 credits. Pass/fail with departmental permission required for letter grade. Prereq: Completion of Experiential Education Learning Contract and submission of contract to Career Center prior to course registration.

EXP 397 EXPERIENTIAL FIELDWORK. (1)
A course designed for undergraduates involved in full-time internship studies. Students will be engaged in preprofessional positions such as internships and cooperative education under the supervision of a faculty member. Enrollment in the course constitutes full-time student status. Pass/Fail only. Laboratory, 20-40 hours per week. May be repeated to a maximum of 4 times. Prereq: Completion of Experiential Education Learning Contract and submission of contract to Career Center prior to course registration.

EXP 455 CAPSTONE EXPERIENCE IN INNOVATION AND ENTREPRENEURSHIP. (3)
EXP 455 is designed as the required capstone course to earn the interdisciplinary Certificate in Entrepreneurship Studies at the University of Kentucky. It is aimed at providing students with the opportunity to integrate the knowledge and skills they have acquired as part of the courses they have completed in entrepreneurship as well as provide experiences for students to focus on innovative processes that require entrepreneurial thinking. The course is based upon the National Science Foundation Innovation Corps program and Stanford's Lean Launch Pad developed by Steve Blank. Students get out of the building, build a company, and test hypotheses related to the nine building blocks of the Business Model Canvas as they complete a capstone project that draws on prior entrepreneurial course work. The experience culminates in a formal business plan and pitch. The course requires students to apply their critical thinking skills as they synthesize previous course work and extend and develop their own original ideas in entrepreneurial thinking. By integrating their knowledge and skills, students will also demonstrate that they possess them. Prereq: COM 381 and consent of instructor.

***EXP 510 INTERNATIONAL SERVICE-LEARNING. (1-12)**
This course is designed to introduce students to the theories, concepts, and practices of service-learning in an international setting. Service-learning engages the student in enhancing the common good through the application of learning to service. (Same as MC 500.)

EXP 650 GRADUATE LEVEL EXPERIENTIAL EDUCATION. (1-9)
A community-based or field-based learning experience under the supervision of a faculty member. Letter grade. Prereq: Completion of Experiential Education Learning Contract and submission of contract to Stuckert Career Center prior to course registration.

EXP 651 GRADUATE LEVEL EXPERIENTIAL EDUCATION. (1-9)
A community-based or field-based learning experience under the supervision of a faculty member. Pass/Fail. Prereq: Completion of Experiential Education Learning Contract and submission of contract to Stuckert Career Center prior to course registration.

FA Fine Arts

FA 501 ARTS-STUDY TOUR. (3)
Domestic or foreign tour for intensive study of the arts in major cultural centers. Seminars, tours, and performances are planned according to specific itineraries. Attendance at all scheduled seminars on campus and arts events during the tour plus maintenance of a journal and completion of a substantial course project is required. May be repeated to a maximum of six credits.

FAM Family Sciences

FAM 251 PERSONAL AND FAMILY FINANCE. (3)
Management of personal and family financial resources throughout the lifespan. A study of individual and family finances as related to planning, credit, savings, investment, insurance, taxes, housing costs, transportation costs, retirement and estate planning.

FAM 253 HUMAN SEXUALITY: DEVELOPMENT, BEHAVIOR AND ATTITUDES. (3)
An introductory survey of human sexuality including gender, love and intimacy, sexual expression and variation, sexual orientation, contraception, pregnancy and birth, sexually transmitted infections, sexual coercion, and sex in society. FAM 253 is a University Studies Program Course. Prereq: Three hours in social or behavioral science.

FAM 254 LIFE COURSE HUMAN DEVELOPMENT. (3)
An introduction to the basic principles of human development through the life course of the individual from conception to death, common life transitions, and social change shape people's lives from birth to death. Roles of family, school, peers, and work will also be examined in relation to human development. Emphasis will be placed on the general theories of human development and their relation to the life course.

FAM 350 CONSUMER ISSUES. (3)
An in-depth study of consumer issues, rights, and responsibilities. An examination of how individual and societal decisions affect quality of life, including consumer safety, and the interactions of consumption, health, law, government regulations and the economy. Consumer education and financial literacy will also be emphasized.

FAM 352 ISSUES IN FAMILY SCIENCES. (3)
The scientific study of the family. Topics covered will include the important theoretical frameworks in family sciences, historical trends in marriage and family life, gender role theory, family life cycle theory, parenthood, communication, economics of family life, family wellness, capacity building, resource sustainability, integrative elements in life course development, conflict, divorce, stepfamilies and stepparenting, and family strengths. Students will analyze contemporary family issues and take informed, written positions on these issues. This course is required for all Human Environmental Sciences students and Family Sciences minors, and meets American Association of Family and Consumer Sciences accreditation standards. Prereq: Restricted to majors in Human Environmental Sciences; and Family Sciences minors only. Junior or senior standing required.

FAM 354 THE FAMILY IN CROSS-CULTURAL PERSPECTIVE. (3)
Approaches the study of the family from a comparative perspective, emphasizing cross-cultural variability in the structure and function of family. Kinship, household formation, sex roles, and socialization are examined in the context of the family, as well as patterns of interaction, personality formation, and family pathology. Prereq: Declared majors or minors in Dept. of Family Sciences or SW. (Same as SW 354.)

FAM 357 ADOLESCENT DEVELOPMENT. (3)
This course conducts an in-depth analysis of adolescent development and adjustment using an ecological, multi-contextual framework. The primary focus is on scholarship and empirical evidence from a number of disciplines that have direct bearing on the study of adolescent development, with a particular interest in applying a cross-cultural/national comparative lens. Prereq: Declared majors or minors in Dept. of Family Sciences, CTED or consent of the instructor.

FAM 360 INTRODUCTION TO FAMILY INTERVENTION: WORKING WITH FAMILIES AND INDIVIDUALS. (3)
Survey course to introduce students to the various skills, strategies and professional ethical standards used by family scientists in helping relationships. The emphasis will be on learning the skills required to provide support for families and individuals. Prereq: Declared majors or minors in Dept. Family Sciences. FAM 251, may be taken concurrently.

FAM 390 INTRODUCTION TO RESEARCH METHODS. (3)
An introduction to research design, methodology, instrumentation, and data analysis with emphasis on a student's ability to understand and critique research in human development and family relations. Prereq: Declared majors or minors in Family Sciences; STA 210.

FAM 402 ISSUES IN FAMILY RESOURCE MANAGEMENT. (3)
Examination of family economics and management issues and analysis of their impact on the well-being of families across the major transitions of the family life-cycle. Particular emphasis will be given to family decision-making. Prereq: FAM 251 and declared majors and minors in Dept. Family Sciences.

FAM 403 MATE SELECTION THEORY AND RESEARCH. (1- 3)
This course is designed to develop a basic understanding of mate selection theory and research. Processes in the U.S. and abroad will be explored. Sex, love, culture, values, and how these factors play into the process of mate selection will be covered. Students may enroll for 1, 2, or 3 credits.

FAM 473 FAMILY LIFE EDUCATION. (3)
Historical development, current programs, and emerging trends in family life education with particular emphases on programs and techniques for teaching sex education, marital relations, parenting and human development. Prereq: Declared majors and minors in Department of Family Sciences and FAM 360.

FAM 475 SPECIAL TOPICS IN FAMILY SCIENCES. (1-3)
Course will focus on selected topics drawn from various areas of family sciences taught by faculty members with special interests and competence. May be repeated to a maximum of six credits under different subtitles. Prereq: Consent of instructor.

FAM 486 FIELD EXPERIENCES IN FAMILY RESOURCE MANAGEMENT. (3)
Field training in community setting. Opportunities for developing competencies in planning and conducting individual and small group experiences related to family resource management. Lecture, one hour; laboratory, seven hours per week. May be repeated to a maximum of six credits. Prereq: Senior standing and consent of instructor.

FAM 495 INDEPENDENT WORK IN FAMILY SCIENCES. (1-3)
Intensive independent scholarship or training in family sciences. May be repeated to a maximum of 12 credits. Prereq: Junior or senior standing.

FAM 499 INTERNSHIP IN FAMILY SCIENCES. (3)
Supervised internship, and capstone course for seniors, in a community, educational, Cooperative Extension, and/or research setting. Emphasis on observation, teaching, conceptualizing research problems, and developing competencies in providing service at the individual, family and/or community level. Students will be required to assist in designing, implementing, and evaluating research and programs related to family life. Presentations, research papers, outside speakers, and career guidance will be significant course components along with the laboratory hours. Lecture, two hours bi-weekly; laboratory, eight hours weekly. May be repeated for a maximum of six credits. Prereq: FAM 251, 352 and 360, and junior or senior standing. Family Sciences majors only.

FAM 502 FAMILIES AND CHILDREN UNDER STRESS. (3)
An investigation of the stressors and crises experienced by families and their members and their efforts to cope with them. Special attention is given to prevention, management and enrichment strategies. Implications for practitioners will be drawn from conceptual frameworks and recent research. Prereq: FAM 352 and declared majors or minors in Dept. of Family Sciences or consent of instructor.

FAM 509 THE U.S. FAMILY IN HISTORICAL PERSPECTIVE. (3)
A study of American family experience and values from its pre-industrial Anglo-European roots to the present. Using an interdisciplinary focus, the course will examine the shifting boundary between family and community and the interaction between domestic life and demographic, religious, and economic influences in American history. Prereq: FAM 353 or SOC 409 or equivalent, or consent of instructor. (Same as HIS 596.)

FAM 544 CULTURAL DIVERSITY IN AMERICAN CHILDREN AND FAMILIES. (3)
Study of cultural and linguistic diversity in American children and families, with special emphasis on Kentucky children and families. Consideration of implications for working with young children and families in educational settings. Study of the variations in beliefs, traditions, values and cultural practices within American society, and their effects on the relationships between child, family, and school. Prereq: FAM 352; declared majors or minors in Dept. of Family Sciences or consent of instructor.

FAM 553 PARENT-CHILD RELATIONSHIPS ACROSS THE LIFECOURSE. (3)
Exploration of the parenting process from a lifespan perspective. Current theory and research, with childrearing application, will be emphasized. Emphasis will be on parent education methods and the changing parental role over the life cycle. Prereq: FAM 352; declared majors and minors in Dept. of Family Sciences or consent of instructor.

FAM 554 WORKING WITH PARENTS. (3)
Principles, techniques, and resources relevant to working with parents as individuals, couples, and families. Survey of related literature on parent effectiveness and parent education is included with relevant field experiences. Lecture, two hours; laboratory, two hours. Prereq: FAM 260 and six hours of 300 level or above in social and behavioral sciences or consent of instructor.

FAM 563 FAMILIES, LEGISLATION, AND PUBLIC POLICY. (3)
A study of the impact of legislation and public policies on the well being of the family. Emphasis on the involvement of individuals and families with policies and legal resources as a means for realizing satisfying life styles. Prereq: FAM 251, 352, and declared majors and minors in Dept. of Family Sciences or consent of instructor.

FAM 585 AGING AND ENVIRONMENT. (3)
Explores the elderly person's changing experience of environment. Physiological, psychological and social changes are related to adjustment within urban and rural community environments, special housing for the elderly, and long-term care environments. Prereq: Graduate or advanced undergraduate standing and consent of instructor. (Same as GEO/GRN 585.)

FAM 600 WORKING WITH MILITARY FAMILIES. (3)
This course provides an overview of military work and family connections. Students will gain familiarity with the challenges unique to military individuals and families and the resources available to address them. Topics to be covered include: theoretical approaches to understanding the impact of military work on individuals and families; demographic profiles of and organizational demands on military service personnel and their families; military service and outcomes for children and adolescents, roles and challenges of military spouses; family policy in the military (including current formal and informal support structures and emerging trends in serving military families). Prereq: Graduate or advanced undergraduate standing and 6 hours of 300 level or above courses in social and behavioral sciences or consent of instructor.

FAM 601 FAMILY PROCESSES. (3)
Advanced study of typical family functioning across the family life course from a family process perspective, including examination of how "normal" differs according to family culture, structure, and history. Prereq: Family Science major.

FAM 622 THE FAMILY'S ROLE IN EARLY CHILDHOOD EDUCATION. (3)
The purpose of this course is to provide students with information related to working with young children with and without disabilities and their families. This course will focus both on presenting new information and providing opportunities for students to practice skills necessary for working with families. (Same as EDS 622.)

FAM 624 PERSPECTIVES ON HUMAN SEXUALITY. (3)
An examination and study of historical and current perspectives of sexuality as it relates to behavioral patterns, cultural attitudes, social policy and practice. Prereq: Knowledge of human behavior and personality theory highly recommended. (Same as SW 624.)

FAM 640 USING THE DSM IN CFT ASSESSMENT. (3)
Students will be trained to use the Diagnostic and Statistical Manual of Mental Disorders (DSM) in family therapy assessment and practice. This will include a basic understanding of the process and procedures for diagnosing individual and family disorders, with the intent that students working with families in the context of a traditional mental health milieu will be able to make appropriate, basic diagnoses. Emphasis on assessing and treating disorders relating to family violence, child abuse, addictions, and substance abuse will be included.

FAM 652 READINGS IN FAMILY THEORY AND RESEARCH. (3)
Entry level course for graduate study of family theory and research. Conceptual frameworks and theoretical approaches are introduced and applied to an array of contemporary family issues, as identified through extensive readings of the empirical research literature. Prereq: Family Science major.

FAM 654 THE LIFE COURSE PERSPECTIVE ON FAMILIES AND INDIVIDUALS. (3)
Individual, family, and societal growth and change through the life span are examined using a life course perspective. The life course perspective emphasizes the interplay of human development, agency, linked lives, historical context, and timing of events. These five interlocking concepts will be understood through reading life course research and applying life course principles and concepts to issues in family sciences.

FAM 657 FAMILY SYSTEMS THEORY. (3)
An investigation into the evolution and development of family systems theory, beginning with general systems theory and extending into the current applications to family studies. Emphasis is upon evaluation of the theory and its derivatives together with relevant research pertaining to the theory. Prereq: Six hours in family-related social or behavioral sciences or consent of instructor.

FAM 658 ADOLESCENT DEVELOPMENT. (3)
A survey of theory and research in adolescent development with particular emphasis on the role of families and implications for working with adolescents. Prereq: Six hours in social or behavioral science.

FAM 660 AGING ISSUES AND FAMILY RELATIONS. (3)
The study of dynamics of family interactions and issues when some family members are elderly. Emphasis is placed on perspectives from multiple generations and across various kin categories. (Same as GRN 660.)

FAM 661 HEALTH AND FINANCIAL ISSUES OF AGING FAMILIES. (3)
This course is designed to discuss health and financial security of older adults and develop empirical research from the perspectives of economics of individual aging and family relations. Emphasis is placed on the following topics: health status of the elderly, economic well-being of older Americans, intergenerational transfers of time and money, family care, giving and work, living arrangements, and empirical research for aging and family. Prereq: STA 570 or equivalent, or consent of instructor.

FAM 668 ALLOCATION OF FAMILY RESOURCES. (3)
Study of the contributors to and the recipients of family resources. Emphasis on the methods of assisting families to better allocate family resources through understanding money beliefs and attitudes and practicing financial planning strategies.

FAM 673 FAMILY LIFE EDUCATION. (3)
Demographic, social, economic, political, and professional issues related to emerging trends in family life education will be examined. Emphasis will be placed on the development, implementation, and evaluation of family life education curriculum materials. Prereq: FAM 690; FAM 652 or FAM 654; or consent of instructor.

FAM 685 PROFESSIONAL ISSUES IN COUPLE AND FAMILY INTERVENTION. (3)
Exploration and definition of the legal, ethical, and professional issues in the practice of couple and family intervention. Emphasis will be on developing professional skills, attitudes, and identity for couple and family intervention.

FAM 686 THEORY AND METHODS IN COUPLE AND FAMILY THERAPY. (3)
A survey of theories and methods used in couple and family therapy. Designed to provide students with a knowledge of the theoretical bases for couple and family therapy, including an introduction to procedures used to assess, diagnose and treat couple and family dysfunctions.

FAM 687 PRE-PRACTICUM: TREATMENT MODALITIES IN COUPLE AND FAMILY THERAPY. (3)
Phases of couple and family therapy process are presented both in theory and in case study analysis. The presenting problem, history of the problem, family history, identification of dysfunctional dynamics, goals, plan of treatment, and outcome/evaluation are emphasized within the context of organizing family therapy and phases of family therapy. Prereq: Admission to the CFT master's program or consent.

FAM 688 FAMILIES IN CRISIS: INTERVENTION STRATEGIES. (3)
An examination of nonnormative, crisis events experienced by families and appropriate clinical interventions. Both transitional and situational crisis events will be explored along with typical family dynamics. Emphasis will be placed on intervention strategies for clinicians. Prereq: FAM 501 or consent of instructor.

FAM 690 RESEARCH METHODS IN FAMILY SCIENCES. (3)
The study of research techniques and methodological problems involved in research on the family. Emphasis is placed on research concerning interrelations between the family and its environment, development within the family, and family dynamics. Prereq: Consent of instructor.

FAM 699 FIELD EXPERIENCES IN FAMILY SCIENCES. (1-3)
Field training in a community setting related to family sciences to develop competencies in program planning, delivery, and evaluation. Student will work under the supervision of a faculty and a training site supervisor. May be repeated to a maximum of six credits.

FAM 703 ADVANCED THEORY AND RESEARCH IN FAMILY ECONOMICS AND MANAGEMENT. (3)
Advanced study of research and theories in family economics and management with special emphasis given to current issues. Conceptual frameworks developed by leaders in family economics and management are studied and applied through designing and carrying out an empirical study. Prereq: Graduate work in statistics and research methods.

FAM 740 COUPLE AND SEX THERAPY. (3)
Field training in a community setting related to family sciences to develop competencies in program planning, delivery, and evaluation. Student will work under the supervision of a faculty and a training site supervisor. May be repeated to a maximum of six credits.

FAM 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

FAM 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of FAM 769 residence credit following the successful completion of the qualifying exams.

FAM 752 SEMINAR IN FAMILY THEORY CONSTRUCTION. (3)
An advanced seminar focusing on the definition, evaluation and construction of family theory. Inductive and deductive theory construction strategies are surveyed, evaluated and applied. Prereq: FAM 652. (Same as SOC 752.)

FAM 755 ADVANCED THEORY AND DYNAMICS OF HUMAN DEVELOPMENT ACROSS THE LIFE COURSE. (3)
Critical investigation into the theories, processes, and research of human development across the life course. Prereq: FAM 654 or a graduate course in Human Development.

FAM 759 SPECIAL ADVANCED TOPICS IN FAMILY SCIENCES. (1-3)
Intensive study of advanced family sciences topics. May be repeated under different subtitles to a maximum of six credits. Prereq: Consent of instructor.

FAM 763 PRIMARY PREVENTION IN FAMILY SCIENCES. (3)
Designed to provide students with a background in prevention science with applications in family science and child development. Topics will include primary prevention of mental health problems among families and children, principles of prevention, prevention research design, ethical issues, and national agendas in primary prevention research. Prereq: Admission to a doctoral program in the social or behavioral sciences.

FAM 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

FAM 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

FAM 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

FAM 775 PROFESSIONAL DEVELOPMENT SEMINAR. (1-3)
Orientation to policies, procedures, and possibilities in the family sciences graduate program. Prereq: Consent of instructor.

FAM 776 PROSEMINAR IN COUPLE AND FAMILY THERAPY: (Subtitle required). (1-3)
Intensive study of skills, issues, or treatment procedures in couple and family therapy. May be repeated under different subtitles to a maximum of six credits.

FAM 777 APPLIED STATISTICS IN FAMILY SCIENCE. (3)
Emphasis is on conducting statistical analyses and reporting results. Topics include selection of statistical approach, techniques for conducting analyses, interpretation of output, and writing the results section of a manuscript based on that output. Prereq: STA 570, FAM 690 (or equivalent) and FAM major.

FAM 784 RESEARCH PRACTICUM IN FAMILY SCIENCIES. (1-3)
Doctoral student research experience in collaboration with major professor in preparation for the qualifying examination. Prereq: Consent of instructor.

FAM 785 ADVANCED PROBLEMS IN FAMILY SCIENCES. (1-3)
Intensive independent scholarship or training in family sciences. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

FAM 786 TEACHING PRACTICUM IN FAMILY SCIENCES. (3)
Independent doctoral student teaching experience, under faculty supervision. May be repeated to a maximum of 6 credits. Prereq: Consent of instructor.

FAM 787 SUPERVISED PRACTICE OF COUPLE AND FAMILY THERAPY. (1-6)
Intensive study of skills, issues, or treatment procedures in couple and family therapy. May be repeated under different subtitles to a maximum of six credits. Prereq: Admission to the CFT master's program.

FAM 790 ADVANCED RESEARCH METHODS IN FAMILY SCIENCES. (3)
Advanced study of quantitative research methods, including but not limited to complex study designs, model building and structural equation modeling, reliability and validity of measures, statistical power and effect size, mediator and moderator variables, and identifying appropriate statistical techniques for specific types of problems. Prereq: FAM 690 and FAM 777, or equivalents.

FAM 796 SPONSORED RESEARCH DEVELOPMENT IN FAMILY SCIENCES. (2)
Application of content knowledge and research skills to the proposal development process. Students will work in teams to respond to state and federal research program announcements. May be repeated to 6 credits. Prereq: Family sciences doctoral student.

FCS Family and Consumer Sciences

FCS 110 INTRODUCTION TO CAREER AND TECHNICAL EDUCATION. (3)
The history, status, philosophy, and objectives of career and technical education in relation to general education. (Same as AED 110.)

FCS 350 DESIGN ISSUES FOR FAMILY AND CONSUMER SCIENCES EDUCATORS. (3)
This course will provide a broad understanding and appreciation of the housing and interior design fields. Topics will cover the many issues faced with selecting and personalizing a home. Various housing and design options are presented to help recognize the wide variety of choices available for addressing different needs and life situations. FCS Education students will design lesson plans to correspond with housing and design topics. Design projects will be completed.

FCS 362 FIELD EXPERIENCES IN CAREER AND TECHNICAL EDUCATION. (3)
Supervised experiences in schools and other agencies. Required of all Career and Technical Education majors. Includes observation, participation, experience, field trips, inspection of programs, and professional organizations. Prereq: Majors only. (Same as AED 362.)

FCS 371 ADVISING A CAREER AND TECHNICAL STUDENT ORGANIZATION. (3)
This course is designed to assist students in developing skills and competencies needed to plan, implement, advise, and evaluate a Career and Technical Student Organization as part of the total CTE program. (Same as AED 371.)

FCS 395 SPECIAL PROBLEMS IN CAREER AND TECHNICAL EDUCATION. (1-3)
Directed independent study of a selected problem in the field of career and technical education under the supervision of a faculty member. May be repeated to a maximum of 6 credit hours. Prereq: Consent of appropriate instructor. (Same as AED 395.)

FCS 399 EXPERIENTIAL LEARNING IN CAREER AND TECHNICAL EDUCATION. (1-3)
A field based learning experience in career and technical education under the supervision of a faculty member. Student must complete a learning contract which outlines the requirements agreed to by the student for successful completion of the course. Prereq: Consent of appropriate instructor. (Same as AED 399.)

FCS 535 PRINCIPLES AND PHILOSOPHY OF CAREER AND TECHNICAL EDUCATION. (3)
Study is made of philosophy, accepted principles, and legislation affecting programs in career and technical education.

FCS 580 FOUNDATIONS OF TEACHING CAREER AND TECHNICAL EDUCATION. (3)
Course focuses on the foundation of teacher development including: effective teacher characteristics, principles of teaching and learning, and preparation of lesson plans. Prereq: Admission into the Teacher Education Program. (Same as AED 580.)

FCS 583 DESIGNING CURRICULUM AND ASSESSMENT IN CAREER AND TECHNICAL EDUCATION. (3)
Instructional methodology course focused on analyzing the principles of teaching and learning to design curriculum, instruction, and assessment for formal and non-formal educational settings. (Same as AED 583.)

FCS 586 METHODS OF TEACHING CAREER AND TECHNICAL EDUCATION. (3)
Development of teaching competencies with emphasis on: discussion, demonstration, problem-solving, cooperative learning, service learning methods. Prereq: Admission into the Teacher Education Program and AED/FCS 580. (Same as AED 586.)

FCS 592 TEACHING EXPERIENCE IN CAREER AND TECHNICAL EDUCATION. (12)
Supervised experience in teaching Career and Technical Education. Requires observation, lesson plan development, and incorporation of effective teaching methods and strategies. Regularly scheduled seminars included as an integral part of course. Prereq: Admission into the Teacher Education Program and successful completion of AED/FCS 580 and AED/FCS 586. (Same as AED 592.)

FCS 670 ADVANCED METHODS IN TEACHING CAREER AND TECHNICAL EDUCATION. (3)
The principles of method applied to teaching in the field of career and technical education. Prereq: Experience in teaching vocational education.

FCS 671 YOUTH ORGANIZATIONS IN CAREER AND TECHNICAL EDUCATION. (3)
A study of the underlying philosophy and principles for organizing and advising youth organizations in career and technical education. Emphasis on activities that will enrich and motivate the instructional programs, and develop leadership, cooperation and citizenship. (Same as AED 671.)

FCS 679 ADULT EDUCATION IN CAREER AND TECHNICAL EDUCATION. (3)
Preparation for teaching adult classes in career and technical education including organization of classes, development of curriculum, and methods of teaching.

FCS 684 CURRENT TRENDS IN CAREER AND TECHNICAL EDUCATION. (3)
Class work in current trends and significant developments in career and technical education. May be repeated to a maximum of nine credits.

FCS 686 INSTRUCTIONAL ASSESSMENT IN CAREER AND TECHNICAL EDUCATION. (3)
Instructional assessment of learning and achievement in Career and Technical Education middle and high school classrooms is addressed. Focus is placed on test writing, measurement and student achievement. (Same as AED 686.)

FCS 693 SUPERVISION IN CAREER AND TECHNICAL EDUCATION. (3)
This course includes practice in teaching for observation by others, student teaching, and school visiting.

FCS 694 THE ADMINISTRATION OF CAREER AND TECHNICAL EDUCATION. (3)
A course designed for superintendents, high school principals, and other leaders. Its purpose is to prepare administrators and supervisors for leadership in career and technical education.

FCS 695 SPECIAL PROBLEMS IN CAREER AND TECHNICAL EDUCATION. (3)
An independent work course for students interested in career and technical education. Students make individual investigations and report on special problems.

FCS 710 COLLEGE TEACHING OF AGRICULTURE, NATURAL RESOURCES AND HUMAN SCIENCES. (3)
A course designed to assist current or future college faculty in agriculture, natural resources or human science disciplines seeking to enhance the teaching skills. Topics include theories, principles and practices associated with effective teaching and learning in higher education. Prereq: Graduate Standing in the College of Agriculture.

FCS 799 RESEARCH IN CAREER AND TECHNICAL EDUCATION. (1-3)
Individual research of importance to career and technical education. May be repeated to a maximum of nine credits. (Same as AED 799.)

FIN Finance

FIN 250 PERSONAL INVESTING AND FINANCIAL PLANNING. (3)
An overview of financial planning, decision making and investing activities. Emphasis is on financial assets such as stocks, bonds, options and futures and their use in meeting investment goals. Discusses IRAs, 401(k)s and other retirement programs. Also considers mutual funds, real estate, insurance and other alternatives. Includes a discussion of asset selection and allocation strategies, risk management methods, and alternative wealth maximization strategies.

FIN 300 CORPORATION FINANCE. (3)
An introduction to the basic principles, concepts, and analytical tools in finance. Includes an examination of the sources and uses of funds, budgeting, present value concepts and their role in the investment financing and dividend decision of the corporate enterprise. Prereq: ECO 201, ECO 202, ACC 201, ACC 202, MA 123, STA 291 or equivalent.

FIN 360 PRINCIPLES OF REAL ESTATE. (3)
An overview of the basic concepts and principles of real estate in the private and public sectors. The course provides an introduction to real estate issues and a foundation for further study in the various specialized areas of real estate and urban development. The course will cover topics related to urban economics, mortgage finance, and real estate valuation.

FIN 395 INDIVIDUAL WORK IN FINANCE. (1-6)
Students confer individually with the instructor. Written paper usually expected and filed in chairperson's office. May be repeated to a maximum of six credits. Prereq: GPA of 3.0 in major, approval of instructor and chairperson.

FIN 405 CAPITAL INVESTMENT AND FINANCING DECISIONS. (3)
A study of the factors that drive firm decisions to invest in new plant, capital equipment or technology and/or to pursue acquisitions of other firms. Optimal strategies for financing such investments are also a focal point of this capstone course, which involves extensive application of financial concepts and tools. Prereq: ACC 301, ACC 302 (prereq or coreq), ECO 391, and a grade of C or better in FIN 300.

FIN 410 INVESTMENT ANALYSIS. (3)
Analysis of corporation statements for investment purposes; the security market; market influences on security prices; effect of interest changes on security prices; and the development of investment programs. Prereq: ACC 301, ACC 302 (prereq or coreq), ECO 391, and a grade of C or better in FIN 300.

FIN 423 INTERNATIONAL FINANCE. (3)
The course provides an overview of world trade, international monetary and trade theory, and the theory of exchange rate determination. Focus is on the management of short- and long-term international assets, with particular attention given to the direct investment decision and on financing international operations. Prereq: ACC 302 and a grade of C or better in FIN 405.

FIN 430 FINANCIAL MODELING. (3)
The rapidly increasing computational power of personal computers in combination with the development of dynamic software solutions for computational needs have in the recent few years brought the advantage of fairly sophisticated financial models into the reach of a broader audience. The increasing flow of financial information is converting the skill of quantitative modeling using computers from an advantage into a necessity. This course is designed to provide students with the skills necessary to apply modern financial theories to real world applications using advanced spreadsheet and visual-basic programming tools. Prereq: ACC 302 and a grade of B or better in FIN 410.

FIN 432 QUANTITATIVE PORTFOLIO MANAGEMENT. (3)
This course covers the complex characteristics and analysis of individual securities as well as the theory and practice of optimally combining securities into portfolios. Stressing the economic intuition behind the subject matter, this course presents advanced concepts of investment analysis and portfolio management. Prereq: ACC 302 and a grade of C or better in FIN 410 (formerly FIN 450).

FIN 452 OPTIONS AND FUTURES. (3)
A study of the options and futures markets including institutional aspects, pricing, and regulation. Primary emphasis will be on the uses and applications of options and financial futures. Prereq: ACC 302 and a grade of C or better in FIN 410.

FIN 464 REAL ESTATE FINANCE. (3)
The course surveys the sources and uses of real estate funds. The institutions which provide funds and the various types of financial instruments are described and compared. Likewise, various forms of real estate investment are analyzed and methods of determining value are critiqued. Prereq: A grade of C or better in FIN 410 (formerly FIN 450).

FIN 465 FINANCIAL INSTITUTIONS MANAGEMENT. (3)
A study of the principles and cases in commercial banking practice. Financial institution management practices are studied within the economic, monetary, fiscal and legal framework of the American economy. Prereq: ACC 302, and a grade of C or better in FIN 410.

FIN 470 FINANCIAL RISK MANAGEMENT. (3)
Financial price risk in the form of unexpected movements in the foreign exchange rates, interest rates, and commodity prices and their impacts on a firm's earnings, cash flows, value, and competitiveness are the focus of this course. Various financial derivatives such as forwards, futures, options, and swaps and different hedging techniques, principles, and strategies will be studied. The course also includes the design, development, execution, and evaluation of corporate risk management program. Lecture, discussion, readings, case study, and internet access approaches will be employed. Prereq: ACC 302, FIN 405, and FIN 410.

FIN 475 FIXED INCOME SECURITIES. (3)
The course provides students with an introduction to the fundamentals of fixed income securities and markets. Topics covered include bond pricing, convexity, duration, the yield curve, the U.S. Treasury market, corporate bond markets and mortgage-backed securities. Prereq: A C or better in FIN 410.

FIN 480 MONEY AND CAPITAL MARKETS. (3)
A study of the institutional structure and theory of the money and capital markets, including the types of financial claims traded in such markets, the major buyers and sellers, the regulatory environment, capital market theory, and the forces of supply and demand affecting the level and structure of interest rates. Prereq: ACC 302, and a grade of C or better in FIN 410.

FIN 485 APPLIED INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT. (3)
The course gives students a working knowledge of, and experience applying, the basic principles of value-oriented equity investing. Students manage a real-money equity portfolio currently, making all buy/sell decisions. Prereq: Consent of instructor.

FIN 490 SPECIAL TOPICS IN FINANCE (Subtitle required). (3)
Readings, projects, lecture and/or discussion to illuminate current topics of special interest or concern in finance. May be repeated to a maximum of six credits. May not be repeated under the same title. A particular topic may be offered at most three times under the FIN 490 number. Prereq: Consent of instructor.

FIN 600 CORPORATE FINANCIAL POLICY. (3)
A study of financial management from the viewpoint of the corporate financial officer. Areas studied include capital budgeting, capital structure, financing decisions, working capital management, dividend policy, and mergers and acquisitions. Prereq: Graduate standing: ECO 610, ACC 628, MGT 650.

FIN 623 INTERNATIONAL FINANCIAL MANAGEMENT. (3)
This course provides an overview of financial management at the international level. Topics covered include: The nature and uses of international financial markets, the financial behavior of multinational corporations, exchange rates, and hedging in international business. Prereq: FIN 600 and consent of the instructor.

#FIN 630 FINANCIAL MODELING AND ANALYSIS. (3)
This course provides students with the skills necessary to apply modern financial theories to real world applications in both corporate finance and investments. Students will get hands-on experience implementing models from areas such as capital budgeting, financial planning, and asset valuation.

FIN 637 HEALTH FINANCE. (3)
This course applies general principles of finance to the financial management of health care institutions. The major financial incentives which dictate how health care is delivered are studied and proposals to change these incentives are explored. Prereq: MHA/MPA program status and HA 601, HA 621, PA 623, HA 635.

FIN 645 CORPORATE INVESTMENT AND FINANCING POLICY. (3)
Emphasizing both theory and practice, this course is an in-depth study of long-term corporate investment and financing decisions. Topics include valuation, capital budgeting, cost of capital, leasing, dividend policy, capital structure, and mergers and acquisitions. Prereq: FIN 600.

FIN 650 INVESTMENTS. (3)
Analysis and valuation of securities and the effects on investment decisions. Prereq: Appropriate undergraduate courses in accounting and finance.

FIN 664 REAL ESTATE FINANCE. (3)
A basic orientation in commonly used instruments, institutional structures, and real estate financing policies. Emphasis will be placed on mortgage instruments, mortgage types, effective cost of borrowing, construction lending, financial institutions, loan underwriting, and the secondary mortgage market. Analysis is primarily from the debt investor's perspective. Prereq: FIN 600 and consent of instructor.

FIN 680 MONEY, INTEREST AND CAPITAL. (3)
A study of the theory of money, interest and financial intermediation. In addition to the theory, the major financial markets, financial institutions and financial instruments will be examined. Finally, the governmental agencies which regulate the industry will be discussed as will the overlapping nature of the regulatory process. Prereq: Completion of the first year MBA core or consent of instructor.

FIN 691 ADVANCED TOPICS IN FINANCE (Subtitle required). (1-3)
The study of selected topics in finance for graduate students. Special title required. May be repeated for a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

FIN 695 INDIVIDUAL WORK IN FINANCE. (1-6)
Students confer individually with the instructor. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

FIN 700 SEMINAR IN FINANCIAL THEORY. (3)
Primary emphasis on the theory of financial asset valuation. Topics include utility theory, investor reaction to uncertainty, cost of capital theory, dividend theory, portfolio theory, and asset pricing in equilibrium.

FIN 701 SEMINAR IN FINANCIAL THEORY II. (3)
A continuation of FIN 700. Topics covered include state-preference theory, arbitrage pricing theory, agency theory, and the pricing of contingent claims.

FIN 740 SEMINAR IN THEORETICAL CORPORATE FINANCE. (3)
This is an introduction course in theoretical corporate finance for Ph.D. students. This course has the objective of introducing doctoral students to theoretical research in corporate finance. The emphasis will be on incomplete information models, though a few models driven by other considerations will also be studied. The first part of the course will examine the fundamentals of corporate finance theory (e.g., the theory of the firm's choice of its capital structure and dividend policy under alternative assumptions), as well as various tool areas in corporate finance (e.g., the notion of moral hazard and agency problems, adverse selection and signaling, various aspects of non-cooperative games with and without incomplete information, and the equilibrium concepts in such games). The second part of the course will focus on a couple of important related topics which are the focus of recent research in corporate finance. Prereq: FIN 600 and 650, or equivalent, or permission of instructor.

FIN 745 SEMINAR IN MANAGERIAL FINANCE. (3)
Primary emphasis on the implementation of financial theory for the management of the assets of a business firm. Topics include capital budgeting, working capital planning, financing the firm, cost of capital and the financial structure of the firm, and mergers and acquisitions. Prereq: FIN 700.

FIN 750 SEMINAR IN INVESTMENT THEORY. (3)
Primary emphasis on the implementation of financial theory for the evaluation and management of financial assets in an efficient capital market. Topics include mean-variance efficiency, development and testing of the capital asset pricing model, stochastic dominance, and option pricing theory as well as other topics in modern capital market theory. Prereq: FIN 700 or equivalent, or consent of instructor.

FIN 780 SEMINAR IN FINANCIAL INSTITUTIONS. (3)
An examination of the role of financial institutions in the financial system and in the economy, with special emphasis on commercial banks. Topics covered include: theories of financial intermediation, asset-liability management, regulation and deposit insurance, structure of the financial institutions industry, and empirical models of banking. Prereq: FIN 700.

FIN 791 SEMINAR IN FINANCE (Subtitle required). (1-3)
An intensive study of current theory and research in a topic in finance as discussed in scholarly journals. Examples of possible topics include: Capital structure, agency theory, market efficiency, contingent claims. May be repeated with a different subtitle for a maximum of 12 credits. Prereq: Consent of the instructor.

FIN 795 INDEPENDENT WORK IN FINANCE. (1-12)
Designed for advanced students who undertake research problems to be conducted in regular consultation with the instructor. May be repeated to a total of 12 credit hours. Prereq: Consent of instructor.

FM Family and Community Medicine

FM 815 FIRST-YEAR ELECTIVE, FAMILY MEDICINE. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Family and Community Medicine. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

FM 825 SECOND-YEAR ELECTIVE, FAMILY MEDICINE. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Family and Community Medicine. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

#FM 840 FAMILY AND COMMUNITY MEDICINE RESEARCH. (4)
The Department Family and Community Medicine (DFCM) Research Elective is a 4 week course for medical students in Year 4 to experience primary care and community medicine research. Under the mentorship and supervision of a qualified DFCM faculty member, students will develop specific plans for a research experience. Students will be expected to identify a DFCM faculty member and an associated research experience with this member prior to enrollment to this elective course. This experience may involve various aspects of a research experience continuum, such as specific aim and hypotheses generation, study design, literature reviews, implementing interventions, collecting data, data analyses, manuscript preparation and submission. Prereq: (1) Fourth year medical student. (2) Has identified a Department of Family and Community faculty member and project.

FM 841 OFF-SITE PRECEPTORSHIP IN FAMILY MEDICINE. (1-6)
A senior selective in remote sites designed to acquaint the student with the functions, techniques, and experiences associated with a family physician. Students will function in an office-based practice of family physicians, will live in the community and practice primary health care delivery. One credit per week, not to exceed six weeks. Prereq: Admission to the fourth year, College of Medicine.

FM 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
FM 850 ACTING INTERNSHIP IN FAMILY MEDICINE
FM 851 CLINICAL CLERKSHIP IN FAMILY MEDICINE
FM 852 INTERDISCIPLINARY APPROACH TO SPORTS MEDICINE
FM 853 INTERNATIONAL CLERKSHIP IN PRIMARY CARE
FM 854 ACTING INTERNSHIP IN RURAL FAMILY MEDICINE
FM 855 HOSPICE AND PALLIATIVE CARE: A CONTINUUM OF CARING
FM 856 INTEGRATIVE MEDICINE

FOR Forestry

FOR 100 INTRODUCTION TO FORESTRY. (3)
A brief coverage of the general fields of forestry; development and importance; tree growth; principal forest regions and important timber species; forest management practices; utilization and products; state and federal forestry programs.

FOR 101 INTRODUCTION TO WILDLIFE CONSERVATION. (3)
An introduction to the history, concepts, and principles of wildlife biology and management. The role of wildlife in ecological systems and human-altered environments will be discussed. Lecture, two hours; laboratory, two hours per week.

FOR 110 NATURAL RESOURCE ISSUES. (1)
A communication intensive course in which students will learn to research current forestry and natural resource issues, interpret popular press and professional publications, evaluate opposing viewpoints, and discuss issues in a clear, effective and professional manner through a variety of communication media.

FOR 150 COMPUTER APPLICATIONS IN NATURAL RESOURCE PROFESSIONS. (2)
Use and application of standard computer software to solve problems. Emphasis will be placed on decision processes and algorithm construction. Additionally, students will learn to construct aesthetic graphs, diagrams, maps and other visual material and will gain experience communicating results in a variety of written formats.

FOR 200 BASICS OF GEOSPATIAL TECHNOLOGY. (2)
A basic introduction to the various types of maps and their uses, field navigation skills, and map making. The course is heavily field and laboratory based, with an emphasis on hands-on learning and practice. Both traditional technologies, such as compasses, U.S. Geological Survey maps, and aerial photographs as well as newer technologies, such as global positioning systems and geographic information system databases will be employed in carrying out course exercises.

FOR 205 FOREST AND WILDLAND SOILS AND LANDSCAPES. (4)
A study of soil-plant-landscape relationships as related to forestry and the management of natural ecosystems. Emphasis will be on properties and processes of wildland soils, and on interrelationships between soils; composition and productivity of plant communities; and the structure, form, and functioning of landscapes. Lecture, three hours; laboratory, three hours per week. Prereq: At least three credits of biology and three credits of chemistry.

FOR 219 DENDROLOGY. (4)
A study of the basic concepts of botany related to woody species and their use, along with basic soil and site characteristics in the identification of trees and forest vegetation.

FOR 221 WINTER DENDROLOGY. (1)
Identification of 100 species of trees, shrubs, and lianas based upon bark, form, twig, and bud characteristics. Laboratory; four hours per week for one-half semester. Prereq: FOR 219.

FOR 230 CONSERVATION BIOLOGY. (3)
The basic history and principles of conservation biology, including diversity, extinction, evolution, and fragmentation. Students will learn the applications of conservation biology to such topics as forest management and wetland management and study the ethical perspectives related to conservation biology, including environmental ethics, deep ecology, and the land ethic.

FOR 240 FORESTRY AND NATURAL RESOURCE ETHICS. (2)
A study of the key ethical concepts of conservation, preservation, deep ecology, land ethic, spiritualism/religion, and multiple value systems as applied to forestry and natural resource issues. Students will gain an understanding of the ethical dilemmas faced by natural resource professionals, and will be able to identify ways of handling these dilemmas, including application of professional associations' codes of ethics.

FOR 250 STATISTICS AND MEASUREMENTS I. (3)
The application of statistical concepts, computations, and software to forestry sampling and inventory problems. Land, individual tree and timber stand measurement techniques will be covered as will the design and implementation of sampling systems to derive information necessary to meet landowner objectives. Prereq: MA 109 or calculus, FOR 110, FOR 200.

FOR 260 FOREST PRODUCTS AND WOOD SCIENCE. (4)
An examination of basic material properties of wood, methods by which it is used, and issues and economic conditions in which domestic and global wood markets operate. Concepts covered include species identification, chemical and mechanical properties and their effect on utilization, utilization technologies and their linkage to silvicultural practices, and affiliated issues such as recycling, product certification, environmental concerns, and alternative products.

#FOR 261 WOOD SCIENCE AND ANATOMY. (2)
A 2 credit hour course examining the basic structure of wood and how it affects wood's physical properties. Topics include macroscopic wood properties, composition and structure of wood cells, hardwood and softwood structure, juvenile wood, reaction wood, wood and water relationships, wood deterioration and prevention, and specific gravity and density.

#FOR 262 WOOD IDENTIFICATION. (2)
A 2 credit hour course covering the methods and techniques necessary for identifying common wood species. Topics include macroscopic wood properties, hardwood and softwood structure, and the systematic thought processes for successful identification of 27 wood species.

FOR 280 FOREST POLICY. (2)
Examine the political process as it relates to formulation, analysis, evaluation, and implementation of forest policies. Assess the impacts of various policy decisions and employ the policy process to address such forestry issues as urbanization, fragmentation, invasive species, global competition, certification, and climate change.

FOR 310 INTRODUCTION TO FOREST HEALTH AND PROTECTION. (3)
Modular course with one-third devoted to forest entomology, one-third to forest pathology, and one-third to other topics such as abiotic agents and invasive species. Identify various agents that affect forest health, assess the impacts of these agents on forest health, and learn different methods for addressing these impacts. Prereq: BIO 103 or BIO 150.

FOR 320 FOREST VALUATION AND ECONOMICS. (3)
Apply economic concepts to silvicultural practices, land values, and values affiliated with various forest uses. Apply supply and demand concepts and financial computations to identify and quantify economic consequences of silvicultural actions or management practices. Taxation and monetizing ecosystem services will be discussed. Prereq: MA 109 or Calculus.

FOR 325 ECONOMIC BOTANY: PLANTS AND HUMAN AFFAIRS. (3)
Plants have played a major role in human affairs. Course will relate plant life processes and chemistry to human uses: food crops, spices, medicinals, and materials. Major units are the origins agriculture and early domesticates, ethnobotany, and a selection of plants and plant products with major historical impacts — potato, nutmeg, pepper, chocolate, sugar cane, cotton, quinine, rubber, tobacco. Contemporary themes include herbal medicine and plant-based pharmaceuticals. Prereq: PLS 104, PLS 210, one year of introductory biology, or permission of the instructor.

FOR 330 GIS AND SPATIAL ANALYSIS. (3)
Principles and operations of Geographic Information Systems (GIS) applied to forestry and natural resources. Students will learn to collect necessary field data to create GIS maps and digital spatial data sets, perform basic spatial analysis, and integrate social and economic data to solve spatially related natural resource problems. Prereq: MA 109 or Calculus, FOR 150 and FOR 200.

FOR 340 FOREST ECOLOGY. (4)
The study of the forest as a biological community, covering ecosystem concepts such as energy flow, forest nutrition, nutrient cycling, and decomposition. Interrelationships between trees and other organisms comprising the community is also examined through concepts of disturbance, succession, population dynamics, biological and ecosystem diversity, ecosystem management, and ecosystem services. Prereq: BIO 103 or BIO 150.

FOR 350 SILVICULTURE. (4)
A study of ecologically based manipulations of forests to achieve desired management objectives. Develop and apply silvicultural prescriptions and learn the effects of these prescriptions on timber and non-timber forest benefits, forest health and biodiversity, soil, and water resources as well as their effect on broader social, economic, and ecological issues. Prereq: FOR 219 and FOR 250.

FOR 355 FOREST FIRE CONTROL AND USE. (1)
A study of fire related concepts as they relate to trees, soils, landscapes, water quality, hydrology, wildlife, timber products, ecology and silviculture. In completing this course, students will become Red Card Certified through the U.S. Forest Service. Prereq: FOR 150, FOR 219, FOR 250, FOR 370, FOR 330, FOR 340, FOR 350, PLS 366, or consent of the field semester coordinator.

FOR 356 LANDSCAPE ASSESSMENT. (5)
Students will learn to assess various landscape types through week-long, in-depth studies of five topic areas, while studying how the topics are interrelated. The topic areas are winter dendrology, wildlife, soils, hydrology, and health and protection. During the module, students will visit sites throughout Kentucky and the region. Prereq: FOR 150, FOR 219, FOR 250, FOR 370, FOR 330, FOR 340, FOR 350, PLS 366, or consent of the field semester coordinator.

FOR 357 INVENTORY AND MEASUREMENTS II. (2)
This course teaches students how to conduct forest inventories using a variety of criteria and measurements. Students will use GPS to establish area boundaries and GIS to construct area maps. They will learn how to use inventory data to determine economic value. Prereq: FOR 150, FOR 219, FOR 250, FOR 370, FOR 330, FOR 340, FOR 350, PLS 366 or consent of the field semester coordinator.

FOR 358 SILVICULTURAL PRACTICES. (3)
A study of the silvicultural practices for altering the forest canopy and regenerating the forest. Students will learn to apply these practices to meet multiple use objectives such as forest products, wildlife, health and protection, watershed, and recreation and develop silvicultural prescriptions. Prereq: FOR 150, FOR 219, FOR 250, FOR 370, FOR 330, FOR 340, FOR 350, PLS 366, or consent of the field semester coordinator.

FOR 359 FOREST OPERATIONS AND UTILIZATION. (3)
Plan and design timber harvests, mark a stand for harvest, and describe the effects of harvesting. Use herbicides and pesticides to eradicate invasive species, perform tree planting, conduct thinnings, and participate in prescribed burns. Learn timber utilization technology and determine value added in converting trees to lumber. Prereq: FOR 150, FOR 219, FOR 250, FOR 370, FOR 330, FOR 340, FOR 350, PLS 366, or consent of the field semester coordinator.

FOR 370 WILDLIFE BIOLOGY AND MANAGEMENT. (4)
Applications of basic biological concepts such as physiology, energetics, nutrition, digestive systems, and anatomy to the study of wildlife and wildlife management. In addition to basic wildlife biology, students will also learn taxonomy and identification of wildlife and the principles of wildlife management as well as applied field techniques such as trapping and radio telemetry.

FOR 375 TAXONOMY OF FOREST VEGETATION. (1)
Field study of the identification and silvics of forest vegetation. One week summer field course. Prereq: FOR 205, FOR 219, and FOR 340; grade of C or better required in FOR 205 and FOR 219.

FOR 376 SILVICULTURAL PRACTICES. (2)
Field study of the relationship between specific site characteristics and yield of forest stands and the application of cultural practices to forest stands. Two week summer field course. Prereq: FOR 205, FOR 219, FOR 340, and FOR 350; grade of C or better required in FOR 205 and FOR 219.

FOR 377 FOREST SURVEYING. (1)
The application of surveying principles and techniques to forest land areas. One week summer field course. Prereq: FOR 200 and FOR 300; grade of C or better required in FOR 200.

FOR 378 FOREST MENSURATION. (2)
The application of mensurational principles and techniques in determining tree and stand volumes and growth; timber cruising; development of volume and stand tables. Two week summer field course. Prereq: FOR 200 and FOR 300; grade of C or better required in FOR 200.

FOR 379 HARVEST AND UTILIZATION OF WOOD. (2)
Study and use of harvesting and milling equipment in the harvest and manufacture of wood and wood products. Two week summer field course. Prereq: FOR 360.

FOR 399 FIELD-BASED EDUCATION IN FORESTRY. (1-6)
The use of field experience as an educational complement to classroom work. May be repeated to a maximum of 12 credits which are to be used as electives. Prereq: Permission of instructor and department chairperson. A departmental learning agreement must be completed prior to registration.

FOR 400 HUMAN DIMENSIONS OF FORESTRY AND NATURAL RESOURCES. (3)
In an issues based format, students will study societal trends and their impact on natural systems, the disconnect between society and nature, wildlife-human interactions, as well as problems related to globalization and urbanization. Prereq: Senior Standing or consent of the instructor. This is a writing-intensive (W) course approved to fulfill the upper tier of the graduation writing requirement (GWR). To receive W credit for this course, you must have successfully completed the first-year writing requirement (ENG 104 or its equivalent) and have completed at least 30 hours of course work. Forestry majors must complete this course and FOR 470 to fulfill upper tier of the GWR.

FOR 402 FOREST ENTOMOLOGY. (3)
The principles of forest entomology, including the detection, collection, identification, appraisal of damage, and control of forest insect pests. Lecture, two hours; laboratory, two hours. Prereq: One year of biology or consent of instructor. (Same as ENT 402.)

FOR 425 FOREST MANAGEMENT. (4)
The principles of sustained yield forest management, management objectives, forest regulation, allowable cut, and timing of timber harvests. Students will identify management objectives from various properties and ownership types and integrate scientific knowledge and both timber and non-timber considerations with landowner objectives to derive management decisions. Prereq: Completion of the Spring Field Semester (FOR 355, 356, 357, 358, and 359) or consent of instructor. (Same as AEC 425.)

FOR 460 FOREST HYDROLOGY AND WATERSHED MANAGEMENT. (4)
Principles and techniques involved in watershed management as it relates to the practice of forestry. Emphasis is placed on understanding the hydrologic cycle, plant-soil interactions from a land-use and landscape perspective, and the need for implementation of forestry best management practices. Prereq: CHE 104 or CHE 105, MA 109 or Calculus, FOR 200, and PLS 366.

FOR 461 INTRODUCTION TO POPULATION GENETICS. (3)
This survey course examines the population dynamics and equilibria of genes in nuclei, chloroplasts and mitochondria. Emphasis will be on biological relevance (in plants, animals, and micro-organisms), but some theoretical derivations will also be introduced. Prereq: ABT 360 (or equivalent) and one course in probability/statistics. (Same as ABT/BIO/ENT 461.)

FOR 470 INTERDEPENDENT NATURAL RESOURCE ISSUES. (3)
Culmination of the student's study of public concerns and problems related to natural resources. Work in teams to find and verify information on diverse topics, listen to and address public concerns, communicate natural resource information to a wide range of audiences, and be effective professionals in working toward solutions. Prereq: Senior Standing. This is a writing-intensive (W) course approved to fulfill the upper tier of the graduation writing requirement (GWR). To receive W credit for this course, you must have successfully completed the first-year writing requirement (ENG 104 or its equivalent) and have completed at least 30 hours of course work. Forestry majors must complete this course and FOR 400 to fulfill the upper tier graduation writing requirements.

FOR 480 INTEGRATED FOREST RESOURCE MANAGEMENT. (5)
Capstone course. Students will be presented with a real life management scenario in a forested location in Kentucky. Working in teams, students will collect data, determine management objectives, and develop action plans for managing the forest according to the desires of the owner, subject to realistic legal, economic, ethical, and social constraints. Students will be required to produce a professional management plan and present the plan in a public forum at the end of the semester. Prereq: Completion of Field Semester, FOR 425, FOR 460, and Senior Standing.

FOR 510 HERPETOLOGY. (4)
This is a 4-credit, advanced biology and/or wildlife course about amphibians and reptiles for both undergraduate and graduate students. Lectures and labs follow two concurrent themes: 1) a survey of amphibians and reptiles, with special emphasis on Kentucky species, and 2) a general analysis of amphibian and reptile biology, ecology, conservation and management. Prereq: All students enrolled in FOR 510 should have taken at least one college-level Biology course.

FOR 599 INDEPENDENT WORK IN FORESTRY. (1-3)
Study and independent work on selected problems related to allocation and utilization of natural resources. May be repeated to a maximum of six credits. Any combination of FOR 599 and FOR 781 cannot exceed six credits. Prereq: Senior or graduate standing and consent of instructor.

FOR 601 RESEARCH METHODS IN FORESTRY. (3)
A study of research methods, procedures, and techniques used in forestry. Major emphasis will be placed on problem analysis and methods of conducting organized research. Prereq: Graduate standing.

FOR 602 RENEWABLE NATURAL RESOURCES IN A GLOBAL PERSPECTIVE. (3)
An advanced course that examines world and transboundary issues related to renewable natural resources. Students will attend a series of lectures, discuss assigned readings, and identify issues for further study. Student research papers related to those issues will be presented and discussed in a seminar format. Prereq: Graduate standing.

FOR 605 EMPIRICAL METHODS IN ECOLOGY AND EVOLUTION. (2)
This course provides students with hands-on experience in a diverse array of modern research methods used by ecologists and evolutionary biologists, including techniques used in: molecular genetics, chemical ecology, behavioral studies, motion analyses, using high-speed video, image analyses for morphometrics and color, and field techniques in both aquatic and terrestrial systems. Lecture, one hour; laboratory, three hours per week. Prereq: BIO 325 or FOR 340 or ENT 665, or consent of instructor. (Same as BIO/ENT 605.)

FOR 606 CONCEPTUAL METHODS IN ECOLOGY AND EVOLUTION. (3)
This course provides students with hands-on experience in a diverse array of conceptual research techniques used by ecologists and evolutionary biologists. The focus will be on optimization methods used for predicting animal and plant behaviors and life histories, and on methods for assessing population trends and dynamics. Mathematical techniques used will include graphical analyses, matrix algebra, calculus, and computer simulations. The latter part of the course will consist of collaborative modeling projects, in which small groups of students will work with the instructor to address an important contemporary research problem and will report their results in a public talk and a project writeup. Prereq: One year of calculus and BIO 325 or FOR 340 or ENT 665, or consent of instructor. (Same as BIO/ENT 606.)

FOR 607 ADVANCED EVOLUTION. (2)
This course covers advanced topics in evolution, concentrating on questions central to the understanding of general evolutionary processes. Phenomena occurring both within populations (e.g., selection, inheritance, population subdivision) and between populations (e.g., gene flow, competition) will be addressed. Special attention will be given to modern research approaches and techniques including quantitative genetics, measurement of selection, phylogenetic analyses of comparative data and molecular systematics. Prereq: One year of calculus, genetics (BIO 304 or BIO 461) and BIO 508 or consent of instructor. (Same as BIO/ENT 607.)

FOR 608 BEHAVIORAL ECOLOGY AND LIFE HISTORIES. (2)
This course uses an evolutionary approach to examine behavior and life histories. Topics addressed include: the optimality approach, constraints on optimality, kin and group selection, predator and prey behaviors, social and mating behaviors, and life history evolution. Prereq: BIO 325 and one semester of calculus; or consent of instructor. (Same as BIO/ENT 608.)

FOR 609 POPULATION AND COMMUNITY ECOLOGY. (3)
This course discusses the processes that determine population distributions and dynamics and community structure for both plants and animals. Topics addressed include: population regulation and population stability, community diversity and stability, ecological succession, population interactions (competition, predation, mutualism), coevolution, and the effects of spatial and temporal heterogeneity on population and community patterns. Prereq: BIO 325 or FOR 340 or consent of instructor. (Same as BIO/ENT 609.)

FOR 612 FOREST ECOSYSTEM DYNAMICS. (3)
The study of ecosystem structure and function with emphasis upon eastern deciduous forest ecosystems. Topics discussed will include energy flow, mineral cycling, the influence of disturbance upon ecosystem properties and dynamic processes in the development of ecosystems. Prereq: FOR 340 or BIO 451G and consent of instructor.

FOR 620 SPECIAL TOPICS IN FORESTRY (Subtitle required). (1-3)
Special topical or experimental courses in forestry for advanced graduate students. Special title required and must be approved by the chairperson of the Department of Forestry. May be repeated to a maximum of nine credits. Students may not repeat under the same subtitle. Prereq: Consent of instructor.

FOR 622 PHYSIOLOGY OF PLANTS I. (3)
A physiological/biochemical treatment of central topics in modern plant physiology. Topics will include: plant-cell biology, ion transport, water and translocation, respiration and photosynthesis. Prereq: BIO 430G or equivalent or consent of coordinator. Prereq or concur: BCH 607. (Same as BIO/PLS 622.)

FOR 623 PHYSIOLOGY OF PLANTS II. (3)
A physiological/biochemical treatment of central topics in modern plant physiology. Topics will include: plant hormones, an introduction to plant biotechnology, senescence and abscission, stress physiology, phytochrome-photomorphogenesis-phototropism nitrogen and sulfur metabolism. Prereq: BIO 430G or equivalent or consent of coordinator. Prereq or concur: BCH 607. (Same as BIO/PLS 623.)

FOR 630 WILDLIFE HABITAT ANALYSIS. (3)
The components and structure of wildlife habitats and associated wildlife communities. Univariate and multivariate statistical methods of habitat analysis will be described and applied to data collected during laboratory periods to identify important habitat characteristics for selected wildlife species. The importance of habitat complexity will be demonstrated in laboratory and field situations. Lecture, three hours; laboratory, two hours. Prereq: FOR 430 and basic courses in statistics and ecology.

FOR 662 QUANTITATIVE METHODS IN RENEWABLE AND NONRENEWABLE RESOURCE MANAGEMENT. (3)
Application of dynamic optimization methods to renewable and nonrenewable resource management. Includes problem formulation, mathematical problem solving, Matlab programming, simulations and optimal policies analysis. Case examples are used to demonstrate applicability and problem formulation in finance and general and partial equilibrium. Prereq: MA 113 and MA 162 or equivalent, and AEC 661 or equivalent. (Same as AEC 662.)

FOR 667 INVASIVE SPECIES BIOLOGY. (3)
This course will examine circumstances that allow introduced species to become invasive, how invasive species threaten our resources, and approaches to minimizing the incidence and impact of invasions. Prereq: Graduate standing or consent of instructor. (Same as BIO/ENT 667.)

FOR 695 FIELD RESEARCH IN FORESTRY. (0)
Full-time research that requires the student to remain off-campus for extended periods. Students enrolled in this course remain in full-time academic status May be repeated to a maximum of 2 semesters. Prereq: Graduate standing in the Forestry Graduate Program. For students whose research precludes them from taking courses on campus for a semester. Registration requires (a) approval of Research Contract by a committee of at least three Forestry faculty members established to consider a particular student's Research Contract, (b) approval of Research Contract by Director of Graduate Studies, and (c) approval of Research Contract by Associate Dean for Academic Programs.

FOR 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

FOR 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours. Prereq: Consent of adviser and chairperson of the department.

FOR 770 FORESTRY SEMINAR (Subtitle required). (1)
Reports and discussions on recent research and current literature. Credit is given to those who satisfactorily present papers. Required of all graduate students. Can be repeated to a maximum of three credits. Prereq: Graduate standing.

FOR 781 SPECIAL PROBLEMS IN FORESTRY. (1-3)
Advanced study of selected problem areas in forestry. May be repeated for a total of six credits; any combination of FOR 781 and FOR 791 cannot exceed six credits. Prereq: Consent of graduate adviser.

FOR 791 RESEARCH IN FORESTRY. (1-3)
Involves original research in selected areas of interest in forestry. May be repeated for a total of six credits; any combination of FOR 781 and FOR 791 cannot exceed six credits. Prereq: Consent of graduate adviser.

FP Family Practice and Community Medicine

FP 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

FR French Language and Literature

FR 011 FRENCH FOR READING KNOWLEDGE. (3)
This course is designed to meet the needs of upper division and graduate students who are preparing for the graduate reading examination.

FR 101 ELEMENTARY FRENCH. (4)
The study of basic French through grammar, reading and oral practice.

FR 102 ELEMENTARY FRENCH. (4)
A continuation of FR 101. The study of basic French through grammar, reading and oral practice. Prereq: FR 101.

FR 103 FRENCH CINEMA. (3)
A history of the French cinema from the early twentieth century to the present. Emphasis on the primary aesthetic movements of French cinematic expression in social and historical context. Attention given to the formal elements specific to film, techniques of film analysis, and the nature of visual culture. Viewing of films outside of class required. Taught in English, with no knowledge of French necessary.

FR 106 ELEMENTARY FRENCH REVIEW. (5)
A course equivalent in level to FR 102 designed to prepare students with two or three units of high school French for French 201 who, on the basis of the placement test, appear to lack sufficient skill in French for that course. Prereq: Two years of high school French and the placement test.

FR 201 INTERMEDIATE FRENCH. (3)
Reading, conversation and oral comprehension are the basic aims of this course, which is structured around contemporary texts. Prereq: FR 102 or two years of high school French and placement test.

FR 202 INTERMEDIATE FRENCH. (3)
A continuation of FR 201. Prereq: FR 201 or three years of high school French and placement test.

FR 204 INTRODUCTION TO FRENCH AND FRANCOPHONE STUDIES. (3)
Introduces students to the concepts, questions, and methodologies that inform the study of the Francophone world. Includes an intensive French grammar review. Prereq: FR 202 or equivalent.

FR 205 THE FRENCH GRAPHIC NOVEL. (3)
Examines the rich tradition of graphic narrative in France where the modern comic form was invented in the early nineteenth century. Explores the technical aspects of graphic narrative and considers how the graphic novel has been linked to political questions of national identity in post-war France. Taught in English with no knowledge of French necessary.

FR 214 FRANCE TODAY. (3)
Explores the issues, debates, and conflicts that define culture and society in contemporary France. Emphasis on speaking and listening skills in French. Prereq: FR 202 or equivalent.

FR 215 VISUAL CULTURES. (3)
An interdisciplinary discussion of the centrality of the visual in French and Francophone society and culture. Representative examples of the kinds of visual media encountered might include medieval tapestries as well as twenty-first century web sites. Prereq: FR 202 or equivalent.

FR 225 FRENCH FILM NOIR. (3)
Examines the crime thriller and the "noir" style in French cinema during the 1940s and 50s. Emphasis on the aesthetic, philosophical, and historical origins of the crime film in France, the impact of French cinema on Hollywood film noir, and the role of noir in French visual culture. Viewing of films outside of class required. Taught in English, with no knowledge of French necessary.

FR 263 AFRICAN AND CARIBBEAN LITERATURE AND CULTURE OF FRENCH EXPRESSION IN TRANSLATION (Subtitle required). (3)
This course treats major cultural questions concerning the exchange between Africa and the Caribbean in terms of historical, sociological, political, and literary events. No knowledge of French is required. (Same as AAS 263.)

***FR 307 FRENCH FOR BUSINESS AND ECONOMICS. (3)**
Development of specialized conversational and written proficiency necessary to import-export business activities, banking, insurance, business regulation, etc., in the French-speaking world. Prereq: FR 204.

FR 310 FRENCH PHONETICS. (3)
Phonetics and phonemics, theory and practice. Advanced corrective pronunciation drill on an individual basis. Prereq: FR 204.

FR 311 INTRODUCTION TO FRENCH LINGUISTICS. (3)
An introduction to the study of language structure. Explores various aspects, levels, and components of verbal communication. Prereq: FR 204.

FR 324 STUDIES IN FRENCH LITERATURE (Subtitle required). (3)
An introduction to the major trends of the French literary tradition, with emphasis on textual analysis and critical approaches. May be repeated to a maximum of 6 hours with a different subtitle. Prereq: FR 204.

FR 325 FRENCH CINEMA (Subtitle required). (3)
An introduction to the analysis of film and to the major movements in the history of French cinema. May be repeated up to 6 hours with different subtitle. Prereq: FR 204.

FR 335 WAR, LITERATURE, FILM. (3)
This course examines the strategies used by French writers and filmmakers to translate the experience and memory of World War I and World War II into literary and cinematic form. Topics treated will include eyewitness testimony, uses of irony and humor, the representation of disfigurement, the question of documentary, collaboration with the enemy, and practices of commemoration. Taught in English, with no knowledge of French necessary.

FR 344 THE LITERARY TEXT (Subtitle required). (3)
An exploration of the concepts of text and textuality in relation to the notions of authorship, form and formal experiment, theme and other questions at the heart of literary studies. May be repeated up to 6 hours with a different subtitle. Prereq: FR 204.

FR 350 FRANCOPHONE CULTURES (Subtitle required). (3)
Explores the social, historical, and political situation of French-speaking cultures outside of metropolitan France. Prereq: FR 204 or equivalent.

FR 395 INDEPENDENT WORK IN FRENCH AND FRANCOPHONE STUDIES. (3)
Directed study in French and Francophone studies. Given in exceptional circumstances only. May be repeated up to 6 credit hours. Prereq: Major, junior or senior standing, 3.5 grade-point average in the major, consent of instructor, and approval of the Director of Undergraduate Studies.

FR 410 FRENCH IN PERFORMANCE. (3)
Deepens linguistic and analytical skills as well as cultural knowledge through the rehearsal and performance of texts and other cultural artifacts. Representative activities include theatrical and short cinematic productions. Prereq: Completion of 6 hours of 300-level or higher French course work.

FR 425 MEDIA STUDIES. (3)
Provides a set of skills for the critical analysis of different types of textual, audio, and visual media in the French-speaking world. Students will consider the relationship between information media and aesthetic media and explore the extent to which both "mediate" between what is called the real world and their reading, viewing, listening public. Prereq: Completion of 6 hours of 300-level or higher French course work.

FR 465G TOPICS IN FRENCH LITERATURE AND CULTURE IN TRANSLATION (Subtitle required). (3)
This course explores a significant author, literary genre, movement, trend, or issue in history of French cultural institutions with special emphasis on literature as an expression of culture. No knowledge of French is required. May be repeated to a maximum of nine credits under a different subtitle.

FR 470G TOPICAL SEMINAR I (Subtitle required). (3)
Advanced work on a specific topic, concept or problem in the field of French and Francophone Studies. Emphasis on advanced critical skills and research methods. Recent topics include: War, Literature, Film; Comedy in the Age of Enlightenment; *Le nouveau roman*; Literature and Film of Subsaharan African; The Eighteenth-Century Novel; Ghosts, Vampires, and the Fantastic; Love and Madness in the Nineteenth Century; *Le poème ivre*; The Early Modern Self. May be repeated to a maximum of 6 credits under different subtitle. Prereq: Completion of 9 hours of 300-level or higher French course work.

FR 471G TOPICAL SEMINAR II (Subtitle required). (3)
Advanced work on a specific topic, concept or problem in the field of French and Francophone Studies. Emphasis on advanced critical skills and research methods. Recent topics include: War, Literature, Film; Comedy in the Age of Enlightenment; *Le nouveau roman*; Literature and Film of Subsaharan African; The Eighteenth-Century Novel; Ghosts, Vampires, and the Fantastic; Love and Madness in the Nineteenth Century; *Le poème ivre*; The Early Modern Self. May be repeated to a maximum of 6 credits under different subtitle. Prereq: Completion of 9 hours of 300-level or higher French course work.

FR 495 SENIOR PAPER. (1)
A capstone project required of majors. Preparation of a research paper and oral presentation which demonstrate the student's ability to apply the analytical skills and concepts acquired during major course work. Prereq: Must be French major, senior standing.

FR 502 INTRODUCTION TO CRITICAL AND CULTURAL THEORY: THE FRENCH CONNECTION. (3)
Introduces upper-level undergraduate and beginning graduate students to the principles of critical and cultural theory. Explores topics of language, textuality, writing, subjectivity, culture, gender, everyday life, and power through the work of primarily, but not exclusively, French thinkers such as Saussure, Barthes, Fanon, Foucault, Derrida, Lyotard, Kristeva, Baudrillard, de Certeau. Taught in English with no knowledge of French necessary.

FR 504 TOPICS IN FRENCH LITERATURE AND CULTURE (Subtitle required). (3)
Intensive study of an author, genre, period or movement of French literature or an aspect of French culture. May be repeated to a maximum of nine credits under a different subtitle.

FR 507 INTERPRETATION AND STYLE. (3)
Study of French style with attention to written and oral expression. Introduction to stylistic theory and methodology. Prereq: FR 406 or graduate standing.

FR 510 LINGUISTIC STRUCTURE OF MODERN FRENCH. (3)
An introduction to the basic phonological, syntactic and semantic categories and processes of contemporary French as studied in the light of current linguistic theory and practice. Prereq: FR 306 or equivalent.

FR 550 FRANCE TODAY. (3)
A contrast between contemporary France in today's Europe and the historical image of France. The impact of the "New Quiet French Revolution" and of the new institutions on French Society. Conducted in French. Prereq: FR 306 and consent of instructor.

FR 553 TEACHING OF FRENCH. (3)
The course is designed for teachers and prospective teachers of modern foreign languages, with emphasis on French. Modern methodology, theory and practice of language pedagogy. Prereq: Permission of instructor required.

FR 570 SEMINAR IN FRENCH LANGUAGE PEDAGOGY. (1)
A general seminar in a broad range of subjects in the area of French language pedagogy. May be repeated to a maximum of two credits. Prereq: Graduate student standing in French or consent of instructor.

FR 601 POETIC VISION (Subtitle required). (3)
Examination of the major trends in French poetics; attention will focus on aesthetic problems, generic concerns, and various approaches to the nature of poetry. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

FR 604 THE TRAGIC MODE (Subtitle required). (3)
A study of the concept of the tragic mode and its embodiment in French literature and critical theory. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

FR 605 COMIC FICTION (Subtitle required). (3)
Studies in the development and theory of comic fiction in France. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

FR 606 LITERATURE OF THE MIDDLE AGES (Subtitle required). (3)
Special topics in French literature from the period 1050-1500. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

FR 607 STUDIES IN RENAISSANCE LITERATURE (Subtitle required). (3)
Comprehensive study of selected writers. May be repeated under a different subtitle to a maximum of six credits. Prereq: Consent of instructor.

FR 609 SEVENTEENTH-CENTURY STUDIES (Subtitle required). (3)
Study of selected French writers, literary, intellectual and cultural practices of the time. May be repeated to a maximum of six credits under different subtitle. Prereq: Consent of instructor.

FR 612 STRUCTURE AND STYLISTICS OF FRENCH. (3)
A study of the history and structure of French with an emphasis on contemporary features. (Same as ENG/LIN 612.)

FR 617 EIGHTEENTH-CENTURY STUDIES (Subtitle required). (3)
Literary, intellectual and social practices and theories of the French Enlightenment. May be repeated to a maximum of six credits under different subtitle. Prereq: Consent of instructor.

FR 619 NINETEENTH-CENTURY STUDIES (Subtitle required). (3)
Study of the intellectual, literary and social practices and theories of the major movements of the century, including Romanticism, Realism, and Symbolism. May be repeated to a maximum of six credits under different subtitle. Prereq: Consent of instructor.

FR 621 TWENTIETH-CENTURY STUDIES (Subtitle required). (3)
Study of the practices and theories of the major intellectual, literary and social movements of the century, such as modernism, existentialism, the new novel, post structural and postmodern writing. May be repeated to a maximum of six credits under different subtitle. Prereq: Consent of instructor.

FR 630 FRENCH LANGUAGE, LITERATURE AND CULTURE OUTSIDE FRANCE (Subtitle required). (3)
Study of Francophone writing, currents of thought, and cross-cultural movements in Africa, the Caribbean, Quebec and elsewhere. May be repeated to a maximum of six credits under different subtitle. Prereq: Consent of instructor.

FR 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

FR 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

FR 780 SPECIAL STUDIES IN FRENCH. (3)
Selected studies and investigations in the French language and literature, permitting the student to work in areas of special interest, and providing opportunity for original endeavor. May be repeated to a maximum of six hours. Prereq: Consent of instructor.

FSC Food Science

FSC 107 INTRODUCTION TO FOOD SCIENCE. (3)
A general basic food science course that deals with world food needs and available food supplies, types of food and nutritive values and use, food processing technology and distribution methods.

FSC 304 ANIMAL FOOD PRODUCTS. (4)
Principles of red meat, poultry, fish and dairy processing; physical and chemical composition and nutritive value of meat, dairy and egg products; structure and identification of muscle; inspection, grading, formulation, processing and preservation methods; organoleptic properties and consumer acceptance of processed meat, dairy, and egg products. Lecture, three hours; laboratory, two hours per week. Prereq: FSC 107.

FSC 306 INTRODUCTION TO FOOD PROCESSING. (4)
Commercial processing of foods including theory and use of heat exchangers, separators, freezers, air and vacuum dryers, evaporators, membrane separation, electrodialysis, emulsion formers, extruders, and irradors. Physico-chemical changes in osmotic pressure, vapor pressure, pH surface tension, viscosity, emulsification and colloidal dispersions in processed

foods will be discussed. Processing of waste streams will also be discussed. Prereq: CHE 105, CHE 107, CHE 236.

FSC 395 SPECIAL PROBLEM IN FOOD SCIENCE. (1-4)
Independent study in food science under the supervision of a faculty member. A learning contract must be completed prior to enrolling course. May be repeated for a maximum of 8 credits. Prereq: Completion of learning contract and consent of instructor.

FSC 399 EXPERIENTIAL LEARNING IN ANIMAL SCIENCES/FOOD SCIENCE. (1-6)
A field-based learning experience in animal sciences and food science under the supervision of a faculty member. May be repeated for a maximum of six credits as an elective on a pass/fail basis. Prereq: Consent of instructor and department chairperson and completion of a departmental learning contract before registration.

FSC 430 SENSORY EVALUATION OF FOODS. (3)
This course deals with the sensory evaluation methods used for food products based on flavor, odor, color, and texture. This includes techniques for measuring sensory attributes, instrumental analysis of foods, statistical analyses of data, and how sensory evaluation programs are utilized in the food industry. Prereq: STA 291 and FSC 306, or NFS 304 (prerequisite or concurrent enrollment).

FSC 434G FOOD CHEMISTRY. (4)
Chemical and physical properties of proteins, lipids, carbohydrates, pigments and food additives as they relate to food processing and food preservation. Lecture, three hours; laboratory, two hours. Prereq: BCH 401G or consent of instructor.

FSC 530 FOOD MICROBIOLOGY. (5)
Study of procedures for the enumeration and identification of foodborne microorganisms important in the food industry. Principles for controlling contamination and growth of microorganisms during production, processing, handling and distribution of food products. Lecture, three hours; laboratory, four hours. Prereq: BIO 108 and BIO 109 or equivalent.

FSC 535 FOOD ANALYSIS. (4)
Techniques and instrumentation used to determine the chemical composition of foods. Emphasis is placed on the principles of chemical analysis as it relates to foods and food processing. Lecture, two hours; laboratory, four hours per week. Prereq: FSC 434G.

FSC 536 ADVANCED FOOD TECHNOLOGY. (4)
Concepts of developing/improving new food products or food processing including: consumer awareness, marketing, ingredient specifications, product formulation, stabilization of product, packaging to meet shelf life goals, shelf testing of products, challenge testing, establishment of HACCP system, consumers testing, market testing, and introduction to the market. A capstone course, where all concepts of food science are used to extend or create new food products for the market place. Lecture, three hours; laboratory, two hours. Prereq: AEN 340, FSC 306, and FSC 335; or consent of instructor.

FSC 538 FOOD FERMENTATION AND THERMAL PROCESSING. (4)
Thermal processing of foods. The use of microorganisms in the preservation of raw foods and the manufacture of new foods. Manipulation and improvement of cultures to ensure production of desirable end products. Lecture, three hours; laboratory, two hours. Prereq: BIO 108, BIO 109, BIO 476G, FSC 530 or consent of instructor.

FSC 540 FOOD SANITATION. (3)
A study of sanitation principles and techniques for ensuring the safety and wholesomeness of our food supply. Prereq: FSC 530 or equivalent.

FSC 603 INTEGRATED NUTRITIONAL SCIENCES III. (2)
This course is aimed at providing medical and health professional students with a working knowledge of dietary requirements and guidelines, nutritional assessment and nutritional requirements, food safety issues and nutritional needs throughout the lifecycle. Prereq: Health Professional Graduate Status. (Same as CNU/NS 603.)

FSC 630 ADVANCED MEAT SCIENCE. (4)
Advanced meat science with special reference to the histological, chemical, physical and microbiological properties as they relate to meat quality, organoleptic acceptability and processing procedures. Lecture, three hours; laboratory, two hours. Prereq: FSC 304, FSC 306 or equivalent; one course in histology or biochemistry or consent of instructor. (Same as ASC 630.)

FSC 632 FOODBORNE DISEASE AGENTS. (3)
Discussion of microorganisms, toxins and chemical involved in foodborne illnesses as well as procedures for controlling and investigating foodborne disease outbreaks. Prereq: FSC 530.

FSC 636 FOOD PACKAGING. (2)
Detailed description of food packaging materials, composition and resistance to chemical and physical damage and their use in food systems as well as criteria for selection of packaging systems for specific food processing techniques will be presented. Methods of production, e.g.: blow mold, casting and estrusion; layering; lamination and co-extrusion; processing; and printing and sealing will be discussed. Prereq: FSC 536, FSC 538 or equivalent or consent of instructor.

FSC 638 FOOD PROTEINS. (3)
This course deals with chemical, biochemical, and enzymatic significance of proteins in food systems; physiochemical and functional properties of animal and plant proteins, their interactions with lipids, carbohydrates, flavors, minerals and other food components during processing and storage, and resulting modifications of food quality. Prereq: FSC 434G or consent of instructor.

FSC 640 FOOD LIPIDS. (3)
An advanced study of the physical, chemical, and biochemical significance of lipids in foods. Topics include the structure and function of lipids in post-harvest physiology, interaction with other food components, and the effect of lipids on the physical properties of foods during processing and storage. Prereq: One course in Food Chemistry or Biochemistry.

FSC 642 FOOD PIGMENTS. (3)
Course deals with the chemistry and biochemistry of color of different food products which influence consumers' purchase decision. Lecture topics include fundamental basis of food color and pigments, manipulation of food color, influence of processing on food color, and regulatory issues related to food pigments. Prereq: FSC 434G.

FSC 780 SPECIAL PROBLEMS IN ANIMAL DERIVED FOODS. (1-4)
May be repeated for a maximum of nine credits. Prereq: Consent of graduate adviser. (Same as ASC 780.)

FSC 790 RESEARCH IN ANIMAL DERIVED FOODS. (1-6)
Problems involving original investigation. May be repeated for maximum of nine credits. Prereq: Consent of graduate adviser. (Same as ASC 790.)

GEN General Agriculture

GEN 100 ISSUES IN AGRICULTURE, FOOD AND ENVIRONMENT. (3)
An introductory course requiring critical analysis of the major social, economic, political and scientific issues in agriculture and related disciplines. The historical development of agriculture will be surveyed, followed by discussions of major issues related to agriculture, food and environment. Development of skills in information gathering, critical analysis of issues, and written and oral communication will be emphasized. Satisfies the U.S. Citizenship area of UK Core. Prereq: Students enrolled in the College of Agriculture, Food and Environment; freshmen only in fall semesters and transfer students only in spring semesters.

***GEN 109 SPECIAL INTRODUCTORY COURSE: (Subtitle required). (1-6)**
Interdisciplinary, topical or experimental courses offered at the introductory level to be approved by the Dean of the College of Agriculture, Food and Environment. A particular title may be offered at most twice under the GEN 109 number. Students may not repeat under the same title; repeatable to a maximum of twelve credit hours. Prereq: To be set by the instructor.

GEN 200 ISSUES IN AGRICULTURE: CONTEMPORARY PROBLEMS IN AGRICULTURE AND NATURAL RESOURCES. (3)
An intermediate course which extends the critical analysis of selected issues in agriculture and related disciplines begun in GEN 100. Continues the development of skills in information gathering, critical analysis, and written and oral communication. Students will be required to investigate scientific literature germane to the issues covered and develop reviews, reports and position papers. Prereq: Sophomore enrolled in College of Agriculture.

GEN 300 SPECIAL COURSE. (1-3)
Interdisciplinary, topical or experimental courses to be approved by the Dean of the College of Agriculture. A particular course may be offered at most twice under the GEN 300 number, and no GEN 300 course may be given for more than three credits per semester. Open to all University students, subject to such limits or prerequisites as set by the instructor. Hours are variable with each special course. Prereq: As specified by the instructor.

GEN 301 AN INTRODUCTION TO CHINESE CULTURE THROUGH AGRICULTURE. (3)
This course is designed to introduce students to basic culture in China. Students will learn about Chinese agriculture, languages, customs, history, the political and educational system, geography and the economy. The culmination of the course is a three-week trip to China. Only students committed to go on trip to China will be enrolled in the course. First priority for the trip is given to College of Agriculture students.

GEN 302 INTERNATIONAL EXPERIENCE IN AGRICULTURE AND NATURAL RESOURCES. (1-6)
Credit for international experiences and travel abroad related to College of Agriculture degree programs. Students must work with faculty to determine if the experience is appropriate for credit. Credit will be determined by Associate Dean of the College depending on type of activity and requirements to be completed by students. Student may not use more than six hours toward degree requirements.

***GEN 305 GOVERNMENT IN AGRICULTURE, FOOD AND ENVIRONMENT. (3)**
Course is an in-depth study of government in relation to agriculture, food and environment. Instructor and guest presenters will address the class on how government policy, regulations, laws and decision making affect all aspects of agriculture, food and environment. The origination and purpose of the land grant institution will also be discussed. Class will be very informative and time will be allotted each class period for questions/answers.

GEN 401 JOB SEARCH SEMINAR. (1)
This course will address the selection of appropriate career choices, job search activities and the transition to the world of work. It will emphasize the application of communicative and team building skills in the area of career development. Pass/Fail only. Prereq: Junior or senior standing in the College of Agriculture.

GEN 501 AGRICULTURAL AND ENVIRONMENTAL ETHICS. (3)
This course illuminates the major moral considerations of public policy issues concerning agriculture and the environment. The course will provide an overview of major moral theories, as well as opportunities to apply these theories to critical analysis of the major contemporary moral issues associated with agriculture and the environment. Prereq: Senior Standing.

GEO Geography

GEO 109 DIGITAL MAPPING. (3)
This course introduces the concepts, techniques, and histories behind mapping as a creative and artist practice. It covers the centrality of the map in everyday life and the changing role of maps as society becomes increasingly saturated by digital information technologies such as geographic information systems (GIS) and global positioning systems (GPS). The course introduces principles in cartographic design and geovisualization culminating in a series of maps created by each student.

GEO 130 EARTH'S PHYSICAL ENVIRONMENT. (3)
A course exploring the fundamental characteristics of earth's physical environment. Emphasis is placed on identifying interrelationships between atmospheric processes involving energy, pressure, and moisture, weather and climate, and terrestrial processes of vegetative biomes, soils, and landscape formation and change. Fulfills General Education requirements for Inquiry in Natural Sciences, and elementary certification requirements in education.

#GEO 133 SCIENCE AND POLICY OF NATURAL HAZARDS. (3)
This course examines the science of natural hazards such as hurricanes, earthquakes, landslides and floods, and the causes and effects of the natural hazards. It explores the relationships between the science of, and policy toward, such hazards, discusses their predictability, and examines how scientific knowledge influences policy-making.

GEO 135 GLOBAL CLIMATE CHANGE. (3)
This course provides a broad overview of the processes that have shaped the climate in which we live, and of consequences of changes to this climate. The principle functions of climate in relation to the hydrosphere and biosphere are introduced, and climate change over geological time is described. The basic data used by climate science to identify and explain historical climate change, paleoclimate change, and more recent climate trends are examined. The course also considers the difference between climate science and 'pseudoscience' and how to evaluate predictions of future climate change. Fulfills the Gen Ed Intellectual Inquiry – Natural/Physical/Mathematical Sciences requirement.

GEO 152 REGIONAL GEOGRAPHY OF THE WORLD. (3)
A geographical study of the world by regions with a focus on the world's physical and human landscapes. Emphasis on how regions are connected to each other. Also how each region is affected by, and affects, global issues such as economic restructuring, food production, and environmental change, will be examined. Fulfills elementary certification requirement for Education and USP disciplinary social science requirement.

GEO 160 LANDS AND PEOPLES OF THE NON-WESTERN WORLD. (3)
The geographic study of the conceptual and historical definition of regions of the world as "Non-Western." Global patterns of social, cultural, economic, and political difference between the West and Non-West as well as the processes key to the making of the Non- Western world (such as colonialism and imperialism) are discussed. In addition, selected current issues of significance to peoples in the Non-Western world, such as sustainable development, environment, human rights, and gender relations, are considered. Fulfills the General Education Global Citizenship requirement.

GEO 161 GLOBAL INEQUALITIES. (3)
This course focuses on basic spatial patterns of wealth and poverty at the global scale, comparing places and regions. Contemporary trends are identified and viewed in their historical context. Inequalities in access to basic human needs – food and water – are investigated through case studies drawn from around the world. The highly unequal world we live in raises serious questions of justice and sustainability, and these are considered in this course. Fulfills General Education requirements for Global Citizenship.

GEO 162 INTRODUCTION TO GLOBAL ENVIRONMENTAL ISSUES. (3)
This course addresses environmental questions of global importance, including population growth, resource consumption, environmental degradation, biodiversity conservation, toxic contamination and environmental justice. Fulfills Gen Ed Global Dynamics requirement.

GEO 163 GLOBAL CONFLICTS. (3)
This course will focus on the dynamics and effects of conflicts over boundaries, territory, environmental resources, and civil and political rights. A geographic lens will be used to understand contemporary world conflicts. This course introduces students to an understanding of conflict as grounded both in localities and an effect of global interconnections – political, economic, and cultural. The course will focus on six major contemporary conflicts. Students will become versed in the debates and possible options for solution of these problems. While lectures will provide students with an understanding of the coordinates of the conflicts, recitations sections provide an opportunity for discussion and debate. The readings are chosen to supplement lecture material, providing a greater depth of understanding of the issues at stake. Fulfills the Global Dynamics requirement of General Education.

GEO 164 iWORLDS: GLOBAL INFORMATION GEOGRAPHIES. (3)
This course examines the ways that existing and emerging information technologies are helping to transform places and the way in which the world interacts. It covers the intertwining of society and technology and how different cultures produce distinct technologies and use similar technologies in unique ways. Of particular focus will be the history and evolution of mapping technologies to present days systems such as global positioning systems (GPS), geographic information systems (GIS) and the geoweb. In addition the course will introduce the spatial implications of information technologies and contemporary debates on digital divides, surveillance and privacy, proximity and distance, democracy, and relationships between virtual, real-world and hybridized communities. Fulfills the Global Dynamics Requirement of General Education.

GEO 172 HUMAN GEOGRAPHY. (3)
An introduction to geographic perspectives on human political, economic, social, and cultural activities (such as trade, economic development, empire, colonialism and nation building, agriculture, pollution, urbanization, population dynamics). Emphasis is on spatiality (including concepts of location, scale, globalization, maps, migration, and diffusion), place making and regions (including concepts of the cultural landscape, place meaning, race, class and gender identities, and territoriality), and nature/society relations (including concepts of environmental adaptation and modification, climate change, and sustainability). Fulfills Gen Ed Intellectual Inquiry – Social Science and elementary certification requirement for education.

GEO 200 ORIENTATION TO GEOGRAPHY. (3)
Introduces students to geographic perspectives, theories, research and professional opportunities. Applied quantitative and qualitative approaches to geographic research are reviewed and examples from current literature presented and discussed. Prereq: GEO 130, GEO 172.

GEO 220 U.S. CITIES. (3)
This course introduces salient contemporary U.S. urban topics as seen from and analyzed by a geographic perspective. Topics include migration, urban sprawl, city services, gentrification and urban redevelopment, school districts, parks, housing, financing, and others. The course examines key issues, problems, and debates facing diverse U.S. urban communities, and will address the possibilities for citizen engagement in their resolution. Fulfills the Gen Ed U.S. Citizenship requirement.

GEO 221 IMMIGRANT AMERICA: A GEOGRAPHIC PERSPECTIVE. (3)
This course uses a geographic and spatial perspective to introduce students to contemporary immigration to the United States, its origins, adaptation patterns, and long-term effects on American society. Current immigration debates, humanitarian migration, immigrants' experiences (local and transnational), and questions of citizenship and civic participation of immigrants are central to the course.

GEO 222 CITIES OF THE WORLD. (3)
Focuses on the historical development, contemporary character, and alternative futures of cities in both developing and developed regions. The spatial, social, economic, and political processes of major world cities are studied and contemporary urban problems are discussed. Fulfills Gen Ed Global Dynamics requirement.

GEO 230 WEATHER AND CLIMATE. (3)
A survey of the atmospheric controls associated with local, regional, and global weather and climate variability. Includes fundamental coverage of the physics and chemistry of energy, gasses, pressure and moisture, with a goal of promoting understanding of general weather analysis and forecasting, severe storms, atmospheric pollution, descriptive climatology, and global climate change. Prereq: GEO 130 or consent of instructor.

GEO 231 ENVIRONMENT AND DEVELOPMENT. (3)
This course explores the intertwining of environment, development and sustainability. It analyzes the political economy of environmental destruction (at macro and micro levels) to understand its origins and strategies to prevent it.

GEO 235 ENVIRONMENTAL MANAGEMENT AND POLICY. (3)
An introduction to environmental systems such as weather and climate, vegetation, land forms and soils, and how the quality of these systems is modified by human use. Resource issues discussed include: atmospheric pollution and global warming; groundwater, flooding, and flood plain management; volcanic activity and earthquakes; and biospheric processes associated with deforestation and lake eutrophication. Case studies based upon important environmental problems illustrate how human activity and environmental systems interrelate. Fulfills USP Cross-Disciplinary requirement.

GEO 240 GEOGRAPHY AND GENDER. (3)
Adopts a geographic approach to the study of gender relations. The role of space and place in shaping the diversity of gender relations throughout the world will be considered. Through case studies the importance of gender relations in understanding a variety of issues will be stressed. Such issues include: the design and use of urban and rural environments; "Third World" development; regional economic restructuring; changing political geographies; and migration.

GEO 255 GEOGRAPHY OF THE GLOBAL ECONOMY. (3)
This course reviews the globalization of the world economy as a historical process with specific local, regional, and national outcomes. It introduces students to the factors and dynamics of ongoing globalization of the economy. Fulfills General Education requirements for Global Citizenship.

GEO 260 GEOGRAPHIES OF DEVELOPMENT IN THE GLOBAL SOUTH. (3)
The course focuses on differences between the richer global north and the poorer global south – sometimes referred to as the "Third World". The basic global patterns of "development" are studied and the various explanations for development or lack thereof are examined critically.

Differences between regions of the global south are investigated through selected case studies from Latin America, Asia, and Africa. Fulfills the Gen Ed Global Dynamics requirement.

GEO 261 GLOBAL DYNAMICS OF HEALTH AND DISEASE. (3)
This course is an introduction to health and disease from a geographical perspective. It provides an introduction to globalization; global health; epidemiology; the immune system; major pandemics of the 20th and 21st Centuries; and, global attempts to confront current and future pandemics. Connections are made to medicine, nursing, public health and related fields. Fulfills the Global Dynamics requirement of Gen Ed.

GEO 285 INTRODUCTION TO PLANNING. (3)
An introduction to the history, purpose, and objectives of planning with emphasis on urban and regional planning, planning processes, techniques, and legislation.

GEO 300 GEOGRAPHIC RESEARCH. (3)
Provides a detailed examination and discussion of the methods of initiating and executing research projects in human or physical geography. Includes identification of geographic dimensions of research topics, theoretical/conceptual frameworks, conduct of literature reviews, research designs, data collection/analysis and presentation. Prereq: GEO 130 or 152, 160 or 172, or consent of instructor.

GEO 305 ELEMENTS OF CARTOGRAPHY. (3)
Fundamental training in map drafting, compilation, symbolization, scales, projections, and map reproduction, including emphasis on the conceptual planning and designing of maps and graphs as a medium for communication.

GEO 309 INTRODUCTION TO GIS. (3)
This course introduces students to the use of geographic information systems and their basic principles. Topics addressed include data collection, processing and output. Students will learn about types of geographic information and data: sources, constraints, and uses; the range of secondary spatial data sets available; and the collection of primary spatial data using global positioning systems (GPS) and other technologies.

GEO 310 QUANTITATIVE TECHNIQUES IN GEOGRAPHY. (3)
The application of spatial techniques geographers use to collect, sample, map, and analyze data in human and physical geography. Students will be introduced to automated data processing.

GEO 311 QUALITATIVE METHODS IN GEOGRAPHY. (3)
This course is an introduction to qualitative methods in geographical research. Students will begin by learning the basic principles of research design, as well as ethical and procedural considerations of any research project using qualitative methods. The course primarily will focus on introducing students to basic qualitative methods used in geographic research, but pertaining also to social science research in general, potentially including (but not limited to): participant observation, archival analysis, interviews, surveys, focus groups, participatory action research, data coding and analysis, discourse and textual analysis, visual analysis, and content analysis.

GEO 316 ENVIRONMENT AND DEVELOPMENT. (3)
This is an introductory/intermediate level course on the relationships between environment and economic development. While this course emphasizes environmental concerns of the 'Global South', this course will also cover instances of 'Global Northern' peoples and places, particularly in less privileged areas such as Appalachia. The course examines the political economy of environmental destruction by asking why, despite much significant research, environmentally destructive development schemes continue. Although we understand at least the main contours of what it will take to become a sustainable society, little progress has been made in implementing even evidently necessary policies.

GEO 320 GEOGRAPHY OF THE UNITED STATES AND CANADA. (3)
A systematic review of the physical context, economic, historic, and cultural diversity that distinguish U.S. and Canadian regions. Topical emphasis on the geographic aspects of regional problems. Fulfills General Education requirements for U.S. Citizenship. Prereq: GEO 130 or 152 or 172, or consent of instructor.

GEO 321 LAND, PEOPLE, AND DEVELOPMENT IN APPALACHIA. (3)
Major themes revolve around regional diversity and regional development. Major topics examined include physical environmental context, historical development, and economic and population geography. The study region includes the upland areas between southern New York State and central Alabama. Prereq: GEO 130, 152 or 172, or consent of instructor.

GEO 322 GEOGRAPHY OF KENTUCKY. (3)
An examination of the cultural, economic, political, and environmental diversity of Kentucky. In addition to studying the state's historical evolution, emphasis will be placed on contemporary problems facing the state. Kentucky's regional, national, and international contexts are discussed. Prereq: GEO 130, 152, 160, or 172.

GEO 323 MEXICO: ENVIRONMENT, POLITICS AND SOCIETY. (3)
This course examines how politics, the environment, and socio-economic relations have shaped Mexico's contemporary social and cultural geography. The course examines how historical and contemporary processes such as agrarianism, urbanization (Mexico City), the Mexican Revolution, migration, and development have shaped the politics of identity, community, and geography, with particular attention to questions of gender, indigenous peoples, and popular culture.

GEO 324 GEOGRAPHY OF CENTRAL AND SOUTH AMERICA AND THE CARIBBEAN. (3)
A study of the diversity of physical environments and human societies. The various historical geographies (pre-Columbian and after) of the region are presented as essential to an understanding of contemporary geographical patterns and processes in transport, agricultural, industry and mining, urbanization, and population. Throughout the course case-studies are presented and students are guided as they develop their own case studies. Prereq: GEO 152 or 160 or 172.

GEO 326 GEOGRAPHY OF EUROPE. (3)
This course explores the physical, cultural, and political geography of the European continent. Diversity of populations and physical landscapes is stressed. The geographic context for current events that are changing the face of Europe are presented. Prereq: GEO 152 or 172.

GEO 328 GEOGRAPHY OF THE MIDDLE EAST AND NORTH AFRICA. (3)
A comprehensive regional overview, emphasizing cultural adaptation to desert environments. The interrelationships among religions, cultures, and the physical environment will be examined, along with the region's position and influence in the global system. Prereq: GEO 152, GEO 160, GEO 172, or consent of instructor. (Same as AAS 328.)

GEO 329 GEOGRAPHY OF THE FORMER SOVIET UNION. (3)
A study of this region's diverse physical and human landscapes, emphasizing the historical and contemporary interlinkages between the various states. Contemporary problems of the post-Soviet era (such as environmental degradation, economic and regional restructuring, or the international position of the region) will be studied from a geographical perspective. Prereq: GEO 152, 160, or 172.

GEO 330 GEOGRAPHY OF THE INDIAN SUBCONTINENT. (3)
A study of the human, economic, and environmental aspects of India, Pakistan, Bangladesh, Himalayan Nepal and Bhutan, and Sri Lanka. Topics include basic physical and cultural regionalisms, land use and population problems, and patterns of economic development involving urbanization, resources, and industrialization. Prereq: GEO 152 or 160 or 172.

GEO 331 GLOBAL ENVIRONMENTAL CHANGE. (3)
This course focuses on environmental processes (in the atmosphere, hydrosphere, lithosphere and biosphere) and the effects of historic and long-term environmental changes. Climatic change and natural system adjustments will be discussed, but the course will concentrate on human-induced environmental changes. Prereq: GEO 130 or equivalent, or consent of instructor.

GEO 332 GEOGRAPHY OF SOUTHEAST ASIA. (3)
A study of the cultural, economic, and political patterns and processes in mainland and insular Southeast Asia. Major themes examined are how the region's diverse physical geography, uneven natural resource base, cultural diversity, and colonial heritage provide a background to understanding contemporary development. Prereq: GEO 152 or GEO 160 or GEO 172 or consent of instructor.

GEO 333 GEOGRAPHY OF EAST ASIA. (3)
Provides an understanding of the life and landscapes in East Asian nations, with special focus on China and Japan. Emphasis is placed on contemporary issues of sustainable development, environmental management, minority groups, human rights and gender relations. Prereq: GEO 152, GEO 160, GEO 172 or consent of instructor.

GEO 334 ENVIRONMENT, SOCIETY AND ECONOMY OF JAPAN. (3)
This course examines some of the major aspects of the society, culture, and economy of Japan. It discusses Japan's human and natural environments; natural hazards and disasters; cultural history and geography; economic and technological developments, their prospects and potentials; challenges to the management of environment and its resources; and Japan's role in global economy. (Same as JPN 334.)

GEO 336 GEOGRAPHY OF SUB-SAHARAN AFRICA. (3)
This course focuses on the cultural and environmental geographies of the subcontinent, rural landscapes and cultures and environmental problems, the historical geography of precolonial and colonial Africa, and the social geography of contemporary economic development. Prereq: GEO 130 and 152, 160, or 172. (Same as AAS 336.)

GEO 351 PHYSICAL LANDSCAPES. (3)
A study of earth surface processes and land forms. The focus is on the analysis and interpretation of earth surface features and topography in terms of process-response mechanisms, and on an understanding of the fundamental physical, chemical, biological, and human processes which create and modify landscapes. The course emphasizes the dynamic nature of land forms and Landscapes, and the interrelationships between land forms and hydrology, climate, soils, and the biosphere. Prereq: GEO 130, or consent of instructor.

GEO 365 SPECIAL TOPICS IN REGIONAL GEOGRAPHY (Subtitle required). (3)
Offers coverage of world regions not usually covered in other geography courses, or in-depth examinations of specific subregions. Topics covered include: elements of climate and physical landscapes; political and economic systems and their historical development and dynamics; social and cultural processes and landscapes. May be repeated to a maximum of six credit hours under different subtitles. Prereq: Any 100-level geography course or consent of instructor.

GEO 399 INTERNSHIP IN GEOGRAPHY. (3)
Provides supervised professional experience in public and private sector positions, and is intended to introduce students to the skills and working environments of careers in geography. Students should consult with a geography faculty member in advance of registering for this class. Prereq: Junior or senior standing in the major.

GEO 406 FIELD STUDIES IN GEOGRAPHY (Subtitle required). (3)
Field-based, regionally specific study of selected topics in cultural, economic, environmental, physical, political, social, or urban geography. May be repeated to a maximum of 18 credits with change in field site. Prereq: GEO 200.

GEO 409 ADVANCED GIS. (3)
This course is developed to introduce intermediate and advanced topics in geographic information science and spatial analysis including theoretical and applications areas. Building upon a range of GIS software systems this course covers geographic data collection, entry and editing, spatial analysis, interpolation and map development and display. Prereq: GEO 309 or consent of instructor.

GEO 415 MAP INTERPRETATION. (3)
An introduction to reading and interpreting maps. Special attention given to the study of physical and cultural geography as portrayed on large scale topographic maps. Emphasis on the relationship between the environmental setting and human activities, surveys and boundaries, transportation, urban and rural settlement and land use, and place names. Prereq: GEO 130 or 172 or consent of instructor.

GEO 419 INTRODUCTION TO REMOTE SENSING. (3)
This course offers an introduction to remote sensing technologies and their application to land use/land cover analysis, environmental monitoring, natural resources management, and urban planning. This course covers the fundamental remote sensing principles, overview of space/air borne sensors/data, essential techniques for digital image processing, and applications particular related to diverse land surfaces such as vegetation, water, urban, and soil/bedrocks. Theoretical training and lab exercises are integrated components in this course. Prereq: GEO 309 or consent of instructor.

GEO 422 URBAN GEOGRAPHY. (3)
Examines the relationship between urbanization and the larger social and economic contexts within which city growth occurs. Surveys a range of theoretical perspectives on the internal socio-economic structure and built environment of cities, including the contributions by Chicago School, neoclassical, marxist, and postmodern theorists. Emphasis also placed on relevant environmental, social, and political problems of cities. Primary focus is on North American cities, but includes cross-cultural comparisons. Prereq: GEO 152, 160, 172, or 222, or consent of instructor.

GEO 430G PHYSICAL GEOGRAPHY FOR TEACHERS. (3)
The basic content of this course is quite similar to GEO 130 Physical Geography, with emphasis on atmospheric processes of weather and climate, and terrestrial processes of landscape formation and alteration. The human element, in terms of impacts on the environment and the converse impact through pollution and natural hazards, presents a common theme throughout the class. The primary focus in this course, however, is in developing effective teaching techniques for levels K-12 by fostering an understanding of material, a knowledge of resource materials, and experience in applying physical geography to situations outside the classroom. Open to senior education majors and practicing instructors. Lecture, ten hours per week for four weeks.

GEO 431 POLITICAL ECOLOGY. (3)
This course examines the relationship between political economics and the biophysical environment and seeks to understand the challenges of development, agriculture, gendered divisions of labor, and the representation of nature in the context of the globalization of economic relations.

GEO 442G POLITICAL GEOGRAPHY. (3)
This course examines how space and political activities are related. Major topics will include: history of political geographic thought; geopolitics; nationalism and identity; the territorial state; regionalism; conflicts; borders and frontiers, and electoral geography, at a range of scales.

GEO 451G FLUVIAL FORMS AND PROCESSES. (3)
An examination of erosion, deposition, and sediment transport processes associated with flowing water, landforms associated with fluvial processes, and landscape evolution in areas dominated by fluvial dissection and deposition. Field trips may be required. Prereq: GEO 351 or GLY 341.

GEO 452G WORLD GEOGRAPHY FOR TEACHERS. (3)
Approaches to teaching geographic themes and concepts within the context of the world's major regions and countries in grade levels K-12. Addresses those issues and problems that affect world regions in the context of the following broad themes: location, place, movement, regions, and human-environment interactions. Among those topics discussed are the use and importance of maps and related resource materials in instruction, presentation of themes at different grade levels, and identification and utilization of a broad range of reference materials for student and teacher use. Lecture, ten hours per week for four weeks.

GEO 455 GLOBALIZATION AND THE CHANGING WORLD ECONOMY. (3)
This course provides an advanced review of the ongoing restructuring of the geography and organization of the capitalist global economy. Emphasis will be placed on contemporary issues (such as industrial restructuring or the financial industry), and specific regions (such as Kentucky or China). Competing theories (classical, neoclassical, and marxian) and empirical and analysis aimed at explaining these patterns and processes are discussed and applied.

GEO 465 SPECIAL TOPICS IN GEOGRAPHY (Subtitle required). (3)
Offers coverage of issues and themes not covered in other geography courses, or in-depth examinations of specific issues and themes. Topics covered will commonly address emerging national and global issues of both general and scholarly interest. May be repeated for a maximum of six credit hours (under different subtitles). Prereq: Any 100-level geography course or consent of instructor.

GEO 470G AMERICA'S CULTURAL GEOGRAPHIES. (3)
This course examines the diversity of cultural attributes (both tangible and intangible) in the American landscape through a range of perspectives, e.g., environmental/historical, politics, economic, gender, race, etc., to understand how deeply held values manifest in minds and places. Prereq: GEO 172 or ANT 220.

GEO 475G MEDICAL GEOGRAPHY. (3)
An examination of the basic principles of the two major traditions of medical geography: disease ecology and medical care. Examined are the etiology, diffusion, and distribution of selected major diseases. Issues pertaining to the spatial-temporal distribution, accessibility and utilization of medical care resources are presented. Prereq: GEO 172 or consent of instructor.

GEO 485G URBAN PLANNING AND SUSTAINABILITY. (3)
An analysis of urban and regional planning with emphasis on the contemporary urban and regional planning activities. Prereq: GEO 285 or consent of instructor.

GEO 490G AMERICAN LANDSCAPES. (3)
A review and analysis of America's vernacular landscapes. Topics include: the history of settlement by Europeans, Africans, and others; evolving political allegiances; and the expansion of agricultural and industrial technologies in the context of diverse physical environments. The role of political philosophy in landscape development and historic preservation will be highlighted. Prereq: GEO 172 or consent of instructor.

GEO 491G JAPANESE LANDSCAPES. (3)
A study of the landscapes of Japan as vivid portrayal of Japanese culture and their value system, including review and analysis of major primary and secondary components of the Japanese landscape. Prereq: JPN 334 or GEO 334 or consent of instructor. (Same as JPN 491G.)

GEO 499 SENIOR RESEARCH SEMINAR. (3)
Course is intended to provide a capstone experience in geographical research and problem-solving through demonstrating students' ability to identify an appropriate research topic in geography; developing and implementing appropriate research strategy; and presenting research results. Prereq: GEO 406.

GEO 505 PRACTICUM IN CARTOGRAPHY. (3)
Experience credit in which a small number of advanced students work under the direct supervision of the faculty or staff cartographer and in conjunction with other faculty members on departmental and contracted projects. May be repeated to a maximum of six hours. Prereq: GEO 305 and GEO 506 and consent of instructor.

GEO 506 INTRODUCTION TO COMPUTER CARTOGRAPHY. (3)
A basic introduction to computer-assisted cartography. Emphasis on basic computer graphics literacy and automated techniques for spatial data acquisition, storage, processing, and output. Introduction to current mainframe, workstation, and desktop mapping programs. Prereq: GEO 305 or permission of instructor.

GEO 509 WORKSHOP IN GEOSPATIAL TECHNOLOGIES. (3)
This course focuses on the development of applied GIS skills and follows a participatory workshop model with intensive, hands-on collaboration with community partners. The course covers a full range of collaborative GIS: working with team members and project partners to identify project goals, acquiring and preparing spatial data for GIS analyses, communicating with clients to assess progress, managing spatial data, and producing necessary maps and analyses. Prereq: GEO 309 or GEO 609 or consent of instructor.

GEO 530 BIOGEOGRAPHY AND CONSERVATION. (3)
An introduction to the geographic patterning of biological diversity, exploring its origins, dynamics, and present trends. Examines the interplay among physical conditions, ecological interactions, evolutionary processes, and the historical movements of organisms and land masses as they have combined to affect the distribution of species, with particular attention to the application of biogeographic knowledge to current problems of species loss and conservation. Prereq: Two semesters of introductory biology or physical geography, or consent of the instructor. (Same as BIO 530.)

GEO 531 LANDSCAPE ECOLOGY. (3)
This course explores the field of landscape ecology – the causes, development, importance of ecological processes, and the interactions of dynamic processes over broad spatial scales that can serve as foundation for decision-making and problem solving. Prereq: Six hours of physical geography or biology.

GEO 544 HUMAN POPULATION DYNAMICS. (3)
The study of human population distributions, densities, and growth patterns through analyses of the processes of fertility, mortality and mobility. Topical coverage includes the environmental, social, political, economic, and behavioral impacts on personal action and population change. Emphasis is placed on historic and contemporary meanings and influences of population diversity, with special attention given to issues of gender, race, and class.

GEO 545 TRANSPORTATION GEOGRAPHY. (3)
This course addresses concepts critical to understanding transport systems. Economic, social and political as well as spatial perspectives to transport matters are emphasized. Problems, issues and trends facing the sector in both the developed and developing world along with appropriate responses are paramount. Topics include the bases and impact of transport,

communications, mass transit, Third World cities, regional development, shipping, railway policies, and the dynamics of airline survival. Prereq: GEO 455 or consent of instructor.

GEO 546 TOURISM AND RECREATION GEOGRAPHY. (3)
Tourism is the world's fastest-growing economic sector, creating and transforming places, regions and broader geographies of travel, movement, and investment. The course will examine concepts, models, and theories in the study of tourism and recreation. Selected themes include major travel flows and patterns; economic, environmental, and socio-cultural impacts; mass vs. "new" (e.g., eco-tourism, adventure tourism, extreme tourism) types of tourism; heritage tourism; marketing; place boosterism; tourism and recreation planning; and the politics of tourism. Local, national, and international examples in both developed and developing countries are discussed. Prereq: GEO 152, 172, 455, or consent of instructor.

GEO 550 SUSTAINABLE RESOURCE DEVELOPMENT AND ENVIRONMENTAL MANAGEMENT. (3)
A study of the theories and strategies for environmental management and sustainable development of resources. Topics covered include contemporary environmental degradation and resource use problems, political economy of resource use and environmental change, design and management of sustainable resource development, impact of sustainable development on gender issues and poverty, and environmental accounting. Prereq: GEO 130 or GEO 210 or consent of instructor.

GEO 551 JAPANESE MULTINATIONAL CORPORATIONS. (3)
A study of the giant Japanese multinational corporations in the world economy and their impact on development and environment of selected countries. Topics include: geographical organization of multinational corporate system; their locational decisions; affect of multinationals policies on the environment; and local economy. Prereq: Consent of instructor. (Same as JPN 551.)

GEO 560 INDEPENDENT WORK IN GEOGRAPHY. (3)
Individualized study and/or research intended to provide opportunities for students to explore topics in more depth than is offered in existing courses, or to address topics not covered in existing courses. Students work with a faculty supervisor in defining a specific area of study, appropriate learning objectives, and suitable evaluation criteria. Course format may range from critical reading of selected literatures to innovative research projects. Students should identify and consult with faculty supervisor well in advance of registration for this course. Prereq: Restricted to Geography majors with GPA of 3.0 or above in the department.

GEO 565 TOPICS IN GEOGRAPHY. (3)
Discussion, readings, and papers focusing on relevant topics in geography directed by a staff member having specific competence for the topics under study. Current research developments in particular geographic subfields will be stressed. May be repeated under different subtitles to a maximum of six credits. Prereq: Consent of instructor.

GEO 585 AGING AND ENVIRONMENT. (3)
Explores the elderly person's changing experience of environment. Physiological, psychological and social changes are related to adjustment within urban and rural community environments, special housing for the elderly, and long-term care environments. Prereq: Graduate or advanced undergraduate standing and consent of instructor. (Same as FAM/GRN 585.)

GEO 600 INTRODUCTION TO METHODS IN GEOGRAPHY. (3)
A broad survey of methods and methodological debates of research in human/physical geography. Emphasis on contemporary research examples. Prereq: Graduate standing.

GEO 609 GISCIENCE FUNDAMENTALS. (3)
This course introduces students to the use of geographic information systems and the science behind their use. Topics include an introduction to types of geographic information and data; the sources, constraints, and uses of data; the techniques for processing and visualizing spatial data and the methodological, epistemological and ontological issues associated with GIScience.

GEO 610 ANALYTICAL METHODS IN GEOGRAPHY. (3)
An introduction to the application of analytical methods to geographic problem solving. Topics cover sampling theory, probability theory and both parametric and nonparametric statistical techniques. Prereq: STA 570 or equivalent or consent of instructor.

GEO 619 REMOTE SENSING FUNDAMENTALS. (3)
This course covers the use of remote sensing technologies and their application in natural resource management, land use/land cover analysis, city and regional planning and environmental monitoring. This course covers the basic remote sensing principles, the range of space/air borne sensors/data, key techniques for digital image processing, and applications particular related to diverse land surfaces including the built environment, water, soil and vegetation.

GEO 655 SPECIAL STUDY OF SYSTEMATIC GEOGRAPHY. (3)
The application of the methods of systematic geography to particular special studies in topical areas, such as conservation, urban areas, climatology, cartography, or others. May be repeated to a maximum of six hours. Prereq: Appropriate 500-level course work in systematic or topical geography (e.g., conservation, urban, climatology, cartography).

GEO 700 ADVANCED ANALYTICAL METHODS IN GEOGRAPHY. (3)
A survey of the application of multivariate statistical techniques to geographic problem solving. Prereq: GEO 600 or consent of instructor.

GEO 702 CONCEPTS IN GEOGRAPHY. (3)
Contemporary geographic concepts and theories are examined with emphasis on concepts within human geography, especially with reference to the economic, urban, cultural, and population subfields within the discipline. Prereq: Graduate student status.

GEO 705 ADVANCED GEOGRAPHIC METHODS (Subtitle required). (3)
In-depth study and application of one or more research methods/techniques (e.g., qualitative methods, ethnography, textual analysis, visual analysis, GIS). Intended to offer M.A. and Ph.D. students advanced methodological specialization in geography. May be repeated to a maximum of six credits under different subtitles. Prereq: GEO 600 or equivalent.

GEO 706 ADVANCED FIELD STUDIES (Subtitle Required). (1-9)
Field-based, regionally specific study of selected topics in cultural, environmental, political, social, urban, or economic geography. May be repeated to a maximum of 18 credits with change in field site. Prereq: Consent of instructor.

GEO 707 DEVELOPMENT OF GEOGRAPHIC THOUGHT. (3)
An analytical review of the evolution of geographic thought, in terms of concepts, methodologies and scholars, emphasizing the basic literature through a series of topics.

GEO 708 GEOGRAPHIC INFORMATION SYSTEMS RESEARCH METHODOLOGIES. (3)
Following a brief overview of GIS, remote sensing, GPS, and other relevant information technologies as information collection, presentation, and analytical aids, this course will consider current developments of geographic information technologies. These include, but are not limited to, field GIS, public participation GIS, participatory information technology, collaborative environments, and spatial decision-making. Discussion of these developments will be complemented by a rigorous examination of theoretical and methodological issues. Prereq: GEO 409G or its equivalent, or consent of instructor.

GEO 709 ADVANCED GISCIENCE. (3)
This course explores advanced applications and topics within GIScience including data mining, scripting, point pattern analysis, data interpolation, geospatial modeling and network analysis and the methodological, epistemological and ontological issues with the classification requirements and analytical capabilities of GIScience. Prereq: GEO 609 or consent of instructor.

GEO 711 CULTURAL STUDIES AND GEOGRAPHY (Subtitle required). (3)
Seminar in cultural studies and geography, including, for example, interpretation and analysis of the built environment; space and representation; the political economy of landscape production; regional imagery; media studies; popular culture; the social construction of community; historic preservation; recreation, tourism and society. May be repeated to a maximum of nine credits under different subtitles.

GEO 712 DEVELOPMENT STUDIES AND GEOGRAPHY (Subtitle required). (3)
Seminar in selected topics in the policies, practices, and processes of development, including, for example, political economy perspectives on development; anti-development and postcolonial theory; economic restructuring and transition economies; gender and development; the relations between development and migration, transportation and tourism; environmental management and sustainable development. May be repeated to a maximum of nine credits under different subtitles.

GEO 713 ECONOMIC GEOGRAPHY: (Subtitle required). (3)
A seminar in economic geography, including, for example, global, regional, and local economic restructuring, global financial systems; foreign direct investment and trade; geography of multinational corporations; geography of labor; spaces of production and spaces of consumption; gender and economic space; space-time convergence; information and communications. May be repeated to a maximum of nine credits under different subtitles.

GEO 714 POLITICAL GEOGRAPHY: (Subtitle required). (3)
A seminar in political geography, including, for example, electoral systems; state theory; post-Cold War democratization; the geography of revolutionary change; critical geopolitics; political economy of environmental movements; political economy of globalization discourses and practices. May be repeated to a maximum of nine credits under different subtitles.

GEO 715 GEOGRAPHY AND SOCIAL THEORY (Subtitle required). (3)
Seminar in geography and social theory, including, for example, theories of human spatiality; marxist, neo-marxist, and post-marxist theory; postmodernism and poststructuralism; feminist theory; actor network theory; identity theory; geographic thought and society; technology and society. May be repeated to a maximum of nine credits under different subtitles.

GEO 717 URBAN GEOGRAPHY (Subtitle required). (3)
Seminar in urban geography, including, for example, urban morphology; urban systems; the local state; urban social fragmentation; conflicts over urban growth and development; urban transportation planning; urban historical geography; gender and urban space; race and urban space; urban landscapes. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

GEO 718 TOPICAL SEMINAR IN GEOGRAPHY OF ENVIRONMENT AND RESOURCES (Subtitle required). (3)
Study of selected topics on agriculture resource allocation, resource conflict, public land policy, natural hazards, environmental management, energy and biogeography. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

GEO 719 GEOSPATIAL TECHNOLOGIES (Subtitle required). (3)
A seminar in the social construction of geospatial technologies and the implications of their use. Topics may include crowd-sourcing, privacy and surveillance, open source software, code/space, censorship and control, copyright and locative media usage. May be repeated to a maximum of nine credits under different subtitles.

GEO 720 REGIONAL STUDIES (Subtitle required). (3)
Seminar in the study of selected topics in cultural, environmental, political, social, urban or economic geography, set within a regional context. May be repeated with change in regional focus to a maximum of nine credits under different subtitles.

GEO 721 TOPICAL SEMINAR IN PHYSICAL GEOGRAPHY (Subtitle required). (3)
Examination of selected topics in geomorphology, hydrology, pedology, biogeography, climatology, and earth system science. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

GEO 722 SOCIAL GEOGRAPHY (Subtitle required). (3)
Seminar in social geography, including, for example, race and gender, feminist geography, health care, disease and society; the geography of AIDS; the geography of aging and the life course; poverty and social policy; human behavior in space and time; population and migration studies; spatial structure of social networks; transportation of disadvantaged groups. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

GEO 731 EARTH SURFACE SYSTEMS. (3)
A treatment of earth surface systems from the perspective of complex systems theory. The course takes a holistic viewpoint, emphasizing interactions between the atmo-, litho-, hydro-, and biospheres and the manifestations of those signatures in soils, landforms, and ecosystems. Prereq: Consent of instructor.

GEO 740 RESEARCH INTERNSHIP (Subtitle required). (1-6)
To provide students with course credit for faculty supervised internships with governmental and non-governmental organizations. May be repeated to a maximum of nine credits.

GEO 741 TEACHING PRACTICUM. (1)
Introduction to teaching, with particular focus on pedagogical issues in geography courses. Intended to provide students with background sufficient to enable them to assume full responsibility for university and college level courses.

GEO 742 PREPARING FUTURE FACULTY IN GEOGRAPHY. (1)
Introduction to the professoriate, with particular focus on geography within the academy. Intended to provide students with background sufficient to assume responsibility as new faculty members in universities and colleges.

GEO 743 RESEARCH PROPOSALS AND GRANT WRITING. (1)
Introduction to basic geographic research proposal design standards, with particular emphasis on the requirements of granting agencies.

GEO 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

GEO 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

GEO 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

GEO 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

GEO 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

GEO 772 SPECIAL RESEARCH PROBLEMS IN GEOGRAPHY. (1-6)
Open to doctoral candidates who have the necessary training and ability to conduct research on a selected problem. May be repeated to a maximum of 12 credits. Prereq: Approval of the director of graduate studies.

GER German Studies

GER 011 GERMAN FOR READING KNOWLEDGE. (3)
This course is designed to meet the needs of upper division and graduate students who are preparing for the graduate reading examination, who need a reading knowledge of German in their minor, or who require a review of German grammar.

GER 101 BASIC GERMAN. (4)
Fundamentals of German with development of the four basic skills: reading, writing, listening, and speaking.

GER 102 BASIC GERMAN. (4)
Continuation of GER 101. Prereq: GER 101, or one year of high school German, or equivalent.

GER 103 FAIRY TALES IN EUROPEAN CONTEXT. (3)
Introduction to major types of fairy tales in European historical and literary context, covering the period from the Renaissance to the present. Taught in English.

GER 104 TURNING POINTS: (Subtitle required). (3)
An introductory course exploring the many ways in which art, architecture, literature and film have come to define and represent major urban centers in the German-speaking world. Focus in a given semester will be on an individual city such as Berlin, Vienna or Munich in times of innovation and upheaval during which it has contributed significantly to developments in literature and the visual arts and was or continues to be at the center of world historical events. May be repeated once with new subtitle.

GER 105 GERMAN FILM TODAY. (3)
This course examines contemporary German filmmaking from a global and cross-cultural perspective. It is not intended to be a history of German film, but an introduction to the interpretation of films produced in a specific national context outside of what is commonly referred to as Hollywood.

GER 201 INTERMEDIATE GERMAN. (3)
Systematic review of grammar and furthering of reading, writing, listening, and speaking skills based upon cultural and literary materials. Prereq: GER 102 or equivalent or placement test.

GER 202 INTERMEDIATE GERMAN. (3)
Continuation of GER 201. Prereq: GER 201 or equivalent or placement test.

GER 205 READING AND WRITING PRACTICE. (2)
This course concentrates on the development of reading and writing skills. Students learn to build vocabulary systematically and develop strategies for reading texts of varying kinds and levels of difficulty. Writing assignments ranging from brief descriptions and reports to translations and original compositions enable students to develop and sharpen writing skills. Prerequisite for upper division courses. Prereq or concur: GER 201 or equivalent.

GER 206 SPOKEN COMMUNICATION. (3)
This course concentrates on the development of speaking and listening skills. Students learn to negotiate everyday communication situations by acquiring verbal strategies and idiomatic expressions needed for meaningful interaction in a German-speaking country. Emphasis is placed on skills and vocabulary needed to discuss topics related to German culture. Prereq: GER 201.

GER 211 GERMAN FOR READING KNOWLEDGE I. (3)
This is the first of a two-course sequence in German that will enable students to read any German texts they wish, from daily newspapers and magazines, to literary works, to scholarly prose in any discipline.

GER 212 GERMAN FOR READING KNOWLEDGE II. (3)
The course will confront students with a variety of texts of ever increasing difficulty. Students will be provided with the foundation necessary both for understanding the evolution of German literature, history, and culture, and with the reading skills necessary for them to use the language in their course work. Completion of the two-semester sequence will enable undergraduates to pursue a course of study leading to the proposed certificate in German studies. Prereq: GER 211, or GER 201 and permission of instructor or GER 202.

GER 263 THE GERMAN CULTURAL TRADITION I. (3)
An introduction to the social, intellectual and aesthetic traditions of German-speaking cultures from the Germanic past to the Enlightenment. Texts in English translation. Films with English subtitles to be viewed outside of regular class time.

GER 264 THE GERMAN CULTURAL TRADITION II. (3)
An introduction to the social, intellectual and aesthetic tradition of German-speaking cultures from the Enlightenment to the present. Texts in English translation. Films with English subtitles to be viewed outside of regular class time.

GER 307 INTERMEDIATE GERMAN COMPOSITION AND CONVERSATION I. (3)
This course develops listening, speaking and writing skills in German with emphasis on practical communicative needs. It includes a review of grammar, special oral and written projects, class discussion, and practice in a variety of written forms. Prereq: GER 202 or equivalent.

GER 308 INTERMEDIATE GERMAN COMPOSITION AND CONVERSATION II. (3)
Continuation of GER 307. Prereq: GER 307, or equivalent.

GER 310 GERMAN FOR INTERNATIONAL BUSINESS AND PROFESSIONS. (3)
This course will develop written and conversational skills based on communicative needs of international business and professions in German-speaking countries, using materials from banking, computer science, export-import, journalism, government and the public sphere. Prereq: GER 307 or permission of the instructor.

GER 311 INTRODUCTION TO GERMAN LITERATURE: THEMES (Subtitle required). (3)
An introductory course that explores such themes in German literature as Fathers and Daughters, Fathers and Sons, Trials, Judgments and Justice, and Conceptions of the Self. Readings will be drawn from various periods and major genres. Themes vary and will be announced. May be repeated once for a total of six credits by nonmajors if theme changes. Prereq: GER 202 or equivalent.

GER 312 INTRODUCTION TO GERMAN LITERATURE: POPULAR FORMS. (3)
An introductory course that focuses on social, political, anthropological and aesthetic aspects of popular forms of German literature. Readings include fairy tales, folk songs and legends, children's literature, detective stories, comics and other popular literary forms. Prereq: GER 202 or equivalent.

GER 317 HISTORY OF GERMAN CULTURE. (3)
An introduction to German culture with emphasis on the epochs important to the development of modern German-speaking countries. Readings in German from philosophy, the sciences, the arts, history, politics and literature. Visual materials documenting high culture and everyday life. Taught in German. Prereq: GER 205 or 206, or equivalent.

GER 319 CONTEMPORARY GERMAN LITERATURE AND CULTURE. (3)
Selected works of contemporary German literature by Austrian, German, and Swiss authors are read relative to the economic, social, political, artistic and ideological developments in the three countries of the German-speaking world. Taught in German. Prereq: GER 307.

GER 342 WAR, PEACE, AND TERROR IN GERMANY AND EUROPE. (3)
This course explores the topics of war, peace, and terror in the context of Germany, Central Europe, and beyond: in the desire for peace and for war; from depictions of battle to reflections on policy and strategy; and from the logic of terror to its horrifying effects.

GER 352 GERMAN-SPEAKING EUROPE: (Subtitle required). (3)
This course will place an important aspect of German culture in the broader context of European cultural and historical developments. Focus in a given semester will be on a special topic through which significant developments in literature and the arts may be considered in relation to the historical context of such developments. Possible topics include Literature of the Holocaust, Terrorism in the German Context, The Culture of Sport, and Children's Literature. All readings will be in English. Students taking the course for a German major or minor will complete a number of assignments in the German language. May be repeated to a maximum of six credits under different subtitles.

GER 361 GERMAN CINEMA. (3)
A history of the cinema in the German-speaking world from its beginnings to the present, emphasizing the evolution of the production, distribution and reception of film in relation to changing political, social, economic, ideological and literary/artistic contexts. Some consideration of film theory and criticism in conjunction with class discussion of individual films. Viewing of films (silent or German dialogue with English subtitles) outside of class is required. Class taught in English.

GER 363 GERMANIC MYTHOLOGY. (3)
Overview of the mythological traditions of the Germanic peoples and their continuing presence in Western culture.

GER 395 INDEPENDENT WORK IN GERMAN. (1-3)
This course is designed for students who wish to do advanced work in German on any subject. May be repeated up to a maximum of six credit hours. Prereq: Major and a standing of 3.0 in the department.

GER 495 GERMAN STUDIES CAPSTONE. (1-3)
GER 495 German Studies Capstone is designed to provide German Studies majors an opportunity to develop and present a research project in collaboration with a faculty member. In addition, the course facilitates student completion of a language learning portfolio that demonstrates and documents proficiency in German language and culture as well as intercultural skills. This is a 1-3 credit capstone course for German Studies majors. Prereq: Declared German major and 90+ hours of course work.

GER 507 ADVANCED GERMAN COMPOSITION AND CONVERSATION. (3)
Further development of conversational skill and practice in writing stylistically appropriate German. Study of finer points of grammar. Discussion of special topics and theme writing. Prereq: GER 308 or equivalent.

***GER 515 STUDIES IN MAJOR AUTHORS. (3)**
Explorations into one or several major figures of German literature. Reading of primary texts and pertinent scholarship together with an investigation of the authors' literary, social, or political significance during contemporary or later periods. May be repeated to a maximum of 12 credits. Prereq: GER 311 or GER 312, or equivalent. Instructor consent.

***GER 516 STUDIES IN GENRE. (3)**
One major genre or a group of related genres. Readings in genre theory and in the key texts from various periods; study of the development of forms, techniques, and ideas. May be repeated to a maximum of 12 credits. Prereq: GER 311 or GER 312, or equivalent. Instructor consent.

GER 520 SPECIAL TOPICS SEMINAR. (3)
Investigation of a topic pertinent to the advanced study of German language, literature and culture. May be repeated once with new topic. Prereq: GER 415G, 416G, 420G or equivalent.

GER 532 HISTORY OF THE GERMAN LANGUAGE. (3)
A survey tracing the development of German from its earliest stages to the present, with introduction to basic concepts of historical linguistics. Prereq: GER 308 or equivalent.

***GER 550 MULTIDISCIPLINARY GERMAN STUDIES SEMINAR (Subtitle required). (3)**
A team-taught, multidisciplinary exploration of a set of issues that effect cultural, literary, geographical, historical, political, philosophical or social developments in Germany in relation to surrounding geographical areas. The seminar will foster multidisciplinary perspectives in the study of Germany, its inhabitants, and cultural traditions, in historical, contemporary, and comparative contexts. Seminar readings in German, discussion in English. Seminar foci will vary year to year, including such topics as "Individual and Collective Identity Formations in post-Enlightenment Germany," "Constructions of German Heimat," and "Freud, Culture, Society." May be repeated to a maximum of six credits under different subtitles. Prereq: Senior standing or consent of instructor.

GER 553 THE TEACHING OF GERMAN. (3)
The course is designed for teachers and prospective teachers of modern foreign languages, with emphasis on German. Modern methodology, theory and practice of language pedagogy. Prereq: Permission of instructor required.

GER 612 STUDIES IN LITERARY THEORY. (3)
Course will explore such fundamental issues as the definition of literature, interpretation and evaluation, the reading process, and literary life from the perspective of competing theoretical systems.

GER 615 STUDIES IN MAJOR AUTHORS. (3)
Explorations into one or several major figures of German literature. Reading of primary texts and pertinent scholarship together with an investigation of the authors' literary, social, or political significance during contemporary or later periods. May be repeated to a maximum of 12 credits.

GER 616 STUDIES IN GENRE. (3)
One major genre or a group of related genres. Readings in genre theory and in the key texts from various periods; study of the development of forms, techniques, and ideas. May be repeated to a maximum of nine credits.

Note: The series of courses **GER 620-630** provides a general framework for the systematic study of German literature in its cultural setting and delimits various issues to be investigated further in corresponding 700-level courses. Readings and discussions focus on documents central to the literary life of a given period and to the understanding of its institutional and biographical basis as well as its regional, sociopolitical, motivational, poetological, and ideological diversity. Each course also emphasizes critical methodology and tools of scholarship and identifies new directions for basic research.

GER 620 STUDIES IN THE MIDDLE AGES. (3)
From Carolingian times to the late Middle Ages.

GER 624 STUDIES IN THE EARLY MODERN ERA. (3)
The Age of Renaissance, Reformation, and Baroque.

GER 625 STUDIES IN THE 18TH CENTURY. (3)
Enlightenment to Classicism.

GER 629 STUDIES IN THE 19TH CENTURY. (3)
Romanticism to Naturalism.

GER 630 STUDIES IN THE 20TH CENTURY. (3)
Turn-of-the-century Modernism to the present.

GER 650 MULTIDISCIPLINARY GERMAN STUDIES SEMINAR (Subtitle required.) (3)
A team-taught, multidisciplinary exploration of a set of issues that effect cultural, literary, geographical, historical, political, philosophical or social developments in Germany in relation to surrounding geographical areas. The seminar will foster multidisciplinary perspectives in the study of Germany, its inhabitants, and cultural traditions, in historical, contemporary, and comparative contexts. Seminar readings in German, discussion in English. Seminar foci will vary year to year, including such topics as "Individual and Collective Identity Formations in post-Enlightenment Germany," "Constructions of German Heimat," and "Freud, Culture, Society." May be repeated to a maximum of six credits.

GER 653 RESEARCH AND ISSUES IN TEACHING GERMAN. (1)
This course builds on GER 553, Methods of Teaching German. The course will address a range of educational issues beyond the teaching of foreign language skills as well as acquaint students with research methods in both a theoretical and practical manner. May be repeated to a maximum of four semesters. Coreq: GER 553.

Note: *The course series **720-730** offers the opportunity for the more specialized and greater in-depth investigation of various topics encountered in the corresponding, but more broadly conceived, period courses of the 620-630 series. With changes in topic, each course number of the 720-730 series can be repeated a total of three times - thus enabling the student at the more advanced level to specialize within a particular period or periods.*

GER 721 SPECIAL TOPICS IN GERMAN LITERARY AND CULTURAL HISTORY. (3)
This course allows for the in-depth study of specific topics in German literary and cultural history encountered in the broadly conceived period courses of the 620-630 series. With changes in topic the course may be repeated to a maximum of nine credits. Prereq: Permission of Director of Graduate Studies.

GER 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

GER 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

GER 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

GER 781 INDEPENDENT STUDIES IN GERMAN. (1-3)
Course allows individual students to pursue independent research on a selected aspect of German linguistic, literary or cultural history. May be repeated once if topic changes. Prereq: Permission of Director of Graduate Studies.

SCANDINAVIAN

(Offered as required)

GER 141 SWEDISH I. (3)
Introduction to Swedish with emphasis on grammar, pronunciation, reading and writing. Basic information on Swedish customs, history, geography, folklore. Students planning to fulfill part of a language requirement should be aware that the scheduling of Swedish III and IV will be subject to student demand and the availability of a qualified instructor.

GER 142 SWEDISH II. (3)
Continuation of Swedish I with additional emphasis on conversation. Prereq: GER 141 or equivalent.

GER 610 OLD ICELANDIC. (3)
Rapid coverage of morphology, phonology and syntax of Old Icelandic, with some attention to linguistic affinities within the Indo-European and Germanic groups of languages. Prereq: Reading knowledge of German; consent of instructor.

GRN Gerontology

GRN 250 AGING IN TODAY'S WORLD. (3)
This class explores the processes and meanings of "growing old," focusing on influences from childhood through adolescence and adulthood, with constant attention to how these processes and meanings are situated in time and space and eventually inform individual and societal conceptions of and actions concerning old age. The many faces of aging are examined from an array of disciplinary perspectives using selected readings, film documentaries, consideration of personal/family histories, and a series of exercises that allow students to place one's own life experience and thoughts of growing old in broader societal context.

GRN 513 GERIATRIC PHARMACY. (3)
A course designed to educate students in the basic knowledge of attitudes and skills required to meet the pharmaceutical needs of the elderly. Topics include discussions of the aging process, physiological and psychological changes in the elderly, how these changes influence patient compliance and the responses to drug and nondrug treatments, monitoring drug use in long-term care facilities, and special community services available to the elderly. Prereq: PHR 849, 852, 853, 854 and 856 or permission of instructor. (Same as PPS 813.)

GRN 585 AGING AND ENVIRONMENT. (3)
Explores the elderly person's changing experience of environment. Physiological, psychological and social changes are related to adjustment within urban and rural community environments, special housing for the elderly, and long-term care environments. Prereq: Graduate or advanced undergraduate standing and consent of instructor. (Same as FAM/GEO 585.)

GRN 600 A STUDY OF THE OLDER PERSON. (3)
This didactic/experiential course is designed to give the student an overview of the experience of growing old by focusing on the individual older person. Framed from a cell to society perspective, didactic lectures will focus on historical, demographic, biological, psychological, social, environmental, life course and humanistic dimensions of growing old. Emphasis is placed on the relationship between individual experience and societal context. The experiential component will consist of having each student interact with a healthy elder mentor who will provide insight from the perspective of lived experience. Prereq: Admission to the Ph.D. Program in Gerontology.

GRN 602 CERTIFICATE PRACTICUM IN GERONTOLOGY. (3)
The course is a field experience of approximately 220 hours focused on aging. Content, site, and supervisor may vary; but the student must have an objective-based proposal approved prior to beginning the practicum. Prereq: Acceptance into the Graduate Certificate in Gerontology.

GRN 610 PSYCHOLOGY OF AGING. (3)
This is a graduate level seminar on the psychology of aging. The course will focus on many of the major topics and theories relevant to understanding the aging process. It focuses on health behaviors, sensation and perception, cognitive abilities, personality, social interactions, motivation and emotion, psychological disorders, end of life issues, and successful aging. The course examines the topics above from a normal aging perspective, atypical aging, successful aging, and demonstrates the interrelationships between the topics to address the aging individual. The course will also focus on the methods used to conduct psychological research with an aging population.

GRN 612 BIOLOGY OF AGING. (3)
A multidisciplinary discussion of how the process of aging affects biological systems. Coverage will be quite broad and includes topics such as subcellular and cellular aging, genetics, immunology, anatomy and physiology, animal model of aging, etc. Prereq: Enrollment in the doctoral program in Gerontology or a biomedical science department or consent of instructor. (Same as ANA/BIO/PGY 612.)

GRN 615 SEMINAR IN TEACHING MEDICAL SCIENCE (MED SCIENCE TEACHING I). (2)
A two (2) credit seminar course in which issues related to the theory and practice of life science education are discussed in a Socratic manner. May be repeated to a maximum of three credits. Prereq: Current enrollment in a life science graduate program. (Same as PGY 615.)

GRN 616 TEACHING SEMINAR IN GERONTOLOGY. (2)
The purpose of this seminar is to prepare doctoral students as classroom instructors, and to enhance instructional skills of those students with teaching experience. Emphasis is placed on developing the fundamental knowledge and skills needed to survive and excel in the classroom. Topics covered include: course development strategies; lecture preparation and delivery; interactive and group learning; writing for learning; student evaluation; student advising; and instructional ethics and responsibilities. Seminar activities include development of instructional materials, thematic discussion, and demonstrations/simulations of classroom experiences. Prereq: GRN 600 and GRN 620, or consent of instructor.

GRN 617 TEACHING PRACTICUM IN GERONTOLOGY. (3)
This practicum provides a forum for continued development of teaching skills by concurrently combining classroom instruction experience with formal instructor debriefing sessions. Problematic and successful experiences will be discussed, and specific instructional concepts and issues will be addressed in depth. Prereq: GRN 616 and concurrent classroom teaching.

GRN 618 EPIDEMIOLOGY OF AGING. (3)
This course introduces the application of epidemiologic methods to the study of older persons. Prereq: Enrollment in a Public Health degree and SPH 605/PM 620 Intro to Epidemiology and GRN 650, or consent of instructor. (Same as SPH 618.)

GRN 620 HUMAN AGING AND ADJUSTMENT. (3)
The intent of GRN 620 is to provide continued development (from GRN 600) of critical interdisciplinary skills in studies of the aging process. Students will, as a group, identify a single central issue associated with aging and conduct comprehensive literature reviews and appropriate research to thoroughly address that issue. Prereq: GRN 600 and admission to the Ph.D. program in gerontology.

GRN 644 DEMOGRAPHY AND AGING. (3)
This course examines the dynamics of human population distributions, densities, and growth patterns as they relate to population aging. The essential demographic processes of fertility, mortality, and mobility are addressed from multiple disciplinary perspectives, and topical coverage includes the environmental, social, political, economic, and cultural impacts on personal demographic behavior and population change. Emphasis is placed on historic and contemporary meanings and influences of population diversity, and how this diversity affects the patterns and consequences of aging across space and time.

GRN 650 RESEARCH DESIGN IN GERONTOLOGY. (4)
This course will provide training in research design appropriate for the study of aging and the aged and will critically assess special considerations involved in studying this population. Topics to be covered will include: philosophy of science; data sources for research on aging (including medical informatics and clinical epidemiology sources); the use of animal models in aging research; special design considerations for the study of aging [reconciling age, period, and cohort effects]: longitudinal research; measurement tools for assessing the elderly [functional assessment, ADLs, life satisfaction scales, etc.] issues in interviewing older people; qualitative methods in aging research; the ethics of research on aging and the aged. Prereq: Admission to Gerontology Ph.D. Program.

GRN 651 QUALITATIVE GERONTOLOGY. (3)
This course (1) critically evaluates different qualitative epistemologies including biography, phenomenology, grounded theory, ethnography and the case study; (2) assesses the value of alternative qualitative methodologies for gaining deeper understanding of the experience of elders; (3) explores practical issues in employing such methodologies; and (4) provides opportunities for participants to engage in different styles of qualitative research. Prereq: Graduate standing.

GRN 653 LABORATORY RESEARCH IN GERONTOLOGY. (3)
Students will be exposed to current biomedical techniques by conducting supervised research in a laboratory setting. Prereq: Permission of instructor.

GRN 656 INTEGRATIVE STUDIES IN GERONTOLOGY. (3)
This seminar is designed to provide gerontology doctoral students the opportunity to place individual dissertation topics within the broader field of gerontology, and to broaden the authority with which the students engage in their dissertation work. Although work will largely be independently driven, frequent class meetings provide ongoing feedback from the group on progress and allow all participants to learn from each others work. Prereq: Completion of gerontology core requirements.

GRN 660 AGING ISSUES AND FAMILY RELATIONS. (3)
The study of dynamics of family interactions and issues when some family members are elderly. Emphasis is placed on perspectives from multiple generations and across various kin categories. (Same as FAM 660.)

GRN 704 MENTAL HEALTH AND AGING. (3)
The aim of this class is to provide some breadth and selected depth in the area of Mental Health

and Aging, aimed at research perspectives. Various psychiatric syndromes will be evaluated in lectures and throughout the readings in relation to prevalence, assessment, etiology, and treatment in reference to research in older adults. Prereq: Graduate student status.

GRN 705 COGNITIVE AGING. (3)
This is a graduate level seminar on cognitive aging. Topics to be addressed include theories of aging, memory, sensation, and perception, attention, language, social cognition, intelligence, decision-making, and dementia.

GRN 706 HEALTH PROMOTION AND AGING. (3)
In this class health promotion in old age will be examined. The theory behind health promotion programs and the status of existing health promotion program for older adults will be reviewed and discussed. Finally, the knowledge acquired in class will be used to develop and demonstrate an innovative health promotion program for older adults. Prereq: Graduate student standing.

GRN 710 AGING OF THE NERVOUS SYSTEM. (3)
This course will examine the alterations in the brain that occur with aging and in neurodegenerative disorders such as Alzheimer's disease. The emphasis will be on human aging although the relevance of animal models to studies of human aging will be a recurrent theme. The course will examine aging at several levels, including molecular, cellular, organismic, and behavioral. A strong background in the basic sciences in encouraged. (Same as ANA/PGY/PHA 710.)

GRN 715 HEALTH POLICY AND AGING. (3)
This course will present an overview of health policy in the United States as it affects the older population. It will provide an overview of the health care system, allocation of health services across the population and projected impact of the increase in the aging population on health care delivery. Various health policy proposals will be analyzed with a focus on their impact on the older population. (Same as HA 715.)

GRN 720 GERONTOLOGY/GERIATRIC DENTISTRY. (1)
This course is designed to help students gain an appreciation for the significant opportunities as well as challenges the aging population will bring to their oral health practice. This course will provide students basic knowledge and information in gerontology/geriatric dentistry. Lecture, 17 hours. May be repeated to a maximum of two credits. Prereq: Permission of course director.

GRN 731 ELDER MISTREATMENT. (3)
This course reviews major issues and trends related to elder mistreatment. The course emphasizes individual and systemic issues related to elder abuse, neglect, exploitation, and self-neglect on individual, local, state, and federal levels. Special consideration is given to dynamics that shape past, current, and future issues related to elder mistreatment. Prereq: Graduate student status and/or permission of instructor.

GRN 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

GRN 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

GRN 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

GRN 770 SPECIAL TOPICS IN GERONTOLOGY. (1-3)
This course is designed to present contemporary topics in gerontology in either a lecture or seminar format. It is intended to provide students with opportunities to be informed of current issues in gerontology as well as to explore in-depth studies of particular gerontological topics. May be repeated to a maximum of twelve credits.

GRN 771 AGING IN RURAL ENVIRONMENTS. (3)
In the context of a changing rural environment, this seminar explores the life circumstances and life experience of rural elders in relation to the health and well-being of this population.

GRN 772 AGING AND THE LIFE COURSE. (3)
This seminar will establish a common foundation of knowledge through examinations of traditional "life courses" influencing individuals as they age through time, including household and family, education and work, and housing. This foundation will be built upon using critical examinations of such themes as gender roles, spatial experience, cognitive change and memory, and structural effects on life trajectories. Emphasis will be placed on surveys of existing literature and on integrating various life course elements within social and behavioral theory.

GRN 773 ETHICS AND AGING. (3)
The focus of this class is on applied ethics and aging. We will address the following topics: mid/late life reproduction; research with older adults; spirituality/selfhood; legal issues; cultural issues; vulnerable older people; caregiving and community-based care; specific issues related to Alzheimer's Disease; issues at the end of life, and other timely ethical issues that may arise during the course. The course will make use of provocative readings, case studies, supplementary professional articles, a presentation and paper, lively class discussion, and outside speakers who will share their expertise with you on a variety of ethical issues related to aging.

GRN 774 PUBLIC POLICY AND AGING. (3)
This course reviews major issues and trends in the economics of aging and social policy and aging. The course emphasizes health, economic, and welfare policies and considers their implications on federal, state, and local levels. Special consideration is given to dynamics that shape past, current, and future policy in the area of aging. Prereq: Graduate standing.

GRN 775 CLINICAL GERIATRICS. (3)
This course provides a perspective of clinical geriatrics. Basic concepts of geriatric care are presented, along with concepts of gerontology as it applies to geriatric medicine. This course is designed for both clinicians and non-clinicians.

GRN 778 CURRENT TOPICS IN BRAIN AGING. (3)
Students will learn cellular and molecular changes that occur in the brain through AD progression in addition to the impact of these changes on individual lifestyle and on society.

GRN 780 APPLIED GERONTOLOGY PRACTICUM. (1-3)
This course is designed to provide students the opportunity to experience the practical application of gerontology in such domains as government, administration and clinical environments. In addition, the student will gain in-depth experience with the organization and an introduction to problems in applied research. Students will work under the supervision of a gerontology faculty member to coordinate efforts, establish timelines for completion, and determine grading criteria. May be repeated to a maximum of six credits. Approval of the Director of Graduate Studies required.

GRN 781 STUDENT DEVELOPMENT PRACTICUM. (1)
This practicum provides an opportunity for students to present and discuss their research findings in a venue that promotes skill development in the areas of preparation and delivery of research presentations. Students are required to enroll in GRN 781 during each of the first five semesters in residence. Prereq: Admission to Gerontology Ph.D. program.

GRN 782 WOMEN'S HEALTH AND AGING. (3)
This class explores the issues related to health and well-being among older women. Using a multidisciplinary approach that blends humanities, social and medical science and public policy, the course examines social, economic and cultural contexts of chronic physical and mental health. Prereq: Upper level/graduate class in social science. (Same as BSC 782.)

GRN 783 PUBLIC HEALTH AND AGING. (3)
Public Health and Aging is an elective course in the Graduate Center for Gerontology and Department of Health Behavior and is offered to students on the graduate level. The focus of the course is to help students identify a public health framework and a paradigm for addressing the issues of social, emotional, physical, and mental health in older adults, as well as a keen understanding and awareness of chronic disease prevention, mortality, and quality of life issues that are germane to aging in the United States. Prereq: Graduate standing.

GRN 785 INDEPENDENT RESEARCH IN GERONTOLOGY. (1-6)
Open to doctoral students who have the necessary training and ability to conduct research at an advanced level. Students will work under the supervision of a gerontology faculty member to coordinate research efforts, establish timelines for completion, and determine grading criteria. May be repeated to a maximum of 9 credits. Approval of the Director of Graduate Studies required.

GRN 786 INDEPENDENT READINGS IN GERONTOLOGY. (1-6)
Open to doctoral students who have the necessary training and ability to work independently at an advanced level. Students will work under the supervision of a gerontology faculty member to identify readings appropriate for the student's chosen topic, establish timelines for completion, and determine grading criteria. May be repeated to a maximum of nine credits. Approval of the Director of Graduate Studies required.

GRN 790 PROFESSIONAL DEVELOPMENT IN GERONTOLOGY. (1)
This seminar will cover elements of professional development in the areas of research, teaching and service as students are prepared for obtaining positions and developing careers in gerontology. Emphasis will be placed on means of documenting progress and accomplishment (e.g., CV building, teaching portfolio development, evaluation), effective strategies for searching for and securing jobs (e.g., interview skills), and strategies for promoting quality performance and professional success in gerontology-related professions. Prereq: Admission to the Gerontology Ph.D. program.

GRN 791 INTEGRATIVE RESEARCH SEMINAR II. (1)
This seminar is the second in a two-course sequence involving students and gerontology program faculty in in-depth exploration of major health and aging-related issues. Course details are the same for GRN 790. Prereq: GRN 790.

GS The Graduate School

GS 600 SPECIAL TOPICAL GRADUATE COURSE. (1-3)
An interdisciplinary, topical or experimental course to be approved by the Dean of the Graduate School. A particular course can be offered no more than twice under the number GS 600. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

GS 610 COLLEGE TEACHING. (1)
This one-credit-hour seminar addresses teaching and learning issues in the college classroom. It is intended for graduate students who want to prepare for future academic careers and enhance current teaching activities. The seminar will examine pedagogical issues in a general format with opportunities for discipline-specific applications. This course can serve to augment any department-based programs.

GS 620 TEACHING IN THE 21ST CENTURY. (1-2)
This seminar, part of the Preparing Future Faculty program, is a rotating series of 1-2 credit hour courses on various aspects of life in institutions of higher education. Participating graduate students from a range of disciplines will have the opportunity for an in-depth exploration of the research and practice surrounding a special topic in college teaching and learning. The seminars will involve both classroom activities and experience-based learning. For example, the course on first-year students will include a study of current research on the first-year experience, interviews with first-year students, and an experiential component where participants serve as mentors for first-year students. Participants will be asked to produce a paper that integrates the theoretical and experiential aspects of the course and develops implications for teaching in their content areas. May be repeated to a maximum of three enrollments.

GS 630 INSTRUCTIONAL TECHNOLOGY. (1)
This seminar addresses pedagogically sound and effective applications of instructional technologies (IT) in college teaching. Course goals include examining the impact of IT on learning outcomes, teaching strategies, and instructional assessments; developing proficiency in creating PowerPoint presentations, designing and managing instructional Web sites, facilitating Internet dialogue, and conducting distance learning courses; and considering how IT affects faculty roles and responsibilities, the nature of the college classroom, and the future of higher education.

GS 640 GRANT WRITING. (3)
This course prepares graduate students to be PI on a state, federal, other large competitive grant. Students prepare and critique proposal. Prereq: GS 650.

GS 650 PREPARING FUTURE FACULTY. (2)
Preparing Future Faculty is designed to introduce graduate students to the roles and responsibilities of the college teacher and to assist them in understanding the variety of institutions in which effective teaching takes place. Students will focus on the academic expectations, institutional identities, and particular policies and procedures which characterize different types of institutions of higher learning. Skills to help students apply for positions and achieve success in their appointments will also be addressed. Lecture, two hours per week.

GS 660 BIOACTIVE INTERFACES AND DEVICES SEMINAR. (1)
A multi-disciplinary seminar in Bioactive Interfaces and Devices. May be repeated to a maximum of four credits. Prereq: Graduate status.

GS 680 GRADUATE STUDENT LEAVE OF ABSENCE. (0)
This course is intended for degree-seeking graduate students that have received permission to take a leave of absence for one or more semesters. By registering for GS 680 (0 credit) students remain officially enrolled in the Graduate School and will therefore be eligible to priority register for the subsequent semester. Prereq: Enrollment in a graduate degree-granting program.

GS 695 SPECIAL PROBLEMS IN COLLEGE TEACHING AND LEARNING. (1-3)
This special problems course is designed to provide opportunities for graduate students and postdoctoral scholars pursuing a Certificate in College Teaching and Learning to explore special problems related to college teaching that bridge or fall outside the domain of departmental efforts; graduate students exploring faculty development as a career option; and students who currently hold full-time teaching positions in colleges or universities and who are interested in professional development or credentialing in College Teaching and Learning. An "Independent Graduate Work Initiation Form" must be filed with the Certificate Director prior to registration for this course. May be repeated to a maximum of six credits. Prereq: Submission of the GS 695 Proposal Form one semester in advance.

GS 699 PRACTICUM IN COLLEGE TEACHING. (3)
The Practicum is a mentored teaching experience that not only immerses the graduate student in teaching by also fosters reflection on the experience, provides structured feedback and plans for improvement, and guides students in developing a teaching portfolio. The practicum requires that the graduate student assume full responsibility for a course, under the guidance of a mentor teacher. Supervision for the practicum experience is a joint responsibility of the Teaching and Learning Center, certificate faculty, and the student's mentor. The practicum is distinct from many mentored Teaching Assistant experiences because the student must have full responsibility for the course, including syllabus and materials development, assessment, instructional responsibilities, and grade assignments. Credit will not be assigned until the graduate student has submitted a teaching portfolio that includes the practicum experience. Prereq: EPE 672; GS 610 (or equivalent); consent of instructor required.

GS 758 CAPSTONE RESIDENCY. (0)
Completion of capstone project for plan B (non-thesis) students; course may not be repeated. All course work toward the degree must be completed. Prereq: All course work toward the degree must be completed.

GWS Gender and Women's Studies

GWS 200 SEX AND POWER. (3)
Introduces Gender and Women's Studies from a social science perspective using cross-cultural and interdisciplinary approaches. Analyzes relations of power marked by gender and how these relate to other social distinctions and processes. Interactive learning format.

GWS 201 GENDER AND POPULAR CULTURE. (3)
This course examines the role of popular culture in the construction of gendered identities in contemporary society. We examine a wide range of popular cultural forms – including music, computer games, movies, and television – to illustrate how femininity and masculinity are produced, represented, and consumed.

GWS 250 SOCIAL MOVEMENTS. (3)
This course examines women's social movements across at least three different cultural/national world areas, including key theories that explain the origins, strategies, and success of women's social movements. In this course, we critically analyze case studies from different parts of the world to understand how social movements work on the ground and in specific cultural environments with unique historical trajectories, attending to ways in which social movements are shaped by, and do or do not result in changes to, structures of gender, race, ethnicity, class, and sexuality.

GWS 300 TOPICS IN GENDER AND WOMEN'S STUDIES (Subtitle required). (3)
Selected topics in women's studies with special attention to those of contemporary relevance. May be repeated to a maximum of nine credits under different subtitles. Prereq: GWS 200 or GWS 201 or permission of instructor.

GWS 301 CROSSROADS (Subtitle required). (3)
Specific topics will vary, but all courses taught under this title focus on the contributions, interplay, intersections, constructions, history, and confrontations that the social categories and lived experiences of gender, race and class produce in the United States. Examines opportunities for civic responsibility and social justice. May be repeated up to a maximum of 9 credit hours under different subtitles.

GWS 302 GENDER ACROSS THE WORLD (Subtitle required). (3)
Interdisciplinary, comparative and transnational examination of issues of gender focused around particular themes and locations. Thematic focus explicating gender which also illuminates questions of history and political economy in specific locations. Introduces students to research and a variety of analytical questions in the field, as well as the interaction between locales/people and structural processes. May be taken up to 9 credit hours under different subtitles.

#GWS 309 HEALTH, HISTORY, AND HUMAN DIVERSITY. (3)
Health care reform is often in the news, and everyone has an opinion on why the system is broken, how to fix it, who should have access to good medical care, under what circumstances, and what constitutes "good care." This online, multi-format course will consider what it has meant to be a good patient or a good doctor at various points in U.S. history, who was included or excluded in each group, how medicine became professionalized, and how people have organized around health issues. Students will engage with primary sources, watch related films, interact with the professor during virtual "office hours," and participate in online moderated discussions. (Same as CPH 309.)

GWS 340 HISTORY OF FEMINIST THOUGHT TO 1975. (3)
This course is designed to provide students with an historical overview of the cultural diversity, creative and theoretical expression, and defining moments in the development of feminist thought up to 1975. Texts will include works, such as that of Hypatia, Christine De Pizan, Sor Juana Ines de la Cruz, and Mary Astell, that pre-date the term "feminist" but that are pioneering statements in the struggle for gender equality. "Thought" will include political manifestos, poetry, and short stories, as well as classic works of feminist theory and cultural criticism.

GWS 350 INTRODUCTION TO FEMINIST THEORIZING. (3)
An interdisciplinary course that acquaints undergraduate students with the central issues and texts in contemporary feminist theories. It will examine what feminist and womanist theories are and the ways in which they analyze and explain the workings of our social world. The course will clarify basic concepts in feminist thought such as gender, difference, patriarchy, and post-colonialism and will provide students with tools to analyze these theories and explore contemporary applications. Prereq: GWS 200 or GWS 201.

GWS 360 LGBTQ HISTORY IN THE UNITED STATES. (3)
Introduces changing perceptions of homosexuality over time, as well as the creation of LGBTQ identities and social movements; explores the meanings of same-sex love prior to the existence of current terminology, and how, when, and why such language developed; and examines the cultural context in which "homosexual" came to represent a person rather than a behavior in 19th century Euro-American culture and the concurrent medicalization of homosexuality and gender nonconformity.

GWS 395 UNDERGRADUATE RESEARCH IN GENDER AND WOMEN'S STUDIES. (1-3)
The purpose of this course is to give students the opportunity to engage in independent faculty-directed library or field research focused upon significant issues and problems confronting women in contemporary society. May be repeated to a maximum of 6 hours. Prereq: GWS 200 or GWS 201 and written agreement of a Women's Studies Affiliated faculty member, who will direct the study.

GWS 399 INTERNSHIP IN GENDER AND WOMEN'S STUDIES. (1-6)
Provides field experiences in women's studies through work in education, industry, government, or community organizations. Offered on a pass/fail basis only. Maximum six credit hours per placement to maximum of twelve credit hours total. (Three hours can be counted toward the undergraduate Women's Studies minor requirements.) Prereq: GWS 200 or GWS 201 and declared minor in Women's Studies and consent of instructor.

GWS 400 DOING FEMINIST RESEARCH. (3)
In this course, we focus primarily on different kinds of qualitative research. Students will become familiar with a variety of methods used by Gender and Women's Studies scholars, and reflect on the problems involved in gathering information. But primarily, students will BE the researcher: using all these methods to develop a variety of approaches to studying a Women's Studies topic of choice. Each week, class participants will discuss the practicalities of conducting particular kinds of research and evaluate the studies; and they will share research findings in a workshop format. Prereq: GWS Major or permission of instructor.

GWS 410 INTRODUCTION TO QUEER THEORY. (3)
An introduction to theories of how people think about and enact genders and sexualities. Students will learn key scholarly concepts in order to differentiate between queer theory as an interdisciplinary approach to sexuality studies and disciplinary approaches to the study of sexuality, such as psychological, historical, anthropological, or sociological. We will apply critical theory to political debates, literary texts, and films in order to understand the contributions made by queer theory to the study of humanities, especially issues of human diversity and globalization. Prereq: GWS 201 or GWS 200.

GWS 430 GENDER, POWER AND VIOLENCE. (3)
This course is organized around three selected but interrelated themes to help us examine the interconnections between gender, power, and violence in different cultural settings. We will examine state, institutional, and interpersonal violence and critically analyze the ways in which gender and power are articulated at each of these levels. In our discussions, we will pay special attention to the various forms (physical, psychological, economic, sexual, and symbolic) violence may take and analyze the causes and consequences of different articulations of gender, power, and violence.

GWS 506 HISTORY OF SEXUALITY IN THE U.S. (3)
An overview of the history of beliefs about sexuality, sexual cultures and norms, and sexuality's relationship to power in American society from the colonial period to the present.

GWS 595 ISSUES IN GENDER AND WOMEN'S STUDIES (Subtitle required). (3)
Discussion, readings, and papers focusing on relevant topics in Women's Studies directed by a faculty member with expertise in the topic under study. Courses will be interdisciplinary, although they will also include materials from particular relevant disciplines. May be repeated under different subtitles to a maximum of six credits. Prereq: GWS 200 or GWS 201 or permission of instructor.

GWS 599 SENIOR SEMINAR (Subtitle required). (3)
This course provides a space for students to synthesize what they have learned about the methods and theories of GWS in a few different ways. Students will reflect on the ways in which one puts together an argument and writes as an interdisciplinary scholar on gender or women. Students will do this by writing a senior thesis and editing the theses of other students, and reading and discussing some materials which deal with research and writing in GWS. Prereq: Must be a declared major or minor in junior or senior year, or have written permission of the Chair in an exceptional circumstance.

GWS 600 TOPICS IN GENDER AND WOMEN'S STUDIES (Subtitle required). (3)
Selected topics of theoretical or substantive interest in women's studies with special attention to topics of contemporary relevance. May be repeated to a maximum of nine credits under a different subtitle. Prereq: Graduate standing or permission of instructor.

GWS 610 WOMEN AND "MADNESS". (3)
This course explores the social construction of mental illness as it pertains to gender. We will consult narratives from different disciplines: Literature, Psychology, Cultural Studies, Anthropology, History and Feminist Theory. Our focus will concern the ways in which all women are constructed as "sick" as well as the perspectives of women who feel a sense of psychic dislocation and disability in their lives. Readings by women of color and lesbians will suggest the particular ways culture defines such women as "abnormal."

GWS 616 COLONIALISM/POST-COLONIALISM AND GENDER. (3)
This course is designed to expose students to a range of theories and debates centering on or pertinent to women, gender, and sexuality in the field of postcolonial studies. Here, the field is understood in its widest and most interdisciplinary sense, inclusive of studies of Empire, the independent so-called "Third World", and diasporas. Topics for study will include classical texts in the field, current postcolonial readings on gender and sexuality in empire, representation, trans/nationalism, and diasporas. Course credit may be used to help satisfy the international component of the Women's Studies Graduate Certificate requirements.

GWS 620 COMPARATIVE CONSTRUCTIONS OF GENDER AND SEXUALITY. (3)
This course is designed to give students an understanding of an array of diversely situated theories and debates about gender and sexuality mainly outside of mainstream U.S. culture. Countries/communities of focus will vary.

GWS 630 SEMINAR IN FEMINIST RESEARCH METHODS. (3)
This course presents a variety of research methods used by Gender and Women's Studies scholars. The course examines how research has been conducted in a range of fields within Gender and Women's Studies, presents basic skills, commonly used methods, ethical issues, and social applications.

GWS 640 HISTORY OF FEMINIST THOUGHT AND ACTION (Subtitle required). (3)
Course provides a historically organized, thematically focused examination of pioneering works of feminist argument and analysis, creative writing, art, memoir, and politics. Theme and time-period vary according to instructor, but time-span covers at least fifty years and content includes at least two national, ethnic, or geographical contexts. May be taken up to six credit hours under different subtitles.

GWS 650 FEMINIST THEORY. (3)
An interdisciplinary course addressing issues in contemporary feminist theory (such as intersections of race and gender, the body, ideology and representation, sexuality, etc.).

GWS 675 ADVANCED FEMINIST THEORY. (3)
An advanced topics course in feminist theory. Prereq: Permission of instructor.

GWS 690 GRADUATE RESEARCH IN GENDER AND WOMEN'S STUDIES. (3)
The purpose of this course is to provide graduate students the opportunity to engage in independent faculty-directed research in Women's Studies. Prereq: Written agreement of a Women's Studies Affiliated Faculty Member, who will direct the study.

GWS 700 TOPICAL SEMINAR IN GENDER AND WOMEN'S STUDIES (Subtitle required). (3)
Intensive work in particular topics in Gender and Women's Studies. May be repeated four times with different subtitles. Prereq: Graduate standing in GWS, or consent of instructor.

GWS 710 LATIN AMERICAN AND U.S. LATINA WOMEN'S LIVES. (3)
This course employs an interdisciplinary perspective to critically examine the various identities and spaces created by, and imposed on, women in Latin America and Latinas in the U.S. We explore connections and divergences within and between these two groups of women, but begin by examining how the legacies of conquest in Latin America and the U.S. have shaped women's experiences in the past. This background will also help us understand how women's experiences have differed given the specific contexts in which their lives unravel.

GWS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

GWS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended. Prereq: Successful completion of the qualifying examination.

GWS 775 DOMESTIC VIOLENCE ACROSS CULTURES. (3)
This course focuses on domestic violence cross-culturally and from an interdisciplinary perspective. We discuss theories of domestic violence and how research and popular representations influence ideas regarding this phenomenon. We draw on specific experiences of intimate partner violence in different parts of Latin America, North America, Africa, Asia, and Europe. Topics include the impact of migration on women's experiences of violence, state responses and law enforcement, women's use of violence, the role of in-laws in women's experiences of violence, and women's resistance.

HA Health Administration

HA 601 OVERVIEW OF U.S. HEALTHCARE. (3)
An introduction to healthcare in the United States, including its composition, function, organizations and professional groups, settings, terminology, major problems and issues. Prereq: MHA program status or permission of instructor.

HA 602 STRATEGIC PLANNING AND MARKETING IN HEALTHCARE. (3)
This course is designed to focus on the future needs of the health care organization as contrasted to day-to-day operational management. Strategies for the design and implementation of organizational change including techniques of quality and process improvement will be addressed. The strategic planning components of needs assessment, demands analysis, generation of alternative, priority setting and evaluation form the basis of the course. Several health care trends such as restructuring, innovation in health care delivery and financing, and performance measurements will be illustrated through case analysis in a variety of provider settings. Prereq: MPA/MHA program status and PA/HA 621.

HA 603 LEGAL ASPECTS OF HEALTHCARE MANAGEMENT. (3)
The course will familiarize students with the application of law to management issues in health care organizations. Skills including terminology, legal reasoning, the tools of law, and topics specific to the health care setting are addressed. Prereq: MHA program status.

HA 604 HEALTHCARE ETHICS AND GOVERNANCE. (2)
This course addresses the basic concepts and principles of healthcare ethics, including the biomedical, managerial, and organizational components and applies them using case studies, role playing, and analytical exercises. The course also examines the roles and responsibilities of healthcare governing boards and factors that influence their effectiveness. Prereq: MHA program status or consent of instructor.

HA 621 QUANTITATIVE METHODS FOR HEALTHCARE MANAGEMENT. (3)
This course is a survey of quantitative methods for healthcare managers. Specific content areas include problem selection, data collection, measurement, analytic techniques, and research design. Prereq: MHA program status or permission of instructor.

HA 622 MENTAL HEALTH ADMINISTRATION. (3)
This course focuses upon the administration of local mental health agencies, facilities and coordination of deinstitutionalization programs, e.g., group houses, halfway houses. The course will focus upon system coordination, finance and communication. Prereq: MHA/MPA program status.

HA 623 OPERATIONS ANALYSIS AND MANAGEMENT. (3)
This course covers the basics of operations improvement from project selection through process and outcomes evaluation. The focus is on strategic decision making under conditions of uncertainty, risk, and multiple objectives, as well as change implementation using teams. Prereq: HA 621 or permission of instructor.

HA 624 INFORMATION SYSTEMS IN HEALTH CARE. (3)
This course will focus on the life cycle approach to information systems development. Phases of this approach include systems analysis, design, implementation, maintenance and evaluation. This approach has a technological, financial, and human factors component. The decision making and planning role of administration as well as the need on how to maximize the utilization of current systems is stressed. Topics include the information needs of the strategic planning process, administrative function and clinical care. The course will involve site visits. Prereq: HA 602 and 642.

HA 628 STRATEGIC HUMAN RESOURCE MANAGEMENT IN HEALTHCARE. (3)
This course will examine concepts, methods, systems, and processes for planning and managing human resources in healthcare. It is designed for those aspiring in strategic leadership roles in complex healthcare organizations, rather than primarily for those seeking a specialized role in human resources. Prereq: MHA program status or permission of instructor.

HA 635 MANAGEMENT ACCOUNTING FOR HEALTH CARE ORGANIZATIONS. (3)
This course is designed to introduce the use of management accounting techniques to decision making in health care organizations. Lectures, problems and cases will be used to provide an opportunity to focus on the various types of health care providers. Prereq: MHA/MPA program status and HA 601 and HA 621.

HA 636 HEALTH ECONOMICS. (3)
This course is designed to provide students with an understanding of current health economics issues, using economics as a tool to analyze health care and health care policy. Primary topics covered include the production of and demand for health and medical care; information asymmetries between patients, doctors, and payers; and health care reform. Prereq: MHA program status or permission of instructor.

HA 637 HEALTH FINANCE. (3)
This course is designed to provide students an understanding of Generally Accepted Accounting Principles and key principles of financial management as they are applied in healthcare organizations. Knowledge of key elements of strategic financial planning and their application in developing organizational plans and programs will be enhanced through the case study method. Prereq: HA 635 or permission of instructor.

HA 642 ORGANIZATION THEORY AND BEHAVIOR. (3)
This course is an introduction to the disciplines of organization theory and organization behavior and their application in healthcare organization management. It includes the interaction of both external and internal resources and constraints on administrative decision-making processes and a focus on the management challenges presented by organizations, particularly healthcare organizations. Special attention is given to understanding the practice of administration in organizations, the skills needed for effective management, and evolving management approaches (i.e. LEAN). Prereq: MHA program status or permission of instructor.

HA 656 MANAGERIAL EPIDEMIOLOGY. (3)
A study of the tools necessary for planning and evaluating health programs: planning systems, needs assessment methodologies, data analysis skills, the epidemiologic method, effectiveness and efficiency evaluation. An overview of trends and requirements leading to increased emphasis on planning and program accountability. Prereq: MHA/MPA program status, HA 601, HA 621, PA 623, and HA 635.

HA 660 DECISION MAKING IN HEALTH CARE ORGANIZATIONS. (3)
This course is designed to build on the concepts and techniques introduced in the MHA curriculum and integrate them with a decision making focus in a variety of health care problems and settings. Case analysis will be used extensively to develop an opportunity for the student to learn to apply the appropriate skills to an unstructured environment. Prereq: MHA program status and completion of first two semesters MHA course work.

HA 673 HEALTH POLICY. (3)
An analysis of the development and implementation of health policy on a national, state, local and organizational level. The course will focus on issue and policy analysis, formal and informal processes of policy development and the issues, values, and political and community factors affecting policy development and program implementation. Prereq: HA 636, MHA program status or consent of instructor. (Same as PA 673.)

HA 711 PRACTICUM IN HEALTH ADMINISTRATION. (1-3)
Managerial experience in a healthcare setting is an essential component of the health administration educational process. An administrative internship, also referred to as the internship, provides the student with the opportunity to put into practice the knowledge and skills learned in the classroom in healthcare organizations under the guidance of a senior healthcare administrator with faculty oversight. Prereq: MHA program status or permission of instructor.

HA 715 HEALTH POLICY AND AGING. (3)
This course will present an overview of health policy in the United States as it affects the older population. It will provide an overview of the health care system, allocation of health services across the population and projected impact of the increase in the aging population on health care delivery. Various health policy proposals will be analyzed with a focus on their impact on the older population. (Same as GRN 715.)

HA 775 SPECIAL TOPICS IN HEALTH ADMINISTRATION. (1-3)
An analysis of selected issues with special significance for health administration. Prereq: MPA/MHA program status.

HA 785 INDEPENDENT STUDY IN HEALTH ADMINISTRATION. (1-3)
Supervised individual research on a topic related to health administration selected by the student. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

HDI Human Development Institute

HDI 600 INTERDISCIPLINARY APPROACHES TO THE NEEDS OF PERSONS WITH DEVELOPMENTAL DISABILITIES AND SPECIAL HEALTH CARE NEEDS. (2)
This course provides a base of core knowledge and experience in interdisciplinary services and supports for persons with developmental disabilities and/or special health care needs and their families. This course is structured in an interdisciplinary seminar format, illustrating the application of each discipline's expertise to the needs of persons with disabilities and their families. Lecture, three hours per week. Prereq: Graduate standing and consent of instructor.

HDI 601 INTERDISCIPLINARY APPROACHES TO THE NEEDS OF PERSONS WITH DEVELOPMENTAL DISABILITIES AND SPECIAL HEALTH CARE NEEDS: PRACTICUM. (2)
Participants engage in a wide range of structured site visits and other university-based clinical and community-based learning experiences, related to services and supports for persons with developmental disabilities and/or special health care needs and their families. Lecture: one hour; laboratory: eight hours per week. Prereq: Graduate standing and consent of instructor.

HDI 602 INTERDISCIPLINARY SUPPORTS. (2)
This course will build on the disciplinary clinical competence of participating students and enhance their knowledge and skills related to specific issues regarding the needs of persons with developmental disabilities and other special health care needs. Topics covered include: Epidemiology, Prevention of Developmental Disabilities, Micro Environment, Early Childhood, School Age and Adult Issues, Cultural Diversity, the Rural and Underserved Population, Politics, Law and Health Care Reform Issues and Advocacy. Lecture, three hours per week. Prereq: Graduate standing and consent of instructor.

HDI 603 INTERDISCIPLINARY SUPPORTS PRACTICUM. (2)
The course will include practical experiences in interdisciplinary assessments and/or activities, as well as a long-term individualized student practicum. The practicum seminars will focus upon problem-solving strategies in providing high quality supports to persons with developmental disabilities and their families. Lecture: one hour every two weeks; laboratory: eight hours per week. Prereq: Graduate standing and consent of instructor.

HDI 604 INTERDISCIPLINARY LEADERSHIP SEMINAR. (2)
This course will provide a base of core knowledge and experiences in leadership, systems change, strategic planning, proposal development, group facilitation, conflict resolution, and interagency collaboration principles and strategies. These topical areas effectively represent key functions for those who would assume leadership roles in promoting inclusive community supports for persons with developmental disabilities and their families. The course will utilize faculty and Institute staff from a wide range of disciplines. Lecture: three hours per week. Prereq: Graduate standing and consent of instructor.

HDI 605 INTERDISCIPLINARY LEADERSHIP PRACTICUM. (2)
This course will include the trainee's individually designed leadership project. Options for projects include: research, development and preparation of grant applications, development and delivery of in service training, or development of evaluation plans. As a final requirement for this course, the student will be required to develop a Leadership Project Summary, and make a class presentation on the Leadership Project. Laboratory: eight hours per week. Prereq: Graduate standing and consent of instructor.

HES Human Environmental Sciences

HES 100 AN INTRODUCTION TO PROFESSIONS IN HUMAN ENVIRONMENTAL SCIENCES. (1)
An orientation to human environmental sciences, its history, contemporary issues and philosophy, discussed through a common body of knowledge, utilizing family systems theory as the overarching conceptual model. Emphasis will be on the interactive, interrelatedness and capacity building opportunities of individuals, families, and communities, using a systemic life course approach. Prereq: Declared majors in Human Environmental Sciences.

HES 300 SPECIAL COURSE IN HUMAN ENVIRONMENTAL SCIENCES (Subtitle required). (1-3)
Interdisciplinary, topical or experimental course to be approved by the appropriate department chairperson and by the Dean of the College of Human Environmental Sciences. Open to all University students, subject to limits or prerequisites set by the instructor. May be repeated to a maximum of six credits.

HES 320 SURVEY OF AGRICULTURE AND CONSUMER MEDIA. (3)
An exploration of the social, political, and economic factors that influence how agricultural producers and consumers receive information through the media. In addition, the course will analyze how the general mass media cover agricultural and consumer topics.

HES 400 CONCEPTS IN HUMAN ENVIRONMENTAL SCIENCES: INTEGRATION AND APPLICATION. (2)
Interdisciplinary approach to the solution of family and individual problems. Application of concepts from the developmental, relational, managerial, nutritional, and environmental studies within the college and support disciplines. Prereq: HES 100, senior standing in the College of Human Environmental Sciences, and consent of instructor (via permit).

HES 596 SPECIAL PROBLEMS IN HUMAN ENVIRONMENTAL SCIENCES. (1-3)
Intensive work on specific topics in human environmental sciences. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

HES 600 RESEARCH METHODOLOGY IN HUMAN ENVIRONMENTAL SCIENCES. (3)
Students will study scientific techniques and accepted research methodologies in human environmental science research. Emphasis is placed on understanding the research process and developing the skills necessary to evaluate and implement research methods and design procedures. Prereq: Graduate standing. (Same as RTM 600.)

HHS Human Health Sciences

HHS 101 SURVEY OF HEALTH PROFESSIONS I. (1)
An introduction to the health sciences professions including an exploration of health sciences careers. (Same as HSE 101.)

HHS 102 SURVEY OF HEALTH PROFESSIONS II: SHADOWING EXPERIENCE. (1)
This course provides students with opportunities to explore the health sciences professions. It assists students in developing beginning observation, recording, and reporting skills appropriate to the selected professions by way of an on-the-job shadowing experience.

HHS 241 HEALTH AND MEDICAL CARE DELIVERY SYSTEMS. (3)
Review of the wellness-illness spectrum and the societal response in terms of health services. Topics to be covered include the nature and functions of health services agencies and professionals, and the impact of social, political, economic, regulatory, and technological forces. Also includes a discussion of major health problems and related health care programs. (Same as CLM/HSM 241.)

HHS 350 HEALTH POLICY AND POLITICS. (3)
This course will address the development of past and current U.S. health policies within the context of historical, economic, cultural, and political environments. The political process and the roles and responsibilities of the executive, legislative, and judicial branches of government will be examined. The power and influence that politics, money, the media, and special interest groups have had, and continue to have, upon the development of national and state health policies will be discussed and analyzed. Prereq: Student in CLM or HHS program or upper-level undergraduate or professional status. (Same as CLM 350.)

HHS 351 HEALTH SERVICES ADMINISTRATION. (3)
Theories and practices of administration in health care institutions with special emphases on organizational behavior and analyses of various administrative processes and techniques. Prereq: Professional program status in CLM or HHS or consent of instructor. (Same as CLM/HSM 351.)

HHS 353 ETHICS IN HEALTHCARE. (2)
The course will include the study of moral reasoning and ethical theories in medical ethics. Ethical issues arising in the practice of health care delivery will be examined. Codes of ethics and the health professional's obligations to patients, colleagues, employing institutions, and the community will be considered, and relevant case studies will be analyzed. (Same as CLM 353.)

HHS 354 HEALTH LAW. (3)
Introduction to concepts of administrative and tort law applicable to health care settings. Topics to be considered include governance, patient rights, informed consent, medical/moral problems, malpractice, tax laws, contracts, labor law, regulation and institutional liability. Prereq: Professional program status (which includes an earned Associate Degree in a health care discipline and one year of post-degree work in a health care setting) or consent of instructor. (Same as CLM/HSM 354.)

HHS 356 SEMINAR IN INTERPROFESSIONAL HEALTHCARE. (1)
A study of selected topics in health and wellness with a focus on the way individuals experience health and utilize resources within their individual nesting environments of health and social communities. Topic will include an exploration of individual perceptions and experiences of health, wellness, and quality of life throughout the lifespan and resources available to achieve health. Four hours of seminar is required, and at least one seminar must be taken in the final year of the program. Prereq: Admission to HHS Program or consent of instructor.

HHS 361 HEALTHCARE QUALITY AND PATIENT SAFETY. (3)
This course provides students an opportunity to study how healthcare quality and patient safety has changed over the last 10 years, how human error and "high-reliability organizations" (e.g., hospitals) interact, how changes to our healthcare system have affected care, and how quality/safety/improvement theories from other industries are impacting healthcare. Prereq: Admission to HHS Program or consent of instructor.

HHS 362 INTERDISCIPLINARY HEALTH ADVOCACY. (1)
The course will provide experiences as a health navigator for students in the health sciences. Students will work with patients who are seeking advice about the availability of health resources, health services and health information. Students will be trained in skills needed to become effective health navigators, will work with communities to develop and maintain a health resources data base and will serve as motivational coaches to patients to attain healthy lifestyles. Prereq: Admission to the HHS Program or consent of instructor.

HHS 395 INDEPENDENT STUDY. (1-3)
Independent study for undergraduate students with an interest in a specific problem, topic, or issue in Human Health Sciences. Prereq: Admission to HHS Program or consent of instructor.

***HHS 400G NUTRITION FOR PHYSICAL ACTIVITY, INJURY PREVENTION, AND REHABILITATION. (2)**
This course will acquaint students with general concepts in nutrition that relate to physical activity, injury prevention and rehabilitation. The content of the course is organized in such a way that students can progress logically from knowledge of basic human nutrition processes to the specific nutrition related issues commonly observed in physically active individuals and nutritional needs to prevent injury and aid healing following injury. Prereq: Undergraduate Students: Admission to HHS undergraduate degree program OR consent of instructor, 200 level physiology or equivalent. Graduate Students: Acceptance to nutrition, kinesiology, or other health-related graduate programs.

#HHS 402G MUSCLE BIOLOGY. (3)
This course examines the gross as well as microscopic structural properties and the physiological function of skeletal muscle. Students will gain in-depth knowledge about not only normal muscle function, but also about the adaptability and plasticity of skeletal muscle under different environmental circumstances. The comparative biology of structure and function of skeletal muscle will be covered; also the relationship between muscle structure and function as it relates to human health-related issues will be examined and discussed. This course is for undergraduate as well as graduate students and will benefit those interested in health care-related fields (e.g. pre-physical therapy, pre-medicine) as well as students interested in the basic functioning of skeletal muscle. Prereq: One course of general biology (BIO 148, BIO 150 or BIO 152), a general anatomy/physiology (i.e., PGY 206) course or permission of instructor.

HHS 405 EPIDEMIOLOGY AND BIOSTATISTICS. (3)
This course will provide a foundation in the principles and methods of the epidemiological investigation of disease with special emphasis on the distribution and dynamic behavior of disease in a population. Etiologic factors, modes of transmission and pathogenesis will be examined. Topics to be covered include epidemics and the spread of infectious disease, epidemiological aspects of non-infectious disease; rates of morbidity and mortality, sensitivity, specificity, and predictive values' strategies used in epidemiological studies to include measures of disease effect, validity, reliability; sampling methods and computer-based biostatistical analysis that emphasize the generalized linear mode and forms of SEM as appropriate for an upper division undergraduate course. Prereq: Admission to the CLM or HHS program or consent of instructor. (Same as CLM 405.)

***HHS 443 HEALTH INFORMATION MANAGEMENT. (2)**
This course provides students with an opportunity to understand and address the challenges associated with health care change and improvement intended by the Recovery Act of 2009. Students will focus on clinician and clinical leader roles in the implementation of an Electronic Medical Record. The course includes material relating to Personal Health Record (PHR) models, architectures, market forces, and law. Students will understand the advantages for using the electronic medical record and mechanisms for planning successful implementation. Prereq: Admission to HHS Program or consent of instructor.

HHS 450 INTRODUCTION TO DENTISTRY. (3)
This course is an introduction to the profession of dentistry and provides a brief overview of some pre-clinical dental courses that are taught in the first two years of dental school. The student will become familiar with basic dental terminology, current issues in dentistry and the latest techniques and technology used in clinical settings. The student will have the opportunity

to develop manual dexterity and learn basic clinical etiquette and safety procedures. This course serves as a foundation for students interested in pursuing a career in dentistry or for those who want to enhance their knowledge of oral health prior to entering any health field. Prereq: Admission to HHS Program or consent of instructor. Two semesters of Biology with Lab and Human Anatomy recommended, but not required.

HHS 451 INTRODUCTION TO MEDICINE. (2)
This course will provide students with an introduction to the field of medicine. Skills required to complete patient interviews and take the medical history as well as a limited number of physical examination maneuvers will be discussed. The focus will be on gaining an understanding of why a complete and accurate medical history and physical examination are key to quality medical practice. The course will cover the scope of practice and ethical codes for physicians and physician assistants. Prereq: Admission to HHS Program or consent of the instructor.

HHS 453 CULTURAL COMPETENCE IN HEALTHCARE. (3)
This course is designed to introduce the student to concepts of culture, race, ethnicity, and competence. Emphasis will be placed on identifying individual characteristics and their influence on bias. Factors related to culturally and linguistically appropriate health care will be reviewed. Prereq: Admission to HHS Program or consent of instructor.

HHS 454 RESEARCH IN HUMAN HEALTH SCIENCES. (3)
An introduction to basic methods for undertaking research on issues related to health, health care, and within health services organizations and systems. Students will become critical consumers of research by learning how to evaluate and apply the results of health research conducted by others. The course will also assist those who plan to conduct clinical research or program evaluation within health delivery systems. Prereq: Admission to HHS Program or consent of instructor.

HHS 455 RESEARCH EXPERIENCE IN HUMAN HEALTH SCIENCES. (1-3)
Students complete a mentored, self-directed research experience. Students work with faculty to develop an experience of mutual scientific interest. The nature of the experience and the subsequent activities and expected outcomes are defined and outlined in the research contract between the student and mentor. Prereq: Consent of instructor.

HHS 470 INTERNATIONAL EXPERIENCE IN HEALTH SCIENCES (Variable topic). (1-6)
This course provides students with opportunities to explore international issues in health care through study and international travel. Course content and organization will depend on the topic to be studied and the structure of the course. Prereq: Admission to the HHS Program or consent of instructor.

HHS 480 SEMINAR IN HUMAN HEALTH SCIENCES (Variable topic). (1-3)
Study and analysis of current and topical problems and issues regarding the roles, trends and research for health care professionals. May be repeated to a maximum of six credits. Prereq: Admission to CLM or HHS program or consent of instructor. (Same as CLM 480.)

HHS 501 PRACTICUM IN CLINICAL LEADERSHIP AND MANAGEMENT. (1-3)
Students will gain practical general training and experiences in the healthcare workplace with a focus on exposure/experience in clinical leadership and management. The CLM faculty in coordination with the practicum coordinator will arrange these experiences with the site employer/personnel and develop an individualized plan for the student at each site. The plan relates the workplace training and experiences to the student's general and technical course of study. Prereq: Consent of instructor. (Same as CLM 501.)

HIS History

HIS 104 A HISTORY OF EUROPE THROUGH THE MID-SEVENTEENTH CENTURY. (3)
This course is a survey of the development of European politics, society, and culture through the Age of Religious Conflict.

HIS 105 A HISTORY OF EUROPE FROM THE MID-SEVENTEENTH CENTURY TO THE PRESENT. (3)
This course is a survey of the development of European politics, society, and culture from the Age of Absolutism to the present. It is a continuation of HIS 104.

HIS 106 WESTERN CULTURE: SCIENCE AND TECHNOLOGY I. (3)
Presents the interactions of science and technology with the social and cultural development of Western civilization; the values in scientific inquiry as compared with other kinds of inquiry; the importance of science and technology in modifying social organization and human expectations. Emphasizes the period to the Industrial Revolution.

HIS 107 WESTERN CULTURE: SCIENCE AND TECHNOLOGY II. (3)
Presents the interactions of science and technology with the social and cultural development of Western civilization; the values in scientific inquiry as compared with other kinds of inquiry; the importance of science and technology in modifying social organization and human expectations. Emphasizes the period since the Industrial Revolution.

HIS 108 HISTORY OF THE UNITED STATES THROUGH 1876. (3)
This course is a survey of American history from the first British settlements c. 1585 to the end of Reconstruction in 1876 and explores the most important events, ideas, and people that created the foundations of the American nation. This course fulfills the requirements for the elementary teachers' certificate.

HIS 109 HISTORY OF THE UNITED STATES SINCE 1877. (3)
This course examines American History from 1877 to the present: political, economic and social –Gilded Age, Progressive Era, New Deal, Age of Affluence and Limits, Great Society and two Great Wars. You will find out how much, how little, America has lived up to its ideals; how it grew from a nation of farms and cotton mills to an industrial giant; how it became a world power (Top Nation) and what problems this created.

HIS 112 THE MAKING OF MODERN KENTUCKY. (3)
An examination of the political, social, economic, environmental, and cultural dynamics that have shaped modern Kentucky.

HIS 119 WAR AND SOCIETY, 1350-1914. (3)
"War and Society in the West, 1350-1914," is the opening course in a three-course series on the history of warfare. The course begins in the late middle ages with the impact of gunpowder, and ends with the advent of the First World War. Topics covered in the course include the impact of technology on war, the connections between culture and warfare, the growth of the state in modern Europe, the experience of soldier and civilians during war, and the rise of western military superiority. No prerequisites.

HIS 120 THE WORLD AT WAR, 1939-45. (3)
A global overview of the events of the Second World War, including consideration of the conflict's military, diplomatic, political, social and economic dimensions.

HIS 121 WAR AND SOCIETY, 1914-1945. (3)
"Total war" in the 20th century exerted a profound impact on social relations in a great many ways. This course provides you with the opportunity to think long and hard about the social impact of "total" warfare, from a transnational perspective. We will explore a number of social and cultural themes as they relate to the two World Wars, such as: the impact of total war on gender relations; military technology and ethics; the demonization of the enemy; war-time propaganda; the roots of the welfare state within the warfare state; and the postwar efforts to come to terms with the atrocities of total war.

HIS 122 WAR AND SOCIETY SINCE 1945. (3)
Historical studies of warfare around the world and their impact on society since 1945.

HIS 130 DRUGS AND ALCOHOL IN WESTERN CIVILIZATION, 1492 TO THE PRESENT. (3)
"Alcohol and Drugs in Western Civilization" is an overview of the history of drugs and alcohol, and the individual and social problems that surround their use. The course begins when new or newly wide-spread stimulants like coffee, tea, tobacco, chocolate, sugar, and distilled spirits joined beer and wine as European consumer goods. The course then goes on to the more modern problems of increasingly potent drugs like heroin, cocaine, and cigarettes, and responses to them such as regulation, taxation, Prohibition, Alcoholics Anonymous, and the "War on Drugs." No prerequisites.

HIS 191 A HISTORY OF WORLD RELIGIONS (Subtitle required). (3)
A historical introduction to the development of Christianity from social, cultural, and institutional perspectives which demonstrates the evolution of the religion.

HIS 202 HISTORY OF BRITISH PEOPLE TO THE RESTORATION. (3)
From the Roman period to the Stuart period. A general survey of the various epochs and phases of the English people at home and abroad.

HIS 203 HISTORY OF THE BRITISH PEOPLE SINCE THE RESTORATION. (3)
From the Stuart period to the present. A continuation of HIS 202.

HIS 206 HISTORY OF COLONIAL LATIN AMERICA, 1492 TO 1810. (3)
A broad survey of the social, economic, political and cultural development of Latin America from the fifteenth century to 1810. Includes analysis of such topics as pre-Columbian societies on the eve of conquest, the Iberian kingdoms in the Age of Expansion, the conquest and colonization of the indigenous cultures of the New World, the establishment of Spanish and Portuguese institutions, the relations between the Church and the State, the encomienda and the hacienda, slavery and the impact of the Bourbon Reforms on America.

HIS 207 HISTORY OF MODERN LATIN AMERICA, 1810 TO PRESENT. (3)
A broad survey of the Latin American nations focusing on their social, economic, political and cultural development. Traces the history of the Independence movements, nation building, the struggle for modernization, dependency and the phenomenon of revolution in the twentieth century.

HIS 208 HISTORY OF THE ATLANTIC WORLD. (3)
Examines the connections between Europe, Africa, and the Americas from 1492 to the present day, focusing especially on the legacies of slavery, race, and imperialism in Central America and the Caribbean.

HIS 229 THE ANCIENT NEAR EAST AND GREECE TO THE DEATH OF ALEXANDER THE GREAT. (3)
Covers the birth of civilization in Egypt and Mesopotamia, and the history of the ancient Near East and Greece to the conquest of Greece by Philip of Macedon. (Same as CLA 229.)

HIS 230 THE HELLENISTIC WORLD AND ROME TO THE DEATH OF CONSTANTINE. (3)
Covers the conquests of Alexander the Great, and the main features of the Hellenistic world, the Roman Republic, and the Roman Empire to the death of Constantine. (Same as CLA 230.)

HIS 240 HISTORY OF KENTUCKY. (3)
A general survey of the chief periods of Kentucky's growth and development from 1750 to the present.

#HIS 253 HISTORY OF PRE-COLONIAL AFRICA. (3)
This course examines the early history of Africa, from human evolution to colonization by European powers in the late 19th century. Topics include: the development of states from kinship based forms of political organization, the political, cultural, and social transformations that accompanied African conversion to Islam, a close examination of oral epic poetry as a window into medieval empire-building in the Sahel, an extended conversation about the role of Africa in the transatlantic slave trade, and a discussion of the dilemmas faced by African rulers in the era of partition on conquest by European powers. Successful students will gain a thorough introduction to the major developments in the early history of Africa, which will serve as a solid foundation for further coursework in African history and other African studies courses. (Same as AAS 253.)

***HIS 254 HISTORY OF COLONIAL AND POSTCOLONIAL AFRICA. (3)**
This course is a survey of the history of Africa from the onset of colonial rule in the 1880s to the present. Its main objective is to introduce students to some of the major socio-political and economic developments that made Africa what it is today. The course will explore themes such as the European conquest of Africa and Africans' responses, African nationalism and struggles for independence, as well as post-colonial African politics and economic (under)development. (Same as AAS 254.)

HIS 260 AFRICAN AMERICAN HISTORY TO 1865. (3)
A study of the Black experience in America through the Civil War. An examination of the African heritage, slavery, and the growth of Black institutions. (Same as AAS 260.)

HIS 261 AFRICAN AMERICAN HISTORY 1865-PRESENT. (3)
This course traces the Black experience from Reconstruction to the Civil Rights Movement of the 1960's. The rise of segregation and the ghetto and aspects of race relations are examined. (Same as AAS 261.)

HIS 265 HISTORY OF WOMEN IN AMERICA. (3)
History of American women, with particular emphasis on the mid-19th through the mid-20th centuries. Major themes include the family, work, social ideas about women, and feminism. Prereq: HIS 109 or consent of instructor.

HIS 295 EAST ASIA TO 1800. (3)
A survey of Chinese, Japanese and Korean history from earliest times to 1800. Emphasis on political, economic, social and intellectual developments.

HIS 296 EAST ASIA SINCE 1600. (3)
What we think of today as East Asia has a long history of both shared culture and separate experiences. In premodern East Asia, cultural contacts led to commonalities including systems of writing and ways of thought such as Confucianism, Daoism, and Buddhism. In modern times and in becoming nations, China, Japan, and Korea each sought their own identity. The reforms and revolutions that Asia has experienced since 1600 can be viewed both in the context of the region and through the experience of each nation. This is an introductory course in the cultural, social, and political history of East Asia.

HIS 301 HISTORY WORKSHOP: INTRODUCTION TO THE STUDY OF HISTORY. (3)
An introduction to the skills of historical research writing. Preferably to be taken during the sophomore year. Required of all history majors. Prereq: Sophomore standing.

HIS 310 HISTORY THROUGH FICTION AND NON-FICTION. (3)
Texts contrast fictional (novels) and non-fictional accounts of events in U.S. History dealing with major themes and institutions since the American Revolution.

HIS 320 ADVANCED STUDIES IN AMERICAN MILITARY HISTORY. (3)
This course will furnish upper level UK ROTC Cadets, and qualified History majors or minors with the methodological tools and materials needed to gain a more detailed understanding of American Military History and to put together a major research paper. AMS/HIS 320 will emphasize basic research skills: understanding historiographical debates within a military framework, developing effective note taking, outlining techniques, picking a feasible research topic, finding useful primary sources and drawing inferences from them, examining American military campaigns and leaders in order to complete a battle analysis, and short research assignments. Prereq: Consent of instructor (Same as AMS 320.)

HIS 323 THE HOLOCAUST. (3)
This course will attempt to help students understand the events that resulted in the virtual destruction of Europe's Jews during the Second World War. Topics will include the history of anti-semitism, the ways in which Nazi policy against the Jews was implemented, Jewish resistance, response of non-Jews and other governments to the Holocaust.

HIS 330 A HISTORY OF WESTERN RELIGIOUS THOUGHT (I). (3)
A history of Judeo-Christian religious thought from the rise of Judaism through the Protestant Reformation.

HIS 350 TOPICS IN U.S. HISTORY BEFORE 1789. (3)
Readings, research, and discussions in seminar format to illuminate problems of historical and contemporary significance, in areas of special faculty competence. May be repeated once. Lecture, two hours; conference, one hour.

HIS 351 TOPICS IN U.S. HISTORY SINCE 1789. (3)
Same as HIS 350.

HIS 352 TOPICS IN EUROPEAN HISTORY BEFORE 1789. (3)
Same as HIS 350.

HIS 353 TOPICS IN EUROPEAN HISTORY SINCE 1789. (3)
Same as HIS 350.

HIS 355 TOPICS IN NON-WESTERN HISTORY SINCE 1789. (3)
Same as HIS 350.

HIS 357 JAPAN AT WAR, 1850 TO THE PRESENT. (3)
This course covers military conflicts in modern Japan with a particular focus on the Asia-Pacific War (1931-45) – Japan's imperialist quest in China and Southeast Asia that ultimately expanded into the Pacific Theater of World War II. We will begin by a brief examination of Japan's earlier wars in the modern period, including the Meiji Restoration (1867-8), the First Sino-Japanese War (1894-5), and the Russo-Japanese War (1904-5) in order to set Japan's modern wars in context; of particular focus here will be the emergence and the development of Japan's Emperor-centered, militaristic nationalism, which influenced every aspect of Japanese thought during the Asia-Pacific War. Themes covered will include both politics and culture of a nation at war. We will look not only at the political and military strategists and foreign relations, but also at the life on the battlefront and the home front. The cult of death, which centered around the belief that those who sacrifice their lives for the emperor for the sake of the nation will be honored as a god at Yasukuni Shrine, and which resulted in such fanatical actions as kamikaze attacks and mass suicides, will be investigated in detail. The last sessions of the class will cover the legacies of the Asia-Pacific War in the decades following Japan's defeat. The course requires no prior knowledge of the history of modern Japan.

HIS 360 RACE AND SPORTS IN AMERICA. (3)
This reading seminar examines the history of race and sport in America. (Same as AAS 360.)

HIS 370 EARLY MIDDLE AGES. (3)
A survey of European history from the fourth through the mid-10th centuries.

HIS 371 LATER MIDDLE AGES. (3)
A survey of European history from the mid-10th through the 15th centuries.

HIS 385 HISTORY OF RUSSIA TO 1825. (3)
A broad survey of the life of the Russian people and the development of the state from the ninth century through the reign of Alexander I. Although emphasis will be placed on political, economic, and social trends, cultural and intellectual achievements will also be discussed.

HIS 386 HISTORY OF RUSSIA SINCE 1825. (3)
A continuation of HIS 285, this course covers the last century of the Tsarist regime (1825-1917) and the evolution of the Soviet system that followed. Emphasis will be placed on the problems that led to the collapse of the monarchy, on the revolutionary movement, and on the Communist state and society under Lenin and Stalin.

HIS 390 BACKGROUNDS TO AND EARLY HISTORY OF CHRISTIANITY TO 150 CE. (3)
This course examines the origins of Christianity from its Jewish, Greek, and Roman influences and charts its development through the first one hundred years of its existence. Special emphases are placed on understanding the diversity of Judaic religious identity as well as the influence of Greek philosophy and religion. The world of Jesus, Paul, and the evolution of this new view of one's relationship to God are analyzed historically through a close examination of the texts of this time in the nexus of Jewish, Greek, and Roman cultural interaction. All students will write a book review, take two essay exams, and participate in regular discussion. Class participation is an expected component of this class and contributes 25% to the final grade for the course. (Same as CLA 390.)

HIS 391 CHRISTIANS IN THE ROMAN EMPIRE. (3)
This course discusses the changing status of Christians in the Roman Empire between 100 and 500 CE. An underlying theme of this course is: What is it to be a Christian? Students will read and discuss both primary and secondary sources and analyze how the answer to the above-mentioned question changed during the Roman Empire. Topics to be discussed include: heresies, persecution, definitions of doctrines and practices, the relationship to the Roman Empire, and more. All students will write a book review, take two essay exams, and participate in regular discussion. Class participation is an expected component of this class and contributes 25% to the final grade for the course. (Same as CLA 391.)

HIS 395 INDEPENDENT WORK. (1-3)
Under special conditions selected students may investigate problems with weekly reports to the instructor. May be repeated to a maximum of six credits. Prereq: Major and a standing of 3.0 in the department.

HIS 404 U.S. WOMEN'S HISTORY TO 1900. (3)
U.S. women's lives and experiences across cultures and regions from pre-settlement to 1900. Addresses current debates and scholarship in the field.

HIS 405 U.S. WOMEN'S HISTORY SINCE 1900. (3)
U.S. women's lives and experiences across cultures and regions from 1900 to the present. Addresses current debates and scholarship in the field.

HIS 460 COLONIAL AMERICA TO 1763. (3)
This course explores a number of important themes in early America: the comparative view of Western European colonization efforts; the dynamics of a multiracial environment; the character of family, community and religious life; regional distinctiveness in social/economic life; and the maturation of the colonies in the 18th century.

HIS 461 THE AMERICAN REVOLUTION, 1763-1789. (3)
A study of the disagreement between Great Britain and the 13 colonies, the decision for independence, and the progress of revolutionary change through the ratification of the Federal Constitution.

HIS 462 THE NEW REPUBLIC, 1789-1820. (3)
An intensive study of the launching of the federal government, the rise of America's first parties, and the conflict over the completion of the revolutionary experiment.

HIS 463 EXPANSION AND CONFLICT, 1820-1860. (3)
A social and political study of the United States from 1820 to 1860, with special attention to the growth of Jacksonian democracy, territorial expansion, and the rise of the sectional controversy over slavery.

HIS 464 CIVIL WAR AND RECONSTRUCTION, 1860 TO 1877. (3)
A study of events immediately preceding the outbreak of conflict, of the military campaigns, and of the social, economic, and political developments during the periods of war and reconstruction.

HIS 465 EMERGENCE OF MODERN AMERICA, 1877-1917. (3)
A study of the transformation of the U.S. from an agrarian society into an industrial nation covering the years from the Gilded Age to the American entry into World War I. This course emphasizes the growth of corporate capitalism, the emergence of modern political institutions, and the development of modern American foreign policy. It also explores how various Americans- workers, farmers, immigrants, women- responded to and were affected by industrialization.

HIS 466 MODERN AMERICAN HISTORY FROM WW I TO PEARL HARBOR, 1917-1941. (3)
A study of America in World War I and the interwar era, emphasizing political, economic, diplomatic, and social developments. The course examines the impact of the first world war and the great depression on America and the nature of the New Era and the New Deal.

HIS 467 MODERN AMERICA: 1941-1974. (3)
An intensive study of the United States from 1941 to 1974, emphasizing America's emergence as a global power and political, economic, and social developments.

HIS 468 CONTEMPORARY AMERICA: 1974 TO THE PRESENT. (3)
Examines the history of the United States since 1974 with particular emphasis on political, social, and economic developments.

†HIS 470 HONORS SEMINAR IN HISTORICAL METHODS.

†HIS 471 HONORS SEMINAR IN HISTORICAL RESEARCH.

HIS 499 SENIOR SEMINAR FOR HISTORY MAJORS (Subtitle required). (3)
All History majors must complete a senior seminar with a grade of C or better. Topics will vary, but a major is required. Prereq: HIS 301 or permission of instructor. Graduation Writing Requirement Course – credit is awarded to students meeting the GWR prerequisites.

HIS 500 PRECLASSICAL AND CLASSICAL GREECE. (3)
A history of Greece from earliest times to the death of Alexander the Great.

HIS 501 FOURTH-CENTURY GREECE AND THE HELLENISTIC WORLD. (3)
A history of Greece and the Greek world from the death of Alexander to the Roman conquest of Egypt.

HIS 502 A HISTORY OF THE ROMAN REPUBLIC. (3)
A history of Rome from earliest times to the fall of the Republic. Emphasis will be placed upon the territorial expansion of Rome and the effects of this expansion on republican institutions.

HIS 503 A HISTORY OF THE ROMAN EMPIRE. (3)
A study of the foundation of the Roman Empire, the development of Imperial institutions, social and intellectual developments of the Graeco-Roman world. The decline of Rome and the barbarian invasions of the fourth century.

HIS 504 GREEK AND ROMAN MEDICINE. (3)
An historical introduction to the development of Greek and Roman medicine, from the pre-Socratic philosophers through Oribasius and early medieval influences. Prereq: A course in ancient history, or classics, or ancient philosophy, or consent of instructor.

HIS 506 HISTORY OF SEXUALITY IN THE U.S. (3)
An overview of the history of beliefs about sexuality, sexual cultures and norms, and sexuality's relationship to power in American society from the colonial period to the present.

†HIS 507 U.S. LABOR HISTORY.

HIS 509 ROMAN LAW. (3)
An historical introduction to the development of Roman law, from the Twelve Tables through the Codex Justinianus. (Same as CLA 509.)

HIS 510 MEDIEVAL LAW. (3)
This course examines the development of the various legal systems to which people in western Europe had recourse between the fourth century and the fourteenth century. Topics to be covered include the shift from oral to written law, the problems small communities faced in dealing with transgressors, the competition between various authorities for jurisdiction, the ways in which Judaeo-Christian values and beliefs affected the orientation of medieval law, the use of procedures such as ordeals and inquisitions, the evolution of ideas about natural rights, and how law reflects the massive social and political reorganization of the west that occurred after the Roman Empire.

HIS 511 BARBARIANS. (3)
This course examines the peoples known to historians of Western Europe as the "Barbarians" who took up residence on the continent of Europe and whose polities replaced the central government of imperial Rome in the fifth and subsequent centuries, as well as those of the northern realms of the British Isles and Scandinavia. Topics to be studied include the ethnic and cultural identities of the Barbarians, their role in redefining the social and political institutions of Europe, the reasons for their political and military successes, and their hold on the imaginations of both sympathetic and unsympathetic historians.

HIS 512 CAROLINGIAN EMPIRE. (3)
This course examines the reconstitution of much of the former Roman empire in the western provinces under the hegemony of the Carolingian rulers of the eighth and ninth centuries. Among the topics to be studied are the dynami interactions between powerful ecclesiastical and secular leaders that produced a distinctive vision of a Christian empire, the relations between the Carolingian, Byzantine, and Islamic polities, the means of building royal legislative and judicial power in an environment of fragmented authority, the role of literary and artistic activity in creating a distinctive "Carolingian Civilization", the military activities that consolidated the empire, and the fragility of the imperial enterprise.

HIS 513 MEDIEVAL INSTITUTIONS SINCE THE MID-10TH CENTURY. (3)
A survey of medieval political, social, economic and ecclesiastical institutions from the beginning of the High Middle Ages to the middle of the 15th century.

HIS 514 SPAIN: FROM RECONQUEST TO EMPIRE, 1200-1700. (3)
This course focuses on the expansion of the Christian kingdoms (Portugal, Castile, and Aragon) in the Iberian peninsula and across the Atlantic. Special attention will be paid to the interaction of Judaism, Christianity, and Islam: cultural transformations, including developments in music, literature, and the arts; political developments in Iberia and the emergence of Spain and Portugal; and the spread of Iberia's trans-Atlantic empires.

HIS 519 THE ERA OF THE RENAISSANCE. (3)
An historical description and analysis of the development of political, economic, social, religious, intellectual and cultural institutions of Europe from Petrarch to Erasmus.

HIS 520 THE ERA OF THE REFORMATION. (3)
An historical description and analysis of the development of the religious, intellectual, cultural, political, economic and social institutions of Europe from Luther to the Treaty of Westphalia.

HIS 521 EUROPEAN SOCIAL HISTORY, 1400-1800. (3)
Survey of European social history in the early modern period, including analysis of demographic patterns, family and social structures, rural and urban economic patterns, and cultural and religious attitudes.

HIS 522 EUROPE AND THE WORLD IN THE AGE OF REVOLUTION (1760-1815). (3)
A study of the political, social, economic and cultural changes that transformed Europe during the age of the French Revolution and Napoleon, with special emphasis on the relations between Europe and the non-European world during this period.

HIS 525 MODERN EUROPE: 1890-1939. (3)
This course examines European history from 1890-1939. It focuses heavily on the Great War and its aftermath through an analysis of the political cultures of the era. Prereq: HIS 105 or consent of instructor.

HIS 526 EUROPE SINCE 1939. (3)
This course examines the major cultural, social, and political developments that have shaped Europe, European history, and Europe's relationships with the world since the outbreak of World War II. Prereq: HIS 105 or consent of instructor.

HIS 529 WOMEN IN MODERN EUROPE. (3)
This course examines the historical, changing lives of women in Europe from the late eighteenth century to the present. It explores the historical contributions of both ordinary and famous women, as well as their participation in, and contributions to, major political, social, and cultural movements. The course will analyze changes and continues through the lens of gender.

HIS 534 RUSSIA IN THE 19TH CENTURY. (3)
This course examines the social, political, and cultural history of 19th Century Russia in depth, focusing on the social conditions of serfdom and its abolition, the causes of social tension in late Imperial Russia, and the long term causes of the Russian Revolution of 1917.

HIS 535 RUSSIA IN THE 20TH CENTURY. (3)
This course examines the social, political and cultural history of 20th century Russia in depth, focusing on the social conditions that caused the Revolution, the formation of the Soviet Union and its decline.

HIS 536 INTELLECTUAL AND CULTURAL HISTORY OF RUSSIA TO 1800. (3)
A study of Russian culture to 1800 emphasizing Slavic paganism, Orthodox Christian culture in Kiev, Novgorod, and Muscovy, and the impact of the West in the Seventeenth and Eighteenth Centuries.

HIS 537 INTELLECTUAL AND CULTURAL HISTORY OF RUSSIA FROM 1800 TO THE PRESENT. (3)
A study of Russian culture from 1800 to the present emphasizing the conservative as well as the revolutionary tradition, the Russian avant-garde, Stalinist culture, and the Dissident Movement.

HIS 540 HISTORY OF MODERN FRANCE TO 1815. (3)
The course of French history to 1815, including the development of French political, administrative, legal, social, economic and cultural achievements and institutions and their contribution to the modern world.

HIS 541 HISTORY OF MODERN FRANCE SINCE 1815. (3)
Continuation of HIS 540.

HIS 542 GERMAN HISTORY, 1789-1918. (3)
This course examines the political, social, and cultural history of Germany during the century when it arose from utter defeat by Napoleon to become the strongest economic and military power in Europe, then concludes with Germany's fate in World War I.

HIS 543 GERMAN HISTORY SINCE 1918. (3)
This course examines the history of Germany from the end of World War I until the present, including the Weimar Republic, the Third Reich, the occupation regimes after World War II, East and West Germany from 1949 to 1990, and the reunified Germany since 1990. The main focus of coverage will be on political and social history, with lesser emphasis on cultural, diplomatic, and military history.

HIS 546 THE BYZANTINE EMPIRE. (3)
A study of Byzantine history from the time of Constantine the Great to the capture of Constantinople by the Turks in 1453. Prereq: HIS 104 or 247.

†HIS 548 HISTORY OF THE MIDDLE EAST: 1453-1920.

HIS 549 HISTORY OF THE MIDDLE EAST: 1952 TO THE PRESENT. (3)
A continuation of HIS 548. Emphasis is on the politics of Middle Eastern nationalism, Pan-Arabism and its demise, the Arab-Israeli conflict, the politics of oil and nuclear weapons, the Islamic revolution in Iran, and the development of the Islamic movement since 1967.

HIS 550 STUDIES IN MID-EAST HISTORY AND POLITICS: (Subtitle required). (3)
Selected topics on the history of the Middle East and its politics. The specific topics for a given semester will be listed in the class schedule book and the department's website.

†HIS 551 FOREIGN POLICIES OF MIDDLE-EAST STATES.

HIS 552 TUDOR-STUART BRITAIN, 1485-1714. (3)
An analysis of political, religious, cultural, and economic changes in Britain during the reign of the Tudor and Stuart kings and queens, a period when Britain became increasingly prominent in world affairs.

HIS 553 EIGHTEENTH CENTURY BRITAIN. (3)
An analysis of English society and politics in an important transition period when the country was transformed by the Industrial Revolution and challenged by the French Revolution.

HIS 554 BRITISH HISTORY 1815-1901. (3)
A detailed study of Britain's political, social, diplomatic and industrial development in the 19th century.

HIS 555 BRITISH HISTORY SINCE 1901. (3)
A detailed study of Britain in the 20th century with special consideration of Britain in World War I and World War II, and her position in the contemporary world.

HIS 556 THE BRITISH EMPIRE, 1322-1879. (3)
This course covers the rise, fall, and rise of the British empire from its extension into Scotland and Ireland till the beginning of the age of "New Imperialism," explaining the means by which Britain came to dominate one-third of the globe, and its impact on the many cultures, economics, and geopolitical entities of the third world. It will further discuss how those cultures transformed Britain itself. Prereq: Prior experience in HIS 105 strongly recommended.

HIS 557 THE BRITISH EMPIRE AND COMMONWEALTH, 1880-2000. (3)
This course will trace the imperial theme, and the gradual decline and decomposition of Britain's empire from Victoria's day to the present; it will examine decolonization and the blending and clash of cultures, the effect of technology and western ideas on the subject peoples, and their impact on western civilization. Prereq: Prior experience in HIS 105 strongly recommended.

HIS 561 CULTURE, IDEAS, AND SOCIETY IN LATIN AMERICA. (3)
This course explores the interplay of culture, ideas, and society in the history of Latin America from Independence (1825) to the present. It takes an interdisciplinary approach and is attentive to issues of class, gender and sexuality, ethnicity and race, power, domination, and resistance. Major themes to be developed in the course are history of ideas; popular and elite cultures; material and visual culture; work, leisure, and consumption; and the politics of representation. Prereq: HIS 207 or LAS 201 are suggested.

HIS 562 MODERN MEXICO. (3)
Following a brief survey of Mexican political history from Independence to the present, this course will examine topically major historical themes, such as landholding and agrarian problems, church and state, and assessment of the 1910 Revolution.

HIS 563 THE HISTORY OF WOMEN IN LATIN AMERICA. (3)
This course will survey the history of women in Latin America from pre-Columbian period to the present. The emphasis will be mainly on the late nineteenth and twentieth centuries in order to understand the situation of women in Latin America today.

HIS 564 HISTORY OF BRAZIL. (3)
Study of Brazilian history from 1500 to the present, stressing the multiethnic dynamics of colonial society, the political transformations of independence, and the contemporary legacies of race, slavery, abolition, and gender.

HIS 572 AMERICAN LEGAL HISTORY. (3)
A history of law in the United States, emphasizing interrelationship of law and society. Particular attention given to law and economic growth, the criminal justice system, legal reform, the bar, and minorities and the law.

HIS 573 AMERICAN CONSTITUTIONAL HISTORY. (3)
A study of constitutional development in the United States from the colonial period to current times, with emphasis on the Supreme Court.

HIS 574 THE DIPLOMACY AND FOREIGN POLICY OF THE UNITED STATES TO 1919. (3)
A survey designed to acquaint the student with the principles of American foreign policy and its historical evolution. Prereq: HIS 108 or equivalent.

HIS 575 THE DIPLOMACY AND FOREIGN POLICY OF THE UNITED STATES SINCE 1919. (3)
A continuation of HIS 574. Foreign policy after the United States became a world power. Prereq: HIS 109 or equivalent.

HIS 576 FRONTIER AMERICA, 1400-1869. (3)
A study of the ways in which America's people shaped and were transformed by the frontier; how they wrestled with the problems of nationhood, democracy, sacrifice, and innovation; and how the idealism and promise were fulfilled and betrayed, from the first settlers to the driving of the Golden Spike.

HIS 577 FRONTIER AMERICA, 1869-PRESENT. (3)
A survey of the many Westerners, women as well as men, Native Americans, Chinese, and Hispanics as well as whites, sodbusters as well as six-shooters, and of the many Wests, wild and not-so-wild, from the prairie homesteaders to the Sagebrush Rebellion; and how they made, inherited, and were imprisoned by the frontier heritage.

HIS 578 HISTORY OF THE OLD SOUTH. (3)
A study of the colonial beginnings and expansion of southern life, economics, and society. The growth of slavery, staple agriculture, and sectional politics will constitute the major interest. Prereq: HIS 108.

HIS 579 HISTORY OF THE NEW SOUTH. (3)
The evolution of southern life and society, agrarian politics, relationships with other sections, industrial growth, and new leadership.

HIS 580 HISTORY OF APPALACHIA. (3)
A survey of the social, economic, and cultural history of Appalachia from the colonial period to the present with emphasis on the interaction of this social state region with the broader forces of social change at work in modern America. Prereq: HIS 108, 109 or consent of instructor.

†HIS 581 U.S. URBAN HISTORY SINCE 1865.

†HIS 582 IMMIGRATION AND AMERICAN HISTORY, 1815 TO THE PRESENT.

HIS 584 HEALTH AND DISEASE IN THE U.S. (3)
Examines the emergence of modern medicine and the allied health professions, from colonial times to the present. Emphasis will be placed on the social, institutional, and scientific contexts of medical thought, education, and practice. It also explores how social and professional thought and action shape the meaning of health and disease.

HIS 587 THE CIVIL RIGHTS MOVEMENT IN THE U.S. SINCE 1930. (3)
This course will focus on the struggle for African American equality in the U.S. during the mid twentieth century. It will examine key civil rights issues, events, strategies, leaders and organizations on both the local and national levels. Using historical documents and documentary film presentations this course will discuss the status of race relations in America over the past fifty years. (Same as AAS 587.)

HIS 593 EAST ASIAN HISTORY SINCE WORLD WAR II. (3)
A study of the revolutionary political, economic and social changes occurring in China, Japan, and Korea in the aftermath of World War II. Important political and institutional developments and their relations to pre-war trends will be emphasized.

HIS 594 USES OF THE PAST IN MODERN CHINA. (3)
The twentieth century has brought great change to the cultural landscape of China. This change is marked by a paradox: New China's claim to political legitimacy has been based on both revolution and historical continuity. How is the past adapted for the present? This course will examine this dilemma through cultural relics: architecture, art, and artifact. Considering changes to the Chinese city as well as museum history, we will study how cultural relics have been understood in modern China. Prereq: Any course in Chinese history or consent of instructor.

HIS 595 STUDIES IN HISTORY. (3)
Professors will offer lecture and discussion courses in areas in which they have special teaching interest. May be repeated to a maximum of six credits. Prereq: To be denoted by the instructor.

†HIS 596 THE U.S. FAMILY IN HISTORICAL PERSPECTIVE.

HIS 597 WESTERNERS IN EAST ASIA, 1839 TO THE PRESENT. (3)
The history of interactions between the peoples of East Asia and those of Europe and North America in the nineteenth and twentieth centuries. The actions and goals of merchants, diplomats, missionaries, journalists, and soldiers will be examined, and such concepts as colonialism, imperialism, and cultural change will be discussed.

HIS 598 CHINA IN REVOLUTION, 1895-1976. (3)
After a brief survey of modern Chinese history, this course explores the ideas which inspired the people who organized China's Nationalist and Communist parties and examines the social conditions which influenced the outcome of the Chinese civil war. The course also covers the attempts of some Chinese Communists to "continue the Revolution" after 1949.

HIS 606 HISTORICAL CRITICISM. (3)
Required of every entering graduate student in history. For history graduate students only.

HIS 613 READINGS IN EARLY MEDIEVAL HISTORY. (3)
The problems, major sources and secondary literature in the period from the beginning of the fifth century to the end of the 10th century will be covered. Primary emphasis will be given to the Latin West. May be repeated to a maximum of six credits when topical coverage is sufficiently different from one semester to another.

HIS 615 MANUSCRIPT CULTURES. (3)
This course examines how the vehicle of the manuscript and the circumstances of manuscript production shaped the creation, transmission, and reading of texts before the fifteenth century. Among the topics to be studied are orality and literacy, the transcription of sacred texts in Christianity, Judaism, and Islam, the political, economic, and social impacts of manuscript production and circulation, the impact of institutions (such as universities) on reading practices, contexts for the suppression, control, and alteration of texts, and the radical differences between print and manuscript cultures. (Same as CLA 615.)

HIS 616 PALEOGRAPHY. (3)
This course provides training in the skills needed to read the handwritten materials that constitute evidence for historical investigation of the production and circulation of information outside the medium of print. While the specific scripts to be studied will vary from semester to semester, depending upon whether the course is focused upon Latin paleography, Greek paleography, or vernacular paleographies, students will learn to read and transcribe manuscripts, to expand abbreviations appropriately, to recognize the chronological and geographical extent of particular scripts, to develop strategies for reading difficult scripts, to find the specialized reference works to assist them in studying handwritten materials, and to understand the historical arguments that have been constructed on the basis of analysis of scripts and the "archaeology of the book." The course also provides training in basic codicology and editorial techniques for establishing a text and recording variant readings. Prereq: Some familiarity with the language of the materials. (Same as CLA 616.)

HIS 621 READINGS IN EARLY MODERN EUROPE, 1450-1648. (3)
This course is designed to give graduate students a grounding in the historiography of Europe from 1450 to 1648. Students should expect to familiarize themselves in the recent trends in political, social, cultural, religious, economic, and intellectual history of the period.

HIS 622 READINGS IN EARLY MODERN EUROPE, 1648-1815. (3)
This course is designed to give graduate students a grounding in the history of Europe from the conclusion of the Thirty Years War to the Era of The French Revolution, with a focus on political, cultural, and intellectual history.

HIS 623 READINGS IN 19TH CENTURY EUROPEAN HISTORY. (3)
Intensive survey of the literature in the political, social, and/or cultural history of nineteenth-century Europe. May be repeated to a maximum of six credits when topical coverage is sufficiently different from one semester to another. Prereq: Graduate status.

HIS 624 READINGS IN EUROPEAN HISTORY OF THE TWENTIETH CENTURY. (3)
A critical survey of problems and literature in the political, social, and cultural history of Twentieth Century Europe. May be repeated to a maximum of six credits when topical coverage is sufficiently different from one semester to another. Prereq: An undergraduate course in European history.

HIS 625 BRITAIN, 1688-1815. (3)
A general graduate-level introduction to the political and social history of Britain from the Glorious Revolution through the French Revolution. Focuses on: Whig justification for revolution, "Rage of Party," Walpolean oligarchy and its "country" critics, agricultural revolution, urbanization, growth of the "middling sort," plebeian culture and the limits of hegemony, growth of national identity and the "fiscal-military" state, social context of the criminal law, Wilkite and American crises. Prereq: Permission of instructor.

HIS 626 BRITAIN, 1792-1914. (3)
This course will provide graduate students with a detailed overview of the history of Britain in the "long" nineteenth century. It will focus on such issues as the impact of the Industrial Revolution, the formation of a recognizably modern class society, the growth of working-class political consciousness, and the politics of class and gender. Prereq: Permission of instructor.

HIS 627 THE BRITISH EMPIRE, 1763-1914. (3)
This course provides graduate students with a detailed overview of several broad themes pertaining to the history of the British empire, 1763-1914: the first imperial crisis, slavery and the slave trade, race as a category of imperial knowledge/power, women's emancipation and the problem of empire, the post-colonial challenge to the "imperial mindset," and the intensification of imperial awareness within Britain itself, c. 1880-1914. Prereq: Permission of the instructor.

HIS 628 COLLOQUIUM ON MODERN EUROPEAN HISTORY. (3)
This course will provide an overview of the major themes and events that have shaped Modern European History from the late 18th century to the present. We will analyze the various ways in which particular historical topics have been interpreted (and reinterpreted) over time, as well as historian's different methodologies, underlying assumptions, and use of evidence. The major goal of the course, however, is to introduce graduate students to significant works and historical debates in Modern European History.

HIS 637 READINGS IN COLONIAL LATIN AMERICAN HISTORY. (3)
Intensive survey of major themes and debates in colonial Latin American history from 1492 to the early nineteenth century. Includes political, economic, social, and cultural topics.

HIS 638 READINGS IN LATIN AMERICAN HISTORY. (3)
Intensive survey of the major themes and debates in Latin American History from 1850 to the present. Includes political, economic, social and cultural topics. Prereq: Consent of instructor.

HIS 640 READINGS IN AMERICAN HISTORY TO 1877. (3)
Course will examine major scholarly debates in American history to 1877.

HIS 641 READINGS IN AMERICAN HISTORY SINCE 1877. (3)
Course will examine major scholarly debates in American history since 1877.

HIS 650 READINGS IN SPECIAL TOPICS IN HISTORY. (3)
Supervised reading at the graduate level of a selected bibliography of the essential literature of various special topics. May be repeated to a maximum of nine credits with different topics. Prereq: Consent of instructor.

HIS 651 READINGS IN U.S. FOREIGN RELATIONS SINCE 1900. (3)
This course will involve intensive reading in the history of United States foreign relations in the twentieth century. It will examine various theoretical approaches to the subject. It will analyze the sources and consequences of America's global expansion as well as the historiography of important events such as World War I and II, Korea and Vietnam.

HIS 653 READINGS IN U.S. WOMEN'S HISTORY. (3)
This course will introduce students to the main currents in U.S. women's history in four broad chronological units: Traditional America, 1600-1820; Industrializing America-Part I, 1820-1880; Industrializing America-Part II, 1880-1920; and Modern America, 1920-present. Within this framework, the course will explore such topics as: work, communities and public life; gender, families and sexuality; race and African-American experiences; and religion, reform and political culture. The course will also familiarize students with the ongoing theoretical debates within women's history.

HIS 654 READINGS IN MODERN AFRICAN-AMERICAN HISTORY. (3)
Introduces graduate students to the historical literature on 20th century African-American history and major historiographical issues. (Same as AAS 654.)

HIS 655 READINGS IN ANTEBELLUM SOUTHERN HISTORY. (3)
Introduces graduate students to the historical literature on the antebellum South and the major historiographical issues.

HIS 656 READINGS IN NEW SOUTH HISTORY. (3)
Introduces graduate students to the historical literature on the New South and the major historiographical issues.

HIS 657 RACE RELATIONS IN THE UNITED STATES. (3)
This seminar focuses on the African American experience in the United States from Reconstruction to the present. Using primary documents and secondary readings, this course will examine the construction of race relations and the individuals, organizations, events, and issues significant to the shaping of the black experience. (Same as AAS 657.)

HIS 673 READINGS IN AMERICAN HISTORY: THE GILDED AGE AND THE PROGRESSIVE ERA. (3)
An intensive survey of the major historiographical issues and the secondary literature of the Gilded Age and the Progressive Era.

HIS 695 INDEPENDENT WORK. (1-3)
Under special conditions selected students may investigate problems, with weekly reports to instructor. May be repeated to a maximum of nine credits. Prereq: Consent of instructor.

HIS 700 SPECIAL PROBLEMS IN HISTORY. (3)
Professors will conduct research seminars in topics or problems in which they have special research interests. May be repeated to a maximum of 12 credits. Prereq: Consent of instructor.

HIS 701 RESEARCH SEMINAR IN AMERICAN HISTORY. (3)
Graduate research seminar in American history. May be repeated to a maximum of 12 credits.

HIS 705 COLLOQUIUM IN PRE-MODERN EUROPEAN HISTORY. (3)
Graduate research seminar for students in pre-modern European history. Students will write a research paper of 20-30 pages using primary sources in the original languages. Class time will primarily involve discussion of works in progress, including works by the students and pre-modern European faculty members, as well as discussion of the mechanics of researching and writing history.

HIS 706 SEMINAR IN MEDIEVAL HISTORY. (3)
Directed research on a common problem. May be repeated to a maximum of 12 credits. Prereq: A reading knowledge of Latin or of one European language or consent of instructor.

HIS 710 SEMINAR IN AMERICAN HISTORY, 1607-1815. (3)
May be repeated to a maximum of 12 credits.

HIS 711 SEMINAR IN AMERICAN HISTORY, 1815-1865. (3)
May be repeated to a total of 12 credits.

HIS 722 SEMINAR IN MODERN EUROPEAN HISTORY, 1870 TO THE PRESENT. (3)
May be repeated to a maximum of 12 credits.

HIS 730 SEMINAR IN MODERN BRITISH HISTORY. (3)
May be repeated to a total of 12 credits.

HIS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

HIS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

HIS 750 INTRODUCTION TO THE HISTORICAL PROFESSION. (1)
Intend to acquaint students with dissertation research expectations, the responsibilities of a new faculty member, and professional career options.

HIS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

HIS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

HIS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

HJS Hebrew and Jewish Studies

HJS 101 ELEMENTARY HEBREW. (4)
Coverage of Hebrew grammar designed to prepare students to use Hebrew for their particular needs and programs.

HJS 102 ELEMENTARY HEBREW. (4)
Continuation of HJS 101. Prereq: HJS 101 or consent of instructor.

HJS 201 INTERMEDIATE HEBREW. (3)
Hebrew grammar and introduction to the reading of specimens of Hebrew prose. Prereq: HJS 102 or consent of instructor.

HJS 202 INTERMEDIATE HEBREW. (3)
Readings in selected Hebrew authors. Prereq: HJS 201 or consent of instructor.

HJS 324 JEWISH THOUGHT AND CULTURE I: FROM ANCIENT ISRAEL TO THE MIDDLE AGES. (3)
A survey of Jewish intellectual and material civilization from its beginnings in ancient Israel to its efflorescence in the medieval period.

HJS 325 JEWISH THOUGHT AND CULTURE II: FROM THE EXPULSION FROM SPAIN TO THE PRESENT. (3)
A survey of Jewish intellectual and material civilization from the expulsion from Spain in 1492 to the destruction of European Jewry in the Holocaust and the re-establishment of Israel.

HJS 326 THE JEWISH EXPERIENCE IN AMERICA. (3)
An investigation of the history, literature, and situation of Jewish life in America.

HJS 327 WOMEN IN JUDAISM. (3)
An investigation of the history, literature, and experiences of women in Judaism.

HJS 425 TOPICS IN JUDAIC STUDIES (Subtitle required). (3)
Variable in content, this course focuses on important texts and issues in Jewish history, religion, literature, and philosophy. May be repeated to a maximum of six credits under different subtitles.

HJS 495 INDEPENDENT STUDY IN JUDAIC STUDIES. (3)
Independent study on a topic mutually acceptable to instructor and student in Judaic Studies. Prereq: Declared minor in Judaic Studies.

HMN Humanities

HMN 300 TOPICS IN THE HUMANITIES (Subtitle required). (1-4)
A multidisciplinary, topical course, experimental in nature, approved by the Gaines Center Faculty Advisory Committee. Open to all juniors and seniors; enrollment will be limited to ten students selected by Gaines Center Faculty Advisory Committee through competitive application. Cannot be repeated under same subtitle. Prereq: Junior/senior status; approval of Gaines Center for the Humanities Director.

HMN 301 GAINES SEMINAR IN THE HUMANITIES I. (4)
A multidisciplinary seminar directed to topics of major concern in humanistic studies and to include consideration of culture, literature, history and landscape. Prereq: Gaines Fellowship Program; junior status.

HMN 302 GAINES SEMINAR IN THE HUMANITIES II. (4)
Continuation of HMN 301. A multidisciplinary seminar directed to topics of major concern in humanistic studies and to include consideration of culture, literature, history and landscape. Prereq: Gaines Fellowship Program; HMN 301.

HMN 303 CONTEMPORARY ISSUES CONCERNING THE HUMANITIES. (1-3)
An interdisciplinary seminar in the humanities which will focus on contemporary issues. Open to all University students, subject to such limits or prerequisites as set by the instructor. May be repeated to a maximum of six credits under different subtitles. Prereq: Set by individual instructors.

HMN 497 GAINES SENIOR THESIS. (3-15)
An independent research course leading to an undergraduate thesis in the humanities, to be supervised by three faculty members, to be a minimum of 50 pages in length, and to be defended in an oral examination. A minimum of six credit hours must be taken in the fall semester. May be repeated to a maximum of 15 credits. Prereq: Gaines Fellowship Program; HMN 302.

HMT Hospitality Management

HMT 120 INTRODUCTION TO HOSPITALITY MANAGEMENT AND TOURISM. (3)
A survey of the historical development and management structure of organizations that comprise the hospitality and tourism industry. The course format includes presentation by industry representatives, lectures and student led discussions.

HMT 210 HOTEL ROOMS DIVISION MANAGEMENT. (3)
A comprehensive study of the management principles which apply to the rooms division of a hotel property that includes front desk and housekeeper operations, reservations and billing, accounting procedures and public relations. Prereq: HMT 120. For Hospitality Management and Tourism majors only.

HMT 270 PRINCIPLES OF TRAVEL AND TOURISM. (3)
An introduction to the structure, operation and characteristics of domestic and international tourism. Topics include transportation modes, destination planning and marketing, wholesale and retail travel agent agreements; geographic, social and cultural aspects of tourism. Prereq: HMT 120. For Hospitality Management and Tourism majors only.

HMT 308 PRINCIPLES OF FOOD AND BEVERAGE. (3)
This course provides an overview of the principles of food and beverage concepts, menu development and food service operations in various segments of the hospitality and tourism industries. Food and beverage demonstrations and labs are included. A fee to cover materials and activities may be assessed from students. Lecture, two hours; laboratory, two hours per week. Prereq: HMT 120; NFS 241; Hospitality and Tourism majors only.

HMT 320 HOSPITALITY AND TOURISM MARKETING. (3)
This course concentrates on the principles of marketing as they are applied to the hospitality industry. Problems and characteristics specific to the industry will be examined. Additionally this course will be a starting point for the development of a marketing feasibility study and comprehensive plan and strategy for marketing a hospitality operation. Prereq: HMT 120, HMT 210, HMT 270, HMT 308 and MKT 300. For Hospitality Management and Tourism majors only.

HMT 330 MEETINGS AND CONVENTION MANAGEMENT. (3)
This course highlights the importance, growth, and economic impacts associated with convention/trade shows to hotels, restaurants, visitors and convention centers, museums, airlines and local governments. Prereq: HMT 120, HMT 210, HMT 270, MKT 300. For Hospitality Management and Tourism majors only.

HMT 345 INFORMATION TECHNOLOGY IN THE HOSPITALITY INDUSTRY. (3)
This course discusses the strategic impact of information technology on the hospitality industry, describes basic functions found in IT applications in the hospitality industry, and devotes time to learning industry-specific applications as well as the Internet. Prereq: CS 101, HMT 120. For Hospitality Management and Tourism majors only.

***HMT 350 REVENUE MANAGEMENT. (3)**
This course explores the skills and role of revenue managers in hospitality management as well as discussing the benefits of revenue management practices and systems. Consideration is given to concepts such as pricing, value, forecasting, inventory, distribution and evaluation as it relates to maximizing revenue in hospitality. Prereq: HMT 120 and ACC 201. For Hospitality Management and Tourism Majors only.

HMT 359 HOSPITALITY AND TOURISM SPECIAL TOPICS (Subtitle Required) (1-3)
New issues or the in-depth study of issues relevant to hospitality and/or tourism will be offered through this course. Credit hours will vary. May be repeated to a maximum of six credit hours under different subtitles. Prereq: Consent of instructor.

HMT 360 TOURISM PLANNING AND DEVELOPMENT. (3)
This course is designed to provide students with a thorough overview of tourism planning at the local, regional, national and international levels. It provides a variety of practical planning theories, procedures and guidelines to meet the diverse needs of travelers, destination communities, tourism and hospitality organizations, public, non-governmental organizations, and the private sector. The course will concentrate on developing student's competencies in the basic techniques of planning and developing sustainable tourism plans as well as procedures and guidelines to enable students to understand the tourism planning process and general surveys; tourist markets, facilities, services and infrastructure; planning analysis and policy formulation; development of design standards; environmental and socioeconomic considerations in tourism planning and tourism plan implementation. Prereq: HMT 120, HMT 210, HMT 270, MKT 300 and MGT 301 or consent of instructor.

HMT 395 HOSPITALITY AND TOURISM INDEPENDENT STUDY. (1-3)
Independent intensive work on specific topics in hospitality management or tourism. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

#HMT 420 KENTUCKY BOURBON HOSPITALITY AND TOURISM. (3)
Bourbon is big business in the Bluegrass State and is a distinctive spirit product of the United States. This class will introduce students to the basic manufacturing process while promoting an understanding and awareness of the bourbon industry to focus on the history, culture, heritage and value of bourbon in the state of Kentucky. The course will include guest speakers, field trips and a class project with the Kentucky Bourbon Trail. Some class meeting times will need to be extended to accommodate field trips. Prereq: 21 years old and permission of the instructor.

HMT 470 HOSPITALITY AND TOURISM LAW AND ETHICS. (3)
Students are introduced to the principles of law and their application in the hospitality industry. The focus of the course is on the rights and obligations of hotel, restaurant and travel business managers and professionals in their dealings with customers and other business. Prereq: HMT 120, HMT 210, HMT 270. For Hospitality Management and Tourism majors only.

#HMT 486 HMT STUDY TOUR. (3)
A domestic or foreign study tour to include investigation of interests related to hospitality management and tourism. Professional visits are planned according to particular itineraries. Application and payment dates are determined each semester by the instructor. This course may be repeated one time if tour destinations are different. Prereq: Priority is given to majors and upperclassmen. All students are subject to instructor approval.

HMT 560 ADVANCED SEMINAR IN LODGING AND TOURISM. (3)
This course is a review and application of the principles of hospitality (specifically lodging) and tourism learned in pre-requisite courses. Theory and principles will be applied to decision-making in the hospitality and tourism industry while emphasizing features and characteristics of the industry. Current issues of relevance pertaining to the industry will be discussed to highlight their importance to the industry. Prereq: HMT 120, HMT 210, HMT 270, MKT 300, MGT 301. Restricted to upper-division HMT undergraduates and RTM graduate students.

***HMT 570 EVENT PLANNING AND COORDINATION. (3)**
This course will provide the theoretical and practical foundations for effective twenty-first century event management. Students will learn how to research, design, plan, coordinate, and evaluate professional events. Specifically, this course deals with the horse industry activities in the state of Kentucky. Prereq: HMT 120, HMT 308 and HMT 210 or consent of instructor.

HMT 580 TRENDS ANALYSIS FOR THE HOSPITALITY INDUSTRY. (3)
The course is designed to acquaint the student with the major trends occurring in the hospitality industry and to develop analytical skills required to interpret them. Throughout the course, the student should be able to identify trends; their timing; the causal effects they have on organizations; the actual probability of their occurrence; and impact they will have on the organization. Prereq: Graduate student status or HMT 120, HMT 210, HMT 270 and HMT 308.

HMT 588 STRATEGIC MANAGEMENT IN THE HOSPITALITY AND FOOD SERVICE INDUSTRY. (3)
A course requiring students to use integrative skills to evaluate theories and applications regarding decision making, strategic planning and management concepts specific to hospitality and food service organizations. Prereq: Graduate student status or HMT 120, HMT 210, HMT 270, HMT 308, MGT 301 and MKT 300.

HMT 646 ADVANCED INFORMATION TECHNOLOGY IN THE HOSPITALITY INDUSTRY. (3)
This course will engage students in the latest technology used by the hospitality industry for advancement of human, material and financial resources. Strategies and applications using technology to gain competitive advantage will be investigated. Students should be able to examine the problems of technology in the hospitality and tourism industries and to provide solutions. Prereq: Admission to the graduate program.

HMT 694 STRATEGIC PLANNING IN HOSPITALITY, LODGING AND TOURISM. (3)
This course is designed to shape students' understanding of strategic planning as it relates to hospitality, lodging, and tourism. The concepts utilized to accomplish this objective represent several discipline areas such as: organizational theory, strategic management, and the function of management. Prereq: Admission to graduate program.

HMT 759 SPECIAL TOPICS IN HOSPITALITY MANAGEMENT AND TOURISM. (3)
Advanced work on a specific topic in hospitality management and tourism. May be repeated for a maximum of twelve credits under different subtitles. Prereq: Graduate standing.

HMT 781 ADVANCED TRENDS ANALYSIS IN HOSPITALITY AND TOURISM. (3)
The student will investigate the major trends occurring in the hospitality, lodging, and tourism industry and develop analytical skills required to interpret them. Throughout the course, the student should be able to identify trends; their timing; the causal effects they have on organizations; the actual probability of their occurrence; and impact they will have on the organization. Prereq: Admission to graduate program.

HMT 785 INDEPENDENT STUDY IN HOSPITALITY MANAGEMENT AND TOURISM. (1-6)
Problems involving independent library, studio, and/or laboratory study conforming to the student's special interest under the direction of an appropriate faculty member having proficiency in the selected area selected. May be repeated up to a maximum of six credits under different subtitles. Prereq: Nine credit hours of graduate study, consent of instructor, contractual agreement.

HON Honors

***HON 100 ACADEMIC ORIENTATION FOR HONORS STUDENTS. (1)**
This course is designed to introduce Honors students within a variety of Honors programs, e.g. Singletary, Lewis Scholars, etc., to the scholarly life of the University and also to organize and execute community service as a cohort. Through guest lectures, discussions and out-of-the classroom assignments, HON 100 helps Honors scholars gain an early understanding of opportunities at a research university, increase awareness and use of campus resources, reflect on community issues that they can address using the skills and talents specific to their cohort, and form beneficial relationship with students, faculty and staff. Prereq: Must be a UK Honors student (First priority given to Honors Scholarship programs cohorts, e.g., the Singletary Scholarship recipients, or the Lewis Scholarship recipients.)

HON 101 THE ANCIENT WORLD. (3)
From Greek and Roman antiquity to the early Christian centuries: an interdisciplinary course in intellectual history. Readings vary at the discretion of the faculty. Prereq: Membership in the Honors Program.

HON 105 THE MEDIEVAL AND RENAISSANCE WORLD. (3)
From the Middle Ages through the Reformation: an interdisciplinary course in intellectual history. Readings vary at the discretion of the faculty. Written assignments required. Prereq: Membership in the Honors Program.

HON 111 WORLD FOOD ISSUES I: SEEDS AND HARVESTS. (3)
In this foundational course you will start from the human past, explore the role of the Agricultural Revolution 10,000 years ago, and address the impacts of those historical influences on current world food issues. Prereq: Admission to the Honors Program.

HON 115 WORLD FOOD ISSUES II: YOUR DAILY BREAD. (3)
In this course, you will learn about basic human nutrition, critically consider the basis of your own food choices, and evaluate how individual food choices are made in the context of cultural relationships. Prereq: HON 111.

HON 121 HISTORY OF EMERGING TECHNOLOGIES IMPACT ON SOCIETY: A TIME TRAVEL. (3)
The objective of this course is to examine the short and long term impacts of emerging

technologies on the society at large. We will have, in a sense, a time travel to explore how some of the major inventions such as steam engine, compass, and roman aqueducts influenced the society during their times as well as centuries later. We will discuss the technological expectations of a society and the overall mind set prior and after a given technology was introduced. Finally, we will have a speculative study of nanotechnology to explore its potential impact on science, engineering, and the society. Prereq: Membership in the Nanotechnology Track of the Honors Program.

HON 125 THE SCIENCE & ART OF SMALL: INTRODUCTION TO NANOTECHNOLOGY. (3)
Nanotechnology is a highly interdisciplinary emerging field involving scientists from physics, chemistry, biology, engineering, information technology, metrology, and other fields. This course will define the terminology, promises, and challenges of nanotechnology by exploring the development of the National Nanotechnology Initiative (NNI) and related enterprises. Prereq: Membership in the Nanotechnology Track of the Honors Program (HON 121) or consent of instructor.

HON 131 SPACE, PLACE, AND CULTURE: AN INTRODUCTION. (3)
A multidisciplinary introduction to the concepts of space and place in culture. Through readings in social and critical theory, as well as analyses of literary texts, film, music, architecture, urban design, and other forms of cultural expression, students explore how places develop meaning for those who inhabit them. Special attention is given to the issue of belonging, the geographies of gender and race, the problem of nationalism in the era of globalization, the fate of the city, and the spatial politics of resistance. Prereq: Membership in the Space, Place, and Culture track of the Honors Program.

HON 135 SPACE, PLACE, AND CULTURE: TOPICAL SEMINAR II (Subtitle required). (3)
This course provides an in-depth multidisciplinary study of a specialized topic within the broader area of space, place, and culture. Course topics, which change from year to year, explore cultures of the Middle East, Western Europe, and the Americas by asking how cultural identity is grounded in and shaped by human encounters with geographic place. Prereq: HON 131 and membership in the Space, Place, and Culture track of the Honors Program.

HON 141 THE SELF AND OTHERS. (3)
This course is designed to give students a multidisciplinary perspective on the social sciences. Specifically, it seeks to introduce students to representative disciplines, guiding themes and salient theories, and paradigmatic social science thinkers and researchers within the broad domain of the social sciences. This interdisciplinary Honors course will provide an intellectual base from which to begin the study of the social sciences. The topics cover the self and others, and they are examined from various Social Science disciplines including Anthropology, Communications, Education, Family Studies, Geography, Political Science, Psychology, Social Work, Sociology, and Statistics. Prereq: Membership in the Social Science track of the Honors Program.

HON 145 THE SOCIAL CONSTRUCTION OF HUMAN IDENTITY. (3)
This course is designed to give students a multidisciplinary perspective on the social sciences. Specifically, it seeks to introduce students to representative disciplines, guiding themes and salient theories, and paradigmatic social science thinkers and researchers within the broad domain of the social sciences. This interdisciplinary Honors course will continue to provide an intellectual base from which to begin the study of the social sciences. The topics cover the social construction of human identity, and they are examined from various Social Science disciplines such as Anthropology, Communications, Education, Family Studies, Geography, Political Science, Psychology, Social Work, and Sociology. Prereq: HON 141 and membership in the Social Science track of the Honors Program.

HON 151 HONORS IN HUMANITIES (Subtitle required). (3)
Honors Humanities topics offered by various professors (topics announced the preceding semester). Whatever the topic, the Honors Humanities courses reflect on the human condition through works of art and literature (including folklore and film), philosophical and religious contemplation and argumentation, and historical narrative. They undertake interdisciplinary investigations of significant intellectual and cultural issues of our past and present (and thus of our future) and are designed to stimulate individual thought as well as develop writing, critical thinking, and small-group discussion skills. Prereq: Membership in Honors.

HON 152 HONORS IN NATURAL, PHYSICAL, AND MATHEMATICAL SCIENCES (Subtitle required). (3)
A hands-on, science course for Honors student in which they ask a question requiring scientific analysis, develop a related experimentation regimen, collect data, do the experimentation, analyze the results, draw conclusions and appropriately disseminate the results. Students will directly experience the scientific process to learn how scientists work. Prereq: Membership in Honors.

HON 153 THE WORLD AS HUMAN NETWORK AND AFFAIRS. (3)
The World as Human Network and Affairs: Courses in this category promote the understanding of individuals in the context of social interactions, groups and societies. The courses will focus on the subjective, intersubjective, and structural aspects of society, with the goal of helping students to enhance their understanding of the phenomenon that is human society. Prereq: Membership in Honors.

HON 201 THE EARLY MODERN WORLD. (3)
From the development of the modern scientific method through mid-19th century industrialism: an interdisciplinary course in intellectual history. Readings vary at the discretion of the faculty. Prereq: Membership in the Honors Program.

HON 205 THE CONTEMPORARY WORLD. (3)
The contemporary world: an interdisciplinary course in intellectual history. Readings vary at the discretion of the faculty. Prereq: Membership in the Honors Program.

HON 211 WORLD FOOD ISSUES III: LIVING WITH LIMITS. (3)
In this course, you will evaluate the availability of resources to sustain human societies in the future, and consider the prospects of changing food expectations in order to achieve sustainability. Prereq: HON 115.

HON 221 SOCIAL IMPLICATIONS OF EMERGING TECHNOLOGY. (3)
This course explores the social implications of technology and the production of scientific knowledge in educational, legal, ethical, cultural, and industrial contexts. Prereq: HON 121 (previously HON 101B), HON 125.

HON 231 SPACE, PLACE, AND CULTURE: TOPICAL SEMINAR II (Subtitle required). (3)
This course provides an in-depth multidisciplinary study of a specialized topic within the broader area of space, place, and culture. Course topics, which change from year to year, explore cultures of the Middle East, Western Europe, and the Americas by asking how cultural identity is grounded in and shaped by human encounters with geographic place. Prereq: HON 131, HON 135 and membership in the Space, Place, and Culture track of the Honors Program.

HON 241 TOPICAL SEMINAR IN SOCIAL SCIENCES (Subtitle required). (3)
This course is designed to provide an in-depth multidisciplinary study of a specialized topic within the social sciences. Topics will vary from year to year, providing students with a diversity of material in the social sciences. The topics are examined from various Social Science disciplines including Anthropology, Communications, Education, Family Studies, Geography, Political Science, Psychology, Social Work, and Sociology. Prereq: HON 141, HON 145 and membership in the Social Science track of the Honors Program.

HON 242 A SCIENTIFIC APPROACH TO UNCERTAINTY. (3)
This course is designed to give students a multidisciplinary perspective on the interaction of the science and art of statistics in the world around us. Particular attention will be focused on how this interaction has influenced the notion of quantitative argument in the social sciences. Although the course will emphasize ideas of mathematical computations, both will be encountered and explored in depth. Case studies and current social science controversies will be presented and discussed. Methodological arguments and techniques from sampling, experimental design, inference, and regression will be illustrated. Prereq: HON 141, HON 145, and membership in the Social Science track of the Honors Program.

HON 251 HONORS IN SOCIAL SCIENCES (Subtitle required). (3)
The World as Human Network and Affairs: Courses in this category promote the understanding of individuals in the context of social interactions, groups and societies. The courses will focus on the subjective, intersubjective, and structural aspects of society, with the goal of helping students to enhance their understanding of the phenomenon that is human society. Prereq: Membership in Honors.

HON 252 HONORS IN ARTS AND CREATIVITY (Subtitle required). (3)
The creative process and its products and results are the focus of these Honors courses, and include but are not limited to, visual, verbal, musical, spatial, or kinesthetic forms of expression. Readings and final projects vary at the discretion of the faculty. Prereq: Membership in Honors.

HON 301 PROSEMINAR. (3)
An interdisciplinary seminar in the history of culture; topics will vary from semester to semester, but a substantial research essay is always required. This course will satisfy the Honors program requirement for Independent Study. May be repeated to a maximum of six hours. Prereq: At least two Honors colloquia and membership in good standing in Honors Program or consent of instructor.

HON 333 JOURNAL/JOURNEY PROJECT. (1)
Special credit for Honors Program students who keep an intellectual journal for both fall and spring semesters, receiving one credit during the spring semester. Regular consultation with an assigned advisor, several group meetings during the year. May be repeated to a maximum of five credits. Pass/Fail only. Prereq: Membership in the Honors Program.

HON 352 STUDY AND TRAVEL ABROAD (Subtitle required). (3)
An experiential, travel-abroad course that requires pre-travel class preparation followed by travel abroad that will provide students with multi-cultural exposure, leadership, and a new frame of reference for understanding the world and their role in it. Prereq: Sophomore status and any two of the following: HON 151, 152, 251, 252, or departmental Honors course, section or option in the Inquiry areas, or permission of the Honors Program.

***HON 395 INDEPENDENT WORK. (1-15)**
Independent research or creative projects supervised by a faculty member in the field. Work must result in a report or publication evaluated by supervising faculty member and Honors Director. Prereq: Upper division standing, membership in Honors Program, consent of Honors Director.

HON 398 SENIOR HONORS CAPSTONE. (3-15)
A formal thesis or creative project of the student's choosing, to be directed by a professor in the student's major department. Student must present this research in an appropriate public or professional venue. Prereq: Students of junior-senior status, good standing in Honors Program and written permission from the Director of the Honors Program.

HON 399 HONORS SERVICE LEARNING AND COMMUNITY ENGAGEMENT. (1-15)
A service- or community-based learning experience in the field under the supervision of a faculty member. May be repeated to a maximum of 30 credits. Prereq: Consent of supervising faculty member and Honors Director, completion of an Honors Learning agreement and membership in the Honors Program.

HP Historic Preservation

#HP 101 HISTORIC PRESERVATION: HOW THE PAST INFORMS THE FUTURE. (3)
An introduction to the theory and practice of historic preservation in the Commonwealth of Kentucky and beyond. The approach will be through an interdisciplinary lens, including architecture, interiors, history, urban planning, archaeology, geography, economic development, and community engagement. Lectures, readings, discussion, and field observations.

HP 501 SELECTED TOPICS IN HISTORIC PRESERVATION (Subtitle required). (3)
Seminars for investigations of selected topics in historic preservation. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

HP 601 INTRODUCTION TO HISTORIC PRESERVATION. (3)
HP 601 is an introduction to the field of historic preservation, focusing on the policies and practices of preservation in the United States. It covers preservation legislation and public and private preservation practice at local, state, and national levels. It emphasizes preservation as a publicly supported endeavor, and presents information about the workings of standard preservation program areas. The National Register of Historic Places, a program marking a threshold for preservation decisions in the United States, receives special attention in this course. Students in the course will experience the process of evaluating a property for listing in the National Register of Historic Places as a class project.

HP 602 HISTORIC PRESERVATION LAW. (3)
The goal of this course is to assist non-lawyers in understanding laws, policies, and procedures and how they impact your professional practice as preservationists, planners, archaeologists, and in other conservation related fields. Preservation law encompasses a number of practice areas including, but not limited to land use and zoning, real property, local government, constitutional, administrative, and environmental law as well as the conservation of archaeological resources. Prereq: HP 601 or consent of instructor.

HP 609 URBAN REVITALIZATION IN THE UNITED STATES: HISTORY, CONCEPTS, AND TECHNIQUES. (3)
This course explores the idea of historic preservation as a tool for economic development. Students will critically reflect on the relationship between historic preservation and issues such as low income housing, poverty, and gentrification. It will also introduce students to the tools and techniques being used by preservationists, urban planners, private and non-profit developers, housing advocates, and others to promote the revitalization of economically distressed communities. These tools will include a variety of federal, state and local housing and economic development programs, the National Trust for Historic Preservation's Main Street Program, and basic real estate decision-making tools that can be applied in both historic and non-historic contexts. Prereq: Enrollment in program or consent of instructor.

HP 610 AMERICAN ARCHITECTURE I. (3)
This course will trace architectural developments in America from colonial settlement until the middle of the 19th century. Examples will come from vernacular, professional and monumental contexts so that students become familiar with various design processes and types of architecture. The course will both survey the features of buildings constructed in different times in various American places and consider their historical and social contexts.

***HP 611 AMERICAN ARCHITECTURE II. (3)**
This course is a sequel to HP 610: American Architecture I. It will examine architectural developments in America from the middle of the 19th century to the present, with a focus upon the virate intersection of American architecture with the emergence of modern architecture in the rest of the world. There will be special emphasis upon architectural professionalization and its impact on processes of design in all contexts. Field trip is required. Prereq: HP 610 or consent of instructor.

HP 612 DOCUMENTATION OF HISTORIC BUILDINGS AND SITES. (3)
This course introduces students to basic research methods and techniques for gathering, recording, and interpreting information about historic buildings and sites. Class discussions and practical exercises focus on the National Register system's documentation requirements, HABS conventions for drawing, and recording for survey and compliance purposes (e.g., Section 106). While engaging in field research to investigate historic buildings and sites, students will learn how, when, and why to apply the everyday research and recording techniques used by preservation professionals including fundamental methods for conducting archival research; evaluating physical evidence; developing building descriptions and historical narratives; producing measured drawings (plans); photographing buildings for reporting or archival purposes; and organizing results.

HP 613 HISTORICAL STRUCTURAL SYSTEMS AND BUILDING MATERIALS. (3)
An introduction to basic principles of traditional construction in stone, masonry, wood, and cast iron. The student will gain an understanding of the structural systems used with each of these building materials by preparing drawings and/or studying such details as floor and roof framing, window and stair construction, and finishes. The course concludes with a discussion of traditional mechanical systems and strategies for inserting modern systems in older buildings.

HP 614 DOCUMENTATION OF HISTORIC BUILDINGS AND SITES II. (3)
This course reinforces concepts taught in HP 612 while introducing students to more advanced documentary and analytical techniques for evaluating historic sites and structures. Students work through practical exercises in large format photography, advanced measured drawing skills including the production of elevations and sections, and new analytical and representational techniques using computer applications. Where HP 612 emphasizes research, interpretive, and recording methods, the emphasis for this course is on analyzing, synthesizing, illustrating, and communicating the results of building investigations. Prereq: HP 612 or consent of instructor.

HP 615 AMERICAN SETTLEMENT PATTERNS: HISTORY OF LAND DEVELOPMENT. (3)
A graduate seminar that explores the traditions, policies, practices and regulations that dictate the form of the built environment in the United States, from colonial times to the present, in rural, suburban, and urban contexts. Prereq: Enrollment in program or consent of instructor.

HP 616 HISTORIC PRESERVATION AND DESIGN. (3)
An introduction to architectural preservation and design, using sites in Kentucky. Design projects will focus on restoration, preservation, and adaptive reuse of historic structures, new urban infill structures, and new structures within historic urban and rural contexts. Individual and team projects will require interaction with local preservation and planning groups. Course meets for 3 hours each week. Prereq: Enrollment in program or consent of instructor.

HP 617 HISTORIC PRESERVATION PLANNING. (3)
An introduction to historic preservation planning. Projects will introduce students to a variety of preservation planning tools, including neighborhood historic resource surveys, the creation of historic districts, the development of design guidelines, and the mapping of historic resources among others. The course will focus on historic sites and structures within Kentucky. Individual and team projects will involve interaction with local government, planning and preservation groups. Class meets for three (3) hours per week. Prereq: Enrollment in program or consent of instructor. Prereq: Enrollment in program or consent of instructor.

HP 699 SUMMER INTERNSHIP. (1-6)
Summer internship either in or out of Kentucky, providing intensive, practical experience in historic preservation. Internships for which the student can apply in other states or countries will be encouraged to provide practical experience outside of Kentucky, and work at several sites is possible. Possible internship programs include those offered by the Smithsonian Institution, National Park Service, or in various foreign countries, depending on the student's interest and subject to approval of the Director. Prereq: Two semesters of course work or consent of the Director.

HP 720 CASE STUDIES IN PRESERVATION. (3)
An elective seminar in which case studies of significant local, regional, national and international preservation projects will be presented, analyzed and evaluated. Site visits, lectures by preservationists, architects, developers, and agency officials. Case studies will vary each semester, focusing upon preservation projects of current interest, including individual structures, rural and urban preservation, and community preservation planning. Interaction with groups, analysis projects, student presentations. Prereq: HP 601 and HP 602 or consent of instructor.

HP 721 INTERPRETATION OF HISTORIC BUILDINGS AND SITES. (3)
This course addresses the issues and problems involved in documenting and establishing historic buildings and sites as local/national museums. Students will examine museum types, such as house museums, living history, and battlefield sites, methods of interpretation, and concerns for the handling and displaying of historic materials. Students will discuss specific museum types within a larger context, including social and political history and the issues associated with heritage tourism. Prereq: Consent of instructor.

HP 722 HISTORIC PROPERTIES MANAGEMENT AND ADMINISTRATION. (3)
A practical introduction to the management of cultural resource based organizations. Particular emphasis will be placed on administrative tasks such as planning, budgeting, grant writing, regulatory compliance, risk management, collections, curatorship, and conservation. Case studies will be utilized. Much of this course will apply to the operation of any not-for-profit organizations.

HP 723 TOPICAL SEMINAR IN KENTUCKY ARCHITECTURE AND CULTURAL LANDSCAPES. (3)
This course is a topical seminar with a subtitle each time it is offered. It emphasizes an understanding of how the built and physical landscapes combine to generate locally characteristic cultural landscapes. Class readings and discussions will provide background, contextual and comparative information for class investigation of a research, design or policy problem concerning Kentucky architecture and cultural landscapes. Students will each research an aspect of the topic problem, and present their findings both orally and in written form. Prereq: Consent of instructor.

HP 724 ADVANCED HISTORICAL STRUCTURAL SYSTEMS AND BUILDING MATERIALS CONSERVATION. (3)
A practical discussion of the most effective methods for conserving buildings, organized by building material - wood, masonry, metals, and glass. Readings will be supplemented by site visits and discussion of actual projects. Prereq: HP 613 or consent of instructor.

HP 725 PRESERVATION PRACTICUM. (3)
An in-semester practicum with a state or local agency, private firm or university research unit to provide the student with intensive, practical experience in historic preservation. Students will execute a learning contract with the Preservation Program Director and prospective employer detailing the work they will carry out, identifying achievable, measurable learning objectives, specifying the criteria by which their work will be evaluated, and setting meetings dates with the participating parties to chart their progress. Prereq: Two semesters of course work or consent of the Director.

HP 726 AMERICAN MATERIAL CULTURE. (3)
Survey of approaches to the study of American material culture by various academic disciplines such as history, geography, anthropology, interior design, folklore and architecture. First half of course will review how the various disciplines study material culture. Second half will present ways in which various approaches can be combined to restore, interpret, furnish, and landscape historic structures and sites. Specific examples will be provided on a case study basis.

HP 728 HISTORIC LANDSCAPE AND GARDEN RESTORATION AND INTERPRETATION. (3)
Building on the discussion of rural preservation and landscape analysis found in earlier courses, this course will focus on the principles and techniques of landscape restoration and interpretation at various scales from restoration of previously existing gardens to documentation of entire landscapes. Prereq: HP 601, 610, and 611; or consent of instructor.

HP 748 MASTER'S PROJECT RESEARCH. (0)
Half-time to full-time work on master's project. May be repeated for a maximum of six semesters. Prereq: All course work toward the degree must be completed.

HP 750 ARCHITECTURE DESIGN STUDIO. (6)
An advanced studio in architectural design for students with academic preparation in design who intend to specialize in preservation. Projects include adaptive reuse of historic structures and the design of new structures within historic contexts, using sites in Kentucky as foci for investigations. Individual and team projects of public interest, involving interaction with local preservation and planning groups and other professional and academic disciplines. Lecture, two hours; studio, 12 hours per week. Prereq: Consent of instructor or HP 616.

HP 772 SEMINAR IN HISTORIC PRESERVATION (Subtitle required). (3)
Seminar for the investigation of selected topics in historic preservation. The course requires a subtitle each time it is offered. May be repeated for a maximum of six credits. Prereq: Consent of instructor.

HP 785 INDEPENDENT STUDY IN HISTORIC PRESERVATION. (3)
Independent investigation of selected topics in historic preservation under the supervision of a faculty member with proficiency in the investigation area. May be repeated to a maximum of six credits. Prereq: Nine credit hours of graduate study, written consent of instructor, and contractual agreement approved by Department Chair.

HP 798 RESEARCH DESIGN. (3)
This course will provide students with the basic tools needed for an to in-depth investigation of a preservation design project, policy issue, or scholarly question. This course, which must be taken prior to enrollment in HP 799, assists students in designing their Master's Project and results in a Master's Project proposal and selection of a Master's Project Committee. Through readings and class discussions, this course will familiarize students with grounding their research within the literature, formulating research questions or hypotheses, research design, advanced methodologies, critical assessment of methodologies, and data analysis. Prereq: Completion of 9 credits of graduate study or consent of the instructor.

HP 799 MASTER'S PROJECT. (3)
Students work independently, but under the direction of a committee chair and Master's Project committee suggested by the student and chosen in consultation with the department chair or DGS to complete the Master's Project proposed in HP 798. Must be repeated to a maximum of six hours. Prereq: HP 798.

HS Health Sciences

HS 500 INTEGRATIVE CARE FOR HEALTH SCIENCES. (1-3)
Integrative care involves using the best possible treatments from both complementary/alternative and allopathic medicine, based on the patient's individual needs and condition. The selection of health care providers should be based on good science and this course will introduce students to complementary and alternative health care providers and the practices and beliefs of these practices as well as the scientific evidence in support of these practices. The course integrates successes from both worlds and describe the safest, least invasive, most cost-effective approach while incorporating a holistic understanding of the individual. May be repeated to a maximum of 3 credits (1 credit didactic and up to two credits experiential/research). (Same as AT 500, CLS 500, CNU 500, CD 500, PAS 500.)

HSE Health Sciences Education

HSE 101 SURVEY OF HEALTH PROFESSIONS I. (1)
An introduction to the health sciences professions including an exploration of health sciences careers. (Same as HHS 101.)

HSE 510 OLDER WOMEN AND THEIR HEALTH. (3)
This course is designed to increase the awareness and understanding of the relationships among gender, health status and the aging process among older women. Such issues as changing social and cultural mores, public policies and utilization of health care resources are discussed as they impact women. Prereq: Upper division or graduate standing. (Same as NUR 510.)

HSE 595 DIRECTED STUDIES. (1-3)
Independent work devoted to research on specific problems, to challenge the student to synthesize concepts from his total program and relate them to his allied health specialty. Conference, one to three hours per week. May be repeated to a maximum of six credits. Prereq: Consent of instructor. (Same as CLM 595.)

HSE 880 SEMINAR IN ALLIED HEALTH (Variable topic). (1-3)
Study and analysis of current and topical problems and issues regarding the roles, trends and research for allied health educators. May be repeated to a maximum of six credits. Prereq: Admission to the College of Allied Health Professions Program or permission of instructor.

HSM Health Services Management

HSM 241 HEALTH AND MEDICAL CARE DELIVERY SYSTEMS. (3)
Review of the wellness-illness spectrum and the societal response in terms of health services. Topics to be covered include the nature and functions of health services agencies and professionals, and the impact of social, political, economic, regulatory, and technological forces. Also includes a discussion of major health problems and related health care programs. (Same as CLM/HHS 241.)

HSM 260 INTRODUCTION TO HEALTH ADMINISTRATION. (1)
Introduction to administrative roles, functions, settings and requirements through interviews with practicing administrators, site visits, discussion, and case studies.

HSM 351 HEALTH SERVICES ADMINISTRATION. (3)
Theories and practices of administration in health care institutions with special emphases on organizational behavior and analyses of various administrative processes and techniques. Prereq: Professional program status in CLM or HHS or consent of instructor. (Same as CLM/HHS 351.)

HSM 353 HEALTH ADMINISTRATION, PLANNING AND MANAGEMENT TECHNIQUES. (3)
Review of quantitative and nonquantitative techniques used in health care settings for planning, implementation and control. Emphasis will be placed on health service area delineation, patient origin studies, research methods, management information systems such as PAS, HAS, I.C.D.A., and quality assessment systems. Prereq: Professional program status (which includes an earned Associate Degree in a health care discipline and one year of post-degree work in a health care setting) or consent of instructor.

HSM 354 HEALTH LAW. (3)
Introduction to concepts of administrative and tort law applicable to health care settings. Topics to be considered include governance, patient rights, informed consent, medical/moral problems, malpractice, tax laws, contracts, labor law, regulation and institutional liability. Prereq: Professional program status (which includes an earned Associate Degree in a health care discipline and one year of post-degree work in a health care setting) or consent of instructor. (Same as CLM/HHS 354.)

HSM 355 FINANCIAL MANAGEMENT OF HEALTH CARE INSTITUTIONS. (3)
A review of financial management practices in health care institutions. Course will analyze regulatory and third party reimbursement for financial management, financial management practices, impact of financing mechanisms and practices on health services decision making. Prereq: Professional program status (which includes an earned Associate Degree in a health care discipline and one year of post-degree work in a health care setting) or consent of instructor. (Same as CLM 355.)

HSM 450 HOSPITAL AND HEALTH SERVICES: INTERORGANIZATIONAL RELATIONSHIPS. (3)
Environment of interacting organizations in the health industry is considered. Attention given to multi-hospital organizations and other forms of interorganizational relationships. Prereq: HSM 351 and HSM 843.

HSM 451 TOPICS IN HEALTH ADMINISTRATION (Subtitle required). (1-6)
Readings, projects, lecture and/or discussion in seminar format to illuminate current topics of special interest or concern in health administration. May be repeated to a maximum of six hours. Prereq: Consent of department.

HSM 452 COMMUNITY AND INSTITUTIONAL PLANNING FOR HEALTH SERVICES DELIVERY. (3)
Theoretical foundations for health planning. History of health planning and regulation. Specific attention will be given to integration of institutional planning with community health planning. Prereq: Professional program status (which includes an earned Associate Degree in a health care discipline and one year of post-degree work in a health care setting) or consent of instructor. (Same as CLM 452.)

HSM 510 ORGANIZATION OF THE LONG-TERM CARE SECTOR. (3)
This course examines the structure and function of the long-term care sector with emphasis on nursing homes and the role of noninstitutional alternatives. Analysis focuses on the impact

KEY: # = new course * = course changed † = course dropped

of changes in reimbursement and regulatory policy, interorganizational relations, newly emerging treatment modalities, and the influence of the external organizational, economic, and political environment. Prereq: A course in health care delivery systems or permission of instructor. (Same as CLM 510.)

HSM 511 INDEPENDENT STUDY IN HEALTH SERVICES ADMINISTRATION. (1-3)
Directed independent library and/or community health study. May be repeated to a maximum of six hours. Prereq: Major in health administration and/or consent of department chairperson.

HSM 601 OVERVIEW OF U.S. HEALTHCARE. (3)
An introduction to the health care delivery system in the United States, including its composition, functioning, the interrelationships of organizations and professional groups within the system in various settings, health care terminology, and major problems and issues in the delivery of health services. Prereq: MHA/MPA program status.

HSM 602 ORGANIZATIONAL CHANGE AND STRATEGIC PLANNING. (3)
This course is designed to focus on the future needs of the health care organization as contrasted to day-to-day operational management. Strategies for the design and implementation of organizational change including techniques of quality and process improvement will be addressed. The strategic planning components of needs assessment, demands analysis, generation of alternative, priority setting and evaluation form the basis of the course. Several health care trends such as restructuring, innovation in health care delivery and financing, and performance measurements will be illustrated through case analysis in a variety of provider settings. Prereq: HA 601 and HA 621.

HSM 603 LEGAL ASPECTS OF HEALTH ADMINISTRATION. (2)
The course will familiarize students with the application of law to management issues in health care organizations. Skills including terminology, legal reasoning, the tools of law, and topics specific to the health care setting are addressed. Prereq: MHA program status and HA 601.

HSM 622 MENTAL HEALTH ADMINISTRATION. (3)
This course focuses upon the administration of local mental health agencies, facilities and coordination of deinstitutionalization programs, e.g., group houses, halfway houses. The course will focus upon system coordination, finance and communication. Prereq: MHA/MPA program status.

HSM 624 INFORMATION SYSTEMS IN HEALTH CARE. (3)
This course will focus on the life cycle approach to information systems development. Phases of this approach include systems analysis, design, implementation, maintenance and evaluation. This approach has a technological, financial, and human factors component. The decision making and planning role of administration as well as the need on how to maximize the utilization of current systems is stressed. Topics include the information needs of the strategic planning process, administrative function and clinical care. The course will involve site visits. Prereq: HA 602 and 642.

HSM 637 HEALTH FINANCE. (3)
This course applies general principles of finance to the financial management of health care institutions. The major financial incentives which dictate how health care is delivered are studied and proposals to change these incentives are explored. Prereq: MHA/MPA program status and HA 601, HA 621, PA 623, HA 635.

HSM 660 DECISION MAKING IN HEALTH CARE ORGANIZATIONS. (3)
This course is designed to build on the concepts and techniques introduced in the MHA curriculum and integrate them with a decision making focus in a variety of health care problems and settings. Case analysis will be used extensively to develop an opportunity for the student to learn to apply the appropriate skills to an unstructured environment. Prereq: MHA program status and must be taken in last semester of MHA program studies.

HSM 775 SPECIAL TOPICS IN HEALTH ADMINISTRATION. (1-3)
An analysis of selected issues with special significance for health administration. Prereq: MPA/MHA program status.

HSM 785 INDEPENDENT STUDY IN HEALTH ADMINISTRATION. (1-3)
Supervised individual research on a topic related to health administration selected by the student. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

HSM 842 SEMINAR IN HEALTH ADMINISTRATION: PRE-PRACTICUM. (1)
Preparatory seminar for the field practicum in health administration. Will cover such topics as self assessment, interviewing skills, forms of organizational behavior, consultation skills, time management, and documentation. Prereq: CH 351, 355; Majors only with permission of department.

HSM 843 HEALTH ADMINISTRATION PRACTICUM. (1-12)
Application of theoretical concepts in practice settings selected by faculty under the supervision of a preceptor and on-campus faculty. Includes in-depth study of an applied problem in health administration. Must be repeated to a maximum of 12 credits. Laboratory: one 40-hour week equals one credit hour. Prereq: Majors only- with permission of department.

HSM 844 SEMINAR IN HEALTH ADMINISTRATION: POST-PRACTICUM. (1)
Review of practicum experiences and an integration of theoretical concepts of health administration with the practice environment. Prereq: CH 843-majors only-with permission of department.

HSP Health, Society, and Populations

HSP 255 MEDICINE, HEALTH, AND SOCIETY. (3)
HSP/SOC 255 is an introduction to foundational social theories and concepts through the lens of health, healing, and medicine. Social science perspectives on health disparities across populations, how health and disease are defined and managed, and cultural experiences of illness provide a window into a broader understanding of social life. The course will focus on four major social theories – social constructionism, symbolic interactionism, conflict theory, and functionalism. We will use these theoretical foundations and related core concepts to explore topics like physician-patient interaction and the social organization and distribution of health care. HSP/SOC 255 will also provide an introduction to social science research through critical analysis of original scholarly work and exposure to conducting, analyzing, and presenting one's own empirical findings. HSP/SOC 255 is ideal for those with career aspirations in medicine, nursing, or other health professions, and covers the sociology content included on the MCAT exam for pre-med students. This course also provides a critical foundation for those interested in learning about population health from the point of view of social science. Throughout the course, we will explicitly address the unique contributions of social science to a broader understanding of the etiology, treatment, experience, and consequences of illness and disease. (Same as SOC 255.)

HSP 355 SOCIOLOGY OF HEALTH AND ILLNESS. (3)
Who defines health and illness? Why is disease and premature death unequally distributed in society? What social forces cause individuals to get sick or stay healthy? How have changes in the medical profession, the health care system, and health policy affected treatment outcomes and illness experiences? This course addresses these questions through a presentation of important concepts and substantive issues the sociology of health and illness (or medical sociology), and an introduction to major classic and contemporary research in this area. We will compare and contrast sociological perspectives on health with the perspectives offered by biomedicine, psychiatry and allied disciplines. The course has two major sections: The first covers the social origins of illness – the social construction of illness and biomedical knowledge, social epidemiology, and social influences on personal experiences of illness. The second section covers social and institutional responses to illness and the impact of these on physician-patient interactions, health outcomes, and the distribution of disease. In this section we will examine the medical profession, the health care system, health policy, and the changing nature of these. Class sessions will emphasize group discussions and exercises based on original scholarly writings. Discussions and exercises are designed to encourage the development of analytic skills, recognition of the benefits of collaborative approaches to complex problems, and independent exploration of course material. (Same as SOC 355.)

HSP 499 HEALTH, SOCIETY AND POPULATIONS CAPSTONE (Subtitle required). (3)
This course provides an integrative experience for HSP majors in their junior or senior year. The seminar format fosters integration of the program's interdisciplinary coursework, while providing the opportunity to focus on a particular area of interest within the topical theme of the seminar. Students will engage in a variety of activities designed to increase their understanding of the theoretical and methodological approaches that characterize the HSP perspective. They will then use this perspective to design or evaluate a project that addresses health change. The course will consist of seminar sessions, smaller peer group meetings, and individualized tutorial sessions. Students will learn to critically and respectfully engage with the work of their peers and effectively communicate the results of their projects. Prereq: Junior or Senior standing in HSP, or permission of instructor.

IAS Interdisciplinary American Studies

IAS 301 TOPICS IN AMERICAN STUDIES. (3)
A team-taught seminar on a selected topic in American Studies, emphasizing approaches to interdisciplinary study in this field and the ways that different disciplines, when integrated, better complement an understanding of the topic. Possible topics include: slavery, racism, women's rights, Native Americans, the West, the South, the city and industrialization. May be repeated to a maximum of six credits.

IAS 401 PERSPECTIVES IN AMERICAN STUDIES. (3)
A team-taught seminar on a selected period in American history, emphasizing how different disciplines complement and illuminate a perspective on that period. Possible periods for study: Colonial America, the Enlightenment Age in America, the Age of Jackson, Ante-bellum America, Civil War and Reconstruction, the Gilded Age, America between the Two Wars, and Contemporary America. May be repeated to a maximum of six credits.

IBS Integrated Biomedical Sciences

IBS 601 BIOMOLECULES AND METABOLISM. (3)
An introductory graduate-level biochemistry course designed to provide a basic knowledge of molecular and biochemical principles necessary for advanced graduate study. Protein structure and function, enzyme catalysis, the generation and storage of metabolic energy, amino acid, nucleotide, and lipid metabolism and biological membranes and transport will be covered. Prereq: CHE 105, 107, 230 and 232; BIO 150 and 152; or equivalents. (Same as BCH 607.)

IBS 602 MOLECULAR BIOLOGY AND GENETICS. (3)
In introductory graduate-level course focused on molecular biology and genetics (concepts and

techniques) necessary for advanced graduate courses. The course will emphasize basic genetic principles and the molecular mechanisms that underlie the regulated expression of genes, including transcription, mRNA processing and translation, as well as mechanisms of DNA replication/repair and recombination. Genetic engineering and other experimental approaches that are critical to molecular biology research will be covered. Prereq: CHE 105, 107, 230 and 232; BIO 150 and 152; or equivalents.

IBS 603 CELL BIOLOGY AND SIGNALING. (3)
An introduction to cell biology and signaling focused on cell types and architecture, membrane structure, cytoskeleton, mitochondria, cellular mechanisms of development, cell division, cell cycle, apoptosis, necrosis and cancer. Emphasis will also be placed upon the signaling pathways controlling these processes. Prereq: CHE 105, 107, 230 and 232; BIO 150 and 152; or equivalents.

IBS 606 PHYSIOLOGICAL COMMUNICATION. (3)
This course will consider the function of the mammalian organism from a perspective ranging from cells to organs, with an emphasis on physiological communication between organ systems. It will build upon the Integrated Biomedical Sciences (IBS) series of courses to allow the student to develop a truly integrative appreciation of biologic function. Prereq: IBS 601 and IBS 602.

IBS 607 SEMINAR IN INTEGRATED BIOMEDICAL SCIENCES. (0)
Weekly seminar devoted to the presentation and discussion of classic and new research. May be repeated to a maximum of four times; two semesters are required as part of the IBS curriculum. Prereq: Admission to IBS curriculum.

IBS 608 SPECIAL TOPICS IN INTEGRATED BIOMEDICAL SCIENCES. (2)
IBS 608 is comprised of a series of 1/2 credit minicourses, each meeting for 1 hour/week for 7 weeks, that will be taught during the Spring semester. Each minicourse will focus on a specific topic or area of research that is ongoing at UK or is particularly timely/exciting. Each student is required to participate in 4 of these minicourses for a total of 2 credit hours during the semester. Up to ten minicourses will be offered each semester. The particular topics (and participating faculty) may vary from year to year. Students will be expected to sign up for 6 courses in order of preference and will be assigned to 4 minicourses. Prereq: Students enrolled in IBS and have taken IBS 601 and IBS 602 can participate in this course. Non-IBS students can participate with permission of the Course Director. A strong background in molecular biology, biochemistry and chemistry (including organic chemistry) is highly recommended.

IBS 609 RESEARCH IN INTEGRATED BIOMEDICAL SCIENCES. (1)
Individualized laboratory and research experience under the supervision of a faculty member. May be repeated to a maximum of two credit hours. Two semesters required as part of IBS curriculum. Prereq: Admission to IBS curriculum and consent of instructor.

IBS 610 CRITICAL SCIENTIFIC READINGS. (2)
The major emphasis of this course is to develop within students the ability to critically read, evaluate and critique papers in the areas of biochemistry, molecular biology, and genetics. Students will meet weekly for two hours in a small group setting to discuss papers, with all groups reading the same set of papers. Each group of students (5-6/group) will meet weekly with one faculty member during the course of the semester. Grading will be based on attendance, participation, mock manuscript reviews, and student-led classes. Prereq: Students are required to have taken IBS 601 and IBS 602 or to take IBS 601 and IBS 602 concurrently with this course.

IBS 611 PRACTICAL STATISTICS. (1)
Practical Statistics will introduce students to basic statistical concepts and applications that are used in a majority of biomedical and translational research studies. The emphasis will be on "how" and "why" certain basic statistical applications are used rather than the theory behind various statistical methods. Students will cover materials using didactic lectures, examples of data from the primary literature, and homework problems. Prereq: A strong background in molecular biology, biochemistry and chemistry (including organic chemistry) is highly recommended. It is also highly recommended that students have taken IBS 601 and IBS 602 or are taking IBS 601 and IBS 602 concurrently with this course.

ICR Instructional Communication and Research

#ICR 384 TEACHING AND COACHING PUBLIC ADDRESS. (3)
Teaching and Coaching Public Address is a course designed to develop the instructional abilities of students who are interested in teaching public speaking or becoming future forensics coaches at either the high school or collegiate level. Students will develop and practice the skills necessary to successfully teach and coach public address and limited preparation speaking events by actively constructing their own speeches and helping to coach those of their peers. The course will culminate in a public address portfolio that can be included in future job applications. Prereq: CIS 110 and CIS 111 or equivalent.

#ICR 385 TEACHING AND COACHING ORAL INTERPRETATION. (3)
Teaching and Coaching Oral Interpretation is a course designed to develop the instructional abilities of students who are interested in teaching oral interpretation or becoming future forensics coaches at either the high school or collegiate level. Oral interpretation is an interactive process that requires students to listen critically, evaluate and adjust their performances, and interact with the words and emotions of the literature itself. Students will develop and practice these skills by actively constructing their own speeches and helping to coach those of their peers. The course will culminate in an oral interpretation portfolio that can be included in future job applications. Prereq: CIS 110 and CIS 111 or equivalent.

#ICR 386 TEACHING AND COACHING COMPETITIVE DEBATE. (3)
Teaching and Coaching Competitive Debate is a course designed to develop the instructional abilities of students who are interested in teaching academic debate or becoming future forensics coaches at either the high school or collegiate level. Students will develop and practice the skills necessary to successfully teach and coach a variety of debate formats including different resolution types (policy, value, or fact), different research levels (limited preparation or evidence based), and different team pairings (individual, team, and congressional debate). Students will gain this experience by constructing their own debate cases and helping to coach those of their peers. The course will culminate in a debate portfolio that can be included in future job applications. Prereq: CIS 110 and CIS 111 or equivalent.

#ICR 387 DIRECTING FORENSICS. (3)
Directing Forensics is a course designed to give students practical experience directing a forensics team at the high school or collegiate level. Students will develop and practice the skills necessary to successfully administer a team including selecting a travel schedule, budgeting, public relations, recruiting, and fundraising. Additionally, students will learn the basics of forensics tournament operation including scheduling, logistics, and tabulation. We will also discuss some of the current trends and issues in the activity. The course will culminate in a forensics portfolio that can be included in future job applications. Prereq: CIS 110 and CIS 111 or equivalent.

ICT Information Communication Technology

#ICT 150 EXPERIENCE ICT. (3)
Through the exploration of social and technological theories related to Information Communication Technology and the evolution and current applications of ICT, students will gain a better understanding of how emerging technologies have led to the need and development of ICT as a discipline; its shared commonalities with other disciplines; its distinct characteristics; its applications in the workplace and personal contexts; and its impact and future implications on individuals, organizations, and societies.

ICT 200 INFORMATION LITERACY AND CRITICAL THINKING. (3)
This course provides an introduction to the concepts and practices of information literacy. It explores how to effectively and ethically find, evaluate, analyze, and use information resources in academic and everyday-life situations. Emphasizing critical inquiry and critical thinking, this course will explore the theories and definitions surrounding the term "information literacy." Students will put this theory into practice by developing problem-solving skills that allow them to meet information needs throughout their lifetimes. Students will gain a better understanding of how information and knowledge function in society and will discover methods of finding, accessing, evaluating, and using different information sources in an effective and ethical manner. (Same as IS 200.)

ICT 201 GENERAL INFORMATION SOURCES. (3)
Information professionals play a major role in the information life cycle by facilitating the process of finding what others have created and accumulated. Their role is: to amass collections of information resources; to develop services to help people identify and articulate their information needs; and to enable people to find, evaluate and use items of relevance. This course provides students with a basic understanding of the information environment, as well as an understanding of the differences in the information behavior, needs, and uses of various user groups. Upon completion of this course, students will be able to critically evaluate and employ information sources in different formats, and be able to communicate with users to identify and address their information needs. (Same as IS 201.)

ICT 202 TECHNOLOGIES FOR INFORMATION SERVICES. (3)
This course is designed to teach the fundamental concepts of information technology in ways relevant to professional practice in informatics and the information professions. It explores applications of computers and networks to information problems. Included are features of hardware, types of software, commercial systems and search engines. (Same as IS 202.)

ICT 205 ISSUES IN INFORMATION AND COMMUNICATION TECHNOLOGY POLICY. (3)
This course introduces students to the legal, political, and ethical issues confronting today's information professionals and the subsequent impact of these issues on information and communication technology (ICT) policy and law development. The rapidly evolving ICT infrastructure and the global shift to an information society will provide the context for the course. Emphasis will be placed on: organizational policy development, information ethics, computer ethics, freedom of speech and expression online, information filtering, intellectual property, cyber law, and pertinent legal and political acts related to the present information and communication infrastructure.

ICT 300 ICT IN SOCIETY. (3)
This course studies the impacts of information and communication technology (ICT) on individuals and society. It examines current issues related to the flow of information in society, including the impact of technology and the development of the information economy. The role of the information profession within the context of information society issues is also explored.

ICT 301 INTRODUCTION TO DATABASES. (3)
This course is intended to give students a solid background in databases, with a focus on relational database management systems. Topics include data modeling, database design theory, data definition and manipulation languages, storage and indexing techniques, query processing and optimization, and database programming interfaces.

#ICT 302 CONTENT MANAGEMENT SYSTEMS. (3)
The course focuses on the practice and theory of designing, building and maintaining content management systems.

ICT 303 SYSTEMS ANALYSIS. (3)
This course examines and applies the principles of information systems analysis. It surveys project management, feasibility and analysis, systems requirement definition and resource allocation. It utilizes a structured systems development methodology that spans the entirety of the information system lifecycle, which starts with the conception of the need for a specific information system and ends with the implementation of that system. The course utilizes a case study approach in which students initiate the analysis and logical design of a limited-scope information system. Prereq: IS 202. (Same as IS 303.)

ICT 307 COPYRIGHT. (3)
In the age of digital information, the technology, economics, and law of intellectual property are constantly in flux. In order to continue to effectively provide access to information, ICT professionals need to play a role in managing these changes. This introductory course examines the basic conceptual elements of copyright protection, and its adaptation and application to new media and information communication technologies.

#ICT 327 CONSUMER HEALTH INFORMATION SEEKING. (3)
This course will provide students with a foundation in the history and development of consumer health information seeking in addition to practical experience in locating, evaluating, and providing health information to diverse and special populations within educational and healthcare settings. Students will gain an understanding of the lifecycle of consumer health information – from policy development, to creation, to dissemination, and use – and the role of healthcare professionals in providing that information. Current issues and trends, as well as future directions in consumer health information provision and health information seeking will be discussed. (Same as IS 327.)

ICT 351 TECHNOLOGY SECURITY. (3)
An introduction to the various technical and administrative aspects of information security and assurance. This course provides the foundation for understanding the key issues associated with protecting information assets, determining the levels of protection and response to security incidents, and designing a consistent, reasonable information security system with appropriate intrusion detection and reporting features.

#ICT 390 SPECIAL TOPICS IN ICT. (3)
Intensive study of one aspect of information communication technology under the leadership of an authority in the area.

#ICT 395 INDEPENDENT STUDY IN INFORMATION COMMUNICATION TECHNOLOGY. (3)
Opportunities for directed study in subjects or problems of interest to a student. Observation and research required, and a written report describing the work accomplished. Prereq: Consent of instructor and approval of proposal.

ICT 406 E-COMMERCE REGULATION. (3)
Business and commercial transactions conducted via electronic means are subject to complex legislation and regulation that changes frequently. The relevant legislation and regulatory mechanisms govern commercial transactions as well as any electronic marketing, such as promotional emails or online newsletters. This course provides an overview of the regulatory framework governing e-commerce transactions, relevant standards and ethical considerations, protocols to ensure consumer protection, and emergent issues relating to compliance and enforcement.

ICT 410 PRIVACY. (3)
As new information and communication technologies are developed, they increasingly raise concerns about the collection, use, storage, and sharing of personally identifiable information. This course provides an overview of privacy, privacy laws, privacy-related technologies, and self-regulatory efforts to mitigate potential privacy risks. The study of privacy will be approached from philosophical, historical, legal, policy, and technical perspectives.

ICT 550 SECURITY INFORMATICS. (3)
This course introduces students to policy concerns relating to security informatics, and highlights theoretical and practical approaches to designing secure information and communication technology (ICT) systems. It addresses key issues such as authentication, risk analysis, access control, database and network security, and information assurance.

ICT 552 CYBERCRIME AND DIGITAL LAW ENFORCEMENT. (3)
The global reach of the Internet, the low marginal cost of online activity, and the relative anonymity of users have contributed to a wide escalation in cybercrimes. Consequently, information and communications technologies (ICT) are being increasingly employed to instigate threats to global civil society. This course provides an overview of cybercrime and the digital law enforcement practices put in place to respond to them. The course will focus on the types and extent of current cybercrimes, how the justice system responds to these crimes, the various constitutional protections afforded to computer users, the law and policies that govern cybercrime detection and prosecution, and related technologies.

ICT 596 INTERNSHIP IN ITC. (3)
Provides students with supervised work-and-learning experience in a professional environment under the direction of a University faculty member and an employee of a participating firm. One hundred forty (140) hours of student time are expected during the semester. Enrollment is contingent upon the availability of internships. Students are selected on the basis of personal qualifications, including GPA, courses taken, recommendations, and an interview.

***ICT 600 INFORMATION COMMUNICATION TECHNOLOGY IN SOCIETY. (3)**
We live in a world of rapid technological innovation. This innovation has allowed significant changes in the ways that we communicate and interact with forms of media. In fact, the technologies related to communication have created a culture surrounding how we see, hear, read and use information, and have significantly impacted politics, economics, policy, etc. This course studies the impacts of information and communication technology (ICT) on individuals and society, and the impact that society has on ICTs. It examines current issues related to the diffusion of new technologies in society as well as the obstacles to widespread use of individual ICTs. Students in this course will analyze the various theories related to the use of emerging communications forms, and consider the factors related to successful ICT deployment. Students will be required to look beyond "good/bad" classification of new communication technology, and conduct in-depth interrogations of ICTs, the issues that surround them and the environments in which ICTs are used.

ICT 601 INFORMATION SEEKING. (3)
This course provides an overview of the theory and practices of human information seeking behavior, including both basic models to understand user behavior, and techniques to effectively select, locate, evaluate, and use information to meet diverse information needs and facilitate human-computer interaction. (Same as LIS 601.)

ICT 626 ELECTRONIC INFORMATION RESOURCES IN THE HEALTH SCIENCES. (3)
Survey of electronic information resources in the health sciences, including databases and Web sources. Discussion of relevant controlled vocabularies and their use in formulating and executing search strategies. The course also includes an evidence based health care component whereby students learn to analyze critically the biomedical literature and determine reference and research relevancy. (Same as LIS 626.)

ICT 627 CONSUMER HEALTH INFORMATION RESOURCES. (3)
History and development of consumer health information resources; role of professional and governmental agencies in provision of consumer health information; policy issues related to provision of consumer health information. Consumer health professional literature, user information needs, user resources, and information services. Identification, selection, utilization, and evaluation of consumer health information for special populations within specialized educational and healthcare settings. Trends and issues in consumer health informatics. (Same as LIS 627.)

ICT 630 INFORMATION RETRIEVAL. (3)
This course reviews important information retrieval (IR) theories and models; explores a brief history of IR research; and examines various IR applications. Students will get familiar with IR foundations such as document indexing or query expansion/optimization strategies, as well as understand overall system architectures for selected IR applications. Students will explore how to analyze and compare IR systems, how to select the best IR systems for particular tasks and how to design a prototype for an efficient IR system. Prereq or concur: LIS 636 or LIS 637 or LIS 638. (Same as LIS 630.)

ICT 636 INTRODUCTION TO COMPUTER INFORMATION SYSTEMS. (3)
A broad introduction to the use of computers as tools for creativity, communications, organizing information, and problem-solving. The basic concepts of computer hardware, software, networking, and the Internet are covered. Students also will be introduced to basic techniques for designing and creating a web site.

ICT 638 ADVANCED WEB DESIGN. (3)
This course serves as a hands-on introduction to advanced web design techniques. Topics include the web development process, creating dynamic content, advanced layout and design, client-side and server-side scripting languages, graphic file types and optimization, web forms, multimedia, and web servers and databases. Prereq: ICT 636, or consent of instructor.

ICT 640 HEALTH INFORMATION RESOURCE SERVICES. (3)
A survey of information agencies and health science libraries, including topics related to: the healthcare community and their information needs, information resources in the health sciences, controlled medical terminologies and classification systems, search and retrieval of information resources, issues in the management of collections and access to health libraries. (Same as CJT/LIS 640.)

ICT 651 TECHNOLOGY SECURITY. (3)
An introduction to information security including vocabulary and terminology, threats to information systems, cryptology, ethics, the legal environment, and risk management. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. The importance of appropriate planning, policies and controls is also discussed. It is expected that each student will possess some knowledge of programming, operating systems, and networking, although advanced knowledge in those areas is not necessary.

ICT 658 KNOWLEDGE MANAGEMENT. (3)
Organizational knowledge is a valuable strategic asset. Knowledge management refers to the systematic management of an organization's knowledge assets so that they can be leveraged for sustainable advantage. This course examines how knowledge is created, captured, organized,

diffused, and implemented in an organization. Topics covered include knowledge management processes and practices, corresponding technologies, collaboration tools, and people and cultural issues. (Same as LIS 658.)

#ICT 690 SPECIAL TOPICS IN LIBRARY AND INFORMATION SCIENCE. (3)
Intensive study of one aspect of library and information science under the leadership of an authority in the area. (Same as LIS 690.)

ID Interior Design

ID 101 INTRODUCTION TO INTERIORS: PLANNING/STRATEGY/DESIGN. (1)
An introduction to the profession of Interiors: historical perspective, career specializations, and career opportunities.

ID 102 INTRODUCTION TO INTERIORS: PLANNING/STRATEGY/DESIGN. (1)
An examination of the Interiors profession focusing on professional practice, current issues, and future directions.

***ID 121 INTERIORS FOUNDATION STUDIO. (5)**
An introduction to the design process and creative problem solving. Class assignments and discussions focus on theories of two and three dimensional design, spatial definition and organization, and provide a context for analyses of how design interacts with ecological, social, economic and cultural contexts. The course is comprised of daily instruction periods and weekly lectures. Weekly lectures will introduce ideas, case studies, and approaches. Students are also introduced to concepts of design communication and teamwork structures and dynamics. Studio, lecture, research, drawings, models, sketches, written components and field trips.

***ID 122 INTERIORS FOUNDATION STUDIO II. (5)**
A continuation of ID 121. Emphasis is on application of the design process on color, light, sustainability, and global perspectives. Projects also focus on design decisions within the parameters of ecological, socio-economic, and cultural contexts. Weekly lectures focus on contemporary issues and case studies. Students also are introduced to concepts of design communication and teamwork structures and dynamics. Studio, lecture, research, drawings, models, sketches, written components and field trips. Prereq: ID 121.

ID 161 HISTORY AND THEORY OF INTERIOR ENVIRONMENTS I. (3)
A historical survey of the development of interior design and the decorative arts from pre-history to the 19th century. Emphasis is on the principles of aesthetic philosophy and design theory and the socio-economic, political, and environmental influences affecting the design of the built environment. Lectures, visuals, readings, discussions, historical analysis, research and field trips.

ID 162 HISTORY AND THEORY OF INTERIOR ENVIRONMENTS II. (3)
A historical survey of the development of interior design and the decorative arts from the 19th century to the present. Emphasis is on the principles of aesthetic philosophy and design theory and the socio-economic, political, and environmental influences affecting the design of the built environment. Lectures, visuals, readings, discussions, historical analysis, research and field trips.

ID 221 INTERIORS STUDIO I. (5)
Investigation into how human experience and behavior are influenced by interior spaces. The focus is on design of spaces of multiple scales and exploration of how manipulation of spatial aspects such as scale, color, texture, proportion, light and spatial orientation alter human experience. Field trips are integrated into the studio experience and students are required to do research and evaluation of existing spaces. Interior spaces are created and investigations of interior spaces are recorded using a variety of communication methods including digital media, sketching, and narratives. Research, use of digital media, sketching, analyses, discussions, critiques, field trips. Prereq: ID 122.

ID 222 INTERIORS STUDIO II. (5)
The application of design thinking to studio problems in interior design. Scenario-building with emphasis on human response to the interior environment. Interior modeling in various media and drawing skills required. Studio experiences, analyses, discussions, readings and field trips. Prereq: ID 221.

ID 234 ENVIRONMENTAL THEORY. (3)
A exploration of the relationship between the built environment and people, with special emphasis on understanding how varying social and cultural norms are relevant to design decision-making. Topics include human factor issues that relate to the design of interior spaces such as: foundational theories of environmental psychology; the psychology of behavior; human perception and environmental design; personality and design; preference; culture; symbolism; universal design; and the use of behavioral research in design programming. Concur: ID 274 or consent of instructor.

ID 263 INTRODUCTION TO DIGITAL MEDIA. (3)
An introduction to various digital media used as a tool within the design professions. Lecture, studio, readings, problem solving, research, field trips. Concur: ID 274.

ID 264 COLOR THEORY AND INTERIOR SPACE. (3)
The study of color theory and its application to the interior environment: the interactive aspects of color, light, and texture within an interior application will be emphasized. The psychological and functional aspects of color application will be explored. The articulation and graphic communication of color concepts applied to an interior space will be stressed. Prereq: Concurrent enrollment in ID 274 or consent of instructor.

ID 275 INTERIOR CONSTRUCTION SYSTEMS. (3)
A survey of interior construction and building systems with emphasis on structural systems and methods and non-structural systems including ceilings, flooring and interior walls. Focus is on case study analysis and problem-solving related to the integration of construction systems and interior environments. Subject matter includes code analysis and interpretation. Lectures, visuals, readings, discussions, historical analysis, research and field trips.

***ID 321 INTERIORS STUDIO III. (5)**
Continuation of the studio sequence with particular focus on interiors projects at varying levels of complexity. Students will explore design opportunities in missed use projects. Sustainable design issues will be explored. Prereq: ID 222.

***ID 322 INTERIORS STUDIO IV. (5)**
Continuation of the studio sequence with particular focus on interiors projects at varying levels of complexity. Students will explore design opportunities in workplace projects. System integration emphasized. Sustainable design issues will be explored. Prereq: ID 321.

ID 346 PROFESSIONAL PRACTICE PREPARATION. (3)
A comprehensive review of professional career development needed in preparation for an interior design work experience or internship (CIDA II-10). Prereq: ID 222.

***ID 359 SPECIAL TOPIC IN INTERIORS. (1-3)**
Exploration of specific topics of the interiors profession. May be offered as a studio or lecture. May be repeated to a maximum of six credits. Prereq: Junior standing or consent of instructor prior to registration.

ID 364 INTERIOR ENVIRONMENTAL CONTROL SYSTEMS. (3)
An introduction and overview of electrical, lighting, mechanical, thermal and acoustical systems of buildings and how they enhance the health, safety, welfare, and performance of building occupants. Emphasis is on case study analysis and problem-solving related to the integration of building systems and interior environments. Subject matter includes code analysis and interpretation. Lectures, discussions, readings, research and field trips. Prereq: ID 275.

ID 365 INTERIOR FINISH MATERIALS. (3)
An analysis and evaluation of interior design finish materials and production methods. Emphasis on health safety and wellness factors; performance attributes; site/user requirements; and sustainability. Lectures, discussions, field trips, research, and analyses. Concur: ID 321.

ID 366 LIGHTING DESIGN AND THEORY. (3)
An in-depth study of principles, design requirements and equipment for ambient, task and decorative illumination as utilized in the interior environment. Emphasis is on methods of light generation, lighting controls, product analysis, high performance lighting selection, and specification. Lectures, discussion, related readings, calculations and field trips. Prereq: ID 274 or consent of instructor.

ID 370 VERTICAL STUDIO. (5)
Continuation of Interior Design Studio sequence with particular focus on design projects at varying levels of complexity. Design problems will correspond to real world design opportunities in differing areas of interior design specialization (i.e., corporate, hospitality, retail, residential, etc.) Sustainable design issues will be explored. Course shall be repeated for a total of 15 hours. Prereq: ID 274 and concurrent enrollment in ID 365 and ID 366 during first enrollment in the ID 370 Vertical Studio sequence.

ID 375 INTERIOR MATERIAL AND CONSTRUCTION: DETAILING. (3)
A continuation of ID 365 with emphasis on specification and graphic detailing of interior space including architectural finish materials, furniture, fixtures, and equipment. Prereq: ID 275 and ID 365.

***ID 395 INDEPENDENT STUDY IN INTERIORS. (1-3)**
Problems involving independent study/library study conforming to the student's special interest under the direction of an appropriate faculty. May be repeated to a maximum of six credits. Prereq: Consent of instructor and contractual agreement.

***ID 421 INTERIORS STUDIO V. (5)**
Research and programming for a project focusing on Healthcare. Incorporates written, graphic and oral communication, digital media, studio experiences, field research, analyses, discussions, readings and site visits. Prereq: 10 credit hours of ID 321.

***ID 422 INTERIORS SENIOR THESIS. (5)**
Detailed research and programming for a comprehensive studio project. Development of a strong conceptual proposal with written, graphic, and oral presentation. Studio experiences modeling analyses and discussions, readings and field trips. Includes custom design, specifications and working drawings. Prereq: ID 466.

***ID 427 INTERIORS INTERNSHIP. (9-12)**
A supervised full-time work experience with a professional interiors studio in a metropolitan area preferably outside Lexington. Specific work assignment to be defined by faculty/employer/student contract with a minimum of 450 working hours required during summer term (9 credits) or 600 working hours required during academic semester (12 credits). Prereq: ID 326 and successful completion of two ID 370 studios.

***ID 428 INTERIORS TRAVEL SEMINAR. (9-12)**
A study abroad program that investigates design in a foreign culture. Studio experience in combination with on-site lectures and discussions provide opportunity for exploring and solving design problems considering contextual factors and design theories in relation to the locale and precedent. Nine credits earned during summer semester; twelve credits earned during full semester. Prereq: ID 326, Interiors Experiential Preparation; successful completion of two vertical studios (ID 370) and faculty consent.

***ID 466 INTERIORS PROFESSIONAL PRACTICE. (3)**
The development of custom design elements and studies within the framework of professional business practices and documentations. Lectures, discussions, guest speakers, field trips and design exercises, including developmental sketches, material selection, shop drawings, and scaled prototypes. Prereq: Senior standing.

***ID 470 INTERIORS ADVANCED PROBLEM SOLVING: DESIGNER AS CREATOR AND PRAGMATIST. (5)**
Studio problems in interiors related to institutional facilities and/or specialized populations, such as education, healthcare and the elderly. Includes custom design, specifications, models and working drawings. Studio experiences, analyses, discussions, reading and field trips.

***ID 480 INTERIORS STUDY TOUR. (1-3)**
A domestic or foreign study tour to include investigation of interests related to interiors. Professional visits are planned according to particular itineraries. Application and payment dates are determined each semester by the instructor. May be repeated one time if tour destinations are different. Prereq: Priority is given to majors and upperclassmen majors.

ID 559 SPECIAL TOPIC IN INTERIORS (Subtitle required). (1-3)
Advanced exploration of a specific topic in the profession of interior design. May be offered as a studio and lecture. May be repeated to a maximum of six credits. Prereq: Senior standing or consent of instructor prior to registration.

ID 589 RES/PRES I: INTRODUCTORY CONCEPTS OF RESTORATION AND PRESERVATION. (3)
A general introduction to the separate and definable qualities of restoration and preservation as employed by the client/designer. A survey of 18th and 19th century architectural characteristics, related government agencies, local and national case studies. Class emphasis on readings, discussions, visuals, site visitations, and guest speakers. Prereq: Senior standing or consent of instructor.

ID 595 INDEPENDENT STUDY IN INTERIORS. (1-3)
Problems involving independent studio and/or library study conforming to the student's special interest under the direction of an appropriate faculty member. May be repeated to a maximum of six credits. Prereq: Senior standing or consent of instructor and contractual agreement.

ID 641 REGIONAL VARIATIONS IN COLONIAL AMERICAN DESIGN. (3)
An analysis of regional variations in American furnishings, interior finishes, and architecture from colonization to 1783; consideration will be given to historical, economic, social, political, and religious influences on design. Prereq: DMT 142 or consent of instructor.

ID 650 SURVEY OF CURRENT LITERATURE AND METHODOLOGIES. (3)
An intensive survey of literature and methodological inquiry used for problem solving related to the student's desired area of design specialization. Emphasis will be placed on conducting a literature search and review in a specific area of interest. Prereq: Graduate standing.

ID 655 CREATIVE AND THEORETICAL DESIGN PROCESSES. (3)
This course will focus on creativity and the design process with emphasis on investigation of current topics in interior design and the built environment. Theoretical frameworks will be explored to advance understanding of creativity and help students form a knowledge base for developing an in-depth research topic. Prereq: Graduate standing.

***ID 659 INTERIORS GRADUATE STUDIO. (3-6)**
Advanced graduate-level comprehensive information gathering and analysis for identification of design issues associated with workplace and the human environment. Includes methods of inquiry and design thinking appropriate to a specific typology, design programming, conceptualization, studio experiences, discussions, and development of strategies resulting in a design or research deliverable for an Interiors industry driven problem. Prereq: Graduate standing.

ID 669 ADVANCED COLOR THEORY AND APPLICATION. (3)
Advanced color theory will examine the physical, psychological, historical and technical perspectives. Application of color theory to the built environment. Includes color forecasting, technical processes, color specification, and quality control. Prereq: Graduate standing.

ID 700 RESEARCH APPLICATIONS IN INTERIORS. (1-6)
Independent research for the exploration of a specific problem in interior design. May be repeated to a maximum of six credits. Prereq: Eighteen credit hours of graduate work.

ID 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

ID 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ID 772 CURRENT ISSUES IN DESIGN. (3)
Investigation of current topics in interior design. May be repeated to a maximum of six credits.

ID 785 INDEPENDENT STUDY IN INTERIORS. (1-3)
Problems involving independent studio, and/or library study conforming to the student's special interest under the direction of an appropriate faculty member having proficiency in the area selected. May be repeated to a maximum of six credits. Prereq: Nine credit hours of graduate study, consent of instructor, contractual agreement.

IEC Interdisciplinary Early Childhood Education

IEC 120 INTRODUCTION TO EARLY CHILDHOOD EDUCATION. (3)
An introduction to the history of early childhood education and an overview of current laws and best practices. Discussions will include issues impacting families and current research in early childhood education.

IEC 255 CHILD DEVELOPMENT. (3)
An overview of the various aspects of development (physical, social, emotional, intellectual) in the social context for children prenatally through adolescence. Course will emphasize techniques of directed observation. Lecture, three hours, laboratory, one hour per week.

IEC 256 GUIDANCE STRATEGIES FOR WORKING WITH YOUNG CHILDREN. (3)
Examination of effective guidance strategies for use with young children in an early childhood setting; modifications of experiences for age level; ability, group and individual needs. Application and evaluation of guidance skills in laboratory experience. Prereq: PSY 223 (for FAM 254) or FAM 255.

IEC 260 CURRICULUM PLANNING IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (4)
Theories, research and strategies for planning, implementing and evaluating learning experiences for young children (birth - five years). Application in practicum in an early childhood setting. Lecture, two hours; field work, four hours per week. Prereq: IEC 120, FAM 255, and IEC/FAM 256.

IEC 411 STUDENT TEACHING IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (12)
Course designed to give students experience with supervised teaching at the preprimary level. Emphasis will be placed on observation and teaching individual, small and large group methods). One afternoon per week will be devoted to a discussion and analysis of problems in student teaching. Discussion, two hours; laboratory 22 hours per week. To be offered pass-fail only. Prereq: Completion of professional sequence and formal admission to student teaching; admission to the Teacher Education Program or permission of instructor.

IEC 507 ASSESSMENT OF YOUNG CHILDREN. (3)
An introduction and application of assessment and measurement in children from birth to primary. Training in the development and use of commercially available and teacher made assessment devices and techniques suitable for teachers to administer. Includes observations, standardized tests, portfolio development, and transdisciplinary assessment, used by teachers of young children. Prereq: FAM 255, admission to Teacher Education Program or enrollment as required/elective course for IEC graduate students. Co-Requisite: To be taken with IEC 508, 509 and 510.

IEC 508 ADVANCED CURRICULUM PLANNING IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (3)
Study of the child's development of reasoning, concept formation, and perception of reality. Consideration of relevant research and theory and their applications to the education of pre-school children. Examination of the methods and techniques for teaching pre-school children in the areas of math, science, social studies, English, arts and humanities, health education and physical education within various curriculum models. Prereq: Six hours of child development and admission to the Teacher Education or enrollment as required/elective course for IEC graduate students. Coreq: IEC 507, 508 and 510.

IEC 509 INTERVENTION PLANNING FOR CHILDREN WITH SPECIAL NEEDS. (3)
An overview of the field of early childhood special education including discussions of historical and empirical support for providing early intervention services, screening, assessment, instructional programming, integration of children with and without disabilities, family involvement, and service delivery models. Emphasis is placed on assessment and promoting attainment of cognitive, language, social, self-help, and motor skills. Prereq: EDS 375 or EDS 203 and admission to the Teacher Education Program or enrollment as required/elective course for IEC graduate students. Coreq: IEC 507, 508 and 510.

IEC 510 PRACTICUM IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (3)
This course is the field based component of the Early Childhood block (IEC 507, 508 and 509) and is taught concurrently with these courses. This course provides an opportunity for students to demonstrate application of readings and content from the Early Childhood block courses. Prereq: Admission to Teacher Education Program or enrollment as required/elective course for IEC graduate students. Co-requisite: IEC 507, 508, and 509.

IEC 512 LANGUAGE AND LITERACY FOR YOUNG CHILDREN. (3)
An overview of early language and merging literacy skills in young children. Will prepare future early childhood service provides to evaluate and plan developmentally appropriate environments to promote oral and written language and literacy. Prereq: Admission to TEP or enrollment as required/elective course for IEC graduate students.

IEC 522 CHILDREN AND FAMILIES. (3)
The purpose of this course is to provide students with information related to working with young children with and without disabilities and their families. This course will focus both on presenting new information and providing opportunities for students to practice skills necessary for working with families. (Same as EDS 522.)

IEC 523 PRACTICUM IN EARLY CHILDHOOD ADMINISTRATION AND SUPERVISION. (3)
Field training in a community setting related to early childhood administration and supervision. Opportunities for developing competencies in program evaluation, personnel training and supervision, appropriate curriculum materials, parent involvement and education, program management and funding will be provided. Prereq: IEC 552 or consent of instructor.

IEC 546 TRANSDISCIPLINARY SERVICES FOR YOUNG CHILDREN. (3)
This course will focus on the philosophical issues related to teaching young children with multiple disabilities. Topics related to planning for the population of children, participants in the areas of communication, physical and motor development, health, vitality and sensory input will be presented. Strategies presented for planning will include transdisciplinary assessment persons centered planning and activity based instruction. Prereq: EDS 375 or EDS 600. (Same as RC 546.)

IEC 552 ADMINISTRATION AND SUPERVISION IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION PROGRAMS. (3)
A course designed for students preparing to become administrators and supervisors in Early Childhood Education Programs. Consideration is given to program evaluation, personnel training and supervision, appropriate curriculum materials, parent involvement and education, program management and funding. Prereq: IEC 260 or consent of instructor.

IEC 557 INFANT DEVELOPMENT. (3)
The development of the young child during the prenatal period, infancy and toddlerhood. Care and guidance of the child during the first two years of life. Lecture, two hours; laboratory, two hours per week. Prereq: Six hours of child development, psychology or equivalent.

IEC 558 SPECIAL TOPICS IN INTERDISCIPLINARY EARLY CHILDHOOD. (1-9)
In-depth study of a current and topical problem or issue in early care and education. May be repeated under a different subtitle for a maximum of nine credits. A title is assigned each time the course is offered and reflects current topics in the field.

IEC 620 ASSESSMENT IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (3)
Reviews policy and research implications that promote recommended practice in assessment and evaluation. A wide variety of formal and informal assessment instruments and strategies in the education of young children will be presented, used and discussed. Prepares students to provide leadership in the selection, development, and implementation of unbiased assessment and evaluation procedures. Prereq: EDS 375 or EDS 600 and IEC 659 or permission of instructor.

IEC 621 ISSUES IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (3)
Students will review, discuss and participate in issues related to early childhood education and learning experiences related to the preparation and leadership of early care and education teachers. Discussions will include issues in blended early care and education programs. Local, state, and federal initiatives related to early care and education will be explored. Students will explore socio-cultural, historical, and political forces in early childhood education. Prereq: EDS 375 or EDS 600 and IEC 659 or permission of instructor.

IEC 623 ADVANCED PRACTICUM: INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (3)
This course is designed to provide students with field experiences to bridge professional preparation and professional practice. During the practicum experiences, students will have opportunities to practice, demonstrate, and reflect upon methods and leadership content taught in the IECE lecture courses. Graduate students working towards IECE initial certification must apply for the Teacher Education Program. May be repeated to a maximum of nine credit hours. Prereq: Admission to Department of Special Education and Rehabilitation Counseling or permission of instructor.

IEC 659 ADVANCED CHILD DEVELOPMENT. (3)
Advanced survey of theoretically and professionally important topics in child development. Particular attention to current theory and research in social, affective, cognitive and language domains; familial/cultural influences; the interdisciplinary nature of the knowledge base; and issues concerning the application of child development knowledge to professional work with children. Prereq: Six hours in social or behavioral sciences, including one course in child or human development, or consent of the instructor.

***IEC 701 SEMINAR FOR EDSRC LEADERSHIP PERSONNEL. (1)**
Study of issues and topics affecting the preparation of Rehabilitation Counseling, Special Education, and Early Childhood personnel and of research issues involving persons with disabilities and educational and rehabilitation programs. May be repeated to a maximum of six credits. Lecture, two hours per week. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/RC 701.)

IEC 709 SEMINAR IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (3)
Advanced study of issues related to inclusive programs for all young children and their families including etiology of disabilities, developmentally appropriate practice, assessment, intervention and instruction, theories, and contemporary research findings. Prereq: Admission to Ed.S. or Ph.D. in Special Education.

***IEC 710 ADVANCED INSTRUCTIONAL METHODS IN INTERDISCIPLINARY EARLY CHILDHOOD EDUCATION. (3)**
A study of how to design, implement, and evaluate a curriculum framework in blended early childhood education environments using principles of universal design, tiered instruction, and responsive learning environments. Students will support curriculum design with evidence from empirically validated practices. Prereq: IEC 659 or consent of instructor.

***IEC 712 SEMINAR IN EDSRC PROFESSIONAL SERVICES. (3)**
Education and Rehabilitation professional services including consultation, technical assistance, continuing education programs, professional organization development, committee and advisory board involvement, professional writing and editing, leadership training, and funding proposal development. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/RC 712.)

***IEC 720 SEMINAR IN EDSRC TEACHER PREPARATION. (3)**
Rehabilitation Counseling and Special Education college/university professor preparation, including syllabus development, organization of class presentations, instructional alternatives, scheduling, student assessment, professor-student interactions, student advising, resource identification and utilization and program evaluation. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/RC 720.)

***IEC 721 PRACTICUM IN EDSRC PERSONNEL PREPARATION. (1-9)**
Professional preparation of Rehabilitation Counselors or Special Education Teachers, including practice in delivering lectures, conducting class discussions, leading seminars, directing independent studies, guiding student research projects, demonstrating instructional methods and materials, supervising rehabilitation counselors or special education student teachers, and advising. Laboratory, three-nine hours. May be repeated to a maximum of nine credits. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/RC 721.)

IEC 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/RC 767.)

IEC 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

INF Informatics

INF 401G INFORMATICS FUNDAMENTALS. (3)
An introduction to the fundamentals of informatics for students in a broad array of disciplines. Fundamentals of computer science, including programming, operating systems, database management, and networking will be covered. Not accepted as credit towards a degree in computer science. Prereq: Junior standing.

INF 520 BIOINFORMATICS. (3)
An introduction to computer analysis of macromolecular structure information. This course describes how to access, process, and interpret structural information regarding biological macromolecules as a guide to experiments in biology. Prereq: BIO 315 or BIO 304 or BCH 401 or BCH 501 or BCH 502 or BIO 510 or consent of instructor. (Same as BIO 520.)

INT International Studies

INT 350 SPECIAL TOPICS IN INTERNATIONAL STUDIES (Subtitle required). (1-3)
Course will focus on selected topics drawn from various areas of International Studies taught by faculty members with special interests and competence. The course is variable credit and may be repeated up to a maximum of 12 credits under different subtitles.

INT 399 INTERNSHIP IN INTERNATIONAL STUDIES. (1-3)
An individual community-based or field-based experience and/or internship with a corporation or government institution with a global/international focus under the supervision of a faculty member. This course is designed for undergraduates to gain first-hand experience of preprofessional positions such as internships, cooperative education, or business related experience in an area of international expertise. INT 399 may count toward either the Thematic Concentration or World Area of IS major, but not both. May count for IS minor. To take the course, the student must have approval of the program director, negotiate a learning contract with an academic supervisor, and provide the program with a report on the internship. Pass-

fail only. May be repeated for a maximum of 9 credits. Prereq: Approval by the International Studies Director.

INT 495 CAPSTONE SEMINAR FOR INTERNATIONAL STUDIES MAJORS (Subtitle required). (3)
In this capstone seminar students have to write a 20-25 page research paper. Each seminar has a subtitle of a broad theme to allow students working in different world areas and thematic concentrations to work on their projects. The class works both as a seminar where students learn different theoretical and methodological approaches to a broad topic and as a space where they learn to write their own research paper. Students will be required to present their paper in a power point presentation or another type of creative project. Prereq: Senior status.

IPS Integrated Plant and Soil Sciences

IPS 610 TRANS-DISCIPLINARY COMMUNICATION IN INTEGRATED PLANT AND SOIL SCIENCES. (1)
A one-credit companion course to IPS 625 specific for graduate students in the Integrated Plant and Soil Sciences program. This course exposes IPSS students to critical skills in publication, grantsmanship, and public presentation. It requires IPSS students to systematically evaluate research presentations from multiple disciplines, present a synthesis of the research topic addressed in IPS 625, and interact with other members of the college and the university on topics related to plant and soil science issues. The course may be repeated twice. Prereq: Graduate student status.

IPS 625 TRANS-DISCIPLINARY RESEARCH IN INTEGRATED PLANT AND SOIL SCIENCES. (2)
A two-credit course specific to students in the Integrated Plant and Soil Sciences Program. This course is designed to explore the foundations, principles, and philosophies of scientific research in a truly integrative manner with strong emphasis on the value of multidisciplinary approaches to a significant issue in plant and soil sciences. The course may be repeated twice. Prereq: Graduate student standing.

IS Information Studies

IS 200 INFORMATION LITERACY AND CRITICAL THINKING. (3)
This course provides an introduction to the concepts and practices of information literacy. It explores how to effectively and ethically find, evaluate, analyze, and use information resources in academic and everyday-life situations. Emphasizing critical inquiry and critical thinking, this course will explore the theories and definitions surrounding the term "information literacy." Students will put this theory into practice by developing problem-solving skills that allow them to meet information needs throughout their lifetimes. Students will gain a better understanding of how information and knowledge function in society and will discover methods of finding, accessing, evaluating, and using different information sources in an effective and ethical manner. (Same as ICT 200.)

IS 201 GENERAL INFORMATION SOURCES. (3)
Information professionals play a major role in the information life cycle by facilitating the process of finding what others have created and accumulated. Their role is: to amass collections of information resources; to develop services to help people identify and articulate their information needs; and to enable people to find, evaluate and use items of relevance. This course provides students with a basic understanding of the information environment, as well as an understanding of the differences in the information behavior, needs, and uses of various user groups. Upon completion of this course, students will be able to critically evaluate and employ information sources in different formats, and be able to communicate with users to identify and address their information needs. (Same as ICT 201.)

IS 202 TECHNOLOGIES FOR INFORMATION SERVICES. (3)
This course is designed to teach the fundamental concepts of information technology in ways relevant to professional practice in informatics and the information professions. It explores applications of computers and networks to information problems. Included are features of hardware, types of software, commercial systems and search engines. (Same as ICT 202.)

IS 303 SYSTEMS ANALYSIS. (3)
This course examines and applies the principles of information systems analysis. It surveys project management, feasibility and analysis, systems requirement definition and resource allocation. It utilizes a structured systems development methodology that spans the entirety of the information system lifecycle, which starts with the conception of the need for a specific information system and ends with the implementation of that system. The course utilizes a case study approach in which students initiate the analysis and logical design of a limited-scope information system. Prereq: IS 202. (Same as ICT 303.)

#IS 327 CONSUMER HEALTH INFORMATION SEEKING. (3)
This course will provide students with a foundation in the history and development of consumer health information seeking in addition to practical experience in locating, evaluating, and providing health information to diverse and special populations within educational and healthcare settings. Students will gain an understanding of the lifecycle of consumer health information – from policy development, to creation, to dissemination, and use – and the role of healthcare professionals in providing that information. Current issues and trends, as well as future directions in consumer health information provision and health information seeking will be discussed. (Same as ICT 327.)

IS 402 COMPETITIVE INTELLIGENCE. (3)
This course examines competitive intelligence models, functions, and practices; the roles of information professionals in CI, and the management of CI. Discussion and practice topics include: intelligence ethical and legal considerations; identifying intelligence needs; intelligence project management, research methods, analysis, production, and dissemination; the uses of intelligence; intelligence sources and tools; managing the intelligence function; and the evolution of CI.

IS 404 HEALTH INFORMATICS. (3)
Provides an overview of health care information systems, legal and ethical issues in health care, compliance and regulatory requirements, coding of health care data, quality management, HL7, data security, and HIPAA. Explores major applications and commercial vendors, decision support methods, evaluation of health-care information systems; and new opportunities and emerging trends. Prereq: IS 201, IS 202.

ISC Integrated Strategic Communication

ISC 161 INTRODUCTION TO INTEGRATED STRATEGIC COMMUNICATION. (3)
An introductory course in all phases of integrated strategic communication and its role in contemporary business and society. Includes an historical and socio cultural overview of advertising, public relations, sales promotion and direct response marketing as well as an exploration of their interrelationships. Covers strategic planning for integrated communication, message approaches and their foundations in theories of persuasion and information processing, and characteristics of message delivery systems. Provides a discussion of ethics and regulation, and the economic and social impact of the industries. Prereq: ISC pre-majors only or consent of instructor.

ISC 261 STRATEGIC PLANNING AND WRITING. (3)
Introduces students to the systematic planning processes and techniques of creative and persuasive message preparation for integrated strategic communication. Extensive practice in writing and visual communication for print and electronic vehicles in the disciplines of advertising, public relations, sales promotion and direct marketing. Lecture, two hours; laboratory, two hours per week. Prereq: ISC pre-major status; ISC 161; keyboarding 30 wpm.

ISC 311 ETHICAL, LEGAL AND SOCIAL ISSUES IN ISC. (3)
Course will focus upon the legal, ethical and social issues faced by ISC professionals. The course will examine government regulation of direct response communications, advertising, and public relations practices as well as the industry's ethical standards and self regulation efforts. Emphasis will also be placed upon gaining an understanding of ISC's role in society's economic, social, and cultural systems. Topics will include potential societal consequences of persuasive communication practices and the ethical responsibilities of professionals in each of the ISC disciplines. Prereq: Major standing.

ISC 319 WORLD MEDIA SYSTEMS. (3)
A comparison of the communications media in different countries of the world and the theories used to justify them. How various political and social systems affect the media and how the media affect the societies in which they exist. Prereq: JOU 101 or ISC 161 or MAS 101 or TEL 101. (Same as JOU/MAS 319.)

ISC 321 RESEARCH METHODS FOR THE INTEGRATED STRATEGIC COMMUNICATION PROFESSIONAL. (3)
Introduces students to applied research as a decision making tool for the integrated communications professional. Students acquire basic skills in: identification of information needs, stating of research objectives, selection of appropriate research technique (s), sample selection, questionnaire design, analysis procedures, report writing, and budget management. Topics prepare students to conduct small-scale survey research and to buy and evaluate studies from custom and/or syndicated research suppliers. Legal and ethical issues are also examined. Prereq: Major standing; one course in statistics.

ISC 331 ADVERTISING CREATIVE STRATEGY AND EXECUTION I. (3)
Ideas and their translation into words and images which inform and persuade. Emphasis is on a disciplined, strategic approach to creative decision-making across all media. Topics include setting objectives, selection of appeal, copy structure demands of different media, design principles, layout and storyboarding, and regulations affecting messages. Lecture, two hours; laboratory, two hours per week. Prereq: Concurrent or previous enrollment in ISC 311 and ISC 321.

ISC 341 STRATEGIC PUBLIC RELATIONS. (3)
A course introducing students to the basic concepts of public relations, including its theory and practices, professional history, function in organizations, and role in society. This course meets the needs of those planning or currently involved in professional and managerial careers which require an understanding of public relations. Prereq: For ISC majors, concurrent or previous enrollment in ISC 311 and ISC 321; for all others, admission to upper-division in the College of Communications and Information Studies.

ISC 351 INTEGRATED STRATEGIC COMMUNICATION ACCOUNT MANAGEMENT. (3)
Development and management of ISC programs that coordinate advertising, public relations, direct/interactive marketing, and sales promotion tactics. Topics include structure of the strategic communication management function, planning, strategy, leadership, operations, evaluating the effectiveness of communications, company-agency relationships, and career

development. Practical knowledge and fundamental management concepts are integrated to enhance understanding of communication management's role and challenges in the business environment. Prereq: Concurrent or previous enrollment in ISC 311 and ISC 321. Cannot be taken concurrently with ISC 451.

ISC 361 DIRECT RESPONSE TARGETING: MEDIA AND DATABASE MANAGEMENT. (3)
This course will introduce students to direct marketing practices with emphasis on data base marketing, strategic business planning, importance of the offer, selection and selling merchandise, business-to-business direct marketing, fund raising, mailing lists, print and electronic media, co-ops, telemarketing, production lead generation, direct marketing math, idea development, research and integrating direct marketing into the overall marketing mix. The course will be practical rather than theoretical in nature. Prereq: Concurrent or previous enrollment in ISC 311 and ISC 321; cannot be taken concurrently with ISC 461.

ISC 371 SPECIALIZED PUBLIC RELATIONS WRITING. (3)
Audience and purposes of writing are assessed as students develop a formal strategy to guide - and to evaluate - their writing. Strategic writing tasks include writing of position papers, speech writing, and writing for brochures, media releases, letters and newsletters. Societal impact and ethical considerations are examined across all writing tasks. Lecture, two hours; laboratory, two hours per week. Prereq: ISC 341.

ISC 431 ADVERTISING CREATIVE STRATEGY AND EXECUTION II. (3)
Students refine their ability to meet strategic goals through creative message executions. Media options and their impact on message structure and preparation are explored more fully. Application is made of pertinent theoretical principles such as source credibility, selective exposure/perception, and learning theory. Presentation skills stressed. Portfolio preparation and review. Prereq: ISC 331.

ISC 441 CASE STUDIES IN PUBLIC RELATIONS. (3)
This course is designed to reinforce and expand the knowledge learned in the introductory public relations course, ISC 341. The course will provide students with an opportunity to apply public relations principles and approaches to institutional experiences. Emphasis will be placed on actual case studies, and students are expected to demonstrate a high level of proficiency in written and oral communication skills. Prereq: ISC 341.

ISC 451 INTEGRATED STRATEGIC MEDIA MANAGEMENT. (3)
An overview of the strategic use of media in integrated promotional campaigns is provided. Students acquire basic skills in quantitative and qualitative evaluation of media; choice of target audience, use of secondary research on products and audiences; development of media objectives, strategies and tactics; and the oral and written presentation of media plans. The basic structure of media organizations is discussed. Prereq: Concurrent or previous enrollment in ISC 311 and ISC 321; cannot be taken concurrently with ISC 351.

ISC 461 DIRECT RESPONSE MESSAGE STRATEGIES. (3)
Examines the purpose, range, social and economic impact, and techniques of direct response messages. Students review type and role of suppliers as well as legal considerations. Based on a strategic plan, students frame messages for print, broadcast, and computer-based media that guide and facilitate response from prime prospects. Examines methods to evaluate message effectiveness. Prereq: Concurrent or previous enrollment in ISC 311 and ISC 321; cannot be taken concurrently with ISC 361.

ISC 471 EVENT PLANNING. (3)
This course will introduce students to special event planning processes and strategies. Emphasis is on creating, organizing, and managing both physical and virtual events. Topics will include research and planning, attracting sponsors and exhibitors, using integrated strategic communication to generate publicity and awareness, and evaluating event effectiveness toward reaching client objectives. Prereq: Major status and senior standing.

ISC 489 TOPICAL STUDIES IN MASS MEDIA PROFESSIONS (Subtitle required). (1)
Each course module offers advanced, pinpoint study of a topic central to the mass media professions. Depending on the topic, the course format may include lectures, seminars, and/or studio work. May be repeated to a maximum of three credits when identified by different subtitles. Prereq: Variable, given when topic is identified.

ISC 491 INTEGRATED STRATEGIC COMMUNICATION CAMPAIGNS. (3)
An advanced course which enables students to unify strategic and tactical abilities developed in their research, creative, account management, public relations, and/or direct response courses. The format for this synthesis requires students to establish strategy, develop, execute, and present a multimedia integrated campaign. Student teams compete for client approval on national, regional, or local accounts. Prereq: Completion of Major Path.

ISC 497 SPECIAL TOPICS IN ISC (Subtitle required). (3)
This course will focus on selected topics of industry practice associated with the integrated fields of strategic communication. Title assigned each time the course is offered. May be repeated with different subtitles to a maximum of six credits. Prereq: Variable, given when topic is identified.

ISC 541 CRITICAL TOPICS IN INTEGRATED STRATEGIC COMMUNICATION (Subtitle required). (3)
Students will use psychological or sociological perspectives to analyze one or more important aspects of the interaction between integrated strategic communication and society. Topics that may be considered include behavioral, political, economic, and/or international issues. The course may be repeated to a maximum of six credits when identified by different subtitles. Prereq: Senior or graduate standing; ISC 161.

ISC 543 REGULATION OF STRATEGIC COMMUNICATION. (3)
Course examines regulation of strategic, persuasive communication by federal, state, and local agencies as well as self regulation. Privacy, copyright, and deception are among featured issues. Prereq: Major standing.

ISP International Studies Program

ISP 599 STUDY ABROAD. (1)
A course designed for undergraduate and graduate students who go abroad for study following a plan developed as part of their academic program and who are not otherwise registered at the University during the period overseas. Registration in the course would constitute full-time status. The course may be taken on a pass-fail basis for undergraduate students and audited by graduate students. Evaluation by the academic adviser will be an element of the plan. May be repeated to a maximum of three credits. Prereq: Approval by each student's academic department, the Registrar, and the Office for International Programs.

ITA Italian

ITA 011 ITALIAN FOR READING. (3)
Designed to meet the needs of upper division and graduate students who are preparing for the graduate reading examination or who need reading knowledge of Italian in their minor.

ITA 101 ELEMENTARY ITALIAN. (4)
Fundamentals of Italian with development of the four basic skills: listening, speaking, reading, writing.

ITA 102 ELEMENTARY ITALIAN. (4)
A continuation of ITA 101. Prereq: ITA 101, or one year of high school Italian, or its equivalent.

***ITA 201 INTERMEDIATE ITALIAN. (3)**
A continuation of ITA 102 and an introduction to readings of selected Italian works. Further development of listening, speaking, reading and writing. Prereq: ITA 102.

***ITA 202 INTERMEDIATE ITALIAN. (3)**
Review of grammar and further development of speaking, oral comprehension, writing and reading based on cultural and literary materials. Prereq: ITA 201.

ITA 263 STUDIES IN ITALIAN CULTURE (Subtitle required). (3)
A study of Italian culture through representative writers, directors and artists in their political and socio-economical context. Taught in English. Subtitle required. May be repeated once with a different subtitle.

ITA 295 ITALIAN CONVERSATION AND COMPOSITION. (3)
Italian conversation and composition. Prereq: ITA 202 or equivalent.

#ITA 300 ITALIAN CONVERSATION AND WRITING. (3)
This course is mainly designed to help students improve their speaking, pronunciation and listening comprehension ability in the Italian language, along with their writing and reading skills. Prereq: ITA 202 or equivalent.

#ITA 301 ITALY FROM FASCISM TO THE PRESENT. (3)
This course is designed to give students a comprehensive overview and a good understanding of contemporary Italy. Through group activities, oral presentations and written assignments based on various literary excerpts, movies, and cultural readings, students will analyze and reflect on the main historical events and characters, along with cultural and economic trends that shaped Italy in the 20th century, starting with the period of Fascism and WWII. Prereq: ITA 300 or consent of instructor.

ITA 395 INDEPENDENT STUDIES IN ITALIAN. (3)
Directed study in Italian literature, culture or film. Student's topic to be approved by director. May be repeated once. Prereq: Successfully completed ITA 202 and consent of instructor.

ITA 417 ADVANCED ITALIAN LANGUAGE. (3)
A course designed to practice language skills at an advanced level. Both oral and written presentations are required. Readings of contemporary Italian prose will be selected to illustrate grammatical and stylistic concerns and to stimulate discussion. Prereq: ITA 295 or ITA 296.

ITA 443G SURVEY OF ITALIAN LITERATURE I. (3)
A survey of Italian literature from its beginnings to the 17th century. Prereq: ITA 202.

ITA 563 STUDIES IN DANTE. (3)
Either the *Vita Nuova* and the *Divina Commedia*, *Inferno* or the *Divina Commedia*, *Purgatorio* and *Paradiso*. Prereq: ITA 443G.

ITA 566 LITERATURE OF THE ITALIAN RENAISSANCE. (3)
A study of the major literary trends and figures of the Italian Renaissance, from the literary and humanistic successors of Petrarch and Boccaccio to the writers of the *Cinquecento*. Prereq: ITA 543 or 544 or consent of instructor.

ITA 569 TOPICS IN ITALIAN LANGUAGE, LITERATURE, OR CULTURE (Subtitle required). (3)
Intensive study of an author, genre, period or movement of Italian literature or an aspect of Italian language or culture. May be repeated once under a different subtitle. Prereq: Variable; given when topic identified.

JAT Journalism, Advertising, Telecommunications

JAT 241 COMMUNICATIONS PRACTICUM. (1-4)
Supervised laboratory work in the media of mass communications, with meetings for evaluation of work, study of techniques, analyses of problems, and reports. May be repeated to a maximum of four credits. (Offered in Community College System only.)

JAT 395 INDEPENDENT STUDY. (1-3)
Designed for advanced students with research or special study problems. Regular consultation with the instructor. May be repeated to a maximum of six credits. Enrollment normally limited to juniors and seniors with a 3.0 standing in the major. These requirements may be waived by the department in exceptional circumstances. Prereq: Consent of instructor.

JAT 399 INTERNSHIP (Subtitle required.) (1-3)
Qualified students enter the professional sector to refine skills and knowledge. Supervised internships approved by the School allow placements in industry, government, radio, television, print media, research agencies, etc. A signed contract must be completed prior to the start of the internship. Pass/Fail only. Prereq: admission to upper-division, fulfillment of internship prerequisites for the major, and approval of internship director for the major.

JOU Journalism

JOU 101 INTRODUCTION TO JOURNALISM. (3)
This course surveys the history and social theories of journalism and introduces students to contemporary journalistic practice. Students will learn about the function and operation of print, electronic and on-line news media. Issues and concepts to be covered include the relationship of government to media; press freedom and controls; media ethics, and the impact of global communications. The course also covers the relationship of journalism to advertising, public relations and telecommunications, particularly with regard to new technologies. Prereq: JOU pre-majors in primary window; all others in secondary window.

JOU 204 WRITING FOR THE MASS MEDIA. (3)
An introduction to the concepts and techniques of media writing. This course offers hands-on instruction in information gathering, organization, and writing for print, broadcast and on-line media. Lecture, one hour; laboratory, four hours per week. Prereq: JOU 101; JOU pre-major status; ISC pre-majors may enroll if they've completed ISC 161.

JOU 250 ETYMOLOGY. (3)
A study of words and their fundamental values with reference to development of a writing vocabulary. (Same as ENG 201.)

JOU 301 NEWS REPORTING. (3)
A course designed to develop skills in information gathering, news judgment, organization and writing. Students will learn to cover breaking news and write features. Lecture, two hours; laboratory, two hours per week. Prereq: JOU 204.

JOU 302 RADIO AND TV NEWS REPORTING. (3)
An introduction to principles of broadcast writing and reporting. Students will complete assignments in class and at WUKY-FM, where they will prepare segments for newscasts under the supervision of the station's news director. Students also will learn to shoot and edit videotape and to prepare TV news reports. Lecture, two hours; laboratory, two hours per week. Prereq: JOU 204.

JOU 303 NEWS EDITING. (3)
Instruction and practice in copy desk operation and the duties and ethics of copy editors. Topics include techniques for editing stories, handling wire copy, writing headlines and news judgment. Emphasis on electronic editing. Lecture, one hour; laboratory, four hours per week. Prereq: JOU 204.

JOU 304 BROADCAST NEWS DECISION MAKING. (3)
This class is designed to sharpen students' news judgment and teach them the skills they will need to become assignment editors and producers of radio and television newscasts. Students will study the content and selection of news stories, using audio materials from such sources as National Public Radio, and visual materials from CNN Newsource. Lecture, two hours; laboratory, two hours per week. Prereq: JOU 302.

JOU 319 WORLD MEDIA SYSTEMS. (3)
A comparison of the communications media in different countries of the world and the theories used to justify them. How various political and social systems affect the media and how the media affect the societies in which they exist. Prereq: JOU 101 or ISC 161 or MAS 101 or TEL 101. (Same as ISC/MAS 319.)

JOU 330 WEB PUBLISHING AND DESIGN. (3)
This course is designed to teach students to code and display text and visual information effectively on the Internet and to understand the application of professional practices in Web site analytics and management. Visual communication theory and practice for photographs, illustrations, graphical and text elements will be taught and highlighted, in addition to the basics of HTML and CSS. Students will use industry-standard software and workflows as they are introduced to basic techniques and strategies for publishing, designing and managing a Web site for a newspaper, magazine, television station, advertising agency, public relations firm or media start-up. Social media and geolocation for news and other media purposes will be highlighted. Lecture: two hours, laboratory: two hours per week. Prereq: JOU major.

JOU 387 PHOTOJOURNALISM I. (3)
A hands-on introduction to the use of cameras and laboratory equipment in contemporary news photography. Selected readings on photographic methods and the ethics of photojournalism. Lecture, two hours; laboratory, two hours per week.

JOU 403 TV NEWSCAST PRODUCING AND DIRECTING. (3)
This class is designed to train students to become television newscast producers and directors. Students will prepare TV newscasts with consideration of news story placement as it relates to audience, viewing trends, and journalistic judgment. Students will learn critical thinking skills in producing and directing as it relates to newscast and story promotion, reaching to major news events and their coverage, and talent and time management. Students will be required to write, produce and direct news stories in different formats for different formats for different newscasts and address ethical and legal concerns of news stories. Prereq: JOU 302 for JOU Majors; MAS 312 for MAS majors. (Same as MAS 403.)

JOU 404 ADVANCED TV NEWS. (3)
Students in this class produce a half-hour, TV newscast shown on a cable channel to homes in the Lexington-Fayette County DMA. Students will hone their writing skills and their proficiency in shooting and editing video, serving as producers, writers, videographers, reporters and anchors. May be repeated for up to six hours credit, with permission of instructor. Lecture, one hour per week; laboratory, four hours per week. Prereq: JOU 302.

JOU 409 MAGAZINE ARTICLE WRITING. (3)
An advanced writing course designed to teach students to generate, report and write feature stories for magazines and to market free-lance articles. Lecture, two hours; laboratory, two hours per week. Prereq: JOU 301.

JOU 410 PUBLICATIONS PRODUCTION. (3)
Study of theory and practice in the techniques of effective communication through print and/or the Web. Starting with typography, this course will cover design for newsletters, newspapers and news magazines, but other publications may be considered. Instruction in the processes of defining the purpose of, designing and producing a publication. These include: planning, design, article and photo selection, page layout, headline and title writing. Lecture, two hours; laboratory, two hours per week. Prereq: JOU 301 and 303.

JOU 415 DESIGN AND LAYOUT: (Subtitle Required). (1)
This course will familiarize students with computer programs used in publication design. Students develop their skills through hands-on exercises and projects. May be repeated to a maximum of three credits under different subtitles. Prereq: Will be determined by topic of course.

JOU 430 MEDIA MANAGEMENT AND ENTREPRENEURSHIP. (3)
An introduction to news media management focusing on start-up, design and operation of newspapers and magazines. This course takes an intensive look at the editorial content, advertising, business and management side of journalism. Lecture, two hours per week; laboratory, two hours per week.

JOU 455 MASS MEDIA AND DIVERSITY: (Subtitle Required). (3)
This course will examine gender and minority issues in the media. The course offers a critical framework for analysis of socio-cultural issues pertaining to women, ethnic groups, disabled persons, and others, and of their presentation in the media. May be repeated to a total of nine hours under different subtitles.

JOU 460 JOURNALISM IN SECONDARY EDUCATION. (3)
A course designed to familiarize students with a variety of legal and ethical issues facing student journalists and media advisers in secondary schools. Prereq: JOU 301 or JOU 302.

JOU 485 COMMUNITY JOURNALISM. (3)
A study of all aspects of community news media, including editorial and business operations, and the conflicts that can arise between them, as well as the personal-professional conflicts that community journalists must manage to be successful in the field. Lecture, two hours; laboratory, two hours of independent, advanced reporting and writing, for online and possible print publication. May also include photography and broadcast journalism. Prereq: JOU 301 or JOU 302.

JOU 487 PHOTOJOURNALISM II. (3)
An in-depth study of the many facets of photojournalism from the photo editor's perspective. Students will shoot assignments and will also probe the legal and ethical aspects of news photography. Lecture, one hour; laboratory, four hours per week. Prereq: JOU 387.

JOU 497 SPECIAL TOPICS IN JOURNALISM: (Subtitle required). (1-3)
Course will focus on selected topics drawn from journalism and related fields. Title assigned each time course is offered. May be repeated with different subtitles to a maximum of six credits.

JOU 498 MULTIMEDIA STORYTELLING. (3)
A course designed to provide journalism majors advanced training in reporting and writing articles on current events, public issues, personalities, culture and entertainment on multiple publishing platforms. Students will cultivate a platform-agnostic view of publication as they maintain a daily multimedia news outlet. Lecture, two hours; laboratory, two hours per week. Prereq: Print/multimedia students: JOU 301 and JOU 303; JOU 330. Broadcast/multimedia students: JOU 302 and JOU 304; JOU 330.

JOU 499 ADVANCED WRITING FOR THE MASS MEDIA: (Subtitle Required). (3)
A course designed to provide journalism majors advanced training in reporting and writing articles on current events, public issues, personalities, culture and entertainment for the print and electronic media. Areas of emphasis will vary each semester. These include reporting on business, the arts, government and sports. May be repeated to a total of nine credits with different subtitles. Lecture, two hours; laboratory, two hours per week. Prereq: JOU 301 or JOU 302.

JOU 531 MEDIA LAW. (3)
A study of the legal issues facing the news media. The course will focus on the rights, constraints and responsibilities under the U.S. Constitution, federal and state statutes, administrative law and common law. Specific topics include prior restraint, libel, privacy, student media, copyright, broadcast regulation, the court systems, commercial speech and access to courts and public records.

JOU 532 ETHICS OF JOURNALISM AND MASS COMMUNICATION. (3)
An examination of ethical challenges facing journalists on different platforms – print, online, broadcast and in social media. Students will reason through issues of value that arise in the practice of journalism.

JOU 535 HISTORY OF JOURNALISM. (3)
A study of the development of American journalism, with emphasis on the evolution of newspapers and electronic news media. Examination of principles and social theory underlying the practice of journalism.

JOU 541 THE FIRST AMENDMENT, INTERNET, AND SOCIETY. (3)
The course will focus on the legal and policy environment of the Internet. Particular attention will be paid to social media, libel, privacy, hate speech, obscenity, and copyright issues. How the First Amendment has been adapted to new media technology is a central part of the class. The course also provides an introduction to the legal system and the basics of legal research. Prereq: JOU 541 will be restricted to JOU majors in primary window; open to other majors in the School in secondary window; open to other students during add/drop.

JPN Japan Studies

JPN 101 BEGINNING JAPANESE I. (4)
A course in first semester Japanese language.

JPN 102 BEGINNING JAPANESE II. (4)
A course in second semester Japanese language. Prereq: JPN 101 or equivalent.

JPN 201 INTERMEDIATE JAPANESE I. (4)
A course in third semester Japanese language. Prereq: JPN 102 or equivalent.

JPN 202 INTERMEDIATE JAPANESE II. (4)
A course in fourth semester Japanese language. Prereq: JPN 201 or equivalent.

JPN 283 JAPANESE FILM. (3)
Study of Japanese films as an expression of Japanese culture. Viewing of films outside of class required.

JPN 301 ADVANCED JAPANESE I. (3)
This course is primarily a course in contemporary Japanese culture, but serves as a third year language course. The "texts" will consist of contemporary written materials (books, magazines, newspapers) and visual materials (tv programs, movies) and will exercise the four skills (reading, writing, listening, speaking) studied in the first four semesters of the language. By building on the skills learned in the initial semesters, this course will continue and strengthen the oral and aural, written and reading skills in Japanese, for students who have studied the equivalent of two years of Japanese language. Further, this course will emphasize the speaking and listening skills. It is paired with JPN 302, a course emphasizing reading and writing skills. Thus, students who complete this course will be able to communicate at a rather sophisticated level of Japanese on a variety of contemporary topics within Japanese society. Prereq: JPN 202 or permission of instructor.

JPN 302 ADVANCED JAPANESE II. (3)
This course is primarily a course in contemporary Japanese culture, but serves as third year language course. The "texts" will consist of contemporary written materials (books, magazines, newspapers) and visual materials (tv programs, movies) and will exercise the four skills (reading, writing, listening, speaking) studied in the first four semesters of the language. By building on the skills learned in the initial semesters, this course will continue and strengthen the oral and aural, written and reading skills in Japanese, for students who have studied the equivalent of two years of Japanese language. Further, this course will emphasize the reading and writing skills. It is paired with JPN 301, a course emphasizing speaking and listening skills. Thus, students who complete this course will be able to communicate at a rather sophisticated level of Japanese on a variety of contemporary topics within Japanese society, and will be comfortable within Japanese print media. Prereq: JPN 301.

JPN 320 INTRODUCTION TO JAPANESE CULTURE, PRE-MODERN TO 1868. (3)
This course, taught in English, is designed as a general introduction to the culture of pre-modern Japan (up to the Meiji Restoration of 1868). Topics include: Shinto, Buddhism, and Confucianism in ancient Japan; feminine sensibilities in ancient literature; canons of medieval art; the culture of military strife; Christianity in pre-modern Japan; and encounters with the West.

JPN 321 INTRODUCTION TO JAPANESE CULTURE, MEIJI (1868) TO PRESENT. (3)
General introduction to Japanese culture from Meiji Restoration (1868) to the present. Topics include: nation-building, Japan and the West, Japan and Asia (for the Meiji period 1868-1912); gender construction and class formation, urbanization and mass culture (for the Taisho period 1912-1926); and Japanese colonialism, WWII, A-bomb, the U.S. occupation, postwar recovery, popular culture, and globalization (for the Showa period 1926-1989 and beyond). (Same as ANT 321.)

JPN 334 ENVIRONMENT, SOCIETY AND ECONOMY OF JAPAN. (3)
This course examines some of the major aspects of the society, culture, and economy of Japan. It discusses Japan's human and natural environments; natural hazards and disasters; cultural history and geography; economic and technological developments, their prospects and potentials; challenges to the management of environment and its resources; and Japan's role in global economy. (Same as GEO 334.)

JPN 351 THE JAPANESE EXPERIENCE OF THE TWENTIETH CENTURY. (3)
General introduction to Japanese culture from Meiji Restoration (1868) to the present, focusing mainly on the literary arts, but also including film, architecture and the fine arts.

JPN 395 INDEPENDENT WORK IN JAPANESE. (1-6)
Independent work to pursue special problems in reading and research. May be repeated to a maximum of six credits. Prereq: Instructor approval.

JPN 400G TOPICS IN JAPAN STUDIES (Subtitle required). (3)
Variable in content, this course focuses on important texts and issues in Japanese history, religion, literature, and philosophy. May be repeated to a maximum of six credits under different subtitles. To be taught in English.

JPN 401 ADVANCED JAPANESE III. (3)
This course will further develop skills in sophisticated Japanese language use by exercising the four skills of language (reading, writing, listening, speaking). The course will include readings in authentic materials in a wide variety of writing styles, student writing for a variety of occasions, and development of speaking and listening fluency. Prereq: JPN 302 or equivalent.

JPN 402 ADVANCED JAPANESE IV. (3)
This course will further develop skills in sophisticated Japanese language use by exercising the four skills of language (reading, writing, listening, speaking). The course will include readings in authentic materials in a wide variety of writing styles, student writing for a variety of occasions, and development of speaking and listening fluency. Prereq: JPN 401 or equivalent.

JPN 405 SEMINAR IN JAPANESE AND ASIAN STUDIES (Subtitle required). (3)
An interdisciplinary seminar focusing on a topic in Japanese and Asian Studies. May be repeated to a maximum of six credits. Prereq: Instructor approval.

JPN 420G PRE-MODERN LITERARY AND VISUAL ARTS OF JAPAN. (3)
This course will introduce representative literary and visual arts of Japan, from antiquity until the mid-nineteenth century. This serves as an introduction to intellectual and societal undercurrents foundational to understanding Japanese society.

JPN 421G CONTEMPORARY LITERARY AND VISUAL ARTS OF JAPAN. (3)
This course will introduce the literary and visual arts of the last 150 years (since the Meiji period) of Japan. This serves as an introduction to intellectual questions that have enlivened Japanese society in the last century and a half, key to understanding contemporary Japanese culture.

JPN 430G SELF AND OTHER: THE POLITICS OF CULTURE IN JAPAN-U.S. RELATIONSHIP. (3)
This course explores changing images and ideas that America (the West) and Japan (the East) have had of one another during the modern century (roughly 1850s - 1980s) and in the more recent period of post-modernity (1990s - present) of their interactions. It examines the cultural politics of representations – images, ideas, and discourses – between Self and Other by viewing mutual constructions of "America" and "Japan" as its paradigmatic example.

JPN 451G SOCIAL MOVEMENTS IN MODERN JAPAN. (3)
This course will explore selected movements within Japan that have arisen in the last one hundred and fifty years. This course will ask questions about the specific nature of these movements, the context of these movements within Japan, and within the context of other movements around the world, whether contemporary in time or theme.

JPN 461G JAPANESE COLONIALISM AND ITS LEGACIES. (3)
This course will explore the making and unmaking of Japanese colonialism and its postwar legacies via a number of media. Geopolitically, the course will be organized in terms of the changing boundaries, and their representations, of the Japanese empire. We will also

incorporate the following related perspectives in order to examine some of the basic problems of Japanese colonialism which contemporary Japan has not completely left behind.

JPN 491G JAPANESE LANDSCAPES. (3)
A study of the landscapes of Japan as vivid portrayal of Japanese culture and their value system, including review and analysis of major primary and secondary components of the Japanese landscape. Prereq: JPN 334 or GEO 334 or consent of instructor. (Same as GEO 491G.)

JPN 520 JAPANESE LINGUISTICS AND SOCIETY. (3)
This course will introduce a wide range of topics in Japanese linguistics, including phonetics, phonology, morphology, syntax, semantics, and sociolinguistics. In this course, you will (1) learn the basic notions and terminology used in linguistics, (2) study major issues in Japanese linguistics, and (3) apply theoretical knowledge to the hands-on analysis of Japanese data. Prereq: JPN 102.

JPN 551 JAPANESE MULTINATIONAL CORPORATIONS. (3)
A study of the giant Japanese multinational corporations in the world economy and their impact on development and environment of selected countries. Topics include: geographical organization of multinational corporate system; their locational decisions; affect of multinationals policies on the environment; and local economy. Prereq: Consent of instructor. (Same as GEO 551.)

KHP Kinesiology and Health Promotion

KINESIOLOGY

KHP 100-KHP 135 SERVICE COURSES. (1)
Instruction in a variety of motor skills activities. Courses are designed for students at a beginner level. Up to six hours credit may be earned in service courses; however, the same activity may not be repeated for credit.

KHP 136-KHP 144 ADVANCED SERVICE COURSES. (1)
Instruction in a variety of motor skills activities. The courses are designed for students who already possess intermediate skill in the activity. Instructors will assess skill at start of course. Up to six hours credit may be earned in service courses; however, the same activity may not be repeated for credit. Assignment of specific titles will occur internally in the department. Laboratory, three hours. Prereq: Completion of comparable service course or demonstrated competency.

KHP 150 SOCCER. (1)
Designed to familiarize the professional physical education student with the skills, practices, techniques, and theory of soccer. Development of at least an intermediate skill level is expected of the students. The primary goal of the course is to equip the student with the skills necessary to effectively teach soccer. Laboratory, six hours per week for one-half semester or three laboratory hours per week per semester. Prereq: PHED and KINE majors only.

KHP 152 TECHNIQUES OF SWIMMING. (1)
Acquisition of intermediate and advanced swimming skills. Includes techniques of teaching beginning and intermediate swimming and diving. Other topics include mechanical analysis of strokes, skin diving, survival swimming, basic first aid, rescue and safety in the aquatic environment. Laboratory, three hours per week. Prereq: Intermediate skill test first day of class and PHED, KINE majors only.

KHP 153 VOLLEYBALL. (1)
Designed to familiarize the professional physical education student with the skills, practices, techniques, and theory of volleyball. Development of at least an intermediate skill level is expected of the students. The primary goal of the course is to equip the student with the skills necessary to effectively teach volleyball. Laboratory, six hours per week for one-half semester or three laboratory hours per week per semester. Prereq: PHED and KINE majors only.

KHP 155 PRINCIPLES OF CONDITIONING. (1)
Designed to familiarize the professional physical education student with the theory, techniques, and practices of conditioning. Understanding of the basic principles, and an attainment of above average personal physical fitness status is expected of the students. The primary goal of the course is to equip students with knowledge and skill to design and carry out safe and meaningful physical conditioning programs. Laboratory, six hours per week for one-half semester or three laboratory hours per week per semester.

KHP 156 EDUCATIONAL GYMNASTICS. (1)
The primary goal of the course is to equip the student with the skills necessary to effectively teach gymnastics and tumbling skills in the schools. Students will learn safety procedures, skill sequencing, and progressions that are recommended for students in pre-school through middle school. Students will learn to analyze skills and prepare appropriate lesson plans. Laboratory, six hours per week for one-half semester or three laboratory hours per week per semester. Prereq: Demonstrated competence and PHED, KINE majors only.

KHP 157 TRACK AND FIELD. (1)
Designed to familiarize the professional physical education student with the skills, practices, techniques, and theory of track and field. Development of at least an intermediate skill level is expected of the students. The primary goal of the course is to equip the student with the skills necessary to effectively teach track and field. Laboratory, three hours per week.

KHP 159 TENNIS. (1)
Designed to familiarize the professional physical education student with the skills, practices, techniques, and theory of tennis. Development of at least an intermediate skill level is expected of the students. The primary goal of the course is to equip the student with the skills necessary to effectively teach tennis. Laboratory, six hours per week for one-half semester or three laboratory hours per week per semester. Prereq: PHED and KINE majors only.

KHP 160 BADMINTON. (1)
Designed to familiarize the professional physical education student with the skills, practices, techniques, and theory of badminton. Development of at least an intermediate skill level is expected of the students. The primary goal of the course is to equip the student with the skills necessary to effectively teach badminton. Laboratory, six hours per week for one-half semester or three laboratory hours per week per semester. Prereq: PHED and KINE majors only.

KHP 161 GOLF. (1)
Designed to familiarize the professional physical education student with the skills, strategies, rules and teaching techniques of golf. Development of at least an intermediate skill level is expected. The primary goal of the course is to equip the student with skills necessary to effectively teach golf. Laboratory: Six hours per week for one-half semester or three laboratory hours per week per semester. Prereq: PHED and KINE majors only.

KHP 162 OUTDOOR EDUCATION THROUGH ACTIVITIES. (1)
An overview of outdoor educational skills and wilderness related activities for use by physical education majors in the school and/or recreational setting. Laboratory, two hours per week. Prereq: PHED and KINE majors only.

KHP 163 TEAM HANDBALL/NEW GAMES. (1)
This course is designed to familiarize the physical education student with the skills, practices, techniques, and theory of team handball and new games. Development of at least an intermediate skill level in team handball and a knowledge base of at least 20 new games is expected of the students. The primary goal of this course is to equip students with the skills necessary to effectively teach handball and new games. Laboratory, six hours per week for one-half the semester or three hours per week per semester. Prereq: KINE/HEPR/KHPR majors only.

KHP 200 THE HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION AND SPORT. (3)
An introduction to the history and philosophy of physical education. An emphasis will be on: (1) the role of philosophy, educational philosophy, and the philosophy of physical education and (2) the major historical influences in the development of existing physical education programs in the United States.

KHP 210 INTRODUCTION TO FITNESS: (Subtitle required). (2)
Designed to familiarize the professional physical education student with the theory, techniques, and practices of physical fitness and conditioning. Understanding of the basic principles and an attainment of above average personal fitness status is expected of the students. The primary goal of the course is to equip students with knowledge and skill to design and carry out safe and meaningful physical conditioning programs. Prereq: PHED, KINE majors only.

KHP 220 SEXUALITY EDUCATION. (2)
The course is designed to prepare educators to teach sexuality education in the schools. Emphasis is placed on justification of sexuality education, relevant content, appropriate teaching techniques, and precautions to take when teaching sexuality education.

KHP 222 DRUG EDUCATION. (2)
This course is designed to prepare educators to offer drug education in the schools. Emphasis is placed on the prevalence of drug use by youth; physiological, psychological, and social effects of various drugs; effective and ineffective approaches to drug abuse prevention; appropriate teaching strategies; and evaluating drug curricula.

KHP 240 NUTRITION AND PHYSICAL FITNESS. (3)
Course focuses on the interrelationship between nutrition and physical fitness. The intent is to provide the student with the information necessary to formulate an individualized plan for the achievement and maintenance of adequate nutrition and physical fitness. Weight control will be discussed in this content. Team taught by nutrition faculty and health, physical education and recreation faculty. Lecture, two hours; laboratory, two hours.

KHP 250 TEAM SPORTS: (Subtitle required). (2)
This course is designed to familiarize the professional physical education student with the skills, practices, techniques, rules, and strategies of the sports of: soccer, volleyball, and team handball. The primary goal of the course is to equip the student with the skills necessary to effectively teach these three sports in both the upper elementary and secondary schools. Development of at least an intermediate skill level is expected of the students. Laboratory: Six hours per week for one semester. Prereq: KINE or PHED major.

KHP 252 WATER SAFETY LEADERSHIP. (2)
Leadership training in the teaching of swimming, lifesaving, diving, synchronized swimming, competitive swimming, camp waterfront, beach and pool operation and exhibition. Laboratory, four hours. Prereq: Current lifesaving certificate or equivalent.

KHP 260 INDIVIDUAL SPORTS: (Subtitle required). (2)
This course is designed to familiarize the professional physical education student with the skills, practices, techniques, rules, and strategies of the sports of: golf, tennis, and badminton. The primary goal of the course is to equip the student with the skills necessary to effectively teach these three sports in both the upper elementary, middle, and secondary schools.

Development of at least an intermediate skill level is expected of the students. Laboratory: six hours per week for one semester. Prereq: KINE or HEPR major.

KHP 263 CURRICULUM DESIGN AND DEVELOPMENTAL SPORTS SKILLS IN THE ELEMENTARY SCHOOL. (3)
The study of sports skills development and their inclusion in the elementary programs of games of low organization, lead-up games, and refined sports skills. Lecture, two hours; laboratory, two hours per week. Prereq: KINE/HEPR/KHPR majors or permission of the instructor.

KHP 300 PSYCHOLOGY AND SOCIOLOGY OF PHYSICAL EDUCATION AND SPORT. (3)
A survey course in the social science foundation of sport. Study of the sociological and psychological concepts which are relevant in understanding of sport in this country and the world. After the successful completion of this course, the student should be able to define, discuss, and identify the basic social and psychological factors which are related to the pursuit of movement through sport.

KHP 319 SPORTS OFFICIATING. (1)
This course will provide students with introductory knowledge, interpretations skills, and mechanical techniques of officiating. Prereq: KHP major or permission of instructor.

KHP 340 ATHLETIC TRAINING. (2)
Consideration is given to the prevention, treatment and rehabilitation of injuries. Films and other visuals, visiting physicians and team trainers will be used to supplement instruction. The student will have an opportunity to gain practical experience. Lecture, one hour; laboratory, three hours.

KHP 344 PHYSICAL EDUCATION IN THE SECONDARY SCHOOL. (3)
Required for teacher certification in physical education. Theory and practice in methods of teaching physical education activities and supervising programs in the secondary school. Lecture, two hours; laboratory, two hours per week. Prereq: Admission to KHP Teacher Education Program.

KHP 360 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL. (3)
An introduction to the necessary skills needed for the planning and conduct of modern elementary physical education programs. Emphasis is placed on teaching basic movement skills, fundamental rhythmic and sports skills. Lecture, two hours; laboratory, two hours per week. Prereq: Admission to KHP Teacher Education Program.

KHP 361 FIELD EXPERIENCES. (1)
Field experiences with elementary school age children, P-12. Prereq: Admission to the KHP Teacher Education Program.

KHP 362 FIELD EXPERIENCES IN SECONDARY EDUCATION. (1)
Supervised experiences in school, agency, and recreation department programs of secondary education. Required of all majors in Secondary Teacher Education Programs in the Department of Health, Physical Education and Recreation. Includes field trip, inspection of programs and professional organizations. Prereq: Admission to the Teacher Education Program.

KHP 369 STUDENT TEACHING IN PHYSICAL EDUCATION. (3-12)
For students who expect to teach and who meet the requirements for a major in physical education. Experience in working with children in physical education activities comprises basic part of course. Safety education also included. To be offered only on a pass-fail basis. Prereq: Admission to the Teacher Education Program or permission of instructor.

***KHP 382 PHYSICAL EDUCATION FOR ELEMENTARY SCHOOL TEACHERS. (2)**
This course is a hybrid course that does meet the first day of class. The syllabus provides information about access to student services and that is discussed during the face-to-face course orientation. Provides physical education concepts and content to be taught to the elementary students. Includes instructional methods and management techniques appropriate for physical education programs at the elementary school level. Prereq: Admission to elementary or early childhood teacher education program or consent of instructor.

KHP 390 DANCE ACTIVITIES FOR SCHOOLS. (2)
Designed to familiarize physical education preservice students with the skills, practices, techniques, theory of creative movement expression, and structured dance appropriate for K-12 physical education. State and national standards will be the foundation for the lesson plans developed in this course.

KHP 395 INDEPENDENT STUDY IN KINESIOLOGY AND HEALTH PROMOTION. (3)
May be repeated to a maximum of 12 credits. Prereq: Major and 3.0 standing in area or consent of instructor.

KHP 396 DANCE PEDAGOGY FOR MIDDLE AND HIGH SCHOOL. (3)
This is a comprehensive study of teaching methods and materials for teachers of middle and high school students. Prereq: KHP 390 and/or KHP 393.

KHP 415 BIOMECHANICS OF HUMAN MOVEMENT. (4)
The application of mechanical principles in the study of the internal and external forces acting on the human body and the effects produced by those forces. Prereq: ANA 209, PGY 206, Math ACT of 23 or above (or Math placement test), or MA 109, or MA 110.

KHP 420G PHYSIOLOGY OF EXERCISE. (3)
An in-depth study of the immediate and long-term effects of exercise on the human organism. Lecture, two hours; laboratory, two hours. Prereq: ANA 209, PGY 206 or equivalent. Junior, senior or graduate standing.

KHP 430 METHODS OF TEACHING HEALTH EDUCATION. (3)
A variety of contemporary teaching methods appropriate for use in grades K-12 will be presented. Students will be exposed to these methods through textbook and outside readings and through observation of the instructor, public school teachers, and peer teachers. Methods will be critically examined for effectiveness in the cognitive, affective, and behavioral areas. Prereq: KHP 220, 230, or equivalent, or consent of instructor via permit; and admission to Teacher Education Program or consent of instructor via permit.

KHP 445 INTRODUCTION TO TESTS AND MEASUREMENTS. (3)
An analysis of written and motor performance tests in health, safety, physical education, and recreation. Laboratory experiences in the administration, scoring, and interpretation of motor performance tests are provided. Lecture, two hours; laboratory, two hours.

KHP 450 INTRODUCTION TO EXERCISE TESTING AND PRESCRIPTION. (3)
The course addresses fundamental principles of Exercise Science specifically as they relate to the testing and exercise prescription of apparently healthy individuals with controlled disease. The class will review concepts essential for successful completion of the American College of Sports Medicine Certified Personal Trainer and Health Fitness Instructor exams. Prereq: ANA 209, PGY 206.

KHP 485 SPORT IN AMERICA. (3)
An overview of the history and development of sport in the United States from colonial times to the present with emphasis on the scope and diversity of modern day sport and its impact on society.

KHP 546 PHYSICAL EDUCATION WORKSHOP. (1-3)
A concentrated study in a specific sport or activity or field of emphasis in physical education. May be repeated to a maximum of six credits.

KHP 547 PSYCHOLOGY OF SPORT AND PHYSICAL ACTIVITY. (3)
An analysis of research findings in the psychology of teaching and coaching with emphasis placed on those factors which influence the acquisition of motor skills as well as on the psychological benefits of exercise and sport. Prereq: Undergraduate psychology course and basic statistics or consent of instructor.

KHP 560 MOTOR DEVELOPMENT IN INFANTS AND YOUNG CHILDREN. (3)
An analysis of the processes of learning to move and moving to learn in infants and young children. Emerging interrelationships among the motor, social, emotional, and cognitive forms of behavior are explored. Laboratory experiences are provided in early childhood education programs. Prereq: PSY 100.

KHP 579 ADAPTED PHYSICAL EDUCATION. (3)
A study of programs of adapted and developmental physical education for individuals with disabilities. Experiences will include the appraisal of psychomotor functioning, design of instructional intervention, and program implementation and evaluation. Lecture, two hours; laboratory, two hours. Prereq: KHP 515 or consent of instructor.

GRADUATE COURSES

KHP 601 TEACHING EFFECTIVENESS AND LEADERSHIP IN KINESIOLOGY AND HEALTH EDUCATION. (3)
This course will examine the current research relevant to teacher effectiveness. The development and implementation of practical methods for improving teacher effectiveness in Kinesiology constitute the primary emphasis of the course. The Kentucky Teacher Standards will be emphasized and used to guide this course.

KHP 644 RESEARCH TECHNIQUES APPLIED TO KINESIOLOGY AND HEALTH PROMOTION. (3)
A critique of research procedures for purposes of developing more efficient research designs applicable to problems in kinesiology and health promotion. Should be preceded or accompanied by basic statistics and introduction to measurement.

***KHP 676 CURRENT ISSUES AND PROBLEMS IN SPORT MANAGEMENT. (3)**
An in-depth analysis of pertinent issues and problems affecting the management of sport and fitness programs. Prereq: Admission to the program or consent from the instructor.

KHP 680 SPORT AND FITNESS MARKETING. (3)
An introduction to the broad area of sport and fitness marketing to include a focus on marketing management as it applies to sport, the general nature of the sport and fitness consumer, pricing strategies and promotions, licensing, and the role of research in sport marketing.

KHP 681 FINANCIAL ASPECTS OF SPORT. (3)
Course focuses on principles, practices and theories associated with financial planning and management of enterprises engaged in the provision of sport related services and/or products. Topics include budget planning and preparation, preparing and analyzing financial statements, revenue sources, money management, preparation of business plans and feasibility studies. Prereq: ACC 201 and 202 and HPER, KHPR majors or consent of instructor.

KHP 682 CONTEMPORARY SPORT LEADERS. (1-3)
Using a team approach, students will engage in a variety of experiential learning projects with

sport management and innovation as contextual themes. Special emphasis will be placed on self-reflection within sport leadership as well as real-life application in case studies, semi-structured interviews, and participant observation. Prereq: Consent of instructor.

KHP 685 SUPERVISION OF SPORT AND FITNESS PERSONNEL. (3)
A study of the three major functions of the supervisor: planning, directing and controlling and their application to the area of organized sport. Prereq: Admission to the program or consent of the instructor.

KHP 686 SPORT MANAGER'S LABORATORY. (3)
A combination of lectures, laboratory experiences, and discussions which enable the student to demonstrate competence in application of various applied management skills learned in other KHP courses. Prereq: Admission to the program or consent of the instructor.

KHP 687 PRACTICUM IN SPORT MANAGEMENT. (3-9)
Extensive work experiences under the immediate supervision of qualified managers and sport management faculty coordinator. May be repeated to a maximum of nine credits. Prereq: HPER, KHPR majors (Sport Management) or consent of advisor.

KHP 695 INDEPENDENT STUDY IN KINESIOLOGY AND HEALTH PROMOTION. (1-3)
A specific topic in physical education related to the student's interests and program needs is selected for intensive study. Work to be supervised by a graduate faculty member proficient in the area under investigation. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

KHP 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

KHP 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

KHP 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

KHP 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

KHP 769 RESIDENCE CREDIT FOR THE DOCTORAL DEGREE. (0-12)
May be repeated indefinitely.

KHP 782 INDEPENDENT RESEARCH IN KINESIOLOGY AND HEALTH PROMOTION. (3)
Systematic investigation of a problem selected from the areas of kinesiology and health promotion. May be repeated to a maximum of nine credits.

SPORT MANAGEMENT

KHP 550 PRINCIPLES OF RESISTANCE TRAINING. (3)
This course will provide students with the knowledge to design strength and conditioning programs for athletes. In addition, students will learn how to teach strength training, flexibility, and plyometric exercises. This class prepares students for the National Strength and Conditioning Association's certifications. Prereq: KHP 120, ANA 209, PGY 206.

KHP 570 PLANNING AND MANAGEMENT OF FACILITIES FOR SPORT. (3)
An introduction to the planning and management of sports facilities. The course will focus on elements of planning, design and management while examining functions related to maintenance, security, operations budgeting and evaluation. The course will be presented primarily in lecture format utilizing guest speakers but will also include facility visitations as integral parts of the course. Prereq: Upper division KHP major or consent of instructor.

KHP 573 MANAGEMENT OF SPORT. (3)
An introduction to the five functions of management: planning, organizing, staffing, directing and controlling, and their application to organized sport settings. Prereq: Upper division PHED, KINE majors or HPER, KHPR majors or consent of instructor.

KHP 577 PRACTICUM IN KINESIOLOGY AND HEALTH PROMOTION. (3-6)
Extensive practical work experiences with qualified practitioners and KHP faculty. Repeatable up to 6 credit hours. Prereq: KINE, HEPR, KHPR majors only.

KHP 580 INTRODUCTION TO TEAM DEVELOPMENT. (3)
An introduction to the concept of teams to include an overview of group theory, dynamics and properties as they apply to the team development in sport and non-sport settings. Students may be required to participate in a low ropes/challenge course as part of course requirements. Prereq: Upper division PHED, KINE majors or HPER, KHPR majors or consent of instructor.

KHP 585 FOUNDATIONS OF SPORT MANAGEMENT. (3)
An overview of the broad field of sport management with an emphasis on (1) the historical, political, sociological and economic parameters that influence sport; and (2) the issues related to sport and business in society and their application to sport organizations. Prereq: Sport Management graduate student or permission of instructor.

HEALTH PROMOTION

KHP 190 FIRST AID AND EMERGENCY CARE. (2)
This course is a study of the human body with first aid subject matter, demonstrations, and skill training in the event of sudden illness or injury. The course is delivered in a hybrid manner with the lecture material being taught on-line and first aid skills being taught once a week in face-to-face laboratory sessions. American Red Cross Certifications for CPR, AED, and Responding to Emergencies First Aid are awarded to those who meet the criteria.

KHP 220 SEXUALITY EDUCATION. (2)
This course is designed to prepare educators to teach sexuality education in the schools. Emphasis is placed on justification of sexuality education, relevant content, appropriate teaching techniques, and precautions to take when teaching sexuality education.

KHP 222 DRUG EDUCATION. (2)
This course is designed to prepare educators to offer drug education in the schools. Emphasis is placed on the prevalence of drug use by youth; physiological, psychological, and social effects of various drugs; effective and ineffective approaches to drug abuse prevention; appropriate teaching strategies; and evaluating drug curricula.

KHP 230 HUMAN HEALTH AND WELLNESS. (3)
The study of health promotion, wellness, and disease prevention concepts as applied to individual, familial, and community health.

KHP 270 INTRODUCTION TO HEALTH EDUCATION AND HEALTH PROMOTION. (3)
This course is designed to provide students with an overview of the emerging professions of health education and health promotion. This course will focus on the history of health, future trends in health, increasing students' knowledge and skill development in health, and improving the students' ability to make application in the areas of health education and health promotion.

KHP 310 APPLIED HEALTH EDUCATION PRACTICE. (3)
This course is designed to enhance the skills of students who will be health education teachers. The emphasis will be on increasing awareness of how schools operate and identifying the characteristics of effective teaching. In addition, emphasis will be placed on developing skills among students so that they will be effective teachers.

KHP 330 PLANNING AND IMPLEMENTING SCHOOL HEALTH EDUCATION PROGRAMS. (3)
A study of the foundations of school health education and the various factors that are involved in the processes of conceptualizing, planning, drafting, and implementing effective health education programs. Prereq: KHP 220 and KHP 230 or equivalents or permission of instructor.

KHP 371 STUDENT TEACHING IN HEALTH EDUCATION. (3-12)
For students who expect to teach and who meet the requirements for a teaching certificate in Health Education. Includes objectives, courses of study, methods, materials, and testing in Health Education. The course includes observation, practice, safety education, audio-visual aids and planning conferences with supervising teacher. Six-24 lab hours per week. May be taken on a pass/fail basis only. Prereq: Admission to the Teacher Education Program in Health.

KHP 380 HEALTH EDUCATION IN THE ELEMENTARY SCHOOL. (2)
Presents health concepts to be taught in the elementary school. A brief discussion of the school health program and a review of instructional methods appropriate to health education in the elementary school are presented. Prereq: Admission to elementary or early childhood teacher education program or consent of instructor.

KHP 430 METHODS OF TEACHING HEALTH EDUCATION. (3)
A variety of contemporary teaching methods appropriate for use in grades K-12 will be presented. Students will be exposed to these methods through textbook and outside readings and through observation of the instructor, public school teachers, and peer teachers. Methods will be critically examined for effectiveness in the cognitive, affective, and behavioral areas. Prereq: KHP 220, 230, or equivalent or consent of instructor via permit; and admission to Teacher Education Program or consent of instructor via permit.

KHP 509 WORKSHOP IN HEALTH AND SAFETY. (1-3)
Designed as a variable topic course including aspects of school health or safety education with emphasis upon the needs of teachers. May be repeated to a maximum of six credits.

KHP 590 ADVANCED HEALTH CONCEPTS. (3)
An advanced, in-depth health education class examining current and major health issues. Specific topics will include the following and others as time permits: major non-communicable diseases, communicable diseases, intentional and unintentional injury, and stress. Prereq: KHP 230 or permission of instructor.

KHP 602 PROMOTING PHYSICAL ACTIVITY FOR YOUTH. (3)
The purpose of this course is to provide educators and other professionals with the knowledge and skills necessary to promote physical activity for youth. Current research and philosophies will be presented in a manner that provides a sound philosophical and factual basis for promoting physical activity for youth primarily through schools. Topics such as motivation, health benefits of regular physical activity, physical activity guidelines, and assessment of physical activity will be covered. Students will also be exposed to strategies for increasing physical activity both during the school day and outside of school.

KHP 609 SEMINAR IN HEALTH AND SAFETY EDUCATION. (3)
Overview of the problems confronting persons in these fields and selected research findings applicable to these areas. Emphasis is given to gaining a better understanding of research data

and to a greater utilization of research findings in both school and community health and safety endeavors. May be repeated to a maximum of nine credits. Prereq: Consent of instructor.

KHP 673 HEALTH PROMOTION AND BEHAVIOR CHANGE. (3)
This course focuses on health promotion and behavior change strategies: individual, interpersonal, organizational, community, and public policy will be considered as potential factors that can inhibit or promote behavior change.

KHP 674 FOUNDATIONS OF HEALTH PROMOTION. (3)
This course is designed to provide students with the foundations of health promotion and education including history, philosophy, and ethics in the field. Prereq: Health-related background and/or course work. Consent of the instructor.

KHP 675 HEALTH ASSESSMENTS. (3)
This course presents concepts and skills related to assessing health status at the individual and community level in a wellness environment. Emphasis is placed on, but not limited to, physical and psychological components of health. Prereq: Completion of/or in concurrent enrollment in KHP 674 or equivalent. Consent of the instructor.

KHP 677 PLANNING HEALTH PROMOTION PROGRAMS. (3)
This course addresses principles of planning, designing, implementing, and evaluating health promotion and education programs. Prereq: KHP 673 or instructor's permission.

KHP 678 SEXUAL HEALTH PROMOTION SEMINAR. (3)
This course is an intensive seminar on contemporary sexual health issues. Research, theoretical, and substantive issues relevant to studying sexual health will be covered. Students will critically evaluate sexual health education programs in school and community settings, sexuality research, develop depth and breadth of understanding key issues in sexual health promotion, and learn the various forms of inquiry used in the study of human sexuality.

#KHP 683 LEADERSHIP, THEORY, AND PRACTICE IN SPORT AND FITNESS ORGANIZATIONS. (3)
This course is designed to provide students with an overview of the leadership/management concepts, skills, and practices utilized in an ever-changing sport and fitness industry. Prereq: Admission to the department or consent from the instructor.

#KHP 688 EVENT MANAGEMENT IN SPORT. (3)
The purpose of the course is to provide the student with an understanding of event management issues and problems related to the supervision, management, and business operations of various events. Prereq: Admission to the program or consent from the instructor.

EXERCISE SCIENCE

KHP 350 STRENGTH AND CONDITIONING FOR SPORTS. (3)
The course addresses the fundamental principles of Exercise Science specifically as they relate to the conditioning of athletes. The course will also review concepts essential for successful completion of the National Strength and Conditioning Association's CSCS exam. Prereq: ANA 209, PGY 206, KHP 120.

KHP 450 INTRODUCTION TO EXERCISE TESTING AND PRESCRIPTION. (3)
The course addresses fundamental principles of Exercise Science specifically as they relate to the testing and exercise prescription of apparently healthy individuals and individuals with controlled disease. The class will review concepts essential for successful completion of the American College of Sports Medicine Certified Personal Trainer and Health Fitness Instructor exams. Prereq: ANA 209, PGY 206.

KHP 600 EXERCISE STRESS TESTING AND PRESCRIPTION. (3)
Knowledge required for the administration of an exercise stress test with implications for writing an exercise prescription. Content covers healthy individuals as well as those with various health problems such as heart disease, hypertension, mental illness and diabetes. Course implements the Guidelines of the American College of Sportsmedicine in preparing a specialist in exercise stress testing. Lecture, two hours; laboratory, two hours per week. Prereq: PGY 206, KHP 420G, consent of instructor.

KHP 610 MOTOR CONTROL I: MUSCLES, STRENGTH AND MOVEMENT. (3)
This course will teach the relationship between muscle forces and movement control, understanding of neuromuscular and musculoskeletal interactions. Prereq: Anatomy, Physiology

KHP 615 BIOMECHANICS OF FUNDAMENTAL MOVEMENTS. (3)
A research oriented, qualitative and quantitative investigation into the fundamental human movement patterns of ambulation, jumping, throwing, and striking. Lecture, two hours; laboratory, two hours. Prereq: An introductory course in physics, KHP 515, and consent of instructor.

KHP 616 SPORTS BIOMECHANICS. (3)
Application of fundamental concepts in biomechanics to analysis of sports skills. Class will examine how motions are created and controlled to enable specific sport performances. Mechanics related to injury will also be investigated. Prereq: Undergraduate course in biomechanics or consent of instructor.

KHP 617 GAIT ANALYSIS. (3)
This course is a graduate level experience into the analysis of human gait. Walking, running, and pathological gait will be studied. Prereq: KHP 615 or similar course.

KHP 618 WORK HARDENING AND ERGONOMICS. (3)
A study of the basic areas of ergonomics including: anthropometric principles, repetitive motion disorders, low back pain, design of manual handling tasks, and job evaluation tools. The class will also discuss important government documents such as the NOISH Lifting equation and the Americans with Disabilities Act. Prereq: Consent of instructor.

KHP 620 ADVANCED EXERCISE PHYSIOLOGY. (3)
Aimed at development of an in-depth understanding of the acute and chronic adaptations of the human body to the stress of exercise. Lecture, two hours; laboratory, two hours. Prereq: KHP 420G or consent of instructor.

KHP 640 LAB METHODS IN EXERCISE SCIENCE. (3)
Introduces students to measurement techniques used in exercise science. Emphasis is placed on calibration of instruments and on concepts of accuracy, validity and reliability. Prereq: Consent of instructor.

KHP 650 MOTOR CONTROL II: REFLEXES, COGNITION AND MOVEMENT. (3)
This second course in the motor control sequence introduces recent theories on how cord and brain function to aid in movement control. Prereq: Anatomy & Physiology, Motor Control I, or consent of instructor.

KHP 715 THREE-DIMENSIONAL BIOMECHANICAL ANALYSIS OF HUMAN MOVEMENT. (3)
This course will provide an in-depth study of the basic methods of three-dimensional biomechanical analysis of human movement based on the inverse dynamics approach. Prereq: KHP 615 or consent of instructor.

KHP 720 SPORTS MEDICINE. (3)
A study of the basic areas covered in sports medicine with readings and discussions of current international trends in the research and practice in this field. Prereq: Twelve semester hours; credit in the field of biological sciences; consent of instructor. (Same as AT 720.)

KHP 785 GRADUATE SEMINAR IN EXERCISE SCIENCE. (0-1)
Faculty, students and invited speakers will present and discuss current research in Exercise Science. Students enrolled for credit will be required to present a seminar on their own research. Students presenting a seminar will be provided feedback by faculty and seminar participants. May be repeated to a maximum of 2 times for credit, unlimited times for zero credit. Prereq: Graduate standing in Ph.D. in Exercise Science program or consent of instructor.

LA Landscape Architecture

LA 105 INTRODUCTION TO LANDSCAPE ARCHITECTURE. (3)
A survey of landscape architecture examining how the profession responds to societal needs in providing services to various public and private clients. Students will become aware of the potential for landscape architecture to transform the environments in which humans live, work, and play. Contemporary landscape architectural issues, practitioners and work are presented. Lecture, three hours per week.

LA 111 LIVING ON THE RIGHT SIDE OF THE BRAIN. (3)
Students in this course will gain an understanding and awareness of creative strategies that may be used in future problem solving. These strategies will help encourage creative thinking that will lead to more innovative and novel solutions. Students will practice a metacognitive approach by reflecting on their own thinking in an effort to enhance self-regulation and ultimately realize creative potential.

LA 121 LANDSCAPE ARCHITECTURE DESIGN STUDIO I. (6)
Introduction to the fundamental elements and principles of design. Emphasis is on the application of design thinking and creative process to a variety of design problems. Observation, communication, and critique are stressed as components of process. Lecture, three hours; studio, nine hours per week. Field trips may be required. Prereq: Student must be accepted in the Landscape Architecture Program and enrolled in LA 161 (or previous completion of equivalent graphics course).

LA 161 GRAPHICS I. (3)
A study of landscape architecture graphics including freehand sketching, plan, section, and perspective drawing. Rendering techniques in both black and white and color will be explored with a variety of media including pencils and markers. Lecture, two hours; studio, two hours per week. Prereq: Non-LA majors must have permission of instructor.

LA 162 DIGITAL REPRESENTATION I. (3)
This course provides students with a basic knowledge of computer-aided methodologies applied to site design and design articulation. It focuses on utilizing computer-aided drafting/design as a tool for producing the sequence of drawing commonly used in professional design offices. The interface of computer-aided drafting/design software with various other digital applications to produce representations of site information is also emphasized. Lecture, 2 hours, laboratory, 2 hours per week. Prereq: LA 161.

LA 205 HISTORY OF LANDSCAPE ARCHITECTURE. (3)
A study of landscape design through past civilizations and how these have influenced our present approach to dealing with our landscape.

LA 222 LANDSCAPE ARCHITECTURE DESIGN STUDIO II. (6)
LA 222 continues the core emphasis on process and design vocabulary from LA 121. The course is focused on the connections between landscape architectural design, place, and regional landscapes, along with the continued development of graphic, written, and oral communication skills. Lecture, three hours; studio, nine hours per week. Field trips may be required. Prereq: LA 121 with a minimum grade of "C" and enrollment in LA 162 (or previous completion of equivalent CAD course).

LA 223 LANDSCAPE ARCHITECTURE DESIGN STUDIO III. (6)
Design studio emphasizing design process applied to site programming, landscape analysis, and site planning. Use of actual sites to emphasize relationships between landscape analysis processes, landscape topology, and landscape ecology. Low impact site development practices are stressed. Field trips may be required. Lecture, three hours; studio, nine hours per week. Prereq: LA 121 with a minimum grade of "C", LA 105, LA 162 or equivalent CAD course; and PLS 366 or concurrent enrollment in PLS 366.

LA 262 GRAPHICS II. (3)
Study and application of graphic communication methods with emphasis on integration of analog and digital multiple media and technologies. Lecture, two hours; laboratory, two hours per week. Prereq: LA 162.

LA 271 DESIGN IMPLEMENTATION I. (4)
This course develops competency in solving problems relating to site grading, drainage systems, road alignment, and other aspects of site engineering. Field trips may be required. Lecture, two hours; studio, six hours per week. Prereq: LA 162 or permission of the instructor.

LA 305 DESIGN THEORIES IN LANDSCAPE ARCHITECTURE. (3)
This course will address a variety of viewpoints in design thinking as related to landscape architecture. Theoretical and philosophical foundations for environmental interventions will be explored and the process of design criticism as a form of inquiry will be emphasized. Prereq: LA 205 or permission of instructor.

LA 307 CULTURAL LANDSCAPE PRESERVATION. (3)
An introduction to cultural landscape preservation activities as design strategies. Exploration of regional landscape preservation case studies and applications of preservation methods to landscape preservation issues with an emphasis on research and process. Lecture, two hours; studio, two hours per week.

LA 308 REGIONAL LAND USE PLANNING SYSTEMS. (3)
An introduction to regional land use planning and its relationship to environmental, social, and economic systems. Students will develop an understanding of how land use decisions have impacted the development of the United States and how they are used to determine future development directions.

LA 324 LANDSCAPE ARCHITECTURE DESIGN STUDIO IV. (6)
Studio design course emphasizing site selection and programmatic analysis in landscape master planning for complex site programs. Field trips may be required. Lecture, three hours; studio, nine hours per week. Prereq: LA 223 with a minimum grade of "C", PLS 366, and concurrent enrollment in PLS 320.

LA 345 DESIGN WITH PLANTS. (3)
The application of design principles to the functional and aesthetic use of plant materials in the landscape. Lecture, two hours; studio two hours per week. Prereq: LA 161 and PLS 320, or permission of instructor.

LA 355 INTRODUCTORY GEOSPATIAL APPLICATIONS FOR LAND ANALYSIS. (3)
An introduction to the concepts and methods of compilation, management, analysis, and display of spatially-referenced and tabular data utilizing vector and raster data models. Lecture will be complemented with computer based laboratory exercises. Lecture, two hours; laboratory, four hours per week. Prereq: Third year or above LA major, junior/senior NRES major, or permission of instructor. (Same as NRE 355.)

LA 372 DESIGN IMPLEMENTATION II. (4)
A continuation of landscape architecture design implementation; construction materials, including wood, paving, and walls, along with their applications: preparation of working drawings and materials specifications. Field trips may be required. Lecture, two hours; studio, six hours per week. Prereq: LA 271 with a minimum grade of "C".

LA 373 DESIGN IMPLEMENTATION III. (6)
Advanced instruction and practicum in the development of design implementation drawings. Students will produce a comprehensive set of working drawings that apply the principles and techniques commonly used in the landscape architecture profession. Field trips may be required. Lecture, three hours; studio, nine hours per week. Prereq: LA 372 with a minimum grade of "C" and PLS 320.

LA 390 INTERNATIONAL STUDY. (3)
International study program led by faculty in Landscape Architecture. Program locations vary from year to year. Other international study experiences may be accepted as equivalent for graduation requirements with permission of the Department Chair. Three credits. This course may be repeated with additional credits applied as an elective.

LA 395 INDEPENDENT STUDY IN LANDSCAPE ARCHITECTURE. (1-6)
Topical studies in landscape architecture allowing for individual research or design experience coordinated with academic pursuits and faculty mentorship and oversight. May be repeated with additional credits applied as an elective. Prereq: Permission of faculty.

LA 397 SPECIAL TOPICS IN LANDSCAPE ARCHITECTURE: (Subtitle required). (3)
Topical seminars on current issues of significance to landscape architecture. May be repeated to a maximum of six credits under different subtitles.

LA 399 INTERNSHIP IN LANDSCAPE ARCHITECTURE. (3)
This is a self-directed course that provides academic credit for a pre-approved internship relating to the practice of landscape architecture. Such an internship involved working for a minimum of eight weeks (320 hours) in a private or public landscape architecture office or in another professional setting associated with landscape architecture. Other experiences could include conservation work, research projects, or community engagement work. A practice portfolio, daily journal or professional engagement, and a summative presentation are required. This course may be repeated with additional credits applied as an elective. Prereq: LA 223 and completion of a Learning Contract.

LA 425 LANDSCAPE ARCHITECTURE DESIGN STUDIO V. (6)
Studio design course with emphasis on urban design and development, and associated public spaces. Field trips may be required. Lecture, three hours; studio nine hours per week. Prereq: LA 324 with a minimum grade of "C".

LA 426 LANDSCAPE ARCHITECTURE DESIGN STUDIO VI. (6)
Application of landscape architecture design process to address issues at a variety of scales with emphases on form generation, community engagement, and communication. Field trips may be required. Lecture, three hours; studio, nine hours per week. Prereq: LA 425 with a minimum grade of "C".

LA 457 CONTEMPORARY REGIONAL LAND USE PLANNING APPLICATIONS. (3)
This course builds on the systems learned in LA 308 and applies them, through GIS technology, to real world situations. In this course we will deal with rural development, decision making, and comprehensive land use within the context of the physical environment. Lecture, two hours; studio, three hours per week. Prereq: LA 308 or LA 355, or permission of instructor.

LA 462 DIGITAL REPRESENTATION II. (3)
This course focuses on the representation of essential elements of the landscape (structures, landform, water, vegetation, and atmosphere) in three dimensions utilizing a variety of software packages. Students learn about 3D modeling tools that will prepare them later in the course to experiment with a variety of visualization methods. Students will test the appropriateness of visualization methods in search of a balance between realistic representations and software limitations. Lecture, 2 hours; studio, 2 hours per week. Prereq: LA 262 or consent of the instructor.

LA 490 CAPSTONE AND PROFESSIONAL PRACTICE SEMINAR. (2)
A capstone course in which students will formally document their competency relative to knowledge, skills, and abilities developed in the landscape architecture major. This course will help students prepare to become practicing landscape architects and/or pursue additional formal education. Seminar, three hours per week; field trip(s) required. Prereq: LA 425.

LA 556 CONTEMPORARY GEOSPATIAL APPLICATIONS FOR LAND ANALYSIS. (3)
Advance concepts in data base analysis, model development, and ancillary functions in geographic information systems. Lecture, two hours; laboratory, four hours per week. Prereq: LA 355/NRE 355 and permission of instructor. (Same as NRE 556.)

LAS Latin American Studies

LAS 201 INTRODUCTION TO LATIN AMERICA. (3)
An interdisciplinary approach to the people, culture and development of the Latin American republics. Attention will be concentrated on significant aspects of the indigenous peoples, geography, economic processes, gender roles, social structures and politics of Latin America, with special attention paid to value structures and value conflicts. Musical, literary and artistic expression in Latin America will also be introduced. Team taught, with a course coordinator from the LAS faculty.

LAS 361 LATIN AMERICAN LITERATURE IN TRANSLATION (Subtitle required). (3)
This course examines particular authors, periods, regions, cultural events, or movements from Latin America. Special attention will be paid to links between literature and culture, politics and society through reading, discussion, and writing assignments to be conducted in English. Course may be repeated under different titles to a maximum of six credits. (Same as SPA 361.)

LAS 395 INDEPENDENT WORK IN LATIN AMERICAN STUDIES. (3)
Directed study for students wishing to do specialized work on a topic related to the Latin American Studies area. May be repeated to a maximum of six credits. Prereq: LAS 201 and six hours course work from approved LAS courses.

LAS 401 DIRECTED RESEARCH IN LATIN AMERICAN STUDIES. (3)
Research on an interdisciplinary topic approved by the LAS Advisory Committee in the area of Latin American Studies. Prereq: Major in Latin American Studies; senior standing.

LAS 601 INTERDISCIPLINARY SEMINAR IN LATIN AMERICAN, CARIBBEAN, AND LATINO STUDIES. (3)
This course introduces graduate students to Latin American Studies. It is a topical seminar,

which engages a series of fundamental issues or problems of importance to scholars of Latin America. Coordinated by a LACLAS affiliated faculty member, it addresses these issues of current scholarly interest from multiple disciplinary perspectives and examines the philosophy and methods of interdisciplinary research. The Interdisciplinary Seminar features guest appearances in the classroom by LACLAS affiliated faculty. Prereq: Graduate status or approval by professor.

LAW Law

LAW 801 CONTRACTS/SALES I. (3)
Formation of contracts; offer, acceptance, consideration. Statute of Frauds, parol evidence rule. Sale of goods under Article 2 of the Uniform Commercial Code.

LAW 802 CONTRACTS/SALES II. (3)
Continuation of Contracts/Sales I - Statute of Frauds, performance, express and implied conditions, repudiation, impossibility.

LAW 804 LEGAL RESEARCH AND WRITING SKILLS. (4)
Instruction in the use of research materials, in legal writing, in the fundamentals of legal analysis and in the solution of selected legal problems.

LAW 805 TORTS. (4)
Intentional torts and defenses, negligence, causation, duties of occupants of land and manufacturers and vendors of chattels, contributory negligence, strict liability, deceit, defamation, malicious prosecution, interference with advantageous relations.

LAW 807 PROPERTY. (4)
Basic course in property; possession, gifts, bona fide purchasers of personalty. Estates, uses, easements, and rights incident to ownership.

LAW 809 FEDERAL CRIMINAL LAW. (2-3)
This course will cover federal white collar criminal issues, including RICO, mail and wire fraud, political corruption, bank secrecy laws, and false statement laws.

LAW 810 CRIMINAL LAW. (3)
Jurisdiction; the criminal act, complete and incomplete; criminal intent, actual and constructive; duress and mistake of fact, of law; justification; parties in crime; crimes against the person and crimes against property.

LAW 811 CRIMINAL PROCEDURE I. (3)
This course will cover search and seizure, the privilege against self-incrimination, confessions and identification procedures—in general, the constitutional cases arising out of the conflict between police practices and the Bill of Rights.

LAW 812 RACE, RACISM AND THE CRIMINAL LAW. (3)
This course examines, through an interdisciplinary approach, the effects race has had and continues to have on the administration of criminal justice in the United States. The course begins by exploring the concept of race from different perspectives: biological; anthropological; sociological; psychological; and legal. The course then examines how these legal constructs shaped the role race played in American culture. The course then delves into how race and the criminal justice system have interacted from historical and contemporary perspectives. Accomplishing this requires probing critical issues encountered at key stages in the process governing the administration of criminal justice. These issues include: the existence of offenses based on racial status (crimes such as rape, capital murder, drug offenses, racial profiling (driving and flying while black)); victimology; pre-trial practices (bail); trial practices (misconduct by prosecutors and defense attorneys, urban rage defense, evidentiary issues, such as cross-racial identification and jury deliberations); and post-conviction (incarceration rates, loss of franchise) consequences.

LAW 813 CAPITAL PUNISHMENT. (3)
This course provides an examination of history, purpose and constitutionality of capital punishment. The course will also discuss death penalty eligibility/offenses and will provide an international perspective.

LAW 814 CRIMINAL TRIAL PROCESS. (3)
This course will cover in-depth the criminal trial process from the initial court appearance: grand jury proceedings, pretrial motions, discovery, trial, pleas, sentencing, appeals, double jeopardy and habeas corpus. Students who have taken LAW 813, Criminal Procedure II, may not take this course.

LAW 815 CIVIL PROCEDURE I. (3)
Introduction to the civil action; personal and in rem jurisdiction; service or process and notice; subject matter jurisdiction; venue; choice of law; pleading.

LAW 817 CIVIL PROCEDURE II. (2-3)
Joinder of claims and parties; discovery; summary judgment; right to jury trial; trials and posttrial motions; res judicata and collateral estoppel.

LAW 818 REMEDIES. (3)
Nature of damages; nature of specific relief; personal interests; contractual interests; property interests; specific relief and the government.

LAW 819 THE FEDERAL COURTS AND THE FEDERAL SYSTEM. (3)
The nature of the federal judicial function and its development, distribution of power among federal and state courts, Supreme Court review of state court decisions, the law applied in federal district courts, federal question and diversity jurisdiction, federal habeas corpus, removal jurisdiction and procedure.

LAW 820 CONSTITUTIONAL LAW I. (3)
Judicial interpretation of the Constitution; the federal system; powers of the national government; limitations on the exercise of state powers.

LAW 821 LITIGATION SKILLS. (3)
The skills of litigation, including trial advocacy, interviewing and counseling, negotiation and pleading. Lecture, one hour; laboratory, five hours. Prereq or concur: LAW 890.

LAW 822 CONSTITUTIONAL LAW II. (3)
Protection of individuals and organizations by the Bill of Rights, the fourteenth amendment, and other provisions of the Constitution.

LAW 823 CONFLICT OF LAWS. (3)
Nature of the subject, penal laws, procedure, judgments, domicile, capacity, form, particular subjects, litigation, family law, inheritance, foreign administrators.

LAW 824 ALTERNATE DISPUTE RESOLUTION. (3)
Methods of dispute resolution other than trial; statutory and judicial regulation; presenting a claim in different formats of ADR.

LAW 825 THE NEGOTIATING PROCESS. (2)
Analysis of the elements of bargaining power; exercises in the negotiating process in various contexts; basic techniques of negotiation; ethical norms of the lawyer-investigator. Lecture, one hour; laboratory, two hours per week.

LAW 826 LEGAL DRAFTING. (2-3)
This course systematically explores drafting process and technique and provides drafting practice. Students complete drafting-related exercises which become the focus of class discussions. Students also complete major drafting projects. These may consist of a will, a contract, a piece of legislation or other common lawyer work product. Major drafting projects are the focus of class discussions and individual or small group meetings with the instructor.

LAW 827 FEDERAL APPELLATE ADVOCACY AND PROCEDURE. (2-3)
This course provides an introduction to appellate practice and procedure in federal court. This course is designed to provide students the basic substantive knowledge and skills needed to advocate effectively in a federal court of appeals. The course begins with a discussion of the function of the court of appeals and the function and the determination of whether to appeal, including the effect of an appeal. The course discusses initiating and perfecting an appeal from state and federal courts, relief pending appeal, and the record on appeal. The course provides an intensive training in appellate skills and includes written and oral assignments. The writing assignments include the preparation of a notice of appeal, a brief, and various motions, including a motion to dismiss for lack of jurisdiction and a motion for panel or en banc rehearing. The course also provides a comprehensive study of the Federal Rules of Appellate Procedure, including the standards and procedures for obtaining a writ of certiorari from the Supreme Court, and the local rules of the Court of Appeals for the Sixth Circuit, including electronic filing. The course includes instruction on oral advocacy, mock arguments on the briefs, and the options and procedures for obtaining further review of an adverse appellate decision. In addition, federal practitioners and federal appellate judges will be invited to discuss appellate advocacy. The course satisfies the College of Law's Professional Skills requirement.

LAW 828 STATUTORY CIVIL RIGHTS. (3)
This is a survey course designed to cover the entire field of federal antidiscrimination law. Topics to be covered may include employment discrimination (primarily focusing on race, sex, age, and disability issues and possibly affirmative action); housing discrimination (primarily focusing on race, disability, and family issues); other disability discrimination issues under the Americans with Disabilities Act; discrimination in public accommodations and government programs; voting rights litigation issues involving proof (e.g., how cases based on direct evidence of intent, circumstantial evidence of intent, and disparate impact differ from one another), special defenses, and remedies; and a brief survey of the more important questions that arise in Section 1983 litigation. Prereq: LAW 822.

#LAW 829 STATE CONSTITUTIONAL LAW. (3)
This course provides a comprehensive overview of the law of state constitutions. Course topics include the framing of state constitutions; state constitutional rights; state governmental powers; the structures of state government; and state constitutional change, including theories of popular constitutionalism and direct democracy. Each of these topics will be addressed in two ways: (1) through comparison of the treatment of the topics in different state constitutions and the federal Constitution; and (2) through focused experimentation of the topics as they are presented in the Kentucky Constitution and interpreted in Kentucky case law. Prereq: LAW 822 – Constitutional Law II.

LAW 830 HEALTH LAW I. (3)
This course examines the regulation of health care access, cost and quality. It will cover public and private market rules controlling access to health care, cost containment rules, and regulations regarding the quality of health care.

LAW 831 BIOETHICAL ISSUES IN THE LAW. (2-3)
This course will cover topics such as legal reasoning in bioethical situations, determination of death, issues in human reproduction, organ transplantation, genetic testing, clinical research

with human subjects, and end-of-life decision-making. This second survey course in the health law area will provide students who take this course and Healthcare Organizations and Finance (LAW 830) with a broad understanding of this increasingly important area of the law. Neither class is a prerequisite for the other class. They may be taken concurrently or in any order chosen by the student. Students must take either this course or LAW 830 in order to enroll in the seminar entitled Healthcare Law and Policy Seminar.

LAW 832 MEDICAL LIABILITY. (3)
This course examines the liability issues that arise from the provision of medical care. The course studies the physician/patient relationship, when it begins and how it can be terminated. It examines the extent of the duties owed by providers to patients, including requirements relating to confidentiality, informed consent and records disclosure. The course also provides a detailed treatment of the common law of provider liability, focusing on medical malpractice. The course also examines the question of legislative reform of medical liability.

#LAW 833 CIVIL PRETRIAL PRACTICE. (3)
Over 95% of the cases filed in courts today settle or are disposed of by motion. To be prepared properly for the practice of law, students aspiring to be civil litigators will need instruction in pretrial matters. This course is designed to provide the student with a working knowledge of both pretrial advocacy theory and fundamental pretrial skills involved in civil litigation. Students will receive instruction on all aspects of civil pretrial practice, primarily in federal court, including: case evaluation, interviewing, fact investigation and evaluation, client counseling, pleadings, discovery, negotiations, mediation, and motions practice. The course will typically be based upon mock federal civil case files for which students will be divided into plaintiff and defendant counsel groups. In addition to discussion of pretrial methods, rules and procedures, the students will actually prepare the mock case by evaluating the case, interviewing witnesses, fact finding, and participating in both written and oral discovery as well as motion practice and pretrial conferences and/or mediation. By actively practicing the technique and theory learned, the students will be involved in problem solving, legal analysis, strategy, management of cases and the resolution of ethical problems presented. Students will develop written and oral skills while applying substantive law as required by the chosen case file. Enrollment is limited to 24 students. Prereq: Evidence (LAW 890).

LAW 835 PROFESSIONAL RESPONSIBILITY. (2-3)
An examination of the varying roles played by lawyers in society and the conflicting pressures created to each role. Special attention is paid to the Code of Professional Responsibility as a guide and control in the lawyer-client relationship. Also considered at length is the role of law in society and the place of the legal profession in society. Guest speakers are used to bring into focus employment options for lawyers and the viewpoints of varying types of practicing lawyers to the pervasive problems of the legal profession.

LAW 836 LAW AND ECONOMICS. (2)
This course applies neoclassic economics concepts to the law. It offers economic explanations of legal rules (for example, explaining how legal rules tend to move society toward or away from economic efficiency). The course also explores normative issues, such as whether the pursuit of economic efficiency is morally attractive. The course looks at the following areas of the law: property, contracts, torts, family law, criminal law, employment law, corporate law, and securities law.

LAW 838 LAW AND RELIGION. (3)
The relationship of law to religion with emphasis on the establishment and free exercise clauses of the First Amendment. Prereq: LAW 822.

***LAW 839 WOMEN AND THE LAW. (2-3)**
Constitutional aspects of sex discrimination, employment discrimination. A criminal law unit covering women as victims and as offenders.

#LAW 840 SUPREME COURT DECISION MAKING. (2-3)
This course will focus on the mechanics of judicial decision making and opinion writing. Each week, students will read the lower court opinion and merits and selected amicus briefs of selected cases currently pending before the U.S. Supreme Court. The class will focus on these cases and deliberate the merits of each side's arguments, much like the Supreme Court does during its conferences. We will also explore theories of judicial decision making, interpretation and policy. At the end of each class, we will "vote" as to how we think the decision should come out. Students will be expected to write majority and dissenting opinions in one of the cases we discuss, which must include substantial original thought and research. The grade will be based primarily on these judicial opinions. Prereq: LAW 822 – Constitutional Law II.

LAW 842 SPORTS LAW. (3)
Surveys regulatory and contractual aspects of this multi-million dollar industry. Includes issues related to intercollegiate athletics; professional recruitment and contracting; labor and anti-trust issues; liability issues and other related topics.

LAW 845 JURISPRUDENCE. (3)
This course presents a survey of the various schools of legal philosophical thought, with an emphasis on exploring how these intellectual "value systems" necessarily inform judges' decisions, and how they might therefore influence one's choice of legal argument in a given case. The course will include readings from formalism, legal positivism, process theory, legal realism, law and economics, critical legal studies, feminist legal theory, and critical race theory, among others.

LAW 850 LEGAL ACCOUNTING. (2-3)
This course is designed to introduce students to general bookkeeping and accounting principles. Class discussion will concentrate on the relevance of accounting judgments to legal issues rather than focusing on technical problems. Students will examine income statements, balance sheets, and other accounting documents. Emphasis will be placed on an understanding of accepted accounting principles (GAAP) and the abuses of GAAP. Students with undergraduate financial accounting can take this course only with permission of the professor.

LAW 851 BUSINESS ASSOCIATIONS. (4)
Legal introduction to business organization; emphasis on nature and structure under modern American business corporation law. Areas: partnership planning (formation, property rights, dissolution and liquidation rights); steps for corporate organizing (including legal consequences of defective incorporation); nature of corporate entity concept; corporate control and management (including problems of close corporation); fiduciary duties of directors and controlling shareholders under state law; nature and characteristics of shareholders' derivative suit. Prereq: Completion of first year of law study generally is expected.

LAW 855 CORPORATION FINANCE LAW. (3)
A study of selected problems in advanced corporation law, including corporate promotion and capitalization (with special emphasis on senior securities and their characteristics); corporate distributions (dividends); recapitalizations (elimination of accrued dividends); public regulation of security issues (Securities Act of 1933 and state Blue Sky laws).

LAW 856 BUSINESS PLANNING. (3)
This course involves the planning of business transactions and combines the applicable corporate, tax, and securities considerations of such transactions in a single course. Emphasis will be on some of the more important types of corporate transactions, such as the organization of a private corporation and a public corporation, conflicts between stockholders of a close corporation, and corporate combinations. Course is limited to third-year students who have had a background in corporations and income tax. Knowledge of securities regulation and corporate tax is desired.

LAW 858 NONPROFIT ORGANIZATIONS. (2-3)
This course introduces students to the laws and policies governing the formation operation and dissolution or conversion of nonprofit organizations, including charities, foundations, associations, and clubs. The class will cover the creation and governance of nonprofit organizations as well as federal tax law relating to charities and other nonprofit organizations. The class will include both lectures and practical exercises. Prereq: LAW 851 (Business Associations).

LAW 860 TAXATION I. (3-4)
Problems in federal and state income taxation.

***LAW 861 PARTNERSHIP TAX. (2)**
Federal income taxation of transactions between partners and their partnership and shareholders and their corporation; organization of partnerships and corporations; taxation of distributions of operating profits, liquidations, and sales of interests. Prereq: Taxation I (LAW 860).

***LAW 863 TAXATION OF BUSINESS ENTERPRISES II. (3)**
Advanced problems of federal income taxation of corporations and partnerships; mergers and acquisitions; reorganizations, recapitalizations; affiliated corporations; consolidated returns. Prereq: Taxation I (LAW 860).

LAW 864 REAL ESTATE TRANSACTIONS. (3)
This course covers numerous issues related to real estate conveyancing, including contractual issues, title assurance, and financing the transactions. Prereq: Property.

LAW 865 ESTATE AND GIFT TAX. (2-3)
The primary focus of this course is the federal taxation of wealth transfers, whether those transfer occur during lifetime or after death. Also examined will be the goal of balancing the minimization of clients' transfer tax obligations with the other non-tax goals clients might have, as well as the policy goals behind imposing a wealth transfer tax, and the statutory and regulatory strategies used by the government to respond to impermissible avoidance techniques.

LAW 866 ADVANCED ESTATE PLANNING. (2-3)
This is a two-hour, problem-oriented, skills course. Problems will be distributed to the class involving detailed factual situations, e.g., owners of a small, closely held business; a middle income family with three minor children and a fiancé seeking a prenuptial agreement. Students will be expected to draft appropriate wills, trusts, and other legal documents for their clients. Role playing will be used to better simulate realistic situations. Students will learn some of the more sophisticated estate planning techniques, e.g., revocable trust agreements; trusts utilizing unified credit exemptions of both spouses; charitable remainder trusts; prenuptial agreements; post-nuptial agreements; planning for qualified pension plans; etc. Emphasis will be placed on teaching interviewing skills, communicating with clients, ethical considerations, financial planning and drafting skills. Enrollment is limited to a maximum of 16 students. Prereq: Estate and Gift Taxation and Planning (LAW 865) and Trusts and Estates (LAW 876).

#LAW 871 ENERGY AND MINERAL LAW AND POLICY. (3)
Energy and Mineral Law and Policy will provide an introduction to energy and mineral law, regulation and policy in the United States. It will cover the regulatory environment, state and federal, for natural gas, electricity, coal, and nuclear power. It will explore the generation, distribution and regulation of electricity, coal, oil and gas, and renewable energy sources. Regulation of utilities will also be covered.

LAW 872 LAND USE PLANNING. (2-3)
A comprehensive survey of the basic legal devices to control the use of land, theories of land use planning, nuisance, private agreements, zoning and zoning procedure, the role of the federal government in land planning, exercise of eminent domain, and selected Kentucky problems, such as rural zoning and proposed New Towns for Appalachia.

LAW 874 BANKING LAW. (2-3)
History of banking; overview of agencies which regulate bank activities; formation and regulation of bank holding companies; bank mergers and acquisitions; branch banking; antitrust considerations; trust operations conducted by banks; impact of securities legislation on bank loans and bank financing; the FDIC and its impact on a failing bank.

LAW 875 SECURITIES REGULATION. (3)
The law governing the issuance, distribution and trading of securities under the Securities Act of 1933 and the Securities Exchange Act of 1934; the obligation to register securities; public offerings by issuers; secondary distributions; and registration requirements growing out of mergers, definition of a "security" and the exemptions from registration requirements; insider trading prohibitions; antifraud provisions in tender offers, self tenders, proxy solicitations and the purchase and sale of securities.

LAW 876 TRUSTS AND ESTATES. (4)
An elective course for second-year law students. Examination of rules governing intestate distribution of property; formal requirements governing execution, alteration and revocation of wills; requisite elements of express trusts and requirements for their creation; special rules relating to charitable trusts and spendthrift trusts; rules concerning construction of wills and trusts and general rules governing administration of decedents' estates and trusts.

†LAW 877 FUTURE INTERESTS.

†LAW 880 BASIC UNIFORM COMMERCIAL CODE.

LAW 881 PAYMENT SYSTEMS. (2-3)
This course focuses on the basics of payment transactions using check and other negotiable instruments. In the longer version of this course, coverage will also include the regulatory structure governing modern electronic payment systems. Prereq: Basic Uniform Commercial Code.

LAW 882 SECURED TRANSACTIONS. (3)
This course focuses on secured credit transactions and will include an examination of contemporary bank lending practices.

LAW 885 COMMERCIAL DEBTOR-CREDITOR RELATIONS. (2-3)
Minimizing risk of loss through bankruptcy by business creditors and debtors; Uniform Commercial Code versus the federal Bankruptcy Act; nonbankruptcy creditors' and debtors' remedies in commercial context, including assignments and arrangements under state law; commercial bankruptcy; rehabilitation under Bankruptcy Act.

LAW 887 INSURANCE. (2-3)
Nature of contract, insurable interest, making the contract, concealment, representations, warranties, implied conditions of forfeiture, waiver and estoppel, rights under the contract, and construction of the policy.

†LAW 888 CONSTRUCTION LAW.

LAW 890 EVIDENCE. (4)
Rules of admissibility, real, circumstantial, testimonial and documentary evidence, witnesses, hearsay rule and its exceptions, procedure of admissibility, law and fact, judge and jury, burden of proof and presumption, judicial notice, and parole evidence rule.

#LAW 894 ANIMAL RIGHTS. (2)
This course provides an introduction to issues and laws pertaining to the rights of animals, including: the different statutory and non-statutory definitions of the term "animal," their evolution, and the significance of these changes; the general and specific legal status of animals is considered; the history of the legal status and rights of two other types of property that belong to the tangible sentient personal property category (slaves and minor unemancipated children), and how the criminal law did, and does, intersect with the property owner's right in this category of personal property. The course will then examine specific contemporary "rights" of animals with respect to freedom from abuse, neglect and cruelty, in situations involving companion/pet animals, sporting (including fighting), racing, hunting, and entertainment.

LAW 895 EQUINE LAW. (2-3)
This course is directed at students with an interest in developing an in-depth knowledge of current issues in equine law. Equine law is an amalgamation of various areas of the law employed specifically in the advancement of the equine industry. The industry is founded on a tradition of handshake deals (which still take place at the highest level) but is increasingly sophisticated. This course will take a multi-disciplinary approach and investigate current topics, including account wagering, simulcasting, stallion syndications, multiple ownership vehicles, intellectual property, tax and other emerging topics. The course will investigate the legal relationships (rights, duties, and obligations) among and between the constituent parties in horse racing, breeding, ownership and sport horse activities and the laws that to a greater or lesser degree define those relationships. Prereq: LAW 851 and LAW 860; concurrent enrollment in LAW 851 is permitted.

LAW 896 RESEARCH PROBLEMS. (2)
This is the law school's independent research course. Students must have the approval of a sponsoring professor and the Associate Dean for Academic Affairs. Forms are available on the law school's web site or from the Dean's Office. Students must present a completed prospectus about their research and a signed approval form before they will be allowed to sign up for the course. The Associate Dean will no normally approve proposals submitted after the first day of class. A paper 25 pages or more in length, exclusive of footnotes, is required. This course may not be used to satisfy the Upperclass Writing Requirement.

LAW 898 ENVIRONMENTAL LAW. (3)
The role of the legal system in regulating the interrelated subsystems within the physical environment, including water and air pollution, solid waste disposal, and strip mining. Emphasis on: constitutional limitations on the public's power to implement planning proposals; relationships between federal, state and local governments; structure of agencies regulating environmental quality; standards for administrative discretion; the openness of administrative hearing procedures; and the scope of judicial review of administrative decisions. Prereq: None directly, although completion of first-year law courses is expected for second- and third-year elective courses.

LAW 900 LAW SPECIAL COURSE. (2 or 3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. A particular course may be offered no more than twice under the LAW 900 number.

LAW 901 SPECIAL TOPICS IN LAW. (2-3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. Prereq: Varies with course.

LAW 902 SPECIAL TOPICS IN LAW. (2-3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. Prereq: Varies with course.

LAW 903 SPECIAL TOPICS IN LAW. (2-3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. Prereq: Varies with course.

LAW 904 SPECIAL TOPICS IN LAW. (2-3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. Prereq: Varies with course.

LAW 906 SPECIAL TOPICS IN LAW. (2-3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. Prereq: Varies with course.

LAW 907 SPECIAL TOPICS IN LAW. (2-3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. Prereq: Varies with course.

LAW 908 SPECIAL TOPICS IN LAW. (2-3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. Prereq: Varies with course.

LAW 909 SPECIAL TOPICS IN LAW. (2-3)
Interdisciplinary, topical or experimental courses to be approved by the faculty and Dean of the College of Law. Prereq: Varies with course.

LAW 910 LABOR LAW. (3)
History, organization, and structure of American labor unions; obligations and prerogatives of employers; questions of representation; privileges and obligations of unions; collective bargaining and dispute settlement.

LAW 911 EDUCATION LAW. (3)
This course provides a comprehensive overview of the law as it impacts the American primary and secondary education system. Course topics include education as an individual right and a state duty; campus safety; student and teacher rights relating to expression, religion, and privacy; educational policy development; copyright issues; education of students with disabilities; educational funding and accountability; and other topics as they timely emerge in the ongoing public debates over education policy and law. Students planning to take the Education Law Seminar are strongly recommended to take this course first. Recommended: Constitutional Law II (LAW 822).

LAW 912 EMPLOYMENT LAW. (3)
This course surveys and examines that multitude of important legal doctrines, statutes and rules that regulate those rights and responsibilities of employers and workers which are not controlled by collectively bargained agreements. The structures for administering the more important areas of such regulation are also studied. The subject matter of this course affects most dimensions of the manner in which over three quarters of our Gross National Income is distributed. Course coverage includes: the law of individual employment contracts, special employment relations such as civil service, the employer's right to various forms of work products, the employer's responsibility for job health and safety, protection of the worker's property, worker responsibility for wrong-doing, wage-hour laws, vacation benefits, bonuses, retirement benefits, health insurance benefits, and unemployment compensation.

LAW 913 ADVANCED LEGAL RESEARCH. (2)
This two credit course is designed to assist third-year law students improve their legal research skills by introducing them to a number of research tools not covered in first-year legal research instruction. Besides exposure to legal research material, students will apply research strategies to in-class and out-of-class assignments.

Topics covered include: review of basics; secondary authority; international, foreign and transnational law; statutory and legislative history research; administrative law; tax research; securities law; environmental and criminal law; banking and labor law; family and employment law; and looseleaf, trial practice and ALR materials. These topics will be examined using traditional legal research methodology, as well as CD-ROM, INTERNET and on-line databases. Prereq: Open only to third year students.

LAW 914 PRODUCTS LIABILITY. (2-3)
This course will focus on the law of products liability. It will cover all the causes of action for products liability, negligence, strict liability, and warranty, with detailed treatment of some or all of the following issues: design defects, failure to warn, hybrid transactions, federal preemption, comparative fault and assumption of risk, negligent marketing, causation, punitive damages, toxic tort and class action litigation.

LAW 915 FAMILY LAW. (2-3)
Contracts to marry; the marriage status; annulment, divorce and separation; parent and child; infants and incompetent persons.

LAW 916 CHILDREN AND THE LAW. (2-3)
When offered for two credit hours: allocation of rights between the state and parents, management/control of minor's property, child protective services (abuse, dependency, and neglect), status offenses, termination of parental rights, foster care, and adoption. When offered for three credit hours: allocation of rights between the state and parents, management/control of minor's property, child protective services (abuse, dependency, and neglect), status offenses, termination of parental rights, foster care, adoption, medical decision-making, education rights, and juvenile justice (transfer hearings, and sanctions).

LAW 917 ECONOMIC AND DIGNITARY TORTS. (2-3)
This course is designed to cover in depth some of the important topics of tort law that often are not covered in basic Torts. Those topics include economic torts such as tortious interference with contract and economic advantage and the economic loss rule. The major dignitary torts of Defamation and Right to Privacy are also covered.

LAW 919 IMMIGRATION LAW. (2-3)
This course is designed to examine and interpret federal immigration legislation and policy. The course will include such topics as the constitutional origins of immigration legislation, definitions of immigrant and non-immigrant categories, grounds for exclusion and/or deportation, and refugee and asylum law.

LAW 920 ADMINISTRATIVE LAW. (3)
Establishment of administrative tribunals, limits on discretion. Notice and hearing, orders, methods of judicial relief, scope of judicial review.

LAW 921 ELECTION LAW. (3)
This course looks comprehensively at the law governing the political process and democratic self-government. Topics covered include legislative redistricting, campaign financing laws, the regulation of political parties, the Voting Rights Act, and 'direct democracy' initiatives (such as binding public referendums). The course also addresses the alternative electoral structures being explored by many U.S. cities, such as proportionate representation, cumulative voting and transferable vote systems. Students interested in law, government and democratic theory are encouraged to enroll.

LAW 923 INTERNATIONAL ENVIRONMENTAL LAW. (2-3)
This course will cover sources and forms of international environmental law developing principles and international responses to global environmental problems.

LAW 924 INTERNATIONAL TRADE LAW. (3)
This is a survey course on the legal regime of the World Trade Organization ("WTO"), which stands at the center of the current international debate about "globalization." The course will examine, among other things, the legal structure of the WTO, dispute settlement, most favored nation and national treatment principles, trade in services, trade-related aspects of intellectual property rights, and linkages/conflicts between trade regulation and environmental protection, labor standards and other important areas of domestic policy. In addition, we will discuss various "hot topics" in international trade law, including the North-South divide over trade in agricultural products; national restrictions on importation of genetically modified organisms; the availability of patented pharmaceuticals in least developed countries; and "cultural" limits on trade in audiovisual products such as films, videos, and television programming.

LAW 925 INTERNATIONAL LAW. (3)
Introduction to the legal process by which interests are adjusted and decisions reached on the international scene. Treaties, the law of international organizations, the "common law" of nations and national laws with significant international ramifications are examined to determine their effect on international cooperation and coercion.

LAW 926 INTERNATIONAL BUSINESS TRANSACTIONS COURSE. (3)
This course will cover the basic legal structure regulating international trade. Topics covered include: international sales contracts, international finance, international civil litigation and arbitration (jurisdiction, choice of law, enforcement of foreign judgments and arbitration awards), tariff and non-tariff trade barriers, export licensing, international aspects of intellectual property (patents, trademarks and copyrights), regulation of foreign investment, regional trade organization with emphasis on the EEC and North American Free Trade Area and fundamentals of taxation of international transactions.

LAW 927 LEGISLATION. (3)
This course provides an introduction to legislation and the legislative process, with an emphasis on federal legislation. Among the subjects considered are theories of representation by the legislature, includes one person-one vote; legal process theory and the roles that judicial review and separation of powers play in that theory; and statutory construction, including the rules and canons of statutory construction and the use of legislative history in interpreting statutes.

LAW 928 EMPLOYEE BENEFITS LAW. (3)
This course provides a broad overview of federal law governing employee benefits. Topics covered include: origins and fundamentals of the pension system, origins of ERISA, taxation of employee benefits, fiduciary rules, and preemption. Students who take this course should have completed a basic tax course.

LAW 929 COPYRIGHT LAW. (3)
This course provides a broad understanding of most aspects of this branch of intellectual property including copyrightable subject matter, standards for protection, registration and deposit requirements, the bundle of rights, remedies, standards for infringement, defenses to infringement including fair use, and a variety of other concepts. Intellectual Property is not a prerequisite. Grades will be based on three writing projects assigned during the semester.

LAW 930 ANTITRUST LAW. (2-3)
The body of law structuring economic organization and activities in a free enterprise national system. Major matters considered in the course are government creation and regulation of the legal monopolies, controls over collaborative conduct of competing economic entities, and legal controls over the vertical distributive relationship of suppliers, dealers, and customers.

LAW 931 STATE AND LOCAL TAXATION. (2-3)
This course provides an introduction to the fundamentals of state and local taxation. Topics covered include: property taxation, sales taxation, corporate taxation, and constitutional limitations on state and local taxation.

LAW 933 INTERNET LAW. (3)
This is a survey course on the legal regime(s) governing the Internet. In a short period of time, the Internet has assumed a prominent place in the global economy, facilitating hundreds of billions of dollars worth of business-to-business and business-to-consumer transactions annually. At the same time, the Internet has become an important means of person-to-person and intra-organizational communication. This course will focus on many of the important legal questions that have arisen as a consequence of the rapid expansion of Internet use. Topics to be covered will include jurisdiction over, and choice of law in, the electronic marketplace; cybersquatting and protection of domain names; regulation of indecent or pornographic content; protection of personal information online; electronic contracting and electronic signatures; digital piracy and protection of intellectual property on the Internet, including the Napster case and the debate about open-source software; and electronic-payment systems. Wherever possible, we will focus on international and comparative legal perspectives on the problems posed by Internet regulation.

LAW 934 PATENT LAW. (2-3)
The course in patent law covers aspects of patent procurement with particular attention directed to the statutory requirements faced by an applicant including considerations of patent eligibility of the subject matter and its utility, novelty and nonobviousness; the specification and claims including disclosure requirements of the written description, such as enablement and best mode; post-grant procedures of reissue, reexamination, and disclaimer; patent enforcement and affirmative defenses against a charge of infringement; remedies; and international prosecution and patenting.

LAW 935 INTELLECTUAL PROPERTY. (2-3)
Analysis of the various common law unfair competition areas; examination of statutory relief in areas of trademarks, copyright, and misleading advertising; survey and analysis of various portions of Federal Trade Commission Act and Robinson-Patman Act.

LAW 936 INTELLECTUAL PROPERTY TRANSACTIONS. (2 or 3)
Intellectual Property Transactions deals with legal problems in the commercialization of intellectual property. It covers, among other things, license, confidentiality agreements, and intellectual property financing. Prereq: LAW 935 or permission of the instructor.

LAW 937 INTERNATIONAL TAX. (3)
This course examines the U.S. federal income tax implications of international transactions, covering both inbound and outbound transactions. Prereq: LAW 860.

LAW 940 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 941 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 942 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 943 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 944 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 945 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 946 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 947 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 948 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 949 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 950 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 951 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 952 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 953 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 954 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

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Seminar in selected legal problems, as designated by the faculty.

LAW 956 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 957 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 958 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 959 SEMINAR. (2)
Seminar in selected legal problems, as designated by the faculty.

LAW 960 TRIAL ADVOCACY BOARD. (1)
In the second year all students who successfully complete the intra-school competition and are asked to become a member of the Board will receive one hour of pass-fail credit at the end of the spring semester of the third year for meaningful participation in the activities of the Board, which includes national inter-school competitions and conducting the second year membership competition. Prereq: LAW 890.

LAW 961 MOOT COURT/BOARD. (1-2)
Second year competition for one hour credit. Those selected for the Moot Court Board receive an additional two hours credit in the third year. Offered on a pass/fail basis only. May be repeated to a maximum of three credits.

LAW 962 KENTUCKY LAW JOURNAL. (1-3)
This course, required of all members of the Law Journal staff, offers experience in legal writing, editing, and the process of publication of a scholarly periodical. Offered on a pass/fail basis only.

LAW 963 JOURNAL OF NATURAL RESOURCES AND ENVIRONMENTAL LAW. (3)
The course required of all members of the Journal of Natural Resources and Environmental law, offers experience in legal writing, editing and the process of publication of a scholarly journal. Pass-fail only.

LAW 964 JUDICIAL EXTERNSHIP. (2)
Clerking for trial and appellate judges. May be repeated once with permission of the Dean. Offered on a pass/fail basis.

LAW 965 PROSECUTORIAL EXTERNSHIP. (2)
Supervised handling of criminal cases under the limited practice rule of the Kentucky Supreme Court. Instruction and practice in investigation, preparation and trial advocacy. Open to third year students only. May be repeated once with permission of the Dean. Offered on a pass/fail basis.

LAW 966 MOOT COURT NATIONAL TEAM. (2)
Participation on Moot Court National Team. National Team members should sign for this course instead of 961 in their third year.

LAW 967 PRISON EXTERNSHIP. (2)
Supervised handling of cases for prisoners at the Federal Correctional Institution; instruction and practice in interviewing, counseling, negotiation, and study of applicable substantive law. Offered on a pass/fail basis only. Prereq: Completion of all first-year courses.

LAW 970 U.S. ATTORNEY APPELLATE DIVISION EXTERNSHIP. (2)
The goals of this externship are to develop practical appellate litigation skills, especially appellate brief-writing skills; to give practical experience in researching legal topics; and to increase understanding of the appellate process, especially as it relates to federal government litigation and the rules of the U.S. Court of Appeals for the Sixth Circuit. Students will be supervised by attorneys in the U.S. Attorney's Office Appellate Section. Students in this externship are not required to seek admission under the student practice rules; however, students are subject to a background check by the Federal Bureau of Investigation prior to final enrollment in the course. Prereq: Status as a second- or third-year student at the College of Law.

***LAW 971 DEPARTMENT OF PUBLIC ADVOCACY INNOCENCE PROJECT EXTERNSHIP.** (2)
Students will work under the supervision of field instructors and mentors on investigating claims of innocence by inmates. The course includes a classroom component. Prereq: Completion of 2nd year of law school.

LAW 972 LEGAL CLINIC. (2-3)
This is a graded two or three hours practice-oriented course that provides third year students with a unique opportunity to represent low income elderly individuals on a variety of legal matters. Under the Kentucky Supreme Court's limited practice rule, and with the supervision of the clinical director, students will represent clients in negotiations with federal and state agencies, in administrative hearings or in court procedures. Students will also interview clients, draft legal documents, file pleadings, and conduct discovery.

LAW 973 CHILDREN'S LAW CENTER EXTERNSHIP. (2)
This externship develops students' litigation, counseling and research skills under the supervision of the Litigation Director of the Lexington office of the Children's Law Center, a 20-year-old foundation based in Northern Kentucky. The Center provides direct representation to children involved in high conflict custody cases, to children who are victims of sexual abuse and must be a witness in criminal proceedings, to children with disabilities in educational matters, and children who are homeless or have other dependency issues. Students will assist their supervising attorney on these cases. Students will be expected to work at least 100 hours during the semester, in addition to classroom time discussing substantive law, roundtable discussions and case status conferences. Enrollment is limited to three students. This externship is only open to students who are eligible for admission under the limited practice rule.

LAW 974 PUBLIC DEFENDER EXTERNSHIP. (2)
The goals of this externship course are to develop practical litigation skills; to give practical experience in researching legal topics; and to increase understanding of the criminal litigation process, especially as it relates to how lawyers representing the defendants in that system develop the case, identify a strategy for litigating the case, and implement that strategy. Students will be expected to complete 100 hours of work under the supervision of the Lexington Department of Public Advocacy Directing Attorney, in addition to a classroom component taught at the College of Law. Admission under the limited practice rule is not required but is strongly encouraged; lack of admission will limit the student's ability to fully participate in externship opportunities. The expectation is that a very significant proportion of student work will be accomplished under the limited practice rule in cases before the Family Court and Juvenile Court, and in District Court misdemeanor courses. Prereq: Evidence (LAW 890).

LAW 975 UK HEALTHCARE EXTERNSHIP. (2)
Students will develop practical interviewing, counseling, strategic legal planning, litigation, and legal research skills as interns in the University of Kentucky Healthcare (University Hospital) Risk Management Office, under the supervision of the Risk Management Director. Students will be expected to complete legal research and writing projects, attend legal proceedings and hospital committee meetings, and review clinical investigations. Each student must sign a confidentiality agreement covering, among other things, compliance with all statutory requirements governing patient confidentiality, including HIPAA, and an anticipatory conflict agreement, which will include an agreement that the participant will be bound by SCR 3.130(1.9) and SCR 3.130(1.10) as if the participant were a practicing attorney at the time of the internship. Prereq: Second-semester, second-year status; Evidence (LAW 890); transfer students must have completed Torts (LAW 805). Recommended: Bioethical Issues and the Law (LAW 831), Medical Liability (LAW 832).

LAW 976 KENTUCKY ENERGY AND ENVIRONMENT CABINET EXTERNSHIP. (2)
The goals of this Externship course are to develop an understanding of legal and policy issues arising from energy development and environmental protection in Kentucky; to assess the legal implications of emerging energy strategies, including carbon sequestration from coal gasification; and to increase understanding of the role played by attorneys in the Energy and Environment Cabinet. Prereq: LAW 898 or consent of instructor.

#LAW 977 CHILD ADVOCACY TODAY EXTERNSHIP. (2)
Child Advocacy Today (CAT) is operated in partnership with the Equal Access to Justice Foundation and Kentucky Children's Hospital and is located in General Pediatrics at Kentucky Clinic. CAT Externship students become part of the healthcare team at Kentucky Children's Hospital in order to assess patients' legal needs. The students engage in interviews with patients and their families, and identify legal issues that adversely affect the health of the patients. Students will then have the opportunity to assist these clients and prepare the matter for referral to outside counsel, where appropriate. Students will conduct legal research, write memos and prepare legal documents under the supervision of staff attorneys. Students will analyze and implement case strategies and prepare work plans for their cases. In addition, because the mission of the medical-legal partnership is to educate healthcare providers to recognize legal issues that are detrimental to their patients' health, students will prepare a presentation on a topic of their choice to be presented to UK's pediatrics residents. This course is limited to three students. Prereq: Third-year standing.

#LAW 978 ADVANCED LEGAL CLINIC. (2-3)
Students in this advanced clinic course will continue their supervised casework from the previous semester, take on additional and more complex civil legal matters, including cases likely to go to trial, while helping the director supervise the new clinic students. Advanced clinic students will continue to develop their legal skills, improve their leadership and supervisory skills and increase their substantive and practical knowledge. Prereq: LAW 972 – Legal Clinic and consent of instructor.

LAW 981 LONDON LAW: BRITISH LEGAL METHODS/SEMINAR. (3)
Students will be assigned a London barrister and will spend each Monday accompanying that barrister to court. They will maintain journals describing their experiences and will meet individually throughout the semester with their faculty supervisor. In addition, they will participate in a weekly seminar class, in which they will discuss legal ethics issues, British legal research methods, and the training of barristers and solicitors. The seminar will also feature guest speakers from the British legal profession, and students will take field trips to various local legal institutions. Later in the semester, students will give oral presentations and submit seminar papers of legal topics growing out of their experiences. Successful completion of these requirements will result in a grade of "Pass". Enrollment in the British Legal Methods/Seminar is limited to 16 students per semester. Students participating in the British Legal Methods/ Seminar are required to enroll in the one credit English Legal System course.

LAW 982 LONDON LAW: ENGLISH LEGAL SYSTEM. (1)
This course will provide an introduction to the history and practice of the English legal system. The course will deal with the following topics: court structure, costs and legal aid, the judiciary, criminal procedure, the legal profession, structure of the U.K. Constitution, human rights in the U.K., juries, and the doctrine of precedent.

LAW 983 LONDON LAW: LAW OF THE EUROPEAN UNION. (3)
The purpose of this course is to provide an introduction to the European Union Law. The course is divided into three parts, which examine the constitutional framework and constitutional principles of the EU, and some areas of substantive law. The first part of the course (constitutional framework) will consider the historical development of the EU, its institutions and law-making processes. The second part will examine the constitutional principles governing the EU, such as the supremacy of EU law over national law and mechanisms for its enforcement in the Member States (direct effect and liability of Member States for breach of the Community law). The third part will deal with some substantive areas of Union law, such as free movement of goods, persons, establishment and services, anti-discrimination, and antitrust, as well as the protection of fundamental rights.

†LAW 984 LONDON LAW: INTERNATIONAL HUMAN RIGHTS.

†LAW 985 LONDON LAW: CROSS-BORDER FINANCE.

†LAW 986 LONDON LAW: THE GLOBAL FINANCIAL CRISIS.

†LAW 987 LONDON LAW: COMPARATIVE EMPLOYMENT LAW.

†LAW 988 LONDON LAW: COMPARATIVE LABOR LAW.

†LAW 989 LONDON LAW: INTERNATIONAL AND COMPARATIVE INTELLECTUAL PROPERTY.

†LAW 990 LONDON LAW: LAW AND HUMAN BEHAVIOR.

LAW 991 LONDON LAW: COMPLEX LITIGATION IN A COMPARATIVE CONTEXT. (3)
This course will examine principles and practical techniques relevant to complex civil cases. Building on Civil Procedure, the course will focus on litigation involving multiple parties and/ or multiple jurisdictions. Among the topics to be considered will be complex joinder, multi-district litigation, class actions and mass actions, and forum non conveniens litigation, with a comparative consideration of how some of these issues are addressed in the United Kingdom.

LAW 992 LONDON LAW: INTERNATIONAL AND COMPARATIVE FAMILY LAW. (3)
The objective of this course is to introduce students to the family law system in the United Kingdom, England, to issues of international legal practice and international human rights in family cases, and to legal instruments for the protection of children, including the U.N. Convention on the Rights of the Child, the Hague Convention on the Civil Aspects of International Child Abduction, and the Hague Convention on Intercountry Adoption. Classroom sessions will be supplemented by meetings with English barristers and solicitors practicing in these areas.

LAW 993 INTERNATIONAL ECONOMIC LAW AND INSTITUTIONS. (1)
The course will provide a survey of the three principal "global economic organizations" – that is, the International Monetary Fund, the World Bank, and the World Trade Organization – along with the key features of the international legal regime in which they operate. Building on that foundation, the course will examine several "legal practice problem sets" focusing on issues that legal professionals encounter in advising a range of clients. In addition, students will meet with local practitioners and visit legal institutions.

LAW 994 INTERNATIONAL AND COMPARATIVE INEQUALITY LAW. (3)
At its height, Great Britain controlled much of Australia, South Asia, areas in the Middle East and large portions of Africa and North America. However, as its empire dissolved and its former colonies became independent nations, these countries found themselves needing to address inter-group conflicts created by certain hereditary groups based on race, ethnicity or religion. Thus, there are many places in the world that have to confront inter-group subordination that either resulted from or was impacted by British Imperialism. This course will compare various forms of inequality between dominant and oppressed groups in four different countries, which at one time were British colonies: India, Israel/Palestine, South Africa, and the United States. Students may elect an exam or paper option; the grade will also be based on class participation.

LAW 995 LAW AND DEVELOPMENT – TRANSNATIONAL PERSPECTIVES. (3)
This course will explore the origin of development law and the institutions that were created in order to advance it, including the World Bank and the International Monetary Fund. This course will also focus on cultural conflicts between Anglo-American culture and traditional cultures including those rooted in religions such as Buddhism, Hinduism, Islam and Traditional African religions. Selected topics that we will address in this course include history of development theory; the impact of policies set by international agencies such as the World Bank and IMF on developing nations; the role and position of women in developing countries; and cultural conflicts between traditional culture of developing nations and western liberal culture. Students may elect an exam or paper option; the grade will also be based on class participation.

#LAW 996 LONDON LAW: COMPARATIVE CORPORATE GOVERNANCE. (1)
Today's global economy has resulted in a proliferation of multi-national corporations. Frequently, the parent corporation is governed by the law of one country and one or more subsidiaries are governed by the law of other countries. This course will make a comparative assessment of the advantages and disadvantages to incorporating in a particular country. It will focus on corporations considering mergers, acquisitions, or joint ventures with corporations outside of their own jurisdiction and on the reasons why a corporation may decide to form a subsidiary under the law of another jurisdiction. For those comparative purposes, the law of Delaware will be used as the United States model. The applicable Delaware law will be examined with regard to each topic before any comparative analysis is made. There will be a take home final given at the end of the course.

#LAW 997 INTERNATIONAL CRIMINAL LAW. (3)
Crime increasingly spills across national borders, requiring states to cooperate in its prosecution. A single crime may occur in, or harm, more than one nation. Which courts have jurisdiction? Whose law governs? When may countries apply their criminal law (and its procedural protections) extraterritorially? To what extent have countries harmonized their criminal law, facilitating collaborative enforcement? When may the new International Criminal Court intercede? We examine such substantive offenses as genocide, war crimes, crimes against humanity, terrorism, torture, bribery, narcotics trafficking, sex trafficking, and money laundering, in addition to such procedural issues as extradition, deportation, abduction, mutual legal assistance, and recognition of foreign convictions. We examine how the permanent International Criminal Court and the ad hoc international criminal tribunals for the former Yugoslavia and Rwanda are developing the law in several of these areas.

LIN Linguistics

LIN 209 THE STRUCTURE AND USE OF ENGLISH. (3)
A general survey of the history, structure, and use of the English language. Topics investigated include: the history of the English language; elements of the structure of English; the distinctive characteristics of spoken and written English and the varied registers of English; the diversity of the English lexicon; regional and social dialects of English and their representation in literature; and the ideological dimensions of English language use, especially those relating to social and political issues and controversies. Offers UK Core credit for Intellectual Inquiry in the Humanities. Fulfills ENG pre-major requirement and ENG minor credit. (Same as ENG 209.)

LIN 210 HISTORY OF THE ENGLISH LANGUAGE. (3)
A survey of the historical development of English from its Indo-European origins to the present. Includes an investigation of the principal changes which have affected English phonology, morphology, syntax, semantics, and vocabulary, and of the ways in which these changes are reflected in contemporary English usage; and an examination of the socio-historical factors that have shaped the evolution of the English language. (Same as ENG 210.)

LIN 211 INTRODUCTION TO THE STUDY OF LANGUAGE. (3)
Designed to give students a broad introduction to the field of linguistics, the scientific study of human language. Part 1 offers a basic foundation in the study of grammar, introducing the five core components of human grammar: syntax, morphology, phonetics, phonology and semantics. Part 2 builds upon this knowledge by surveying a number of subfields of linguistics, including historical linguistics, sociolinguistics, language acquisition, and language and the brain.

LIN 212 INTRODUCTION TO LINGUISTICS II. (3)
This course is the second semester of a two-semester sequence introducing the study of Linguistics, the scientific study of human language as a system. This course focuses on the social aspects of linguistic study: Semantics, pragmatics, conversational interaction, language variation and register, dialects, linguistic aspects of sign languages, second language acquisition, and the acquisition of language by children. Prereq: ENG/LIN 211.

***LIN 221 INTRODUCTION TO LINGUISTICS I: THEORETICAL FOUNDATIONS AND ANALYSIS. (3)**
First of two courses offered in the introductory linguistics sequence, designed for majors and minors in Linguistics. Provides an intense and thorough introduction to the fundamental concepts of the field, including but not limited to: phonetics, phonology, morphology, syntax, and semantics. May be of use to students in other disciplines. Prerequisite for most 500 level LIN courses. Prereq: This course is primarily designed for Linguistics major and minor students, but it is also suitable for students pursuing a major in the following disciplines: English, Modern and Classical Languages, and Communication Science Disorders, or consent of instructor. (Same as ENG 221.)

LIN 222 INTRODUCTION TO LINGUISTICS II: LANGUAGE IN CONTEXT. (3)
Second of two courses offered in the introductory linguistics sequence, designed for majors and minors in Linguistics. Builds upon the theoretical knowledge gained in LIN 221. Intense introduction to a number of branches of linguistics including historical linguistics, pragmatics, sociolinguistics, language acquisition, psycholinguistics. May be of use to students in other disciplines. Prereq: LIN 221 or ENG 221 or approval of instructor.

LIN 310 AMERICAN ENGLISH. (3)
The study of the varieties of modern American English: regional, social, and ethnic varieties, gender differences in communication, creoles and pidgins, stylistic variation. History and methods of American dialect study. No prerequisites. Provides ENG Major Elective credit and ENG minor credit. (Same as ENG 310.)

#LIN 311 APPALACHIAN ENGLISH. (3)
The Appalachian Mountains, which range from New York to Mississippi, making up part of the landscape of 13 different states, are known to many Americans as being home to a unique cultural and linguistic experience. In this course, we will examine the extent to which this uniqueness is true, considering the nature of many myths and stereotypes that exist about this variety. We will discuss certain lexical, phonetic, syntactic, and other linguistic features that set this variety apart from other American varieties while also noting the features the speech of Appalachia shares with others. We will examine the history, origins, and development of English in Appalachia and address issues of identity, education, and standardness with respect to the English of Appalachia. (Same as ANT 341/APP 311.)

LIN 317 LANGUAGE AND SOCIETY (Subtitle required). (3)
This course will introduce students to various topics concerning the interaction between language use and social and cultural phenomena, including topics of language and cultural meaning, social segmentation and linguistic variation, bi- and multi-lingual communities, and the ethnography of communication. Course may be repeated under different subtitles to a maximum of six credits.

LIN 325 LANGUAGE AND CULTURE. (3)
This course is an introduction to linguistic anthropology. The course reviews the basic principles of linguistic analysis and examines the ways in which linguistic structures interact with and reflect cultural variation. (Same as ANT 325.)

LIN 331 LANGUAGE IN U.S. SOCIETY. (3)
This course is an introduction to the linguistic diversity of the United States and the role of language in the production and negotiation of various forms of social difference (e.g., ethnicity, gender, region, etc.). Topics include, the role of language is the formation of social identity categories, social issues related to non-standard English dialects, and multilingualism in American society. Emphasis will be given to questions of power and resistance related to language use in the contexts of government, education and business.

LIN 395 INDEPENDENT WORK. (3)
Study of special problems in linguistics under the direction of an instructor in the linguistics program. Prereq: LIN 211; major and 3.0 in linguistics or consent of instructor.

LIN 500 PHONETICS. (3)
This course examines the phonetics of natural language, including both the articulation and acoustics of speech sounds and suprasegmental units. Discussion includes extensive reference to languages other than English. Prereq: LIN 211 or equivalent.

LIN 505 LINGUISTIC MORPHOLOGY. (3)
This course examines word structure in natural language. It compares current theoretical approaches to the analysis of inflection, derivation, and compounding, and identifies the dimensions of typological variation in each of these domains. Discussion includes extensive reference to languages other than English. Prereq: LIN 211 or equivalent.

LIN 506 SOCIOLINGUISTICS. (3)
This course is an advanced survey of current areas of research in sociolinguistics. Topics include dialectology, language variation and change, interactional sociolinguistics, language and gender, bilingualism, and language contact. Prereq LIN/ENG 211, ANT 220, SOC 101 or graduate standing. (Same as ANT/SOC 506.)

LIN 507 LINGUISTIC ANTHROPOLOGY. (3)
This course is an advanced survey of current areas of research in linguistic anthropology. Topics include language and thought, cultural differences in linguistic interaction, the ethnography of communication, ritual uses of language, language and identity and cultural poetics. Prereq LIN/ ENG 211, or ANT 220, or consent of instructor. (Same as ANT 507.)

LIN 508 DISCOURSE ANALYSIS. (3)
This course is an introduction to the methods used in various approaches to discourse and textual analysis. The approaches examined include Speech Act Theory, Conversation Analysis, Ethnographic Discourse Analysis, Discourse Pragmatics, Interactional Sociolinguistics, Variation Analysis, and Critical Discourse Analysis. Special attention is giving to practical experience analyzing both spoken and written discourse. Prereq: LIN/ENG 211 or consent of instructor. (Same as SOC 508.)

LIN 509 SEMANTICS AND PRAGMATICS. (3)
This course will explore the depth and range of meaning in language. We will study the nature of meaning in words, how we convey meaning in sentences and what factors, other than lexical definitions, play a role in how we intend and interpret meanings. We will trace the study of meaning as it developed over the 20th and 21st centuries. The course begins with an introduction to word and sentence meaning followed by a detailed study of seminal approaches to sentence semantics. We will also examine pragmatics, meaning in language use, to explore how it varies from the semantic content of the sentence. Prereq: LIN 211.

LIN 510 CORPUS LINGUISTICS. (3)
A linguistic corpus is a collection of language samples chosen to model language use of a specific speech community and to provide primary materials for linguistic investigation. Modern digital corpora harness the quantitative power of computers for data-rich analysis in all areas of linguistic study. This course surveys the key principles of corpus linguistics and the criteria used in assembling linguistic corpora. It discusses the application of corpus-based investigations across linguistic research domains, and engages students in hands-on linguistic research using various types of corpora. Prereq: LIN/ENG 211 or consent of instructor.

LIN 511 COMPUTATIONAL LINGUISTICS. (3)
Computational linguistics addresses the problem of 'information overload', the result of huge advances in processing speeds and memory size. This course shows the methods and techniques for automatically analyzing and modeling natural language data in order to redress the balance of information acquisition and information analysis, turning information into knowledge. The focus will be word-based, sentence-based and meaning-based computational approaches. Students will have the opportunity to practically apply their theoretical knowledge in a computer environment. Computer languages used will be Python and DATR, as well as some basic UNIX-based scripting languages. No experience with computers is necessary. By the end of the course students will have acquired a host of transferable skills for an increasingly digitally dominated job market. Prereq: LIN/ENG 211.

LIN 512 ANALYSIS OF ENGLISH SYNTAX. (3)
Contemporary approaches to the syntactic analysis of Modern English; particular attention is devoted to Chomskyan syntactic theory. Prereq: ENG/LIN 221 or equivalent, or consent of instructor. Provides ENG Major Elective credit and ENG minor credit. (Same as ENG 512.)

LIN 513 TEACHING ENGLISH AS A SECOND LANGUAGE. (3)
The course examines the current theories and methods of teaching English as a second language. The course will include (1) language learning theory as it relates to other disciplines; (2) methods and techniques of contrastive analysis. Prereq: One course in linguistics or consent of instructor. Provides ENG Major Elective credit and ENG minor credit. (Same as EDC/ENG 513.)

LIN 514 TESL MATERIALS AND METHODS. (3)
An extension to ENG/EDC 513, this course will include examination and evaluation of published materials designed for teaching English to speakers of other languages. Students will create individualized teaching materials and gain practical experience in applying the methods and using their own materials. Prereq: ENG/EDC 513 or consent of instructor. Provides ENG Major Elective credit and ENG minor credit. (Same as EDC/ENG 514.)

LIN 515 PHONOLOGICAL ANALYSIS. (3)
This course is an investigation of the systematic properties of speech sounds in natural languages. It compares current theoretical approaches to the analysis of individual features and sounds as well as larger prosodic units, and identifies the dimensions of typological variation in the phonological domain. Discussion includes extensive reference to languages other than English. Prereq: ENG/LIN 211 or equivalent. (Same as ANT 515.)

LIN 516 GRAMMATICAL TYPOLOGY. (3)
This course examines the typological classification of languages according to their morphological and syntactic characteristics. Course work includes practical training in the writing of grammatical descriptions and in the elicitation, transcription, and analysis of data from a non-Western language. Discussion includes extensive reference to languages other than English. Prereq: ENG/LIN 211 or equivalent. (Same as ANT 516.)

LIN 517 SPECIAL TOPICS IN LINGUISTICS (Subtitle required). (3)
The focus will be on intensive study of problems and issues that do not fall under linguistics course headings. These may have an interdisciplinary emphasis, or they may concentrate on some special topics of current research. All topics will be subject to review by the director of the program. May be repeated under different subtitle to a maximum of six credits. Prereq: Consent of instructor.

***LIN 518 ADVANCED HISTORY OF THE ENGLISH LANGUAGE. (3)**
This course explores the development of English from its roots in Indo-European, through Old, Middle, and Early Modern English(es), culminating with a review of the English languages of today. It focuses on the phonological, grammatical, and lexical changes of the language, as well as on the social contexts of the rise and spread of English as a contemporary world language. Special emphasis is given to a linguistically informed understanding of how the language has changed in response to political and historical pressures. Fulfills the ENG Early Period requirement. Provides ENG Major Elective Credit and ENG Minor credit. (Same as ENG 518.)

LIN 519 HISTORICAL LINGUISTICS. (3)
This course studies the historical development of language through time and space, examining the internal mechanisms and external influences involved in language change. Change will be examined at all levels: orthographic, phonetic, phonological, morphological, syntactic, semantic, and lexical. The course will also investigate a variety of topics related to the phenomenon of language change: language classification; comparative linguistics; the reconstruction of linguistic systems; the social context of language change. Through study of these issues, students will gain insights into historical language varieties and writing systems; relationships among the world's languages; and the origins of the sounds, words, and structures of the languages we speak today. Prereq: LIN 211. (Same as ANT 519.)

LIN 520 SANSKRIT I. (3)
An introduction to the Sanskrit language. Includes a historical survey of the language; detailed study of the devanagari writing system and of Sanskrit phonology and grammar; a recitation component; and the reading of selected Sanskrit texts. Prereq: Completion of the fourth semester of a foreign language.

LIN 521 SANSKRIT II. (3)
A continuation of LIN 520. Includes intensive study of the relationship of Sanskrit to other early Indic languages (especially Vedic and Pali); discussion of the Indo-European ancestry of these languages; and the reading of selected texts in these languages. Prereq: LIN 520.

LIN 527 LANGUAGE INVESTIGATIONS (Subtitle required). (3)
This course presents a focused investigation of an individual language or a set of languages (in a language family or other defined grouping, e.g., connected by geopolitical area), examining genetic and typological features of the language(s) from a structural, historical, and/or sociolinguistic perspective. The course may be taken twice for up to six (6) credits under different subtitles. Prereq: LIN 221 and LIN 222, or consent of instructor.

#LIN 529 LANGUAGE CONTACT. (3)
This course provides a linguistic investigation of language contact, the interaction of two or more languages in situations of individual or community bilingualism/multilingualism. The full range of linguistic contact phenomena will be illustrated with examples from different languages, both historically and in the present day. We will discuss the outcomes of language contact – language maintenance (borrowing, code-switching, multilingualism), language shift (endangered languages, language death), and the creation of new languages (pidgins, creoles, mixed languages) – in a range of contexts, considering both the social factors in language contact and the effects of contact on the linguistic structure of the languages involved. Prereq: LIN 221 and LIN 222, or consent of instructor.

LIN 601 RESEARCH METHODS IN LINGUISTICS. (3)
Students pursuing an MA degree in Linguistic Theory & Typology (MALTT) must be equipped with a toolbox of suitable methods for gathering, analyzing, and modeling linguistic data. This course introduces a range of research methods which are widely applicable in scientific investigation but whose linguistic relevance we shall emphasize here. The methods are (1) statistical analysis, (2) computational modeling, (3) field work and (4) experimental techniques. Overarching all these methods is the scientific method of enquiry, a recursive and cumulative process of gathering data and building, testing, and refining hypotheses, and interpreting all results. Some of the questions that students will learn how to answer are: Are my data collection methods sufficiently rigorous? Are the results of my data analysis statistically significant? Does my hypothesis control for variables? Is my hypothesis computationally tractable? Are my methods and their results replicable? The course also introduces students to major primary and secondary resources for linguistic research, including the principal bibliographic and indexing services, leading professional journals, major disciplinary organizations, significant traditional and online collections of linguistic data, etc. These resources will be discussed for each of the disciplinary strengths represented in the MALTT program. Prereq: LIN 211 or equivalent.

LIN 605 ADVANCED MORPHOLOGY. (3)
Advanced morphology builds on the groundwork laid in LIN 505 (Linguistic Morphology). The focus shifts from fundamentals of morphology to theoretical morphology. Special emphasis is given to the inferential-realizational approach and centrality of the paradigm. The course will address issues such as the nature of rules in morphology, morphology's place in the grammar and 'challenging' morphology, examples of which include deponency, syncretism, heteroclisis, periphrasis and defectiveness. Prereq: LIN/ENG 505 or a similar course approved by the Linguistics Program director or DGS.

LIN 609 ADVANCED SEMANTICS. (3)
This course is an introduction to modern, model-theoretic approaches to natural language semantics. We examine a range of issues relating to the notions of meaning and truth in language; to the interface of semantics with syntax; and to the relation between semantics and pragmatics. Students attend a large number of essential lectures; participate in several discussions with their classmates; and submit several written analyses addressing specific problems in the semantics of English. Topics include the relation of denotation to truth and meaning; quantification in natural language; speech acts and illocutionary force; conversational implicature; intensional constructions; indexicality; presuppositions; uses of lambda abstraction in semantic analysis; lexical meaning; and generalized quantifiers. Prereq: LIN 509 or permission of the instructor.

LIN 612 STRUCTURE AND STYLISTICS OF FRENCH. (3)
A study of the history and structure of French with an emphasis on contemporary features. (Same as ENG/FR 612.)

LIN 617 ADVANCED TOPICS IN LINGUISTICS. (3)
Advanced investigation into a designated topic in linguistic theory and typology. May be repeated to a maximum of twelve credits under different subtitles. Prereq: A course in a cognate field at the LIN 500 level or equivalent, or by discretion of the DGS.

LIN 619 HISTORICAL SOCIOLINGUISTICS. (3)
This course investigates language variation and change in its socio-historical context, focusing on the effects of such parameters as age, gender, education, social class, and region on the historical development of language through time and space. The effects of socio-historical variables will be examined at all levels of historical language variation and change: orthographic, phonetic, phonological, morphological, syntactic, semantic, and lexical. The notions of "standard language" and "language standardization" will also be addressed from a historical sociolinguistic perspective. Prereq: LIN 221 and LIN 222 or equivalent, or consent of instructor, (LIN 506 and 519 recommended).

#LIN 629 ADVANCED HISTORICAL LINGUISTICS. (3)
This course takes as its starting point the theoretical and conceptual overview of historical linguistics presented in LIN 519 (and similar theoretical introductions to historical linguistics). Building on that foundation, we engage in advanced investigations in the study of language history. Topics taught in this course may include one or more of the following: specific focus on historical phonology, morphology, and/or syntax; application of specific theoretical frameworks to the study of historical language change; examination of quantitative and computational approaches to historical linguistic research; analysis of correlations between historical linguistic data and data from other fields (archeology, anthropology, genetics, etc.). Prereq: LIN 519 or consent of instructor.

#LIN 695 DIRECTED STUDIES IN LINGUISTICS. (1-3)
This course allows students to undertake study of special topics in linguistics under faculty supervision. May be repeated to a maximum of six credits. Prereq: LIN 601 or permission of the instructor; a previous course at or above the 500 level in the relevant subdiscipline of linguistics is recommended. LIN 695 may not be entirely devoted to content that is regularly taught in another LIN course.

LIN 701 RESEARCH SEMINAR IN LINGUISTIC THEORY AND TYPOLOGY. (3)
Students are trained in research and professionalization related to the discipline of linguistics. To that end students will create a 20-30 page research report as a culmination of a set of training milestones that include (1) producing an annotated bibliography, (2) writing an abstract, (3) reflecting on good practice in linguistics research, (4) publicly presenting research, and (5) reflecting on professional aspects of linguistics. Prereq: Second-year standing in the MA program in Linguistic Theory & Typology, LIN 601.

LIN 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work towards the degree must be completed.

LIS Library and Information Science

LIS 510 CHILDREN'S LITERATURE AND RELATED MATERIALS. (3)
A survey of children's literature, traditional and modern. Reading and evaluation of books with multimedia materials with emphasis on the needs and interests of children. Covers media for use by and with children from preschool through grade six.

LIS 514 LITERATURE AND RELATED MEDIA FOR YOUNG ADULTS. (3)
A study of literature and related materials for use with young people in grades 6-12. Emphasis is placed on the special characteristics and needs of young people and the evaluation of materials for this age group. (Same as EDC 504.)

LIS 539 INTRODUCTION TO MEDICAL INFORMATICS. (3)
This course is designed to introduce the interdisciplinary field of medical informatics to health information professionals. Medical Informatics is a developing field that essentially seeks to apply information and computing technologies to improve all aspects of healthcare, including patient care, research, and education. During the semester we will explore a number of topics central to understanding the field, including: the nature of biomedical information, the electronic medical record, the role of information and computing technologies to support clinical decision making, healthcare and informatics standards, information retrieval, system analysis and technology assessment, and essential issues of information technology in medical education and medical ethics. By the end of this Web-based course, students are expected to be able to understand broad aspects of the field and can use this as a foundation for further education, training, and work in health information professions. (Same as CJT 539.)

LIS 600 INFORMATION IN SOCIETY. (3)
An introduction to the nature of information (both utilitarian and aesthetic) in contemporary society, and to the role played by libraries and other information organizations in disseminating that information. Emphasis is on developing perspective.

LIS 601 INFORMATION SEEKING. (3)
This course provides an overview of the theory and practices of human information seeking behavior, including both basic models to understand user behavior, and techniques to effectively select, locate, evaluate, and use information to meet diverse information needs and facilitate human-computer interaction. (Same as ICT 601.)

LIS 602 INFORMATION REPRESENTATION AND ACCESS. (3)
This course provides an introduction to principles and practices of information description, organization, access, and retrieval by examining the representation of information through metadata records, indexes, and abstracts, as well as the operations, standards, tools, systems of categorization, bibliographic systems and methods of organizing and retrieving information sources.

LIS 603 MANAGEMENT IN LIBRARY AND INFORMATION SCIENCE. (3)
An introduction to the basic elements of management and how these are applied to the effective administration of information systems. Focus will be placed on two major roles in a system, the person who is supervised as well as the manager or supervisor. Examination of the functions of planning, organization, staffing and controlling as well as the theories of management and the effective use of these in an information system.

KEY: # = new course * = course changed † = course dropped

LIS 604 LIBRARY AND BOOK HISTORY. (3)
Development of libraries and books from earliest time to the present with special reference to their relationship to contemporary social, economic, cultural and political trends. Emphasis is given to American library and book history.

LIS 605 INFORMATION POLICY AND TECHNOLOGY REGULATION. (3)
This course explores the socio-cultural, economic and political issues confronting communication and information professionals and the transformative impact of these issues on information policy development. The rapidly evolving communication and information infrastructure and the global shift to an information society will provide the context for the course. Within this context, emphasis will be placed on issues of access, which includes, universal service, intellectual freedom, intellectual property rights, privacy, security, advocacy, equity, and the role of library and information professionals and organizations in policy formulation.

LIS 608 METHODS OF RESEARCH IN LIBRARY AND INFORMATION SCIENCE. (3)
Basic tools, techniques and methods of research. Consideration is given to the role and purpose of research in library and information science and its relationship to research in other disciplines. Includes critical evaluation of current research in library and information science and the development of a research proposal. Prereq: LIS 601, LIS 602 or consent of instructor.

LIS 609 CURRENT PROBLEMS IN LIBRARY AND INFORMATION SCIENCE. (3)
A seminar which examines current philosophical and managerial issues in library and information science. Focus is on the analysis, origins, evaluation and current status of these issues. Prereq: Eighteen hours of graduate study in LIS or consent of instructor.

LIS 610 LIBRARY MATERIALS AND LITERATURE FOR CHILDREN. (3)
A survey and historical study of library materials and literature for children up to grade 6. Students will engage in extensive reading, and in the evaluation of books and some multimedia materials. Basic programming will be explored.

LIS 611 CRITICAL ANALYSIS OF CHILDREN'S LITERATURE. (3)
Advanced study of book evaluation, literary criticism, children's book publishing, awards, and current trends in the field. Individual projects require extensive critical reading. Prereq: LIS 610 or LIS 614 or consent of instructor.

#LIS 612 YOUTH LITERATURE FOR A DIVERSE SOCIETY. (3)
A survey and historical study of culturally diverse literature for youth of all ages. Students will engage in extensive reading, evaluation, and discussion of literature and the issues related to developing an understanding of various cultures and special populations within the United States. Prereq: LIS 610: Library Materials and Literature for Children (or comparable).

LIS 613 INFORMATION RESOURCES AND SERVICES FOR CHILDREN. (3)
A study of effective programming for children and young adults. Emphasis is placed on oral presentations. Literature-based activities and community outreach.

LIS 614 LIBRARY MATERIALS AND LITERATURE FOR YOUNG ADULTS. (3)
A study of literature and related materials for use with young people in grades 7-12. Emphasis is placed on the special characteristics and needs of young adults and the evaluation of materials for this age group.

LIS 615 PROSEMINAR IN COMMUNICATION AND INFORMATION SYSTEMS. (3)
This course is an introductory graduate-level survey of theory and research on human communication mediated by communication and information technologies. This course is designed to cover the areas not typically addressed in traditional courses of mass or interpersonal communication, including theory and research on the use of computers and electronic communication over a variety of communication and information systems. Prereq: Graduate standing or consent of instructor. (Same as CJT 615.)

***LIS 621 INFORMATION RSOURCES AND SERVICES. (3)**
This course provides an introduction to the theory and practice of information services, which are defined broadly as the activities in which information professionals engage to connect people to the information they need, including information needs assessment, direct information provision, information literacy instruction, and intermediation for all stages of the information search process. Emphasis is placed on the roles played by information professionals to help diverse users define and negotiate their information needs, navigate user-system interfaces, formulate effective search strategies for information retrieval, and evaluate and select information. Attention is also given to the skills necessary to plan for, implement, and evaluate the delivery of information services in a wide variety of organizational contexts. The ethical foundations of information services are also considered. Prereq: LIS 601.

LIS 622 SOCIAL SCIENCE INFORMATION. (3)
Examination of important issues and developments relating to creation, packaging, dissemination and use of social science information by various segments of society. Emphasis on understanding information needs of those who use social science information and information systems, source and services available to satisfy those needs. Prereq: LIS 601 or consent of instructor.

LIS 623 ADVANCED REFERENCE SERVICES. (3)
This course provides advanced study of the theory and practice of information services, which are defined broadly as the activities in which information professionals engage to connect people to the information they need, including information needs assessment, direct information provision, information literacy instruction, and intermediation for all stages of the information search process. Emphasis is placed on the structure of information, information seeking, and information sources within disciplines. Students will be prepared to help advanced users define and negotiate their information needs, navigate user-system interfaces, formulate effective search strategies for information retrieval, and evaluate and select information. Ethical issues in information services are also considered. Prereq: LIS 601, LIS 622.

LIS 624 INFORMATION IN SCIENCE AND TECHNOLOGY. (3)
The content and structure of bibliographic and other information resources in science and technology. A consideration of formal and informal communication in science and technology with emphasis on sources and services in agriculture, astronomy, biology, chemistry, mathematics, natural resources, zoology, and other closely related subjects. Prereq: LIS 601 and LIS 602 or consent of instructor.

LIS 625 INFORMATION LITERACY INSTRUCTION. (3)
This course examines the theory and practice of instruction provided in information organizations to develop clients' abilities to effectively locate, evaluate, select and use information. Attention is given to the nature of information literacy, systematic instructional design, needs assessment, methods of instruction, teaching and learning preferences, and the evaluation of learning and programs. This course is interdisciplinary and draws on theory from Library & Information Science, Instructional Communication, Education and Cognitive Psychology. We will examine and criticize various instructional models, plan for and deliver instruction in both in-person and computer-aided venues, learn various methods for assessing teaching and learning, and discuss the managerial and political aspects of instructional delivery in various information agency contexts, with a special emphasis on those in academic settings. Prereq: LIS 601 or consent of instructor.

LIS 626 ELECTRONIC INFORMATION RESOURCES IN THE HEALTH SCIENCES. (3)
Survey of electronic information resources in the health sciences, including databases and Web sources. Discussion of relevant controlled vocabularies and their use in formulating and executing search strategies. The course also includes an evidence based health care component whereby students learn to analyze critically the biomedical literature and determine reference and research relevancy. (Same as ICT 626.)

LIS 627 CONSUMER HEALTH INFORMATION RESOURCES. (3)
History and development of consumer health information resources; role of professional and governmental agencies in provision of consumer health information; policy issues related to provision of consumer health information. Consumer health professional literature, user information needs, user resources, and information services. Identification, selection, utilization, and evaluation of consumer health information for special populations within specialized educational and healthcare settings. Trends and issues in consumer health informatics. (Same as ICT 627.)

LIS 630 INFORMATION RETRIEVAL. (3)
This course reviews important information retrieval (IR) theories and models; explores a brief history of IR research; and examines various IR applications. Students will get familiar with IR foundations such as document indexing or query expansion/optimization strategies, as well as understand overall system architectures for selected IR applications. Students will explore how to analyze and compare IR systems, how to select the best IR systems for particular tasks and how to design a prototype for an efficient IR system. Prereq or concur: LIS 636 or LIS 637 or LIS 638. (Same as ICT 630.)

LIS 634 INFORMATION ARCHITECTURE. (3)
The course introduces the concepts and practices of information architectures (IA) for a Web site within the context of the organization it serves. It aims to acquaint students with principles and process of information architecture for user-centered design of websites. It also provides students the opportunity to develop practical skills related to the design of information organization and navigation systems. The course prepares students for the companion technical course of "content management systems" where they will apply the theories and techniques studied in this course to the implementation of a fully functional website.

LIS 636 FOUNDATIONS OF INFORMATION TECHNOLOGY. (3)
A study of the computing fundamentals necessary for the understanding and use of information technology. Focus is on examining computer systems in concept and practice, which is essential to information professionals. Topics include how computers represent, process, store and retrieve information; how operating systems control these processes, interpret commands, present the user interface, and run applications; how databases are designed and created; how general understanding of programming processes and productivity software skills is important in a variety of professional contexts. Productivity applications include the Office suite, Internet applications and web publishing, and database management systems.

LIS 637 INFORMATION TECHNOLOGY. (3)
Study of computer and communication technology used in modern information storage and retrieval systems. Consideration also given to managing microcomputer services, hardware evaluation and selection, and system security. Prereq: Consent of instructor. (Same as CJT 637.)

LIS 638 INTERNET TECHNOLOGIES AND INFORMATION SERVICES. (3)
A course examining the structure, development and evolution of the Internet; network protocols and client/server architecture issues; Web page design, authoring, and evaluation; the use of the Internet as an information storage and retrieval system; recent advances in HTML and scripting languages; and Internet related social issues such as censorship and copyright. Prereq: LIS 636 or consent of instructor. (Same as CJT 638.)

LIS 640 HEALTH INFORMATION RESOURCE SERVICES. (3)
A survey of information agencies and health science libraries, including topics related to: the healthcare community and their information needs, information resources in the health sciences, controlled medical terminologies and classification systems, search and retrieval of information resources, issues in the management of collections and access to health libraries. (Same as CJT/ICT 640.)

LIS 641 LAW LIBRARIANSHIP. (3)
A study of the materials of legal research and reference work. Emphasis is placed on the methods of effective research and the actual use of legal materials in the solution of practical reference problems. The selection, cataloging, classification, and storage of materials in a law collection are considered. The specialized requirements of law librarianship and law library administration are treated. Prereq: LIS 601 and LIS 602 or consent of instructor.

LIS 642 ORAL HISTORY. (3)
This course is an introduction to oral history as a research methodology and its role in library and archives collections. It is designed for persons intending to conduct oral history interviews to expand library and archival collections. It is also for persons responsible for the archival management of oral history collections. The course examines how oral history projects are initiated, how projects are administered, how interviews are conducted, and how oral history interviews are preserved and made available to researchers. The course will also explore the use of technology in making oral histories available to researchers on the Web. Students will gain practical experience in oral history interviewing and related aspects of oral history, such as transcribing, editing, and publishing oral histories. Taught essentially same as EPE 669.

LIS 643 ARCHIVES AND MANUSCRIPTS MANAGEMENT. (3)
This course is designed to cover the management, care, and servicing of manuscript and archival material. Attention will also be given to criteria for building an archival/manuscript collection in a repository and to the description and interpretation of its holdings in guides and catalogs for the use of researchers. Prereq: LIS 602 or consent of instructor.

LIS 644 ADMINISTRATION OF SCHOOL LIBRARY MEDIA CENTERS. (3)
Examines the philosophy behind current national and state guidelines for library media programs and addresses the roles of library media professionals in program and resource management in the K-12 school setting. Students will work on their individual exit portfolios and plan a practicum experience to meet requirements for performance-based certification by the Kentucky Department of Education. Prereq: May be taken concurrently with last requirements or following completion of all requirements (with the exception of LIS 676) for certification as school media librarian.

LIS 645 PUBLIC LIBRARIES. (3)
Examines historical development of the public library and its roles in society. Topics considered include the environment of public libraries; organization and management; information needs of client groups; information resources and services provided to clients; and trends developments in public libraries. Prereq: LIS 601 and LIS 602 or consent of instructor.

LIS 646 ACADEMIC LIBRARIES. (3)
Examines historical development of academic libraries and their roles in higher education. Topics considered include the environment of academic libraries, organization and management needs of client groups, information resources and services provided clients; and issues, trends, and developments in academic libraries. Prereq: LIS 601 and LIS 602 or consent of instructor.

LIS 647 CURRENT TRENDS IN SCHOOL MEDIA CENTERS. (3)
An intensive study of trends in school media centers with emphasis on research, technology, and the role of the school media specialist in the school curriculum.

LIS 648 TECHNOLOGY IN THE SCHOOL MEDIA CENTER. (3)
Consideration of new and emerging educational technologies that could be integrated into school curriculum. Includes hands-on experiences as well as critical reading and discussion on current issues relating to educational technology and the role of the media specialist in technology integration.

LIS 650 TECHNICAL PROCESSING SYSTEMS. (3)
A survey of manual and computer-based technical processing systems in libraries. Consideration given to circulation, acquisitions, cataloging and serial control systems. Trends and developments in technical processing, files and records management, and technical processing procedures and activities are examined. Prereq: LIS 602 or consent of instructor.

LIS 653 PRESERVATION MANAGEMENT. (3)
Considers the many facets of paper, non-print, and digital preservation with the aim of providing the knowledge and awareness necessary to be able to incorporate preservation principles, concepts, and practices into all aspects of library and information center management. Includes hand-on experience.

LIS 655 ORGANIZATION OF KNOWLEDGE I. (3)
Theories and practice of bibliographic description and subject analysis. Covers the organization of both print and electronic information, including use of Anglo-American Cataloging Rules, Dewey Decimal Classification, Library of Congress Classification and Library of Congress Subject Headings. Prereq: LIS 602 or consent of instructor.

LIS 656 ORGANIZATION OF KNOWLEDGE II. (3)
In-depth coverage of the theories and practice of bibliographic description and subject analysis. Covers the organization of both print and electronic information and authority control. Emphasis is on problems in practice, special case studies, current issues and future trends of description, subject analysis and online authority control. Prereq: LIS 655, or consent of instructor

LIS 658 KNOWLEDGE MANAGEMENT. (3)
Organizational knowledge is a valuable strategic asset. Knowledge management refers to the systematic management of an organization's knowledge assets so that they can be leveraged for sustainable advantage. This course examines how knowledge is created, captured, organized, diffused, and implemented in an organization. Topics covered include knowledge management processes and practices, corresponding technologies, collaboration tools, and people and cultural issues. (Same as ICT 658.)

LIS 659 COLLECTION DEVELOPMENT. (3)
Intellectual and administrative aspects of building, maintaining and evaluating library collections. Topics include: library cooperation; national standards; the writing and implementation of collection policies; strategies of selection and evaluation; contemporary publishing and the book trade.

LIS 665 INTRODUCTION TO DIGITAL LIBRARIES. (3)
This course focuses on the theoretical, technological, human factors and evaluative components of digital library (DL) research and practice. Students will read and discuss literature on DLs, review existing technologies and proof-of-concepts implementation projects, and work as a group to develop a prototype but operational DL. This course is foundational for students wishing to engage seriously in the world of digital librarianship. Prereq: LIS 602, LIS 636.

LIS 668 INFORMATION SYSTEMS DESIGN. (3)
Study of concepts and methods of information system design and development with particular relevance to library and information center applications. Emphasis is given to modeling of system functions, data, and processes of computer-based information systems including the development of small scale information systems. Prereq: LIS 636 or consent of instructor. (Same as CJT 668.)

LIS 672 PRACTICUM. (3)
Practicum in a library or other information-related organization. Student assumes entry level professional duties and responsibilities in an operational setting under the close supervision of an information professional. Requires minimum of 140 hours of experiential learning, and the completion of a multimedia presentation/portfolio under the direction of the course coordinator. Prereq: Completion of 18 hours of graduate work in library and information science and consent of course coordinator.

LIS 676 SCHOOL MEDIA PRACTICUM. (1-12)
Supervised experience at the elementary and secondary levels in school library media centers. Required for students seeking certification as school/media librarians in Kentucky. Experience will be under the joint supervision of college faculty and cooperating media librarians. Prereq: Admission to Teacher Education Program and consent of instructor.

***LIS 690 SPECIAL TOPICS IN LIBRARY AND INFORMATION SCIENCE. (3)**
Intensive study of one aspect of library and information science under the leadership of an authority in the area. (Same as ICT 690.)

LIS 695 INDEPENDENT STUDY IN LIBRARY AND INFORMATION SCIENCE. (3)
Opportunities for directed study in subjects or problems of interest to a student. Observation and research required, and a written report describing the work accomplished. Prereq: Consent of instructor.

LIS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

LIS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

MA Mathematics

MA 108R INTERMEDIATE ALGEBRA. (3)
This course is remedial in nature and covers material commonly found in second year high school algebra. Specific topics to be discussed include numbers, fractions, algebraic expression, simplifying, factoring, laws of exponents, linear equations, simple graphs and polynomial algebra. This course is not available for degree credit toward a bachelor's degree. Credit not available on the basis of special examination. Prereq: One year of high school algebra. Recommended for students with a Math ACTE score of 18 or less, or consent of department.

MA 109 COLLEGE ALGEBRA. (3)
Selected topics in algebra. Develops manipulative algebraic skills and mathematical reasoning required for further study in mathematics. Includes brief review of basic algebra, quadratic formula, systems of linear equations, introduction to functions and graphing. This course is not available for credit to persons who have received credit in any mathematics course of a higher number with the exceptions of MA 111, 112, 123, 162, 201 and 202. Credit not available on the basis of special examination. Prereq: Two years of high school algebra and a Math ACTE score of 21 or above or a Math SAT score of 510 or above; or MA 108R; or appropriate score on the math placement test or grade of C or better in MA 111.

MA 110 ALGEBRA AND TRIGONOMETRY FOR CALCULUS. (4)
This is a course specifically designed for students intending to enroll in a calculus sequence. Topics will include trigonometric functions, exponentials and logarithms, graphs, polar

coordinates, and conic sections. Students may not receive credit for MA 110 and either of MA 109 or MA 112. This course is not available for credit to students who have received credit in any higher numbered mathematics course except for MA 123, 162, 201 or 202. Credit is not available by special examination. Note: Math placement exam recommended. Lecture, three hours; recitation, two hours per week. Prereq: Two years of high school algebra and a Math ACT score of 23 or above, or appropriate score on math placement exam, or consent of department.

MA 111 INTRODUCTION TO CONTEMPORARY MATHEMATICS. (3)
An introduction to concepts and applications of mathematics, with examples drawn from such areas as voting methods, apportionment, consumer finance, graph theory, tilings, polyhedra, number theory, and game theory. This course is not available for credit to persons who have received credit in any mathematics course of a higher number with the exceptions of MA 112, 123, 162, 201 and 202. This course does not serve as a prerequisite for any calculus course. Credit not available on the basis of special examination. Prereq: Two years of high school algebra and a Math ACT score of 19 or above, or MA 108R, or math placement test.

MA 112 TRIGONOMETRY. (2)
A standard course. Includes trigonometric functions, identities, multiple-angle formulas, laws of sines and cosines, and graphs of trigonometric functions. This course is not available to persons who have received credit for any mathematics course of a higher number with the exception of MA 113, 123, 132 and 162. Credit not available by special examination. Prereq: Two years of high school algebra and a Math ACT score of 21 or above or a Math SAT score of 510 or above; or MA 108R; or appropriate score on the math placement test.

MA 113 CALCULUS I. (4)
A course in one-variable calculus, including topics from analytic geometry. Derivatives and integrals of elementary functions (including the trigonometric functions) with applications. Lecture, three hours; recitation, two hours per week. Students may not receive credit for MA 113 and MA 137. Prereq: Math ACT of 27 or above, or math SAT of 620 or above, or MA 109 and MA 112, or MA 110, or consent of the department. Students who enroll in MA 113 based on their test scores should have completed a year of pre-calculus study in high school that includes the study of the trigonometric function. Note: Math placement test recommended.

MA 114 CALCULUS II. (4)
A second course in Calculus. Applications of the integral, techniques of integration, convergence of sequence and series, Taylor series, polar coordinates. Lecture, three hours; recitation, two hours per week. Prereq: A grade of C or better in MA 113, MA 137 or MA 132.

MA 123 ELEMENTARY CALCULUS AND ITS APPLICATIONS. (4)
An introduction to differential and integral calculus, with applications to business and the biological and physical sciences. Not open to students who have credit in MA 113 or MA 137. Note: Math placement test recommended. Prereq: Math ACT score of 26 or above, or math SAT of 600 or above, or MA 109, or appropriate math placement score, or consent of department.

MA 132 CALCULUS FOR THE LIFE SCIENCES. (3)
Introduction to integral calculus, integration of logarithmic and exponential functions. Applications to the life sciences including biochemical rates and reactions and radioactive decay. An introduction to biological models and their associated differential equations. Prereq: MA 123 or consent of instructor.

MA 137 CALCULUS I WITH LIFE SCIENCE APPLICATIONS. (4)
A first course in one-variable calculus. Derivatives and integrals of elementary functions (including the trigonometric functions) with applications to the life sciences. Lecture, three hours; recitation, two hours per week. Students may not earn credit for MA 113 and MA 137. Note: Math placement test recommended. Prereq: Math ACT of 27 or above, or math SAT of 620 or above, or MA 109 and MA 112, or MA 110, or consent of the department. Students who enroll in MA 137 based on their test scores should have completed a year of pre-calculus study in high school that includes the study of trigonometric function.

MA 138 CALCULUS II WITH LIFE SCIENCE APPLICATIONS. (4)
A second course in calculus. Techniques of integration, introduction to differential equations, geometry and differential calculus in several dimensions. Students may not receive credit for MA 114 and MA 138. Prereq: Grade of "C" or better in MA 113, MA 132 or MA 137.

MA 162 FINITE MATHEMATICS AND ITS APPLICATIONS. (3)
Finite mathematics with applications to business, biology, and the social sciences. Linear functions and inequalities, matrix algebra, linear programming, probability. Emphasis on setting up mathematical models from stated problems. Prereq: MA 109 or equivalent.

MA 193 SUPPLEMENTARY MATHEMATICS WORKSHOP I: (Subtitle required). (1-2)
Laboratory offered (only) as an adjunct to certain mathematics lecture courses. Offered only on a pass/fail basis. Coreq: Set by instructor.

MA 194 SUPPLEMENTARY MATHEMATICS WORKSHOP II: (Subtitle required). (1-2)
Laboratory offered (only) as an adjunct to certain mathematics lecture courses. Offered only on a pass/fail basis. Coreq: Set by instructor.

MA 201 MATHEMATICS FOR ELEMENTARY TEACHERS. (3)
Sets, numbers and operations, problem solving and number theory. Recommended only for majors in elementary and middle school education. Prereq: MA 109 or MA 111 or consent of department.

MA 202 MATHEMATICS FOR ELEMENTARY TEACHERS. (3)
Algebraic reasoning, introduction to statistics and probability, geometry, and measurement. Prereq: A grade of "C" or better in MA 201. Also recommended: a course in logic (e.g. PHI 120) or a course in calculus (e.g. MA 123).

MA 213 CALCULUS III. (4)
A course in multi-variable calculus. Topics include vectors and geometry of space, three-dimensional vector calculus, partial derivatives, double and triple integrals, integration on surfaces, Green's theorem. Optional topics include Stokes' theorem and the Gauss' divergence theorem. Lecture, three hours; recitation, two hours per week. Prereq: MA 114 or 138 or equivalent.

MA 214 CALCULUS IV. (3)
MA 214 is a course in ordinary differential equations. Emphasis is on first and second order equations and applications. The course includes series solutions of second order equations and Laplace transform methods. Prereq: MA 213 or equivalent.

MA 241 GEOMETRY FOR MIDDLE SCHOOL TEACHERS. (3)
A course in plane and solid geometry designed to give middle school mathematics teachers the knowledge needed to teach a beginning geometry course. Cannot be counted toward the mathematics minor or major. Prereq: One semester of calculus or MA 201 with a grade of C or better.

MA 261 INTRODUCTION TO NUMBER THEORY. (3)
Topics from classical number theory, including discussions of mathematical induction, prime numbers, division algorithms, congruences, and quadratic reciprocity. Prereq: Grade of C or better in MA 114 or consent of instructor.

MA 308 MATHEMATICAL PROBLEM SOLVING FOR MIDDLE SCHOOL TEACHERS. (3)
Heuristics of problem solving. Practice in solving problems from algebra, number theory, geometry, calculus, combinatorics, and other areas. Primarily for middle school teachers. This course may not be counted towards a mathematics major or minor. Prereq: MA 123 or MA 113 or MA 137 or consent of the instructor.

MA 310 MATHEMATICAL PROBLEM SOLVING FOR TEACHERS. (3)
Heuristics of problem solving. Practice in solving problems from algebra, number theory, geometry, calculus, combinatorics and other areas. Primarily for middle and secondary school teachers. Prereq: MA 123 or MA 113.

MA 320 INTRODUCTORY PROBABILITY. (3)
Set theory; fundamental concepts of probability, including conditional and marginal probability; random variables and probability distributions (discrete and continuous); expected values and moments; moment-generating and characteristic functions; random experiments; distributions of random variables and functions of random variables; limit theorems. Prereq: MA 213 or equivalent. (Same as STA 320.)

MA 321 INTRODUCTION TO NUMERICAL METHODS. (3)
Floating point arithmetic. Numerical linear algebra: elimination with partial pivoting and scaling. Polynomial and piecewise interpolation. Least squares approximation. Numerical integration. Roots of nonlinear equations. Ordinary differential equations. Laboratory exercises using software packages available at computer center. Prereq: MA 114 and knowledge of a procedural computer language is required. (Same as CS 321.)

MA 322 MATRIX ALGEBRA AND ITS APPLICATIONS. (3)
Algebra of matrices, elementary theory of vector spaces and inner product spaces, the solution of simultaneous linear equations using Gaussian elimination and triangular factorization. Orthogonal projections, pseudo inverse and singular value decomposition, least squares approximation. Determinants, eigenvalues and eigenvectors, diagonalization. Prereq: MA 114.

MA 327 STRATEGIC DECISION MAKING: AN INTRODUCTION TO GAME THEORY. (3)
The course is an introduction to strategic decision making and game theory. Ideas such as Nash equilibrium, dominant strategies, evolutionary stability, and asymmetric information are applied to a variety of strategic decision making problems taken from economics, computer science, politics, and biology. Prereq: A grade of B or better in MA 113 or MA 132 or MA 137 or consent of department. Students should have a strong background in first semester calculus. (Same as ECO 327.)

MA 330 HISTORY OF MATHEMATICS. (3)
A survey of the development of mathematics. Topics may include: the Egyptians and Babylonians, mathematics of the Greek Classical Age, Euclid and the Alexandrian School, the Renaissance, Fermat and the beginning of calculus, the work of Newton and Leibnitz, nineteenth century geometry, analysis and set theory. Prereq: MA 114.

MA 340 APPLICABLE ALGEBRA. (3)
Topics include: Euclid's algorithm, unique factorization moduli arithmetic, Fermat's and Euler's theorems, Chinese remainder theorem, RSA public key encryption, Pollard rho factoring, pseudo primes, error correcting codes, Hamming codes, polynomial rings and quotient rings, field extensions, finite fields and BCH codes. Prereq: MA 322 or MA 213. (Same as CS 340.)

***MA 341 TOPICS IN GEOMETRY. (3)**
Selected topics in geometry including Euclidean and some non-Euclidean geometries. Prereq: MA 261 or consent of instructor.

***MA 351 ELEMENTARY TOPOLOGY I. (3)**
A beginning course, with particular emphasis on point-set topology in Euclidean spaces. Prereq: MA 261 or consent of instructor. Coreq: MA 213.

MA 352 ELEMENTARY TOPOLOGY II. (3)
A continuation of MA 351, to include a discussion of metric spaces, completeness, general topological spaces, compactness, connectedness. Prereq: MA 351 or consent of instructor.

***MA 361 ELEMENTARY MODERN ALGEBRA I. (3)**
A beginning course, with particular emphasis on groups and rings. Prereq: MA 261 or consent of instructor. Coreq: MA 322.

MA 362 ELEMENTARY MODERN ALGEBRA II. (3)
A continuation of MA 361 to include a discussion of fields and topics in linear algebra. Prereq: MA 361 or consent of instructor.

MA 375 COMMUNICATING MATHEMATICS. (3)
A course intended to provide understanding of and experience with contemporary mathematical communication in a modern instructional setting. Primarily intended for, but not restricted to, prospective school and college teachers of mathematics, including students who may intend to enroll in a graduate program and work as a graduate teaching assistant while pursuing an advanced degree. May not be counted as an upper division mathematics course in mathematics degree programs. Lecture, one hour; laboratory, four hours per week. Prereq: MA 261 or MA 214; and MA 322; and at least one of MA 351, MA 361, or MA 471G; and consent of instructor.

#MA 391 MATHEMATICS: COMPOSITION AND COMMUNICATION. (3)
Undergraduate topics course. The mathematical content will be selected at the discretion of the instructor. The course satisfies the Graduation Composition and Communication Requirement for mathematics majors. Prereq: The student must satisfy each of the following 5 conditions: (1) MA 213; (2) one of MA 261 or MA 214; (3) MA 322; (4) one of MA 321, MA 351, MA 361, or MA 471G; (5) at least 30 completed credit hours

MA 398, 399 INDEPENDENT WORK IN MATHEMATICS. (3 ea.)
Reading courses for upper division students of high standing. Prereq: Mathematics or mathematical sciences major and a standing of 3.0 in the department.

MA 415G COMBINATORICS AND GRAPH THEORY. (3)
A basic course in the theory of counting and graph theory. Topics in enumerative combinatorics may include: generating functions, compositions, partitions, Fibonacci numbers, permutations, cycle structure of permutations, permutations statistics, Stirling numbers of the first and second kind, Bell numbers, inclusion-exclusion. Topics in graph theory may include: Eulerian and Hamiltonian cycles, matrix tree theorem, planar graphs and the 4-color theorem, chromatic polynomial, Hall's marriage theorem, stable marriage theorem, Ramsey theory, electrical networks. Prereq: MA 213 or MA 322. (Same as CS 415G.)

***MA 416G INTRODUCTION TO OPTIMIZATION. (3)**
The course is an introduction to modern operations research and includes discussion of modeling, linear programming, dynamic programming, integer programming, scheduling and inventory problems, and network algorithms. Prereq: MA 213 or equivalent. (Same as CS 416G.)

***MA 417G DECISION MAKING UNDER UNCERTAINTY. (3)**
A continuation of MA 416 with topics selected from stochastic models, decision making under uncertainty, inventory models with random demand, waiting time models and decision problems. Prereq: CS/MA 416G and MA/STA 320, or consent of instructor. (Same as STA 417G.)

MA 422 NUMERICAL SOLUTIONS OF EQUATIONS. (3)
Linear equations: Gaussian elimination, special linear systems, orthogonalization, eigenproblem, iterative methods. Nonlinear equations: solutions of equations in one variable, solutions of systems of nonlinear equations. Optimization. Prereq: MA 261 or consent of instructor. Coreq: MA 322. (Same as CS 422.)

MA 432G METHODS OF APPLIED MATHEMATICS I. (3)
Partial differentiation, Jacobians, implicit function theorem, uniform convergence of series, line and surface integrals. Green's and Stokes' theorems. Prereq: MA 213 or equivalent.

MA 433G INTRODUCTION TO COMPLEX VARIABLES. (3)
Elementary complex variable theory with applications. Complex field, analytic functions, Cauchy theorem, power series, residue theory. Prereq: MA 213 or consent of the instructor.

MA 471G ADVANCED CALCULUS I. (3)
A careful and vigorous investigation of the calculus of functions of a single variable. Topics will include elementary topological properties of the real line, convergence limits, continuity, differentiation and integration. Prereq: MA 213 and MA 322; or consent of the instructor.

MA 472G ADVANCED CALCULUS II. (3)
A continuation of MA 471G to functions of several variables. A careful and rigorous investigation of the extensions of the concepts of the one variable calculus to n-dimensions. Prereq: MA 471G or consent of instructor.

MA 481G DIFFERENTIAL EQUATIONS. (3)
The fundamental goal is to cover those mathematical theories essential to the study of quantum mechanics (physics and mathematics students) and the qualitative and quantitative study of partial differential equations, especially the partial differential equations of mathematical physics (engineering graduate students). The course encompasses the following topics: uniform convergence, Picard's existence proof, Power series techniques, regular singular point theory, Bessel's equation, Legendre, Hermite and Chebychev polynomials, Orthogonal Functions, completeness, convergence in the mean, Sturm-Liouville theory, eigenvalues, eigenfunction expansions, Sturm comparison and oscillation theorems. Separation of variable techniques for the heat, wave, and Laplace's equation. Prereq: One of MA 432G, MA 471G or equivalent, or consent of instructor.

MA 483G INTRODUCTION TO PARTIAL DIFFERENTIAL EQUATIONS. (3)
MA 483G is essentially an introductory course in partial differential equations designed to prepare undergraduate mathematics majors for serious work in partial differential equations and to provide Ph.D. candidates in engineering and science with an introduction to partial differential equations which will serve as a foundation for their advanced numerical and qualitative work (e.g., in computational fluid dynamics.) The course encompasses the following topics: first order linear equations, characteristics, Laplace's equation, wave equation and heat equation, boundary value problems, Fourier series, Green's identities and Green's functions, general eigenvalue problems. Prereq: One of MA 432G, MA 471G, MA 481G, or equivalent, or consent of instructor.

MA 485G FOURIER SERIES AND BOUNDARY VALUE PROBLEMS. (3)
An introductory treatment of Fourier series and its application to the solution of boundary value problems in the partial differential equations of physics and engineering. Orthogonal sets of functions, Fourier series and integrals, solution of boundary value problems, theory and application of Bessel functions and Legendre polynomials. Prereq: MA 432G or equivalent. (Same as EM/ME 585.)

MA 501, 502 SEMINAR IN SELECTED TOPICS. (3 ea.)
Various topics from the basic graduate courses. Designed as a course for teachers of lower division mathematics and usually offered in connection with a summer institute. May be repeated to a maximum of six credits. Prereq: Teaching experience in the field of mathematics and consent of instructor.

MA 506 METHODS OF THEORETICAL PHYSICS I. (3)
The course and its sequel (MA/PHY 507) are designed to develop, for first-year graduate students, familiarity with the mathematical tools useful in physics. Topics include curvilinear coordinates, infinite series, integrating and solving differential equations of physics, and methods of complex variables. Work with Green's functions, eigenvalues, matrices and the calculus of variations are included as a part of MA/PHY 506 and 507. Prereq: PHY 404G or equivalent. (Same as PHY 506.)

MA 507 METHODS OF THEORETICAL PHYSICS II. (3)
Continuation of MA/PHY 506. Fourier and Laplace Transforms, the special functions (Bessel, Elliptic, Gamma, etc.) are described. Work with Green's functions, eigenvalues, matrices and the calculus of variations are included as a part of MA/PHY 506 and 507. Prereq: MA/PHY 506. (Same as PHY 507.)

MA 514 COMBINATORIAL STRUCTURES AND TECHNIQUES. (3)
An introduction to fundamental structures and techniques in combinatorics, including such topics as graphs, trees, colorings of graphs, extremal graphs, bipartite matchings, partially ordered sets, extremal set theory, flows in networks, and the principle of inclusion/exclusion. Prereq: MA 322 and one additional upper division math course or consent of instructor.

MA 515 LINEAR AND COMBINATORIAL OPTIMIZATION. (3)
Mathematical and computational aspects of linear programming and combinatorial optimization. Linear optimization is introduced by presenting solution techniques (primal and dual simplex) and studying geometric properties and duality for linear systems of inequalities. Asics of combinatorial optimization, including trees, paths, flows, matchings, and matroids, and the corresponding algorithms are presented. Prereq: A course in linear algebra or consent of instructor. (Same as STA 515.)

MA 522 MATRIX THEORY AND NUMERICAL LINEAR ALGEBRA I. (3)
Review of basic linear algebra from a constructive and geometric point of view. Factorizations of Gauss, Cholesky and Gram-Schmidt. Determinants. Linear least squares problems. Rounding error analysis. Stable methods for updating matrix factorizations and for linear programming. Introduction to Hermitian eigenvalue problems and the singular value decomposition via the QR algorithm and the Lanczos process. Method of conjugate gradients. Prereq: MA 322. (Same as CS 522.)

MA 527 APPLIED MATHEMATICS IN THE NATURAL SCIENCES I. (3)
Construction, analysis and interpretation of mathematical models applied to problems in the natural sciences. Physical problems whose solutions involve special topics in applied mathematics are formulated, various solution techniques are introduced, and the mathematical results are interpreted. Fourier analysis, dimensional analysis and scaling rules, regular and singular perturbation theory, random processes and diffusion are samples of selected topics studied in the applications. Intended for students in applied mathematics, science and engineering. Prereq: MA 432G or three hours in an equivalent junior/senior level mathematics course or consent of the instructor. (Same as EM/ME 527.)

MA 533 PARTIAL DIFFERENTIAL EQUATIONS. (3)
Elementary existence theorems, equations of first order, classification of linear second order equations, the Cauchy and Dirichlet problems, potential theory, the heat and wave equations, Green's and Riemann functions, separation of variables, systems of equations. Prereq: MA 532 and MA 472G or equivalent.

MA 537 NUMERICAL ANALYSIS. (3)
Floating point arithmetic. Direct methods for the solution of systems of linear algebraic equations. Polynomial and piecewise polynomial approximation, orthogonal polynomials. Numerical integration: Newton Cotes formulas and Gaussian quadrature. Basic methods for initial value problems for ordinary differential equations. The emphasis throughout is on the understanding and use of software packages for the solution of commonly occurring problems in science and engineering. Prereq: CS/MA 321 or equivalent or graduate standing or consent of instructor. Knowledge of a procedural computer language is required. (Same as CS/EGR 537.)

MA 551 TOPOLOGY I. (3)
Topological spaces, products, quotients, subspaces, connectedness, compactness, local compactness, separation axioms, convergence. Prereq: Consent of instructor.

MA 561 MODERN ALGEBRA I. (3)
Algebraic structures, quotient structures, substructures, product structures, groups, permutation groups, groups with operators, and the Jordan-Holder theorem. Prereq: Consent of instructor.

MA 565 LINEAR ALGEBRA. (3)
Review of finite dimensional linear algebra, the rank of a matrix, systems of linear equations, determinants, characteristic and minimal polynomials of a matrix, canonical forms for matrices, the simplicity of the ring of linear mappings of a finite dimensional vector space, the decomposition of a vector space relative to a group of linear mappings and selected topics of a more advanced nature. Prereq: MA 322 or consent of instructor.

MA 570 MULTIVARIATE CALCULUS. (3)
A self-contained course in n-dimensional analysis, including the general form of Stokes' theorem. Prereq: MA 432G or equivalent.

MA 575 PRINCIPLES OF ANALYSIS. (3)
Real and complex numbers, sequences and series, continuity, differentiation, integration, and uniform convergence. Prereq: MA 471G or equivalent or consent of instructor.

MA 601 TEACHING COLLEGE MATHEMATICS. (1)
A seminar for teaching assistants on the basics of teaching mathematics at the college level as well as use of appropriate technology. Includes topics such as syllabus construction, lesson planning, grading assignments, web pages, typesetting mathematics with LaTeX. Required of all new graduate teaching assistants in mathematics. Prereq: Must hold teaching assistantship in mathematics or consent of the instructor.

MA 611 INDEPENDENT WORK IN MATHEMATICS. (3-9)
Reading course for graduate students in mathematics. May be repeated to a maximum of nine credits. Prereq: Major in mathematics, a standing of at least 3.0 and consent of instructor.

MA 613 PROBLEMS SEMINAR IN OPERATIONS RESEARCH. (3)
In this course the student is exposed to the art of applying the tools of operations research to "real world" problems. The seminar is generally conducted by a group of faculty members from the various disciplines to which operations research is applicable. Prereq: MA 617 and STA 525 or consent of instructor. (Same as EE/STA 619).

MA 614 ENUMERATIVE COMBINATORICS. (3)
An introduction to the basic notions and techniques in enumerative combinatorics. The material has applications to polytopal theory, hyperplane arrangements, computational commutative algebra, representation theory and symmetric functions. Topics include generating functions, the principle of inclusion and exclusion, bijections, recurrence relations, partially ordered sets, the Mobius function and Mobius algebra, the Lagrange inversion formula, the exponential formula and tree enumeration. Prereq: A graduate course in linear algebra or consent of instructor.

MA 618 COMBINATORICS AND NETWORKS. (3)
Graphs, networks, min flow-max cut theorem and applications; transportation problems, shortest route algorithms, critical path analysis, multi-commodity networks, covering and packing problems; integer programming, branch-and-bounding techniques, cutting plane algorithms, computational complexity. Prereq: MA 515, can be taken concurrently with MA 515.

MA 622 MATRIX THEORY AND NUMERICAL LINEAR ALGEBRA II. (3)
Numerical solution of matrix eigenvalue problems and applications of eigenvalues. Normal forms of Jordan and Schur. Vector and matrix norms. Perturbation theory and bounds for eigenvalues. Stable matrices and Lyapunov theorems. Nonnegative matrices. Iterative methods for solving large sparse linear systems. (Same as CS 622.)

MA 625 NUMERICAL METHODS FOR DIFFERENTIAL EQUATIONS. (3)
Numerical solution techniques for boundary value problems for ordinary differential equations, and for parabolic and elliptic partial differential equations. Prereq: CS/MA/EGR 537 or consent of instructor.

MA 628 APPLIED MATHEMATICS IN THE NATURAL SCIENCES II. (3)
Continuation of MA/EM 527 with emphasis on special topics and techniques applied to partial differential equations that occur in various physical field theories. Field equations of continuum mechanics of solids and fluids are reviewed. The method of characteristics, elliptic functions and integrals, Legendre polynomials, Mathieu functions, integral equations and transforms, and the methods of potential theory are examples of selected topics studied in introductory applications. Intended for students in applied mathematics, science and engineering. Prereq: MA/EM 527.

MA 630 MATHEMATICAL FOUNDATIONS OF STOCHASTIC PROCESSES AND CONTROL THEORY I. (3)
A modern treatment of stochastic processes from the measure theoretic point of view with applications to control theory; the basic notions of probability theory, independence, conditional expectations, separable stochastic processes, martingales, Markov processes, second order stochastic processes. Prereq: MA 432G and 670.

MA 633 THEORY OF PARTIAL DIFFERENTIAL EQUATIONS. (3)
A continuation of MA 533. Topics may include hypoelliptic operators and interior regularity of solutions; P(D)-convexity and existence theorems; regularity up to the boundary; applications of the maximum principle; semi-group theory for evolution equations; perturbation methods; well-posed and improperly posed problems; equations with analytic coefficients; asymptotic behavior of solutions; nonlinear problems. Prereq: MA 533.

MA 641, 642 DIFFERENTIAL GEOMETRY. (3 ea.)
Tensor products, exterior algebra, differentiable maps, manifolds, geodesics, metric properties of curves in Euclidean fundamental forms, surfaces. Prereq: Consent of instructor.

MA 651 TOPOLOGY II. (3)
Embedding and metrization, compact spaces, uniform spaces and function spaces. Prereq: MA 551.

MA 654 ALGEBRAIC TOPOLOGY I. (3)
Homotopy and homology theories, complexes and applications. Prereq: MA 551, 561, 651 or equivalent.

MA 655 ALGEBRAIC TOPOLOGY II. (3)
Singular homology theory and applications, homology of products, singular and Cech cohomology with applications. Prereq: MA 654.

MA 661 MODERN ALGEBRA II. (3)
Rings, fields of quotients, rings of polynomials, formal power series, modules, exact sequences, groups of homomorphisms, natural isomorphisms, algebras and tensor algebras. Prereq: MA 561 or consent of instructor.

MA 667 GROUP THEORY. (3)
A study of homomorphisms for groups, finite groups, solvable groups, nilpotent groups, free groups, and abelian groups. Prereq: MA 661.

MA 671 FUNCTIONS OF A COMPLEX VARIABLE I. (3)
Differentiation and integration, contour integration, poles and residues. Taylor and Laurent series, and conformal mapping. Prereq: MA 575 or consent of instructor.

MA 672 FUNCTIONS OF A COMPLEX VARIABLE II. (3)
A continuation of MA 671 to include the Riemann Mapping theorem, Dirichlet problem, multiple valued functions, Riemann surfaces and applications. Prereq: MA 671.

MA 676 ANALYSIS I. (3)
Sequences and series of real and complex numbers, sequences of functions. Riemann-Stieltjes integration, Lebesque measure and integration. Prereq: MA 575 or consent of instructor.

MA 677 ANALYSIS II. (3)
Continuation of MA 676. Absolutely continuous functions on the real line, Lebesque spaces, beginning theory of Banach spaces including the Hahn-Banach, closed graph, and open mapping theorems. Prereq: MA 676 or consent of instructor.

MA 681 FUNCTIONAL ANALYSIS I. (3)
General theory of normed linear spaces including the Hahn-Banach separation theorems, principle of uniform boundedness and closed graph theorem. Dual spaces and representation theorems for linear functionals. Abstract measure theory and Riesz representation theorem for C(X). Prereq: MA 677 or consent of instructor.

MA 714 TOPICS IN DISCRETE MATHEMATICS (Subtitle Required). (3)
Review of recent research in discrete mathematics. May be repeated to a maximum of nine credits. Prereq: Consent of the instructor.

MA 715 SELECTED TOPICS IN OPTIMIZATION. (3)
Topics will be selected from the areas of mathematical control theory, integer programming, combinatorial optimization, large scale optimization, nonlinear programming, dynamic optimization, etc. May be repeated to a maximum of nine credits.

MA 721 SELECTED TOPICS IN NUMERICAL ANALYSIS. (3)
Review of current research in numerical analysis. May be repeated to a maximum of nine credits. Prereq: Consent of instructor.

MA 732 SELECTED TOPICS IN DIFFERENTIAL AND INTEGRAL EQUATIONS. (3)
Advanced topics in theory of differential (ordinary of partial) and integral equations such as topological dynamics, almost periodic solutions, stochastic differential equations, integro-differential and differential-difference equations, generalized functions as solutions, non-linear partial differential equations, singular integral equations.

MA 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

MA 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

MA 751, 752 SELECTED TOPICS IN TOPOLOGY. (3 ea.)
Prereq: MA 651.

MA 761 HOMOLOGICAL ALGEBRA. (3)
Homological algebra, modules, exact sequences, functors, homological dimension, extension problems. Prereq: Consent of instructor.

MA 764, 765 SELECTED TOPICS IN ALGEBRA. (3 ea.)
Reports and discussion on recent advances in group theory, ring theory, and homological algebra. Prereq: MA 661 and consent of instructor.

MA 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

MA 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

MA 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

MA 772 SELECTED TOPICS IN THE THEORY OF COMPLEX VARIABLES. (3)
Prereq: Consent of instructor.

MA 773 SELECTED TOPICS IN ANALYSIS. (3)
May be repeated to a maximum of six credits. Prereq: Consent of instructor.

MA 777 MATHEMATICAL SEMINAR. (3)
May be repeated once to a total of six credits. Prereq: Consent of instructor.

MA 778 MATHEMATICAL SEMINAR. (3)
May be repeated once to a total of six credits. Prereq: Consent of instructor.

MAP Mapping

#MAP 671 INTRODUCTION TO NEW MAPPING. (3)
This course introduces students to both the social and technical aspects of digital mapping in the 21st century. Students will learn fundamental concepts and techniques in cartography and GIS, including file types, data classification, projections and coordinate systems and elementary analytical techniques in a range of desktop and web-based mapping platforms. In addition to providing the fundamental technical competencies necessary to create maps, students will develop the critical awareness required to effectively communicate complex social processes through maps.

#MAP 672 PROGRAMMING FOR WEB MAPPING. (4)
This courses introduces students to the fundamental concepts and techniques of web development and computer programming through web mapping. Students will become familiar with current web standards and proficient in manipulating the structural, stylistic and behavioral elements of web maps through programming. Students will translate these practices to achieve objectives in web cartography such as the display of a basemap, the thematic representation of data, and the employment of interaction to enhance visual communication and the presentation of information. Prereq: MAP 671 or consent of instructor.

#MAP 673 DESIGN FOR INTERACTIVE WEB MAPPING. (4)
This course integrates the principles of geographic representation and web programming in order for students to develop high-quality interactive web maps. Students will design interactive web map projects that appropriately represent spatial data in order to serve end-user goals of map engagement and visual communication. The course will train students to compose interactive maps within the context of a coherent web page layout, including the development of supplementary content (such as text and metadata) to aid in visual storytelling. Prereq: MAP 672 or consent of instructor.

#MAP 674 SPATIAL DATA ANALYSIS AND VISUALIZATION. (4)
This course will introduce students to advanced techniques for the quantitative analysis and visualization of spatial data. Students will become familiar with a broad spectrum of data cleaning, transformation, analysis, and visualization techniques helpful for answering in-depth questions based on geospatial data. Students will learn how to prepare raw source data and subsequently apply both global and local spatial analysis techniques, resulting in advanced, interactive data visualizations. Prereq: MAP 672 or consent of instructor.

#MAP 675 COLLABORATIVE GEOVIZUALIZATION. (4)
This course will enable students to build rich, user-centered web interfaces to promote the exploration and understanding of complex spatial datasets. Students will be able to critically engage with a variety of data sources (e.g., public data repositories, crowdsourced or volunteered data) and design interactive cartographic solutions in order to visualize geographic information. Students will be able to augment prototypical 'slippy' web maps through more advanced cartographic enablements and accompany information graphics. Prereq: MAP 673 or consent of instructor.

#MAP 695 SPECIAL TOPICS IN DIGITAL MAPPING. (1-4)
This course offers a combination of readings, discussions, exercises and labs focusing on relevant topics in digital mapping. Course format may range from critical reading of selected literatures to innovative mapping methodologies. Current research developments and technologies in particular digital mapping subfields will be stressed. May be repeated under different subtitles to a maximum of eight credits. Prereq: Consent of instructor.

#MAP 698 FINAL PROJECT PREPARATION. (3)
This course will enable students to design and prepare a web mapping workflow for a project of their own selection. This project is the masterwork for the Master's degree program in digital mapping. Students will determine a geographic problem mapping can address, identify user needs, review relevant literatures, address ethical concerns, collect and prepare the data necessary for the project. Students will also propose strategies for data representation, user interface and online dissemination of the project. This course will culminate with a project design presentation and critique by peers and instructors. Prereq: All other course work toward the Master's degree in digital mapping must be completed.

#MAP 699 FINAL PROJECT IMPLEMENTATION. (3)
This course takes the project design developed in MAP 698 and develops a mapping project based on this outline. Students will conduct data analysis, iteratively review and improve the map user interface, produce written documentation on methods used and findings and engage in intense testing of the mapping solution with peers and targeted end users. At the end of the course, students will make a real time online oral presentation and defense of the project for a committee of faculty members. Prereq: All other course work toward the Master's degree in digital mapping must be completed. With permission of the instructor 699 may be taken concurrently with 698.

#MAP 701 HISTORY OF CRITICAL CARTOGRAPHY. (2)
This course outlines key moments and arguments in the history of cartography with particular attention to advent of digital mapping and GIScience. Students will review and discuss the epistemological and ontological tensions within the field and practice a range of philosophical approaches to cartographic representation and spatial analysis. Prereq: Consent of instructor.

#MAP 719 SOCIAL IMPACTS OF NEW MAPPING. (3)
This seminar introduces social and cultural issues that have emerged alongside the growth of digital mapping and location based services. It reviews the evolving nature of digital divides, expert versus crowdsourced knowledge, surveillance, privacy and the ethics of big geospatial data collection and use. Students will utilize these discussions of the social impacts of new mapping to challenge and contextualize their own mapping projects. Prereq: MAP 671 or consent of instructor.

MAS Media Arts and Studies

MAS 101 INTRODUCTION TO MEDIA AND CULTURE. (3)
This course focuses on the study of electronic mass media. It surveys the cultural industries from multiple perspectives, including history, economics, production processes, content, social effects, diversity, and globalization. It emphasizes the relationships among the electronic mass media, culture, and power.

MAS 201 COMMUNICATION TECHNOLOGIES AND SOCIETY. (3)
Historical survey of broadcasting, common carrier, and related electronic media technologies, including the Internet. This course focuses on the social, political, and policy dimensions of the adoption and use of communication technologies. Special attention is paid to significant issues in contemporary public policy and practice, such as protection of privacy and personal information, information ownership, free speech, and censorship.

MAS 300 MEDIA STUDIES RESEARCH METHODS. (3)
An introduction to quantitative and qualitative social science research relating to media studies, including survey and experimental methods. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 310 MEDIA POLICY AND REGULATION. (3)
A study of policy and regulation of media in the U.S., primarily broadcasting, cable, telephony, and the Internet. This includes traditional issues in the regulation of content, such as freedom of speech, copyright, obscenity, and privacy. It also includes traditional areas in the regulation of the industry structure including monopolies, licensing, cross ownership rules, mergers, and illegal practices. Prereq: Media Arts & Studies major status.

MAS 312 VIDEO PRODUCTION I. (3)
An introduction to the fundamentals of studio video production, from conception to completed product. Practical training with essential production equipment will be offered. Lecture, two hours; laboratory, two hours per week. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 319 WORLD MEDIA SYSTEMS. (3)
A comparison of the communications media in different countries of the world and the theories used to justify them. How various political and social systems affect the media and how the media affect the societies in which they exist. Prereq: JOU 101 or ISC 161 or MAS 101 or TEL 101. (Same as ISC/JOU 319.)

MAS 322 MULTIMEDIA I. (3)
Introduction to techniques of multimedia production and the basic principles of communication via multimedia. Practical, hands-on experience with various media used in computer-based multimedia including: text, still graphics, motion graphics, animation, sound, and hyperlinking. Includes stand-alone computer- and Web-based applications. Lecture, two hours; laboratory, two hours per week. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 355 COMMUNICATION AND INFORMATION SYSTEMS IN ORGANIZATIONS. (3)
An examination of the role of a variety of communication and information systems used in organizations. This includes the study of communication processes across a variety of systems, including the telephone, e-mail, voice mail, and audio- and video-conferencing. It also includes an examination of the uses for a variety of information systems and technologies, including computer networks, integrated voice response systems, computer-telephony integration, call centers, automated attendants, voice recognition, and synthesis, database management systems, and a variety of additional hardware and software tools used in business today. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 390 SPECIAL TOPICS IN MEDIA PRODUCTION (Subtitle required). (3)
Course will focus on selected topics in the practice and theory of electronic media production. Course will be offered on demand. May be repeated to a maximum of six credits under a different subtitle. Prereq: Media Arts & Studies major or minor status or consent of the instructor.

MAS 403 TV NEWSCAST PRODUCING AND DIRECTING. (3)
This class is designed to train students to become television newscast producers and directors. Students will prepare TV newscasts with consideration of news story placement as it relates to audience, viewing trends, and journalistic judgment. Students will learn critical thinking skills in producing and directing as it relates to newscast and story promotion, reaching to major news events and their coverage, and talent and time management. Students will be required to write, produce and direct news stories in different formats for different formats for different newscasts and address ethical and legal concerns of news stories. Prereq: JOU 302 for JOU Majors; MAS 312 for MAS majors. (Same as JOU 403.)

MAS 404 MEDIA ORGANIZATIONS. (3)
An examination of the structure of video entertainment and on-line communications organizations and industries. Includes the organization and management of various types of telecommunications properties, as well as their traditional and new competitors. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 412 VIDEO PRODUCTION II. (3)
A follow-up to MAS 312, this course is an advanced video production course focusing on electronic field production (EFP). This course features technical and creative aspects of directing, camera work, editing, and lighting. Lecture, three hours; laboratory, one hour per week. Prereq: MAS 312 or TEL 312 or consent of instructor.

MAS 420 ELECTRONIC MEDIA CRITICISM. (3)
Examination of each of several critical theories and approaches to the criticism of telecommunications program content. Practical experience in evaluating critical writing and in the writing of critical pieces. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 422 MULTIMEDIA II. (3)
This is an advanced course in computer-based interactive multimedia design and development. The course is designed to expand the student's knowledge of, and ability to author, Web applications integrating audio, graphics, video, text, animation, and interactive components for education, entertainment, and business purposes. Prereq: MAS 322 or TEL 322 or consent of instructor.

MAS 432 AUDIO PRODUCTION. (3)
Elements of audio production, including basic machines, microphones, patch panels, the production mixing. Different audio products are discussed. Lecture, two hours; laboratory, two hours per week. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 435 THE HISTORY OF VIDEO GAMES AND THE INDUSTRY. (3)
Provide an overview of the video game industry. The course focuses on a chronological understanding of the history of the video game industry, including key moments in the rise and fall (and the rise again) of the industry and an examination of the technological advances in both software and hardware. Prereq: MAS major or minor status or consent of the instructor.

†MAS 453 MASS COMMUNICATION AND SOCIAL ISSUES.

MAS 482 ELECTRONIC MEDIA SALES MANAGEMENT. (3)
The data and techniques of radio and television advertising, including problems of coverage and circulation, spot campaigns, testing, time buying, the agency, measuring broadcast effectiveness, merchandising radio and television advertising and time selling. Prereq: Media Arts & Studies major or minor status or consent of instructor.

***MAS 490 SPECIAL TOPICS IN MEDIA INDUSTRY STUDIES (Subtitle required). (3)**
Course will focus on selected topics in the study of media industries. Course will be offered on demand. May be repeated to a maximum of six credits under a different subtitle. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 505 MEDIA AND POPULAR CULTURE. (3)
A study of the interplay of communication media and popular culture. The course examines conceptual approaches to the production, forms, meanings, and influences of technologically mediated culture. The scope of the course includes the popular texts produced by the commercial media and entertainment industries as well as user-generated content circulated in online media.

MAS 520 SOCIAL EFFECTS OF THE MASS MEDIA. (3)
An examination of the political, social, cultural and behavioral effects of telecommunications systems in American society. Focus on theory and empirical research generated since 1940. Prereq: MAS 300 or TEL 300 or consent of instructor.

MAS 530 PRO-SEMINAR IN TELECOMMUNICATIONS. (3)
Discussion and reports on current trends in telecommunications industries and the behavioral, political and regulatory implications attending such trends. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 535 TELECOMMUNICATIONS NETWORK MANAGEMENT. (3)
The primary focus of this course is the design and management of telecommunications networks and resources. In a framework that includes both the technical and business aspects of telecommunications, the course examines the capabilities and limitations of a wide range of data network technologies in the context of needs assessments, design, implementation, and evaluation; the relative advantages and disadvantages of various technological configurations for specific business purposes; and the impact of human and organizational factors in network design. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAS 555 THE INTERNET AND SOCIAL CHANGE. (3)
An critical examination of the political, cultural, technological, social, and behavioral aspects of Internet-mediated communication. Emphasis on research literature and theory on emerging platforms of new media technologies and applications. Prereq: MAS 300 or TEL 300 or consent of instructor.

MAS 590 SPECIAL TOPICS IN SOCIAL-CULTURAL MEDIA STUDIES (Subtitle required). (3)
Course will focus on a single topical issue in the theory, research, and criticism of electronic media. Course will be offered on demand. May be repeated to a maximum of six credits under a different subtitle. Prereq: Media Arts & Studies major or minor status or consent of instructor.

MAT Merchandising, Apparel and Textiles

MAT 114 INTRODUCTION TO MERCHANDISING. (3)
An introduction to merchandising with emphasis on apparel and textiles. Examination of industry structures which facilitate the development, manufacturing, marketing and merchandising of goods and services in the domestic and international marketplace.

MAT 120 TEXTILES FOR CONSUMERS. (3)
A study of textiles with emphasis on consumer applications. Properties of fibers, yarns, fabric structures, colors, and finishes related to end use. Survey of legislation and of maintenance requirements.

MAT 122 TEXTILES LAB. (1)
Laboratory analysis of the relationship between the properties and performance characteristics of fibers, yarns, fabric structures and finishes. Laboratory: two hours per week. Prereq: MAT 120 or may be taken concurrently.

MAT 232 APPAREL PRODUCTION STUDIO. (3)
Principles of apparel production for men, women and children. Development of basic construction skills. Studio, six hours. Prereq: MAT 120.

MAT 237 AESTHETIC EXPERIENCE IN RETAIL. (3)
An introduction to design and aesthetic principles as they are applied to promotional procedures of retail and wholesale organizations including methods of visual merchandising, special event promotion and public relations. Prereq: MAT 120 or consent of instructor.

MAT 247 DRESS AND CULTURE. (3)
A study of the social, cultural, physical, and psychological factors which influence apparel and apparel use in contemporary society. Prereq: Three hours in sociology or anthropology, three hours in psychology.

MAT 315 MERCHANDISE PLANNING AND CONTROL. (3)
Study and application of planning and control strategies and processes essential to profitability in merchandising. Analysis of company and industry merchandising and operating results. Prereq: ECO 201, ECO 202.

MAT 340 PROFESSIONAL PRACTICE. (1)
Self-assessment of student's strengths, limitations, and career aspirations. Preparation of reference files, letters, and resumes. Identification of, application to, and acceptance by department-approved agencies for completion of internship experience. Prereq: "C" or above in HMT 120 or MAT 114, HMT 210 or MAT 120, and HMT 270 or MAT 237.

MAT 359 SPECIAL TOPIC IN MERCHANDISING, APPAREL AND TEXTILES (Subtitle required). (1-3)
Exploration of topics in the field of merchandising, apparel and textiles. May be repeated to a maximum of six credits. Prereq: Junior standing or consent of instructor prior to registration.

MAT 395 INDEPENDENT STUDY IN MERCHANDISING, APPAREL AND TEXTILES. (1-3)
Problems involving independent laboratory, studio, and/or library study conforming to the student's special interest under the direction of an appropriate faculty member having proficiency in the area selected. May be repeated to a maximum of six credits. Prereq Consent of instructor and contractual agreement.

MAT 414 MERCHANDISING STRATEGY ANALYSIS. (3)
The analysis of environmental, individual, and psychological factors of consumer consumption and their impact on apparel retailer strategic planning. Prereq: MAT 114, ACC 201, MAT 315, MAT 350.

MAT 425 ECONOMICS OF MERCHANDISE SOURCING. (3)
Examination of global sourcing strategies in retail merchandising. Includes assessment of political, social, economic and cultural influences critical to the sourcing process. Prereq: MAT 114, MAT 350, ECO 201, ECO 202, MKT 300, MAT 315.

MAT 470 INTERNATIONAL MERCHANDISING. (3)
A study of the internationalization of retail merchandising and factors that influence the process in the global marketplace. Prereq: MAT 315, MAT 350, MKT 320.

MAT 480 MERCHANDISING, APPAREL AND TEXTILES STUDY TOUR. (1-3)
A domestic or foreign study tour to include investigation of interests related to merchandising, apparel and textiles. Professional visits are planned according to particular itineraries. Application and payment dates are determined each semester by the instructor. This course may be repeated one time if tour destinations are different. Prereq: Priority is given to majors and upperclassmen. All students are subject to instructor approval.

†MAT 490 INTERNSHIP.

MAT 510 BRAND MANAGEMENT. (3)
Examination of the important issues in planning and evaluating brand strategies with special emphasis on exploring why brands are important, what they represent to consumers and what firms should do to manage them properly. Prereq: MAT 114 or consent of instructor.

MAT 514 RETAIL ENTREPRENEURSHIP. (3)
Concepts of entrepreneurship within single ownership and other business organizations; development of a business plan; management of a small business; current issues and problems. Prereq: MAT 114 or consent of instructor.

MAT 515 SPECIFICATION AND EVALUATION OF TEXTILES AND APPAREL. (3)
The course will focus on product development and quality control in textile products (Apparel and Interiors), by developing specifications and evaluating the quality of a textile product. Prereq: MAT 120, MAT 237.

MAT 520 TEXTILES FOR INTERIORS. (3)
Selection, cost, expected performance and care of textiles used in residential and commercial interiors. Prereq: MAT 120.

MAT 522 HISTORY OF TEXTILES. (3)
Survey of the development of textiles from ancient to modern times. Emphasis on social, economic, technological and political effects on the evolution of textile fibers, fabric structures, color and design. Field trips. Prereq: MAT 120, MAT 247, open to seniors and graduate students only.

MAT 533 HISTORY OF COSTUME. (3)
Development of costume from ancient to modern times with consideration of historic, social, and economic setting. Field trips. Prereq: Open to seniors and graduate students only.

MAT 547 SOCIAL AND PSYCHOLOGICAL ASPECTS OF APPAREL. (3)
An advanced study of the social, psychological factors which influence apparel and apparel use with particular emphasis on research. Prereq: Open to seniors and graduate students only.

MAT 559 SPECIAL TOPIC IN MERCHANDISING, APPAREL AND TEXTILES. (Subtitle required). (1-3)
Advanced in-depth study of merchandising, apparel and textiles. May be repeated to a maximum of six credits. Prereq: Open to seniors and graduate students only.

MAT 570 ELECTRONIC RETAILING (E-TAILING). (3)
An educational foundation in e-tail development as a medium for food, apparel, and textile distribution and sales. Prereq: MAT 114, 120, 237, 247, STA 200, MKT 300.

MAT 595 INDEPENDENT STUDY IN MERCHANDISING, APPAREL AND TEXTILES. (1-3)
Problems involving independent laboratory, studio, and/or library study conforming to the student's special interest under the direction of an appropriate faculty member having proficiency in the area selected. May be repeated to a maximum of six credits. Prereq: Restricted to seniors and graduate students with contractual agreement.

MAT 600 RESEARCH METHODOLOGY IN HUMAN ENVIRONMENTAL SCIENCES. (3)
Students will study scientific techniques and accepted research methodologies in human environmental science research. Emphasis is placed on understanding the research process and developing the skills necessary to evaluate and implement research methods and design procedures. Prereq: Graduate standing. (Same as HES 600.)

MAT 650 SURVEY OF CURRENT THEORIES AND LITERATURE. (3)
An intensive survey of the theoretical and empirical literature related to areas of merchandising, apparel, and textiles and to hospitality management and tourism. Emphasis will be placed on research literature and theory building. Prereq: Graduate standing.

MAT 700 RESEARCH PROBLEMS IN INTERIOR DESIGN, MERCHANDISING AND TEXTILES. (3)
Independent research for the exploration of a specific problem in interior design, merchandising and textiles. May be repeated to a maximum of six credits.

MAT 720 RURAL RETAIL DEVELOPMENT. (3)
Characteristics of rural retail development; analysis of economic and related problems and potential for development. Prereq: Graduate student standing.

MAT 759 SPECIAL TOPICS IN MERCHANDISING, APPAREL AND TEXTILES (Subtitle required). (3)
Advanced work on a specific topic in merchandising, apparel, and textiles. May be repeated under different topics to a maximum of 12 credits. Prereq: Graduate Standing or consent of instructor.

MAT 785 INDEPENDENT STUDY IN MERCHANDISING, APPAREL AND TEXTILES. (1-3)
Problems involving independent laboratory, studio and/or library student conforming to the student's special interest under the direction of an appropriate faculty member having proficiency in the area selected. May be repeated to a maximum of six credits. Prereq: Nine credit hours of graduate study, consent of instructor, and contractual agreement.

MAT 790 RESEARCH PROBLEMS IN INTERIOR DESIGN, MERCHANDISING, AND TEXTILES. (3)
Independent research for the exploration of a specific problem in interior design, merchandising, and textiles. May be repeated to a maximum of six credits.

MB Microbiology

MB 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams. (Same as MI 749.)

MB 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

MB 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours. (Same as MI 768.)

MB 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (1-12)
May be repeated indefinitely. (Same as MI 769.)

MBA Master of Business Administration

MBA 600 RAPID IMMERSION IN ACCOUNTING. (3)
An immersive four-week introduction to the use of key financial and managerial accounting statements in analyzing business problems. Open only to students in the daytime MBA track.

MBA 601 RAPID IMMERSION IN DECISION MAKING. (3)
An immersive four-week introduction to the use of key financial and managerial accounting statements in analyzing business problems. Open only to students in the daytime MBA track.

MBA 602 LEADERSHIP. (3)
This course focuses on helping students develop leadership, communication and team building skills. The course is taught throughout the one-year accelerated MBA program and is open only to students in the program.

MBA 603 MARKETS – STRUCTURE AND DYNAMICS. (1)
An immersive one-week course that explore how markets work. Open only to students in the daytime MBA track. Prereq: MBA 600, MBA 601 and MBA 602.

MBA 604 FINANCE. (2)
This course is designed to increase understanding of the role of information systems in organizations and how they are used by managers. Open only to one year MBA students. Prereq: MBA 600, 601, 602.

MBA 605 ORGANIZATIONAL STRUCTURES AND STRATEGIES. (1)
An immersive course that explores firm structures, internal allocation decisions and outsourcing decisions from a variety of social science perspectives. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602 and 603.

MBA 606 MANAGEMENT INFORMATION SYSTEMS. (1)
This course is designed to increase understanding of the role of information systems in organizations and how they are used by managers. Open only to One Year MBA students. Prereq: MBA 600, 601, 602 and 603.

MBA 607 MARKETING. (1)
An immersive course introducing students to the role of marketing within the firm and overviews the components of a marketing plan. Open only to One Year MBA students. Prereq: MBA 600, 601 and 602.

MBA 608 HUMAN RESOURCES MANAGEMENT. (1)
An immersive course to familiarize students with topics in Human Resource Management including topics on legal environment, recruitment, selection and compensation. Open only to One Year MBA students. Prereq: MBA 600, 601 and 602.

MBA 609 MANAGEMENT. (1)
An experiential-based course that places students in teams that compete in a complex business simulation. Open only to one year students. Prereq: Acceptance in MBA program.

MBA 610 NEW PRODUCT DEVELOPMENT MARKETING. (3)
An immersive course examining how market research and marketing strategy aid firms in their management of new product development. Open only to One Year MBA students. Prereq: MBA 600 through MBA 609.

MBA 611 NEW PRODUCT DEVELOPMENT MANAGEMENT. (3)
An immersive course which examines how firms manage the new product development or service process. Open only to One Year MBA students. Prereq: MBA 600 through MBA 609.

MBA 612 BUSINESS FINANCE STRATEGIES. (5)
An extensive, multidisciplinary examination of the mergers and acquisitions process from the role of the mergers in firm strategy to target identification, acquisition, and absorption issues. Also, covers the basic fundamentals of financial concepts in banking. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610 and 611.

MBA 613 FINANCE IN NEW PRODUCT DEVELOPMENT. (1)
This course is designed to provide the concepts and techniques used to evaluate products and services in New Product Development. Open only to One Year MBA students. Prereq: MBA 600 through MBA 609.

MBA 614 STRATEGIC INNOVATION, COMPETITIVE RIVALRY AND GLOBAL STRATEGY. (3)
This course introduces students to the fundamental concepts, analytical tools, and framework related to the twin challenges of strategic management of innovation and competitive rivalry in the context of the global economy. As such, it serves as a complement to the study of new product development and supply chain management. Prereq: MBA 600 through MBA 609.

MBA 615 SUPPLY CHAIN STRATEGY. (3)
An immersive study of the supply chain management involving the management of key business processes, the flow of goods and information, and relationships with fellow members of the supply chain. Open only to One Year MBA students. Prereq: MBA 600 through MBA 614.

MBA 616 SUPPLY CHAIN OPERATIONS. (3)
An immersive study of supply chain operations and the discipline of managing and directing physical/technical functions of an organization involving the plan, source, make, deliver and returns function. Open only to One Year MBA students. Prereq: MBA 600 through MBA 614.

MBA 617 NEGOTIATIONS IN THE SUPPLY CHAIN. (1)
This course focuses on developing negotiation skills in the supply chain involving the ability to diagnose situations, strategize, plan and engage in fruitful negotiations. Open only to One Year MBA students. Prereq: MBA 600 through MBA 614.

MBA 618 GLOBAL STRATEGY. (1)
This course introduces students to the fundamental concepts, analytical tools, and frameworks related to the challenges of globalization and international strategy. Open only to One Year MBA students. Prereq: MBA 600 through MBA 614.

MBA 619 MANAGERIAL ACCOUNTING IN NEW PRODUCT DEVELOPMENT. (1)
This course will examine how managerial accounting is employed in the new product development stage. Open only to One Year MBA students. Prereq: MBA 600 through MBA 609.

MBA 620 RISK MANAGEMENT. (2)
An examination of financial decision-making about the management of risk by corporations, recognizing the relationship between risk management and the overall goals of the firm. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 621 NEW VENTURE FINANCE. (1)
The advantages and disadvantages of the sources of new venture capital are studied from the entrepreneur's and the provider's viewpoints. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 622 INTERNATIONAL FINANCIAL MANAGEMENT. (2)
Overview of financial management at the international level. Topics include the structure of international trade and foreign direct investment, foreign exchange markets, and managing currency risk. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 623 INTERNATIONAL MARKETING. (2)
An examination of the factors that shape international marketing decisions, including entry strategies, marketing mix decisions and product policies. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 624 ENTREPRENEURIAL MARKETING AND MANAGEMENT. (2)
An examination of how to market creatively on limited resources. Hands on experience in how to develop a marketing plan for a small firm. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 625 SALES MANAGEMENT. (1)
An examination of managerial approaches to the planning, implementation and control of personal contact programs. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 626 E-COMMERCE. (2)
A thorough examination of the major issues associated with the development of e-commerce solutions and applications. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 627 GLOBAL BUSINESS MANAGEMENT. (2)
Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 628 TECHNOLOGY MANAGEMENT. (2)
An examination of the management of technology, especially the critical role of technology as a strategic resource to enable management to achieve firm objectives. Topics include the technology life-cycle, technology forecasting, and emerging technologies. Open only to students in the daytime MBA track. Prereq: MBA 600, 601, 602, 603, 604, 605, 606, 610, 611 and 612.

MBA 630 PROFESSIONAL DEVELOPMENT. (1)
Students complete five short modules to enhance their interpersonal, implementation or analytic skills. Topics vary by year. Open only to students in the daytime MBA track.

MBA 640 PROJECT CONNECT I. (4)
An immersive 16-week internship with a Project Connect partner. Open only to one-year MBA students.

MBA 642 PROJECT CONNECT II. (4)
An immersive 16-week internship with a Project Connect partner. Open only to one-year MBA students.

MBA 644 PROJECT CONNECT IN MERGERS AND ACQUISITIONS. (1)
An immersive five week internship with a Project Connect Partner where the student will work on an M&A project. Open only to One Year MBA students. Prereq: MBA 600 through MBA 618.

MBA 650 MBA CAPSTONE COURSE. (2)
This course is designed to culminate the one-year MBA program. The course is themed to cover a current, critical topic incorporating knowledge gained throughout the program. Prereq: MBA 600 through 612.

MC Medical Center

***MC 500 INTERNATIONAL SERVICE-LEARNING. (1-12)**
This course is designed to introduce students to the theories, concepts, and practices of service-learning in an international setting. Service-learning engages the student in enhancing the common good through the application of learning to service. (Same as EXP 510.)

MCL Modern and Classical Languages

MCL 100 THE WORLD OF LANGUAGE. (3)
This course introduces students to some of the objects and methods of inquiry common to the different language areas and fields of study in the Department of Modern and Classical Languages, Literatures and Cultures. Students will examine the structure and use of spoken language and written language as well as their sociocultural aspects and explore basic linguistic principles, the roles and function of language, and issues involved in first- and second-language acquisition. In the process they will develop a facility and vocabulary for the examination of the principal structures involved in systems of spoken and written language.

#MCL 135 VAMPIRES: EVOLUTION OF A SEXY MONSTER. (3)
This course answers the following questions: What is a vampire? Where do they come from? Why do we have an obsession with the walking dead, especially with fanged monsters? How do we get rid of them (or attract them)? The course will explore the origin of the vampire in Slavic folklore and trace the movement of the legend across Europe into literature and then finally into today's films and pulp fiction. We will learn about the legends, rituals and folk religious beliefs associated with the vampire phenomenon and how they have been interpreted over the centuries by various peoples. We will explore the myriad of approaches to the vampire from psychology, folkloristics, literature, physiology and anthropology. Taught in English.

MCL 190 TOPICS IN MODERN AND CLASSICAL LANGUAGES, LITERATURES AND CULTURES (Subtitle required). (3)
Examination of a topic related to literary studies, cultural studies, or aspects of language. The course may be dedicated to the literature, culture or language of a particular group or nation or may compare literatures, cultures and languages. May be repeated up to 6 credits under different subtitles.

***MCL 200 GLOBAL LITERACY. (3)**
A humanities course for the 21st century; this class "goes global" in unprecedented ways. Team taught by expert instructors representing ten different linguistic and cultural traditions (Arabic, Chinese, French, German, Ancient Greek, Hebrew, Italian, Japanese, Ancient Roman, Russian), it trains students in the analysis of a wide range of media (literary text, folk text, still image, film, etc.) that challenge cultural identities and cross national boundaries. Meets requirements for UK Core in the Humanities.

MCL 270 INTRODUCTION TO FOLKLORE AND MYTHOLOGY. (3)
Introduces the forms and functions of folklore and mythology, with particular emphasis on the Americas. Folklore opens up questions about the relationship of tradition to modernization, individualism, and community. The course explains how folklore is fundamental to human lives and relates these cultural traditions to identities and values in contemporary society. We give attention particularly to methods of ethnography and field collection to uncover symbols, structures, and functions in expressive culture. Satisfies the UK Core Intellectual Inquiry in the Humanities or Intellectual Inquiry in the Social Sciences requirement.

MCL 300 CONTACT ZONES: CULTIVATING INTERCULTURAL COMPETENCE. (3)
This course aims to help students acquire skills and knowledge needed to promote understanding of individuals/groups from diverse backgrounds, without reinforcing stereotypes in the name of "cultural difference." Toward this end, this course will (1) utilize, as a guide/lead, the concept of "contact zones," zones of exchange that divide but simultaneously connect "us" and "them"; and (2) have each student conduct a semester-long ethnographic project concerning the contact zone. (Same as SPA 300.)

MCL 324 THE CITY IN THE TWENTIETH-CENTURY: TOKYO, SHANGHAI, PARIS. (3)
What does it mean to live somewhere else? This course examines three of the world's greatest cities. These cities share a rich history of mutual influence and imagination, with artists from each city creating work that represents the other. We will look at the three different distinct languages and culture to examine how city life and urbanity has been discussed, in general, and then how it has been imagined in the Japanese, Chinese, and French traditions.

***MCL 343 GLOBAL HORROR. (3)**
Global Horror is an introduction to the horror film that traces the genre's development from its origins in European literature to a global film phenomenon in the 21st century.

MCL 375 LANGUAGE STUDY ABROAD. (1-3)
This course will be used to award credit to UK students studying a language other than English, Spanish, or Portuguese at a recognized university or language institute outside the United States where the primary language of instruction is not English. MCL 375 will be awarded for courses that focus on language acquisition/development of language skills or linguistic knowledge and for which there are no clear UK equivalents. Prereq: UK student in good standing with two years (4 semesters) or equivalent of language study completed can receive credit for MCL 375. This is intended to be upper-division language instruction credit.

MCL 376 CULTURAL STUDIES ABROAD. (1-3)
This course is used to award credit to UK students studying a language other than English, Spanish, or Portuguese at a recognized University or language institute outside the United States where the primary language of instruction is not English. MCL 376 will be awarded for courses that focus on the culture of the host country and/or countries sharing the same language and for which there is no clear UK equivalent. These may be literature, film, media and other such courses as commonly taught within MCL. Prereq: UK student in good standing with two years (4 semesters) or equivalent of language study completed can receive credit for MCL 376. This is intended to be upper-division culture instruction in the target language (i.e. French Literature courses taught in French, Chinese Art History classes taught in Chinese).

MCL 390 TOPICS IN MODERN AND CLASSICAL LANGUAGES, LITERATURES AND CULTURES (Subtitle required.) (3)
Examination of a topic related to literary studies, cultural studies, or aspects of language. The course may be dedicated to the literature, culture or language of a particular group or nation or may compare literatures, cultures and languages. May be repeated up to 6 credits under different subtitles. This course counts as an elective for the MCL major. Prereq: Determined by instructor.

MCL 495 MODERN AND CLASSICAL LANGUAGES, LITERATURES AND CULTURES CAPSTONE. (3)
MCL Capstone Research Project and Language Learning Portfolio, MCL 495, is a common Capstone experience shared by MCL majors in Arabic, Classics, Chinese, French, German, Japanese, and Russian. It is designed to provide an opportunity for majors to develop research projects in collaboration with faculty members and to gain research experience in MCL Studies, as well as to allow majors to explore the various content areas and scholarly approaches represented in MCL so as to enhance their understanding of the value of work across disciplines. In addition, the course facilitates student completion of a language learning portfolio to document their level of proficiency in one of the fields of concentration in MCL Studies. Prereq: Declared major in one of the fields of concentration in the MCL major Senior standing (>90 credit hours). (Exceptions to these prerequisites must be approved by the Director of Undergraduate Studies.)

MCL 510 TEACHING METHODS: YOUNG LEARNERS AND BEGINNING LEVEL STUDENTS. (3)
The primary purpose of this course is to acquaint pre- and in-service teachers with the theoretical background and instructional strategies to effective instruct second language learners who are younger (ages K - 6) and/or beginning level proficiency. The course is guided by the national standards for the five areas of second language acquisition for elementary learners as defined by the National Standards for Language Learning. Prereq: Admission into MATWL or TESL Programs.

MCL 517 SECOND LANGUAGE ACQUISITION. (3)
This course will offer students a survey of the primary concepts and phenomena that relate to the study of Second Language Acquisition (SLA) where second has reference to languages acquired after the first, or native, language. This course will provide a cursory look at a number of linguistic, psycholinguistic, and sociolinguistic issues at the heart of second language learning, as well as an overview of the complex processes and mechanisms that drive that learning. However, findings from SLA research may inform practices in second and foreign language education and, thus, will be included in class discussions when appropriate.

MCL 575 INTRODUCTION TO LINGUISTICS AND LANGUAGE STRUCTURE. (3)
This course provides an introduction to the field of linguistics, with a focus on the major subfields of linguistics: phonetics (the sounds of language), phonology (the sound structure of language), morphology (the structure of words), and syntax (the structure of sentences). The class explores the relevance of linguistics for language teaching and careers in education. The English language will be the primary, but not exclusive, focus in this class.

MCL 591 LANGUAGE PRACTICUM (Subtitle required). (1-3)
This Language Practicum course provides students the opportunity to engage in structured, focused, target-language work in a specific topic or area that is the subject of a corresponding MCLLC course taught in English in the same semester. Students must be enrolled in the English-medium course to which this Language Practicum corresponds in order to be eligible for enrollment in this Practicum. The Practicum is intended to complement the English-medium course through a combination of target-language activities, including (but not limited to): reviewing terminology and concepts in the target language, summarizing English course discussions in the target language, supplementing English-language readings and other materials with parallel target-language materials. Course may be repeated up to 5 times for credit with different subtitles and tied to different English-medium courses. Prereq: A minimum of two years of college-level work or equivalent training in the target language or consent of instructor; concurrent enrollment in the corresponding MCLLC English-language course.

MCL 592 RESEARCH PRACTICUM (Subtitle required). (1-3)
In this course students engage in directed research designed to broaden and deepen their expertise in a specific research area, and to extend and refine their investigative and research skills. The research work may be performed alone or as a part of a team, and the research focus may include (but is not limited to): an independent topic/project in the students' area(s) of study; a topic/project closely connected with an upper-level seminar in which the students are currently enrolled; or a topic/project within the research agenda of the faculty member offering the course. The research performed in this course will result in a report to be published or presented in an appropriate public research venue (departmental symposium; campus-wide research publication or presentation; professional conference or publication; etc.). Course may be taken for up to 9 credits, with either multiple projects or a longer-term, ongoing single project. Prereq: Junior standing or higher (or consent of instructor).

#MCL 593 INTERNSHIP. (1-6)
In this course students engage in an internship under the supervision of a faculty member. The course is intended to help students apply, reinforce, and extend what they have learned in the classroom for their professional development. The production of a portfolio, project, or other form of summative work will allow the students to reflect on the semester's work in a focused synthesis. 10 hours of internship per week (150 hours in a semester) are generally equated with 3 credit hours. Course may be repeated up to 12 credit hours. Prereq: Creation of a learning contract for the internship with the supervising faculty member.

MCL 595 TOPICS IN FOLKLORE AND MYTH (Subtitle required). (3)
An in-depth investigation of some aspect of folk culture (including artifacts, oral literature or rituals) and/or mythology with emphasis on a specific topic within a single cultural context or across cultures, e.g., the legend in European society, Chinese folklore in contemporary film, etc. MCL majors and graduate students will be expected to conduct part of their research in the target language. May be repeated up to six credits with different subtitles. Prereq: MCL 270.

#MCL 596 TOPICS IN CULTURE (Subtitle required). (3)
This course is designed to introduce a variety of critical approaches used in the study of culture. The overall objective is to explore how culture, in all its various forms, not only reflects the world around us but also how it influences the way we perceive the world. The course examines images in various media such as film, text, music, etc. The course employs a wide range of critical approaches (such as genre theory, gender studies, semiotics, and political economy) and examines multiple cultures from Europe to Asia. MCL majors and graduate students will be expected to conduct research in the target language. May be repeated up to six credits with different subtitles. Provides MCL Major Elective credit and MCL minor credit.

***MCL 597 TOPICS IN COMPARATIVE LITERARY STUDIES (Subtitle required). (3)**
The purpose of this course is to explore the nature of the literary as an aesthetic, historical, and social category in a comparative context. Topics to be considered include: definitions of literature; literary studies as an academic discipline; theories of literary meaning; the connections between literature and identity (including national identity) and the relative usefulness of these connections; cross-cultural and cross-historical concepts of literary art. MCL majors and graduate students will be expected to conduct research in the target language. May be repeated up to six credits with different subtitles. Provides MCL Major Elective credit and MCL minor credit. Prereq: Consent of instructor.

#MCL 598 TOPICS IN LINGUISTICS (Subtitle required). (3)
An in-depth investigation of topics in the fields of theoretical and/or applied linguistics with emphasis on a particular country/region/linguistic population, language or language group. Possible topics include: history of a language or language group; sociolinguistics of a language or language group(s); structure of a language or language group; phonetics, phonology, morphology, syntax, semantics, pragmatics or discourse analysis of a language and/or its dialects; acquisition of pragmatic, cultural and/or communicative competence in a language. MCL majors and graduate students will be expected to conduct part of their research in the target language. May be repeated up to six credits with different subtitles. Prereq: Consent of instructor. MCL 598 will be taught at the same time and in the same place as LIN 517.

MCL 601 WORLD LANGUAGE TEACHING INTERNSHIP P-12. (12)
Three-credit hour Seminar taught in conjunction with a 14-week P-12 teaching Internship. Students will be interning in local schools and meeting once a week to discuss various aspects of their teaching needs and progress as well as issues encountered during their teaching experience. Prereq: EDP 500/600, EDC 610, EDS 600, MCL 510, and MCL 610.

MCL 610 L2 TEACHING METHODS: 9-12, ADULT AND ADVANCED LEARNERS. (3)
This course is focused on current approaches, strategies and techniques in second language teaching, with a particular emphasis on intermediate and advanced language learners and adolescent or adult students. It is also a practicum course, so all students must have access to a second language classroom and learners in order to engage course concepts in an actual classroom setting.

MCL 650 TOPICS IN INTERCULTURAL TEACHING: (Subtitle required). (3)
Seminar on teaching intercultural topics from the perspective of world languages and cultures. The course will provide based in depth analysis of one area of intercultural teaching. Topics may include how to teach arts and humanities courses and/or units using folk and fairy tale traditions, multicultural and world cinema, comparative art and architecture, or musical and theatrical traditions. Focus will be on methods of teaching in primary and secondary schools. Taught in English. May be repeated to a maximum of six credits. Prereq: Enrollment in the Master's in Teaching World Languages program, a world languages program, or permission of the instructor.

MCL 665 SECOND LANGUAGE CURRICULUM AND ASSESSMENT. (3)
This course is designed for second language teachers who would like to learn more about curriculum design and assessment. The course will prepare students to analyze differing models of second language (L2) curriculum and standards and design their own curriculum appropriate for a particular educational context. A variety of assessment instruments are studied including standardized proficiency exams and formative and summative assessment instruments as well as alternative assessments such as portfolios.

MCL 690 CULTURE, COGNITION AND SECOND LANGUAGE LEARNING. (3)
This course is designed to engage class participants in the study of learning and teaching in the second language classroom through the study of sociocultural perspectives on second language learning and an exploration of current theories of human cognition and learning. At the heart of the course lies a field based research project in which students investigate their own teaching practices, with the primary focus of their inquiry on direct student-teacher interaction and its impact on learning (micro genesis) The goal is to help students examine their own teaching practices and generate new teaching strategies and techniques.

***MCL 696 ADVANCED TOPICS IN CULTURE (Subtitle required). (3)**
This course is designed to introduce a variety of critical approaches used in the study of culture. The overall objective is to explore how culture, in all its various forms, not only reflects the world around us but also how it influences the way we perceive the world. The course examines images in various media such as film, text, music, etc. The course employs a wide range of critical approaches (such as genre theory, gender studies, semiotics, and political economy) and examines multiple cultures from Europe to Asia. This course will require advanced, in-depth theoretical and critical approaches to the material. May be repeated up to six credits with different subtitles. Prereq: Graduate standing and consent of instructor.

#MCL 697 ADVANCED TOPICS IN COMPARATIVE LITERARY STUDIES (Subtitle required). (3)
The purpose of this course is to explore the nature of the literary as an aesthetic, historical, and social category in a comparative context. Topics to be considered include: definitions of literature; literary studies as an academic discipline; theories of literary meaning; the connections between literature and identity (including national identity) and the relative usefulness of these connections; cross-cultural and cross-historical concepts of literary art. Students will do research in the original language of their area of focus. This course will require advanced, in-depth theoretical and critical approaches to the material. May be repeated up to six credits with different subtitles. Prereq: Graduate standing and consent of instructor.

***MCL 698 ADVANCED TOPICS IN LINGUISTICS (Subtitle required). (3)**
An in-depth investigation of topics in the fields of general and/or applied linguistics with emphasis on a particular country/region/linguistic population, language or language group. Possible topics include: history of a language or language group; sociolinguistics of a language or language group(s); structure of a language or language group; phonetics, phonology, morphology, syntax, semantics, pragmatics or discourse analysis of a language and/or its dialects; acquisition of pragmatic, cultural and/or communicative competence in a language. This course will require advanced, in-depth theoretical and critical approaches to the material. Students will be expected to conduct part of their research in the target language of their area of study. May be repeated up to six credits with different subtitles. Prereq: Graduate standing and consent of instructor.

MD Medicine (M.D. Program)

MD 800 SPECIAL TOPICS COURSE. (0-4)
This special topics course will be used for students who must complete activities outside of the medical curriculum in order to meet graduation requirements. In particular, students who must complete prescribed remediation that does not involve repeating a formal course or who must complete licensing exams in order to graduate would use this mechanism. Additionally, this course could be used for student research activities. Prereq: Permission of the Dean of the College of Medicine.

MD 810 FOUNDATIONS OF INFECTION, DISEASE AND THERAPEUTICS. (9)
Through lecture, small group, and laboratory exercises, this course teaches the core principles of microbiology, immunology, pharmacology, pathology, and some physiology. It provides a framework for understanding the relationship between these disciplines and how they contribute to clinical systems. This course prepares students for the second year organ systems courses, clinical rotations and the national medical licensing exam. 20 hours per week. Prereq: Admission to Medical School (first year).

MD 811 INTRODUCTION TO CLINICAL MEDICINE I. (10)
Introduction to Clinical Medicine I is a year-long course for first-year medical students, designed to develop applied behavioral and professional skills relevant to the practice of medicine and in preparation for clinical rotations, to build a foundation of behavioral science knowledge relevant to medical practice, and to develop an awareness of professionalism and ethical issues foundational to the practice of medicine. Prereq: Admission to the College of Medicine.

MD 813 BEHAVIORAL BASIS OF MEDICINE. (3)
The Behavioral Basis of Medicine delivers key concepts from Psychiatry, Pharmacology and Behavioral Science in a mostly lecture-based format. Students are introduced to psychiatric conditions, to the observations that lead to a psychiatric diagnosis, and to some of the pharmacologic, psychotherapeutic and psychosocial modes of treatment. Prereq: Admission to Medical School (first year).

MD 814 ANATOMY. (9)
The course consists of lecture, small group, laboratory, and palpation exercises that provide a basic understanding of anatomical principles, organization and development as well as the core principles of histology. Anatomical structures are introduced as a basis for future functional correlates and principles are taught via laboratory discussions, prosections, disections, films and skeletal materials. Lecture, 20 hours per week. Prereq: Admission to Medical School (first year).

MD 817 NEUROSCIENCES. (8)
This course is an integrated presentation of relevant topics in human neuroanatomy, neurophysiology, neuropathology, neuropharmacology, and some microbiology as well as introductory correlations with neurology. Teaching methodology includes lecture, small group discussion, laboratory and self-study units. Lecture, 20 hours per week. Prereq: Admission to Medical School (first year).

MD 819 CELLULAR STRUCTURE AND FUNCTION: BIOCHEMISTRY AND GENETICS. (11)
This course provides students with the knowledge and understanding of human biochemistry, molecular biology, and genetics and their relationships to human health and disease states. The course also integrates relevant aspects of biochemistry, molecular biology, and genetics with an emphasis on problem solving and clinical situations, with the goal of equipping students to be outstanding physicians. Prereq: Admission to Medical School (first year).

MD 821 INTRODUCTION TO CLINICAL MEDICINE II. (12)
This course serves as a bridge between the basic and clinical sciences by teaching students the knowledge and skills necessary to develop into excellent diagnosticians. The course focuses on the following skills: the ability to perform a history and physical examination, integration of basic laboratory and radiographic data, and differential diagnosis formulation. Learning activities include: formal lectures, textbook readings, small group tutorials, preceptorships, workshops, online modules, and written and practical testing. Prereq: Promotion to the second year of the M.D. program.

MD 822 MUSCULOSKELETAL AND INTEGUMENTARY SYSTEMS. (6)
As part of the second-year organ system-based curriculum, this course covers the normal physiology and histology of the musculoskeletal/ integumentary systems, the pathophysiology of diseases and disorders of these systems, and the medical and pharmacologic approaches to diagnosis and treatment. Learning activities include lecture, dissection laboratory, panel discussion, small groups/team based learning, and clinical correlations. Prereq: Promotion to the second year of the M.D. program.

MD 823 HEMATOLOGIC AND LYMPHATIC SYSTEMS. (3)
As part of the second-year organ system-based curriculum, this course covers the normal structure, development, and function of the components of the hematopoietic and lymphoreticular systems; the pathophysiology of hematologic and lymphatic diseases and disorders; and the medical and pharmacological approaches to diagnosis and treatment. Learning activities include lectures, labs, self-directed study, workshops and small groups. Prereq: Promotion to the second year of the M.D. program.

MD 824 ENDOCRINE AND REPRODUCTIVE SYSTEMS. (5)
As part of the second-year organ system-based curriculum, this team-taught course covers the normal physiology and histology of the endocrine and reproductive systems, the pathophysiology of diseases and disorders of these systems, and the medical and pharmacologic approaches to diagnosis and treatment. Prereq: Promotion to the second year of the M.D. program.

MD 825 RENAL AND URINARY SYSTEMS. (4)
As part of the second-year organ system-based curriculum, this team-taught course covers the normal physiology and histology of the kidney and urinary system, the pathophysiology of renal and urinary diseases and disorders, and the medical and pharmacologic approaches to diagnosis and treatment. Prereq: Promotion to the second year of the M.D. program.

MD 826 CARDIOVASCULAR SYSTEM. (5)
As part of the second-year organ system-based curriculum, this course will cover the normal structure and physiologic function of the cardiovascular system, the pathophysiology of common disorders and diseases of the heart and vascular system, and the medical and pharmacologic approaches to diagnosis and treatment. Prereq: Promotion to the second year of the M.D. program.

MD 827 RESPIRATORY SYSTEM. (5)
As part of the second-year organ system-based curriculum, this course covers the normal structure and function of the respiratory system, the immunology and pathophysiology of respiratory diseases and disorders, and the medical and pharmacologic approaches to diagnosis and treatment. Prereq: Promotion to the second year of the M.D. program.

MD 828 GASTROINTESTINAL SYSTEM AND NUTRITION. (4)
As part of the second-year organ system-based curriculum, this course covers the normal histology and physiology of the gastrointestinal system, the pathophysiology of gastrointestinal diseases and disorders, and the medical and pharmacologic approaches to diagnosis and treatment. The course also includes instruction on the principles of nutrition. Prereq: Promotion to the second year of the M.D. program.

MD 829 MULTISYSTEM AND INTEGRATIVE CONCEPTS. (3)
This course serves as the capstone course for the first- and second-year organ system-based curriculum. Students synthesize and apply the knowledge and concepts learned on an organ-based level to the multisystems level. Prereq: Promotion to the second year of the M.D. program.

MD 830 PEDIATRICS. (8)
This clinical course would provide an opportunity for students to care for the pediatric patient in multiple settings, including inpatient wards, newborn nursery and in the primary care setting. Students participate in patient-centered teaching. Students interview, examine, and formulate treatment plans for patient problems under the direct supervision of their residents and faculty preceptors. Laboratory, 40 hours per week. Prereq: Admission to third year of medical curriculum.

MD 831 INTERNAL MED/EM MED INTEGRATED CLERKSHIP. (4)
This course will provide students with an introduction to the field of Emergency Medicine, Emergency Medical Services (EMS), and the approach to the acutely ill or injured patient. The students will complete an ACLS class during this rotation. Clinical, 40 hours per week. Prereq: Admission to third year of medical curriculum.

MD 832 CLINICAL NEUROSCIENCE: NEUROLOGY. (4)
The course will diagnose the common, acute, and emergency problems of disease of the central nervous system. Prereq: Completion of 2nd year of medical school.

MD 833 CLINICAL NEUROSCIENCES/PSYCHIATRY. (4)
This course provides opportunity for third year medical students to recognize, treat, and understand the etiology and pathology of common psychiatric disorders and emergencies. Laboratory, forty hours per week. Prereq: Admission to third year of medical curriculum.

MD 834 PRIMARY CARE/FAMILY AND COMMUNITY MEDICINE. (4)
This course introduces third year medical students to primary care family practice in rural and urban settings. Students participate in patient-centered teaching during which they work with primary care Family Physicians seeing ambulatory patients in their offices. Students are allowed to interview, examine, and formulate treatment plans for patient problems under the direct supervision of their faculty preceptors. Prereq: Admission to third year of medical curriculum.

MD 835 INTERNAL MEDICINE/ EMERGENCY MEDICINE INTEGRATED CLERKSHIP. (12)
This course is an introduction to the concepts of internal medicine in both inpatient and outpatient settings. Students interview, examine and formulate treatment plans for patient problems under the direct supervision of faculty preceptors. The course will use didactics, computer simulated problems as well as clinical material and experiences to integrate basic sciences into the practice of medicine. Clinical, 40 hours per week. Prereq: Admission to third year of medical curriculum.

MD 837 MEDICAL SURGICAL CARE/SURGERY. (8)
This course is an introduction to the concepts in surgery. It is designed around the principles of Problem Based Learning to help students solve complex surgical problems. The course will use didactic exercises, computer simulated problems and clinical material and experiences to integrate basic sciences into the practice of medicine and surgery. Laboratory, 40 hours per week. Prereq: Admission to third year of medical curriculum.

MD 838 OBSTETRICS AND GYNECOLOGY. (4)
The clerkship will provide an opportunity for students to see the cycle of birth and neonatal care and to observe the mother/infant relationship through the outpatient clinic, labor and delivery, the newborn nursery, and the follow-up examination. Laboratory, 40 hours per week. Prereq: Admission to third year of medical curriculum.

***MD 840 TRANSITION TO RESIDENCY. (4)**
This course is designed to provide fourth year medical students with the foundational knowledge and skills in preparation for the supervised practice of medicine. Students will be divided into small groups dedicated to practice areas to hone the skill specific to their intended area of future practice. Within each group, students will review the foundational science and clinical applications of that knowledge. Simulation using both standardized patients and high fidelity simulators will provide realistic clinical scenarios to practice the wide range of skills necessary for medical practitioners. Prereq: Admission to fourth year of medical curriculum.

MD 841 GERONTOLOGY. (4)
This course combines several teaching techniques to provide students with basic skills necessary to care for elderly patients in a variety of clinical settings. Fourth year students participate in a four-week block rotating at locations in Lexington, with emphasis on assessment and rehabilitation. Laboratory, 40 hours per week. Prereq: Admission to fourth year of medical curriculum.

MD 842 ADVANCED CLINICAL PHARMACOLOGY AND ANESTHESIOLOGY. (4)
This course uses lectures, interactive small groups, and firsthand experience to introduce anesthesiology as it relates to pharmacology and physiology. The course also teaches pharmacology and therapeutics utilizing clinical cases. Students develop their own personal formularies during the course. Laboratory, 40 hours per week. Prereq: Admission to fourth year of medical curriculum.

MD 843 EMERGENCY MEDICINE. (4)
This course will provide the students with an introduction to the field of Emergency Medicine, Emergency Medical Services (EMS), and the approach to the acutely ill or injured patient. The students will complete an ACLS class during this rotation. Laboratory, 40 hours per week. Prereq: Admission to fourth year of medical curriculum. (Same as ER 843.)

MD 855 RURAL PHYSICIAN LEADERSHIP PROGRAM (RPLP) COMMUNITY ENGAGEMENT SELECTIVE. (4)
Students are matched with a community partner based on experience, career goals, and agency needs. Students work with the program and the partner sites to develop a project plan that details clinical leadership, scholarly and administrative activities, which are determined based upon learning outcome goals and agency initiatives. Primary responsibilities include clinical service with individuals, families, and groups, assessment/testing, clinical consultation, student supervision, and administrative duties. In addition, students may participate in program design and development, grant writing, training, or scholarly projects that are intended to improve services within the community agency. Prereq: 4th year medical students in the RPLP Program.

MD 860 CLINICAL DERMATOLOGY I. (4)
Students will spend mornings in the outpatient dermatology clinic and two afternoons per week with inpatient dermatology consultations. Each student will have the opportunity to evaluate and treat patients under the supervision of the attending physician. S/he will be able to observe and assist in minor surgical procedures. Students will attend and participate in didactic interactive sessions once or twice a week, and complete a required on-line dermatology module. Prereq: Successful completion of third year rotations.

ME Mechanical Engineering

ME 101 INTRODUCTION TO MECHANICAL ENGINEERING. (3)
This course introduces the Mechanical Engineering profession including the skills and expectations required for success. Engineering applications of calculus are also presented. Prereq or concur: MA 113.

ME 151 MANUFACTURING ENGINEERING. (3)
A background course in the area of manufacturing processes and systems. Includes a study of machining operations, foundry mechanization, forging, sheet metal work, powder metal products, production molding and production machines and processes.

ME 205 COMPUTER AIDED ENGINEERING GRAPHICS. (3)
Combines freehand sketching techniques, both orthographic and pictorial, and the use of a solid modeling program to describe and define mechanical objects using current industrial standards. An introduction to basic dimensioning and tolerancing techniques is included.

ME 220 ENGINEERING THERMODYNAMICS I. (3)
Fundamental principles of thermodynamics. Prereq: PHY 231. Prereq or concur: MA 214.

ME 310 ENGINEERING EXPERIMENTATION I. (3)
An introductory course in measurement and instrumentation emphasizing measurement errors, elementary statistics, uncertainty analysis, sensors, time and frequency response of instrumentation components, signal conditioning circuitry, and digital data acquisition. Applications include the measurement of strain, pressure, temperature, flow, force, torque, and vibration. Lecture, two hours; laboratory, three hours. Prereq: ME 101, ME 330, EE 305 and engineering standing. Prereq or Co-req: ME 340.

ME 311 ENGINEERING EXPERIMENTATION II. (3)
A laboratory to instruct the student in the performance of basic mechanical engineering components and systems. Performance of experiments, application of theory and reporting. Introduction to error analysis, and design and planning of experiments. Lecture, one hour; laboratory, four hours. Prereq: ME 310, 321, 325 and engineering standing.

ME 321 ENGINEERING THERMODYNAMICS II. (3)
Gas mixtures, air-water vapor mixtures. Air conditioning system design. Principles and design of energy conversion devices, power and refrigeration cycles. Principles of combustion, chemical equilibrium, one-dimensional gas dynamics. Nozzle design. Continuation of ME 220. Prereq: ME 220, MA 214, and engineering standing.

ME 325 ELEMENTS OF HEAT TRANSFER. (3)
Fundamental principles of conduction, convection, radiation heat transfer. Numerical methods for heat transfer problems. Design and applications of heat transfer equipment such as fins and heat exchangers. Prereq: ME 330, MA 214, and engineering standing.

***ME 330 FLUID MECHANICS. (3)**
Introduction to the physical properties of fluids, fluid statics. Equations of conservation of mass, momentum and energy for systems and control volumes. Dimensional analysis and similarity. Principles of inviscid and real fluid flows including derivation and application of the Navier-Stokes equations. Flow through pipes and around bodies. Application and design of fluid handling systems. Prereq: Engineering standing, ME 220, and MA 214.

ME 340 INTRODUCTION TO MECHANICAL SYSTEMS. (3)
Modeling of mechanical, thermal, hydraulic and electrical systems, and other phenomena from a systems viewpoint. Analysis of continuous-time models for free and forced response. Laplace transforms and transfer functions. Introduction to numerical simulation. Analysis of higher-order systems. Prereq: MA 214, and engineering standing. Coreq: EM 313.

ME 344 MECHANICAL DESIGN. (3)
Fundamentals of design with methods of approximation. Introduction to optimum design considerations. Synthesis and problems on the design of various mechanical elements. Prereq: ME 151, EM 302, engineering standing; concur: EM 313.

ME 358 ECONOMIC ANALYSIS OF MECHANICAL SYSTEMS. (3)
Formulation of economic relationships. Familiarization with alternate mechanical systems and application of economic principles of selection of alternates. Prereq: ME 321, engineering standing or consent of instructor.

ME 380 TOPICS IN MECHANICAL ENGINEERING (Variable topics). (3)
A lecture-recitation course on a topic of current interest. Modern developments in mechanical engineering will be stressed. Offered as a technical elective in mechanical engineering. May be repeated to a maximum of nine credits. Prereq: Variable, given when topic identified and engineering standing.

ME 395 INDEPENDENT WORK IN MECHANICAL ENGINEERING. (1-3)
Special research and problems for individual students who wish to pursue independent investigations. Variable credit: may be repeated to a maximum of six credit hours for technical electives. A final report is required. Prereq: Consent of department chairperson via permit.

ME 407 ENGINEERING ETHICS. (1)
Review of the growth and development of the profession, engineering ethics, obligations to employers and peers, limits of professional responsibility, codes of ethics and enforcement, and case studies. Prereq: Registration in the College of Engineering and engineering standing.

ME 408 SAFETY ENGINEERING. (2)
Review of general safety hazards, system engineering safety, fault free analysis, reliability, accident reconstruction and investigation. Case studies will be included. Prereq: Engineering standing and concur: ME 344.

ME 411 ME CAPSTONE DESIGN I. (3)
The first semester of the capstone design sequence in mechanical engineering. Topics important in product design and manufacturing are included, including consideration of economics, safety, and communication. Students will develop a project plan concerned with the design of a complex system of current interest to mechanical engineers. Students will work in small groups and emphasis will be on original work. Lecture, two hours; laboratory/independent team work, three hours per week. Prereq: Engineering standing; prereq: ME 310, ME 325, ME 340, ME 344.

ME 412 ME CAPSTONE DESIGN II. (3)
Second semester of the capstone design sequence in mechanical engineering. Students will complete a project concerned with the design of a complex system of current interest to mechanical engineers. Students will work in small groups and emphasis will be on original work. Topics include engineering ethics, design and communication. Lecture, 1 hour; lab 4 hours per week. Prereq: ME 411 and engineering standing. Course is to be taken semester immediately following ME 411.

ME 440 DESIGN OF CONTROL SYSTEMS. (3)
Fundamentals of classical control theory. Mathematical representation of feedback control systems using block diagrams and transfer functions. Design and analysis of feedback control systems using root-locus, Nyquist, and Bode methods to ensure system stability and meet desired system response specifications. Numerical simulation of feedback control systems. Prereq: ME 310, ME 340 and engineering standing.

ME 480G HEATING, VENTILATING AND AIR-CONDITIONING. (3)
An introductory course emphasizing the engineering systems aspects of thermal environmental design. Principles and applications of building energy requirements and thermal comfort criteria. Prereq: ME 325 and Engineering standing or consent of instructor. (Same as AEN 480G.)

ME 501 MECHANICAL DESIGN WITH FINITE ELEMENT METHODS. (3)
This course emphasizes mechanical design techniques based on the finite element method, using machine design background as the starting point. Techniques for modeling machine elements will be shown in relation to the basic FEM theory. Emphasis will be on quantifying loads, the resulting stress and deflection, and relating them to design allowables, leading to an acceptable design solution. Prereq or concur: Engineering Standing, ME 344 and ME 205; or Graduate standing or consent of instructor. (Same as MFS 501.)

***ME 503 LEAN MANUFACTURING PRINCIPLES AND PRACTICES. (3)**
This course will introduce students to the fundamental concepts of production improvement utilizing lean manufacturing principles and practices. In addition to the lectures, web-based simulations/experiments/games will be used to help learn the application of the tools supported by industry case studies. A Capstone Simulation will be used to demonstrate the collective application of all the tools and techniques (details included below). An application project is also included where students will work in teams to study a real-life manufacturing or service environment to assess the current state, identify improvement opportunities and develop countermeasures for implementation. Prereq: Engineering standing or with instructor permission. (Same as MFS 503.)

ME 505 MODELING OF MANUFACTURING PROCESSES AND MACHINES. (3)
A study of the major manufacturing processes and equipment. Emphasis on mathematical and computer models of these processes, as used in automated manufacturing and control of these processes. Lecture, two hours; laboratory, two hours. Prereq: EM 302, EM 313, and engineering standing; or graduate standing with instructor consent. (Same as MFS 505.)

ME 506 MECHANICS OF COMPOSITE MATERIALS. (3)
A study of the structural advantages of composite materials over conventional materials, considering high strength-to-weight and stiffness-to-weight ratios. Fiber reinforced, laminated and particulate materials are analyzed. Response of composite structures to static and dynamic loads, thermal and environmental effects, and failure criteria are studied. Prereq: EM 302, engineering standing or consent of instructor. (Same as EM/MSE 506.)

ME 507 DESIGN FOR MANUFACTURING. (3)
The topics will include fundamentals of concurrent engineering, product life cycle, product specification, standardization, functional requirements and datum features, selection of materials and manufacturing processes, cost analysis, case studies on designing for quality, economy, manufacturability and productivity. Prereq: ME 344 and engineering standing. (Same as MFS 507.)

ME 510 VIBRO-ACOUSTIC DESIGN IN MECHANICAL SYSTEMS. (3)
Application of basic acoustics and vibrations to engineering problems in vibro-acoustic design. The objective is to acquaint the student with the tools used in industry for noise and vibration control and to make the student aware of the major applications of such tools in the automotive, aerospace, and consumer product industries. Prereq: ME 310, ME 340.

ME 512 MANUFACTURING SYSTEMS. (3)
This course introduces students to fundamentals of design, planning and control of manufacturing systems aided by computers. Concepts of control hardware, NC programming languages, software aspects related to NC manufacturing, programmable controllers, perfor-

mance modeling of automated manufacturing systems, group technology and flexible manufacturing systems, etc. will be addressed. Prereq: Engineering standing. (Same as MFS 512.)

ME 513 MECHANICAL VIBRATIONS. (3)
The analysis of vibrational motion of structural and mechanical systems. Single-degree-of-freedom systems; free vibrations; nonperiodic excitation; harmonic excitation. Modal analysis of multiple-degree-of-freedom systems. Vibration of continuous bodies, including strings and bars (axial, torsional and flexural modes). Energy methods. Prereq: EM 313 and EM 302, engineering standing or consent of instructor. (Same as EM 513.)

ME 514 COMPUTATIONAL TECHNIQUES IN MECHANICAL SYSTEM ANALYSIS. (3)
Computer-based methods of analyzing mechanical systems are studied. The studies include the numerical solution techniques on which the analyses are based. Linear and nonlinear static and dynamic systems are analyzed. Finite element and other engineering software packages are used. Prereq: ME 340 or graduate standing.

#ME 515 ROTORDYNAMICS OF TURBOMACHINERY. (3)
Review of dynamic characteristics unique to high speed rotating shafts in turbomachinery. Equations of motion for a rotor, including gyroscopic effects; computational methods, including finite element; effects of bearings and nonlinearities, stability; application to design situations in high-speed equipment, including aerospace, energy generation, and other industrial applications. Prereq: EM 313 and Engineering standing; pre/co-requisite for Western Kentucky University students: ME 415 and ME 344; pre/co-requisites for UK students: ME 344 and ME 501; or Graduate Standing or consent of instructor. (Same as MFS 515.)

ME 527 APPLIED MATHEMATICS IN THE NATURAL SCIENCES I. (3)
Construction, analysis and interpretation of mathematical models applied to problems in the natural sciences. Physical problems whose solutions involve special topics in applied mathematics are formulated, various solution techniques are introduced, and the mathematical results are interpreted. Fourier analysis, dimensional analysis and scaling rules, regular and singular perturbation theory, random processes and diffusion are samples of selected topics studied in the applications. Intended for students in applied mathematics, science and engineering. Prereq: MA 432G or three hours in an equivalent junior/senior level mathematics course or consent of the instructor. (Same as EM/MA 527.)

ME 530 GAS DYNAMICS. (3)
Consideration of the mass, energy and force balances applied to compressible fluids. Isentropic flow, diabatic flow, flow with friction, wave phenomena and one-dimensional gas dynamics. Applications to duct flows and to jet and rocket propulsion engines. Prereq: ME 321, ME 330 and Engineering standing.

ME 531 FLUID DYNAMICS I. (3)
Stress at a point (introduced as a tensor of rank two). Equation of conservation of mass, rate of strain tensor, derivation of Navier-Stokes equation, source-sink flows, motion due to a doublet, vortex flow, two- and three-dimensional irrotational flow due to a moving cylinder with circulation, two-dimensional airfoils. Prereq: ME 330, MA 432G and Engineering standing.

ME 532 ADVANCED STRENGTH OF MATERIALS. (3)
Unsymmetrical bending of beams, thin plates, stress analysis of thick-walled cylinders, and rotating discs. Theory of elastic energy, curved beams, stress concentration, and fatigue. Prereq: EM 302 and engineering standing. (Same as EM 531.)

ME 548 AERODYNAMICS OF TURBOMACHINERY. (3)
Aerodynamic analysis and design of turbomachines (pumps, compressors and turbines). Blade element performance (deflection and losses), and models for performance prediction are present. Special topics - rotating stall and surge, and aeromechanical considerations. Prereq: ME 321 and ME 330.

ME 549 POWER GENERATION. (3)
Modern powerplants for electric power generation and cogeneration. Thermodynamic analysis of different concepts of powerplants. Design studies of specific powerplants. Prereq: ME 321 and ME 330.

ME 554 CHEMICAL AND PHYSICAL PROCESSING OF POLYMER SYSTEMS. (3)
Theory and practice as related to the chemical and physical processing of polymer systems. Polymer rheology, heat transfer in polymer flows, polymer engineering properties. Polymer processing operations and materials selection; flow instabilities. Prereq: CME 330, CME 425 or ME 325; or consent of instructor. (Same as CME/MFS/MSE 554.)

ME 555 INTRODUCTION TO MICRO-/ NANO-ELECTROMECHANICAL SYSTEMS. (3)
This course provides an overview of micromachined structures with an emphasis on operational theory and fabrication technology. Prereq: Engineering standing or consent of instructor. (Same as EE/MSE 555.)

ME 556 INTRODUCTION TO COMPOSITE MATERIALS. (3)
Applications, materials selection and design of materials. Relation between properties of constituent materials and those of composite. Processing methods for materials and for some structures. Lab focuses on preparation and testing of composite materials and their constituents. Prereq: MSE 201, 301, CHE 236, and Engineering Standing, or consent of instructor. (Same as CME/MSE 556.)

ME 560 ENGINEERING OPTICS. (3)
Fundamentals of geometrical and physical optics; applications as related to problems in engineering design and research; details of some optical measurement techniques; introduction to lasers and their applications to heat transfer and combustion research; inverse analytical techniques for determining optical properties of small particles from light scattering and extinction measurements. Prereq: Engineering standing.

ME 563 BASIC COMBUSTION PHENOMENA. (3)
Simultaneous application of fluid mechanics, heat and mass transfer, chemical kinetics and thermodynamics to combustion. Topics covered include chemical kinetics, chain and thermal explosions, detonation and deflagration, flammability limits, stirred reactors. Flame stabilization in high and low velocity streams, laminar and turbulent diffusion flames, droplet burning, and metal combustion. Prereq: ME 321, ME 330, ME 325 and engineering standing; or graduate standing.

ME 565 SCALE MODELING IN ENGINEERING. (3)
A study of concepts of scale modeling in engineering applications. The course will include dimensionless numbers, scaling laws, and their application in engineering design and research. Prereq: ME 310, ME 321, ME 325.

ME 570 FUNDAMENTALS OF NANOELECTRONIC DEVICES AND MATERIALS. (3)
Energy bonds in crystals; heterostructures; quantum wells and low dimensional systems; the two-dimensional electron gas and MODFET; transmission in nanostructures; current topics in nanoscale devices. Prereq: EE 360 and engineering standing, or consent of instructor. (Same as EE/MSE 570.)

ME 580 HEATING, VENTILATING AND AIR CONDITIONING. (3)
A course emphasizing the use of thermodynamics, fluid mechanics, and heat transfer principles in thermal environmental design. Building energy requirements will be computed and thermal comfort criteria will be studied. Prereq: BAE 427 or ME 321 or consent of instructor. (Same as BAE 580.)

ME 585 FOURIER SERIES AND BOUNDARY VALUE PROBLEMS. (3)
An introductory treatment of Fourier series and its application to the solution of boundary value problems in the partial differential equations of physics and engineering. Orthogonal sets of functions, Fourier series and integrals, solution of boundary value problems, theory and application of Bessel functions and Legendre polynomials. Prereq: MA 432G or equivalent. (Same as MA 485G/EM 585.)

ME 599 TOPICS IN MECHANICAL ENGINEERING (Subtitle required). (3)
A detailed investigation of a topic of current significance in mechanical engineering such as: computer-aided manufacturing, special topics in robotics, and current topics in heat transfer. May be repeated under different subtitles to a maximum of nine credits. A particular topic may be offered at most twice under the ME 599 number. Prereq: Variable; given when topic is identified.

PREREQUISITE FOR GRADUATE WORK: *Students desiring to take any of the following courses should have a thorough working knowledge of chemistry, physics and mathematics.*

ME 601 ADVANCED CAE APPLICATIONS. (3)
This course will include development of theory for application to several topics in advanced engineering applications of computers in design. Typical topics include rolling element bearings, fluid film bearings, rotor dynamics, and elasto-plastic analysis. When appropriate, specialized computer programs will be introduced and utilized to illustrate the application of theory and numerical techniques in the areas covered. Prereq: ME 501.

ME 602 DYNAMICS OF DISTRIBUTED MECHANICAL SYSTEMS. (3)
Applications of small-oscillation shell theory to continuous mechanical systems modeled by shells, plates, rings, arches, membranes, beams, etc. Study of natural frequencies, modeshapes, forced-vibration characteristics, system dampings, dynamic influence function, combination of subsystems, active and passive vibration controls and dampings. Prereq: ME 540 or EM 513, or consent of instructor.

ME 603 MECHANICS OF PLASTIC SOLIDS I. (3)
Permanent changes in shape of solid materials occur as plastic deformations in many engineering applications, such as extrusion, forging and rolling. This course examines the experimental basis and fundamental theoretical framework for plastic materials. The analysis of plastic deformations in simple bending, torsion, tension and compression, and some two dimensional problems are presented. Connection between mechanics parameters, design variables and metallurgical phenomena are discussed. Limit analysis is studied. Prereq: EM 601/ME 641, or EM/ME 651 or consent of instructor.

***ME 606 GLOBAL ISSUES IN MANUFACTURING. (3)**
The need to increase quality, productivity, efficiency and sustainability in manufacturing operations spanning the product, process and systems (manufacturing systems as well as supply chain) domains is essential for companies to be successful. The increased globalization of markets and manufacturing operations, declining natural resources and negative consequences of some manufacturing practices as well as increased legislation in many regions has led to many new challenges that companies must overcome to be successful in competitive markets. This seminar course will introduce students to a variety of global issues in manufacturing through presentations by leading national and international experts in these domains. The seminars will cover a broad range of manufacturing related topics relevant to many disciplines including manufacturing, mechanical and electrical engineering. The course can also

help graduate students identify topical issues that need further investigation and could become potential research topics. (Same as EE/MFS 606.)

ME 607 ANALYSIS OF METAL CUTTING PROCESSES. (3)
Advanced study of metal cutting involving the mechanics of metal cutting including cutting forces, tool-wear/tool-life and temperature analysis, surface finish and integrity, chip control, machinability assessments and advances in cutting tool technology. Prereq: ME 505. (Same as MFS/MSE 607).

ME 610 ENGINEERING ACOUSTICS. (3)
A comprehensive study of wave propagation in fluids; derivation of the scalar wave equation and a study of its elementary solutions for time harmonic and transient waves in one, two and three dimensions. Radiation and scattering of waves at fluid and solid boundaries. Integral equation solution of the scalar velocity wave potential; numerical methods. Prereq or concur: MA 432G.

ME 611 BOUNDARY ELEMENT METHODS IN ENGINEERING. (3)
Introduction of boundary element methods for use in solving common engineering equations, such as the Laplace equation, the Poisson equation, the wave equation, and the diffusion equation. Both the theoretical and numerical aspects of the boundary element technique are presented. Application areas include heat conduction, potential flow problems, acoustic wave propagation, general diffusion, and stress analysis. Prereq: EGR 537 or consent of instructor. (Same as EGR 611.)

ME 613 NONLINEAR OSCILLATIONS. (3)
Many physical systems exhibit some nonlinear behavior. This course presents some methods of analyzing discrete, nonlinear, dynamical systems and applies the methods to typical mechanical systems. Various kinds of nonlinear behavior, including resonance phenomena such as harmonics, parametric excitation, and discontinuous jumps in amplitude are considered. Lyapunov stability criteria and Floquet and Routhian procedures for performing stability analyses of systems are introduced, and their physical interpretations for various systems are studied. Prereq: EM/ME 513.

ME 620 ADVANCED ENGINEERING THERMODYNAMICS I. (3)
Critical treatment of the laws of thermodynamics, relations among thermodynamic properties; stability of systems; thermodynamic processes; selected special topics. Prereq: ME 321.

ME 626 ADVANCED HEAT CONVECTION. (3)
Comprehensive study of heat convection; derivation of equations of convection of mass, momentum, and energy; boundary layer equations; classical solutions of laminar convection problems; turbulent convection; analogies between momentum and energy. Prereq: ME 325, MA 432G or concurrent.

ME 627 RADIATION HEAT TRANSFER. (3)
Principles of thermal radiation, the determination of radiation properties, and the analysis of radiation heat transfer. Results of recent radiation researches are included in the discussions. Prereq: ME 325, MA 432G or concurrent.

ME 628 BOILING AND CONDENSATION. (3)
Phase-change heat transfer including boiling and condensation. Phenomenological treatment of boiling using hydrodynamic instability. Theory of two-phase flow and its application to forced flow boiling. Film and dropwise condensation. Prereq: ME 325.

ME 631 FLUID DYNAMICS II. (3)
A continuation of ME 531 with emphasis on viscous flow. Exact and approximate solutions, boundary layer theory. Jets, wakes, rotating systems, compressible boundary layer and hydrodynamic stability. Prereq: ME 531 or consent of instructor.

ME 634 TURBULENT FLOWS. (3)
Physical and analytical description of turbulent flows, isotropic turbulence, boundary layers and shear flows, free turbulence in jets and wakes. Measurement techniques. Prereq: ME 531; prereq or concur: ME 631.

ME 640 ADVANCED ANALYSIS AND SIMULATION OF DYNAMIC SYSTEMS. (3)
An extension of ME 540 emphasizing advanced techniques. The concept of random processes in mechanical engineering problems; nonparametric and parametric models. The use of correlation, spectral analysis and digital filtering in data analysis and model building. Prereq: ME 540.

ME 641 FOUNDATIONS OF SOLID MECHANICS. (3)
A brief review of vectors and an in-depth discussion of tensors and tensor calculus. Stress, deformation and strain. Continuum balance principles of mass, momentum and energy, the equations of motion and the energy equation. Entropy, the principles of material frame indifference and material symmetry. Various constitutive models, including elasticity (linear and/or non-linear), plasticity and viscoelasticity. Thermoelasticity, hyperelasticity, hypoelasticity, and electroelasticity may also be addressed. Prereq: EM 531 or ME 532 or consent of instructor.

ME 644 ADVANCED DYNAMICS I. (3)
Many physical systems in engineering involve rigid bodies in translation and rotation. Such motions are studied in this course by the use of Euler's Laws. The kinematical description of the motions utilize the concept of reference frames. The inertia properties of rigid bodies, and the energy functions for rigid bodies are covered. Analytical and numerical solutions of dynamical systems of engineering interest are considered. Prereq: EM 313; prereq, or concur: MA 432G.

ME 645 ADVANCED CONTROL SYSTEM ANALYSIS. (3)
Conceptual development and study of complex systems; their synthesis and design; analysis and optimization of system parameters. Input-output relationships; formulation of mathematical models, parameters and constraints on physical systems. Prereq: ME 440 or instructor consent.

ME 647 SYSTEM OPTIMIZATION I. (3)
Introduction to linear and nonlinear optimization and their use in engineering design. Emphasis on numerical approaches and use of optimization methods for engineering systems (e.g. biological, mechanical, structural). Prereq: CS 221 or equivalent; one mathematics course beyond MA 214 or equivalent. (Same as BAE 647.)

ME 651 MECHANICS OF ELASTIC SOLIDS I. (3)
Many engineering applications involve the use of materials that behave elastically when performing their designed function. This course concerns the general analysis of small deformations, stress, and stress-deformation relations for elastic bodies. The solution of typical problems frequently encountered in engineering applications, e.g., extension, bending, and torsion of elastic bars, stress concentrations and thermoelastic behavior, are studied. Some modern computational methods currently used in engineering practice are introduced. Prereq: MA 432G or consent of instructor.

ME 652 MECHANICS OF ELASTIC SOLIDS II. (3)
Continuation of EM 651 with more attention to the fundamental structure of and important historical and contemporary contributions to elastic theory. Extensive use of modern computational methods that were introduced in the first course will provide familiarity with the solution of larger scale, industrially important elasticity problems. Application of the boundary integral equation method (BIE) will be emphasized. Some use also will be made of the finite element method, primarily for comparison with BIE. Instruction will include "hands-on" experience with digital-computer program packages. Prereq: EM 651 or consent of instructor.

ME 653 METHODS OF APPLIED DIFFERENTIAL EQUATIONS. (3)
Integrals of nonlinear partial differential equations; similarity variables and other transformations; perturbation methods; weighted residual methods; numerical methods; selected topics. Prereq: MA 432G or consent of instructor.

ME 690 ADVANCED ALGORITHMS FOR COMPUTATIONAL FLUID DYNAMICS. (4)
Theory and implementation of main algorithms widely used for solving multi-dimensional partial differential equations arising in engineering applications such as fluid dynamics, heat and mass transfer, semiconductor simulation, etc. Numerical solution of steady and time-dependent linear partial differential equations on rectangular domains via finite difference techniques. Linearization methods for treatment of nonlinear problems. Numerical grid generation for transforming irregular domains into rectangular computational grids. Prereq: MA 537, or consent of instructor, and competence with a high-level programming language.

ME 691 CFD I - INCOMPRESSIBLE FLOWS. (3)
This course will cover a control-volume CFD approach for the conservation of momentum, heat and mass transfer. The emphasis will be on the discretization of the transport equations in general coordinates and its application in both structured and unstructured grid arrangements. Modern numerical schemes and pressure solution algorithms will also be covered. An introduction of turbulence modeling will be provided. At the end of the lecture, the students not only are able to understand the basics of commercial software but also will be able to write a general coordinate code for fluid flow, heat and mass transfer applications. Prereq: ME 531.

ME 692 CFD II - COMPRESSIBLE FLOWS. (3)
This second course shall focus on the solution of the compressible Navier-Stokes equations. The Van-Leer's and Roe's approaches will be discussed to derive the discretization equations. Modern shock capturing schemes, such as FCT, TVD and ENO will be introduced. The solution techniques such as ADI, DDADI and line-relaxation will be used to solve the system of equations. Multi-grid acceleration techniques will be introduced to speed up the rate of convergence. Finally, the parallelization of CFD codes using shared and distributed computers will be discussed. Prereq: ME 531 and ME 691.

ME 699 TOPICS IN MECHANICAL ENGINEERING (Subtitle required). (3)
A detailed investigation of a topic of current significance in mechanical engineering. May be repeated to a maximum of nine credits under different subtitles. A particular topic may be offered at most twice under the ME 699 number. Prereq: Variable; given when topic is identified.

ME 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

ME 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

ME 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

ME 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

ME 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

ME 780 SPECIAL PROBLEMS IN MECHANICAL ENGINEERING. (3)
This course consists of individual work in one of the various fields of mechanical engineering. May be repeated three times for a maximum of 12 credits. Prereq: Approval of instructor.

ME 790 RESEARCH IN MECHANICAL ENGINEERING. (1-9)
Work may be taken in any field of mechanical engineering, subject to the approval of the director of graduate studies. May be used to satisfy pre-qualifying examination residency credit. May be repeated to a maximum of 18 hours.

#ME 799 MECHANICAL ENGINEERING GRADUATE SEMINAR. (0)
A series of talks presented by national and local speakers that will provide graduate students with an overview of current research activities in the broad field of Mechanical Engineering. Prereq: Engineering Graduate student standing or consent of instructor.

MED Internal Medicine

MED 616 BIOLOGY AND THERAPY OF CANCER. (3)
Biology of cancer will be discussed at the molecular, cellular and organismic level. Emphasis will be placed on cellular signaling, apostosis and cell cycle unique to cancer cells, which affects tumor cell behavior and its interactions with the host immune system. The biology of hematopoitic cells will also be included. Clinicians active in treatment and research of various types of cancer will be invited to participate in the lectures. Prereq: BCH 501, 502, BIO 685. (Same as MI/PHA 616.)

MED 815 FIRST-YEAR ELECTIVE, MEDICINE. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Medicine. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

MED 825 SECOND-YEAR ELECTIVE, MEDICINE. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Medicine. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

MED 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
MED 850 CLINICAL ENDOCRINOLOGY AND METABOLISM, ADULT
MED 851 GASTROINTESTINAL DISEASE, UK AND VAH
MED 852 DERMATOLOGY-SECTION 1
MED 856 NEPHROLOGY, BONE AND MINERAL METABOLISM
MED 857 PULMONARY MEDICINE
MED 858 CARDIOLOGY-UK
MED 860 INFECTIOUS DISEASES
MED 862 CARDIOLOGY-VAH
MED 863 RESEARCH IN MEDICINE
MED 865 SLEEP MEDICINE
MED 867 PATIENT SAFETY AND SYSTEMS ANALYSIS
MED 870 ACTING INTERNSHIP IN MEDICINE
MED 871 ACTING INTERNSHIP IN CRITICAL CARE MEDICINE
MED 872 ACTING INTERNSHIP IN MED-PEDS
MED 873 MEDICAL SPECIALTIES AND GENERAL MEDICINE CLINICS
MED 874 STUDENT HEALTH SERVICE
MED 875 MEDS-PEDS AMBULATORY ELECTIVE
MED 876 HEMATOLOGY-ONCOLOGY, UK
MED 879 GENERAL MEDICAL CONSULTING SERVICE
MED 890 INTERNAL MEDICINE OFF-SITE

MFS Manufacturing Systems Engineering

MFS 501 MECHANICAL DESIGN WITH FINITE ELEMENT METHODS. (3)
This course emphasizes mechanical design techniques based on the finite element method, using machine design background as the starting point. Techniques for modeling machine elements will be shown in relation to the basic FEM theory. Emphasis will be on quantifying loads, the resulting stress and deflection, and relating them to design allowables, leading to an acceptable design solution. Prereq or concur: Engineering Standing, ME 344 and ME 205; or Graduate standing or consent of instructor. (Same as ME 501.)

***MFS 503 LEAN MANUFACTURING PRINCIPLES AND PRACTICES.** (3)
This course will introduce students to the fundamental concepts of production improvement utilizing lean manufacturing principles and practices. In addition to the lectures, web-based simulations/experiments/games will be used to help learn the application of the tools supported by industry case studies. A Capstone Simulation will be used to demonstrate the collective application of all the tools and techniques (details included below). An application project is also included where students will work in teams to study a real-life manufacturing or service environment to assess the current state, identify improvement opportunities and develop countermeasures for implementation. Prereq: Engineering standing or with instructor permission. (Same as ME 503.)

MFS 505 MODELING OF MANUFACTURING PROCESSES AND MACHINES. (3)
A study of the major manufacturing processes and equipment. Emphasis on mathematical and computer models of these processes, as used in automated manufacturing and control of these processes. Lecture, two hours; laboratory; two hours. Prereq: EM 302, EM 313, and engineering standing; or graduate standing with instructor consent. (Same as ME 505.)

MFS 507 DESIGN FOR MANUFACTURING. (3)
The topics will include fundamentals of concurrent engineering, product life cycle, product specification, standardization, functional requirements and datum features, selection of materials and manufacturing processes, cost analysis, case studies on designing for quality, economy, manufacturability and productivity. Prereq: ME 344 and engineering standing. (Same as ME 507.)

MFS 512 MANUFACTURING SYSTEMS. (3)
This course introduces students to fundamentals of design, planning and control of manufacturing systems aided by computers. Concepts of control hardware, NC programming languages, software aspects related to NC manufacturing, programmable controllers, performance modeling of automated manufacturing systems, group technology and flexible manufacturing systems, etc. will be addressed. Prereq: Engineering standing. (Same as ME 512.)

#MFS 515 ROTORDYNAMICS OF TURBOMACHINERY. (3)
Review of dynamic characteristics unique to high speed rotating shafts in turbomachinery. Equations of motion for a rotor, including gyroscopic effects; computational methods, including finite element; effects of bearings and nonlinearities, stability; application to design situations in high-speed equipment, including aerospace, energy generation, and other industrial applications. Prereq: EM 313 and Engineering standing; pre/co-requisite for Western Kentucky University students: ME 415 and ME 344; pre/co-requisites for UK students: ME 344 and ME 501; or Graduate Standing or consent of instructor. (Same as ME 515.)

MFS 525 ORGANIZATIONAL LEARNING FOR LEAN MANUFACTURING. (3)
Learning organizations are skilled at creating, acquiring, and transferring knowledge, and at modifying their behavior to reflect the new knowledge and insights. In this context, this course will discuss leadership styles, adult learning principles, communication, organizational behaviors, and a structure for learning. Prereq: MFS 503 or consent of instructor.

MFS 526 OPERATIONS MANAGEMENT IN LEAN MANUFACTURING. (3)
Principles and practices of lean manufacturing operations management. The focus is on manufacturing as a sociotechnical system and how to limit variability through various methods of control of basic processes. Emphasis is on managing an effective and efficient technical system. Prereq: Enrollment restricted to junior-level or above students.

MFS 554 CHEMICAL AND PHYSICAL PROCESSING OF POLYMER SYSTEMS. (3)
Theory and practice as related to the chemical and physical processing of polymer systems. Polymer rheology, heat transfer in polymer flows, polymer engineering properties. Polymer processing operations and materials selection; flow instabilities. Prereq: CME 330, CME 425 or ME 325; or consent of instructor. (Same as CME/ME/MSE 554.)

MFS 563 SIMULATION OF INDUSTRIAL PRODUCTION SYSTEMS. (3)
Discrete event simulation and its application to performance analysis of industrial production systems. Topics include concepts for characterizing production systems, approaches to structuring simulation models, instruction in a simulation language, and techniques for comparing alternative system designs and control strategies. Applications to manufacturing, commercial and mining production systems are considered. Prereq: CS 221 or 270, STA 281 or 381, engineering standing. (Same as MNG 563.)

MFS 599 TOPICS IN MANUFACTURING SYSTEMS ENGINEERING (Subtitle required). (3)
A detailed investigation of a topic of current significance in manufacturing systems engineering such as: computer-aided manufacturing, special topics in robotics, and lean/agile manufactur-

KEY: # = new course * = course changed † = course dropped

ing. May be repeated under different subtitles to a maximum of six credits. A particular topic may be offered at most twice under the MFS 599 number. Prereq: Variable; given when topic is identified.

MFS 603 MANAGEMENT FOR A LEAN SYSTEM. (3)
This course provides the MFS student an opportunity to develop skills in managing a lean system at the 'shop floor' level.

MFS 605 SYSTEMS FOR FACTORY INFORMATION AND CONTROL. (3)
Systems approach to manufacturing. Hardware and software for real time control and reporting. Sensor and actuators, controllers, networks, databases, hierarchical and distributed control, CAD/CAM systems, flexible manufacturing systems, group technology, modeling and simulation of factory operations. Lecture, two hours; laboratory, two hours. Prereq: MFS 505. (Same as EE 605.)

***MFS 606 GLOBAL ISSUES IN MANUFACTURING. (3)**
The need to increase quality, productivity, efficiency and sustainability in manufacturing operations spanning the product, process and systems (manufacturing systems as well as supply chain) domains is essential for companies to be successful. The increased globalization of markets and manufacturing operations, declining natural resources and negative consequences of some manufacturing practices as well as increased legislation in many regions has led to many new challenges that companies must overcome to be successful in competitive markets. This seminar course will introduce students to a variety of global issues in manufacturing through presentations by leading national and international experts in these domains. The seminars will cover a broad range of manufacturing related topics relevant to many disciplines including manufacturing, mechanical and electrical engineering. The course can also help graduate students identify topical issues that need further investigation and could become potential research topics. (Same as EE/ME 606.)

MFS 607 ANALYSIS OF METAL CUTTING PROCESSES. (3)
Advanced study of metal cutting involving the mechanics of metal cutting including cutting forces, tool-wear/tool-life and temperature analysis, surface finish and integrity, chip control, machinability assessments and advances in cutting tool technology. Prereq: ME 505. (Same as ME/MSE 607).

MFS 609 LEADERSHIP FOR A LEAN SYSTEM. (3)
Leadership competencies presented in this course are: Design of infrastructure; Toyota model for developing leaders; Importance of matrix structures; Organization behavior dimensions; Human resource management strategy; Procurement systems dynamics; Operations dynamics; distribution logistics; and customer relations. Course presentation will utilize lecture and case study. Prereq: MFS 503.

MFS 611 MANAGING EFFECTIVE ORGANIZATIONS. (3)
A critical examination of behavior and performance within organizations and between organizations. Special attention is paid to the problem of performance at the individual, group, and formal organizational level. (Same as MGT 611.)

MFS 612 DESIGN OF LEAN MANUFACTURING SYSTEMS. (3)
Technical design of manufacturing systems in accordance with lean manufacturing principles. Topics include models for characterization and analysis of factory flow dynamics, production flow analysis, work cell design, and design of pull-based production control systems. Prereq: MFS 503 Lean Manufacturing Principles and Practices.

#MFS 613 SUSTAINABILITY, ETHICS, AND LEADERSHIP IN MANUFACTURING ORGANIZATIONS. (3)
This course is intended to provide future manufacturing managers and leaders a basic understanding of important theories and practices necessary to successfully manage and lead teams to achieve manufacturing organizational objectives. The course is organized into several modules. The first module will focus on developing an understanding and capability to approach ethical and sustainability concerns confronted by manufacturing organizations. This will include coverage of tools to help identify and address societal and environmental obligations of manufacturing organizations and issues confronting them that span multiple cultures and nations. Because people are one of the most important resources in any organization, the second and third modules will address organizational behavior (OB) and individual effectiveness. OB theories and practices that can be used to increase the capability to observe, understand and manage people's behavior will be covered. The last module considers safety and ergonomics as they relate to manufacturing organizations. Coverage will include tools and techniques that can be used to analyze the manufacturing workplaces and ensure its ergonomic design as well as an overview of the current state of occupational safety and health regulations. Prereq: Graduate standing.

MFS 681 SUSTAINABLE QUALITY SYSTEMS DESIGN. (3)
This course provides the theory and principles of sustainable quality production systems as originally developed by Shewhart and Deming. The course will focus on statistical methods from the viewpoint of quality control: at the product specification level; at the product production level; and at the judgment of quality at the inspection level. Prereq: Basic statistics.

MFS 699 TOPICS IN MANUFACTURING SYSTEMS ENGINEERING (Subtitle required). (1-3)
A detailed investigation of a topic of current significance in manufacturing systems engineering such as: computer-aided manufacturing, special topics in robotics, and lean/agile manufacturing. May be repeated under different subtitles to a maximum of six credits. A particular topic may be offered at most twice under the MFS 699 number. Prereq: Variable; given when topic is identified.

MFS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

MFS 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

MFS 780 SPECIAL PROBLEMS IN MANUFACTURING SYSTEMS ENGINEERING. (3)
Course consists of specialized individual work in manufacturing systems engineering. Laboratory, nine hours. May be repeated to a maximum of nine credits. Prereq: Approval of instructor.

MFS 784 RESEARCH PROJECT IN MANUFACTURING SYSTEMS ENGINEERING. (3)
Individual study related to a special research project supervised by the student's advisor. A final written report on the project is required. This course is open only to and required by students pursuing the M.S. in MFS degree with a non-thesis option (Plan B). The course cannot satisfy part of the required thirty hours of course work for Plan B. Prereq: Approval of student's advisor.

MGT Management

MGT 292 INTRODUCTION TO ENTREPRENEURSHIP. (3)
This course provides a broad overview of the art and science of entrepreneurship and venture creation. The essential elements of the entrepreneurial process will be covered including: business planning, business model analysis, entrepreneurial marketing, entrepreneurial finance, legal issues (e.g. managing intellectual property, legal forms of organization), new venture alliances and deals, and social entrepreneurship.

MGT 301 BUSINESS MANAGEMENT. (3)
A study of planning, organizing and controlling; an interdisciplinary approach; actual decision-making cases. Prereq: STA 291, ECO 201, 202 and ACC 202, or consent of instructor.

MGT 309 INTRODUCTION TO INTERNATIONAL BUSINESS. (3)
The course focuses on the management of international businesses, investigating the effects of differences in national requirements, and cultural expectations on management. Prereq: MGT 301.

MGT 320 SURVEY OF HUMAN RESOURCE MANAGEMENT. (3)
Survey of the field of Human Resource Management. Includes an introduction to the topics of labor law, workforce planning, recruitment, selection, training, performance management, compensation, and labor relations. Prereq: MGT 301.

MGT 340 ETHICAL AND REGULATORY ENVIRONMENT. (3)
This course focuses on ethical principles, the nature of the capitalist-collectivist continuum, government influence on business, and the responsibility of business to society. Topics to be considered include major approaches to ethical reasoning, antitrust law, social regulation, and the economic and social theories that undergird the concept of the social responsibility of business. Prereq: Junior standing or consent of instructor.

MGT 341 BUSINESS LAW I. (3)
An introduction to the United States legal system and its application to the business community. Topics to be considered include: contracts, agency, commercial paper, and real property. Prereq: Junior standing or consent of instructor.

MGT 390 SPECIAL TOPICS IN MANAGEMENT (Subtitle required). (3)
Readings, projects, lecture and/or discussion to illuminate current topics of special interest or concern in management. May be repeated to a maximum of six credits. May not be repeated under the same title. A particular topic may be offered at most three times under the MGT 390 number. Prereq: Consent of instructor.

MGT 395 INDEPENDENT STUDY IN MANAGEMENT. (1-6)
Course designed to accommodate students' independent exploration of specific topics within management. Course must be under the supervision of an instructor. May be repeated to a maximum of six credits. Prereq: GPA of 3.0, upper division status, approval of instructor and chairperson.

MGT 410 ANALYSIS OF ORGANIZATIONAL BEHAVIOR. (3)
This course draws on a variety of pedagogical sources – ranging from social psychological theories to in-depth case analyses and organizational simulations – to help students better manage the human and interpersonal challenges they confront in the contemporary workplace. Prereq: MGT 301.

MGT 430 SERVICES MARKETING MANAGEMENT. (3)
This course addresses marketing and management issues and problems faced by service organizations. Marketing and management concepts are broadened and applied to the service organizations. Topics related to service quality, the marketing mix, and service delivery are covered. Prereq: MKT 300, MGT 301. (Same as MKT 430.)

MGT 450 NEGOTIATIONS AND CONFLICT RESOLUTION. (3)
This course focuses on developing your negotiating skills and making you a more confident negotiator. Topics covered include: diagnosing negotiation situations, strategizing and planning upcoming negotiations, learning your preferred negotiating style, dealing with difficult

negotiation partners, buying cars and houses, negotiating job offers, dealing with agents, multi-issue negotiations, multi-party negotiations, ethical considerations in negotiation, and global negotiations. The course emphasizes in-class role playing as a learning tool; thus, class attendance is mandatory. Prereq: MGT 301.

MGT 491 SMALL BUSINESS MANAGEMENT. (3)
An examination of the problems and decisions inherent in the establishment, financing, and management of small business firms. Prereq: MKT 300, MGT 301, MGT 340 and FIN 300.

MGT 492 ENTREPRENEURSHIP AND VENTURE CREATION. (3)
This course examines the key issues that are associated with the discovery and development of entrepreneurial opportunities as it applies to venture creation. Some emphasis is placed on the role of the entrepreneur in society as it pertains to increasing economic and social welfare for others. Students will develop an understanding of entrepreneurship as it relates to the people, opportunity, context and deal aspects of the new venture creation process. Prereq: Senior standing and MKT 300, MGT 301, MGT 340 or MGT 341 and FIN 300.

MGT 499 STRATEGIC MANAGEMENT. (3)
This course focuses on the unique challenges of managing the full range of business functions and processes in single-business and diversified companies. It actively involves students in the exploration of current strategic management concepts, frameworks, and techniques commonly used by top-level managers to gain competitive advantage over rival companies. Prereq: MKT 300, MGT 301, MGT 340, FIN 300 and senior standing.

MGT 608 COMPARATIVE INTERNATIONAL MANAGEMENT. (3)
A comparison of management concepts and practices in different countries and the role of management in economic development; an interdisciplinary approach emphasizing the impact of sociological-cultural factors, legal-political factors and education on management development. Prereq: MGT 301 or consent of instructor.

MGT 610 GLOBAL MANAGEMENT. (3)
This course examines the problems of managing a business enterprise which spans international boundaries. Students will develop an understanding of the political, social, economic, and technological factors driving globalization and will consider the impact of these forces on competition, markets, industry structure, and organization.

MGT 611 MANAGING EFFECTIVE ORGANIZATIONS. (3)
A critical examination of behavior and performance within organizations and between organizations. Special attention is paid to the problem of performance at the individual, group, and formal organizational level. (Same as MFS 611.)

MGT 612 NEGOTIATION AND CONFLICT RESOLUTION. (3)
An action learning course devoted to developing the project management and business process analysis skills necessary to diagnose and solve real-world business problems.

MGT 620 PERSONNEL AND INDUSTRIAL RELATIONS. (3)
Critical examination of theory, research, and managerial practice in the management of human resources. Particular attention is paid to the processes of human resource planning, staffing, compensation, and the management of employee relations. Prereq: MGT 611, ECO 610, ACC 628, MGT 650, MKT 600, ECO 611, FIN 600, MGT 651.

MGT 624 ENTREPRENEURSHIP AND BUSINESS START UPS. (3)
This course is a broad overview of the art and science of entrepreneurship, venture creation and business start-ups. It covers the essential elements of the entrepreneurial process including entrepreneurial marketing, business planning, business model analysis, legal issues, new venture financing, new venture alliances and deals, and social entrepreneurship.

MGT 640 LEGAL AND REGULATORY ENVIRONMENT. (3)
The purposes of this course are: 1) to establish an introductory understanding of the nature, dimensions, and impact of government regulation of business, 2) to explore, in summary fashion, the rudiments of the capitalist-collectivist continuum, 3) to alert the student to ethical dilemmas in the decision process, and 4) to exercise the student's skills in analysis, writing, and speaking. Prereq: Graduate standing; MGT 611, ECO 610, ACC 628, MGT 650, MKT 600, ECO 611, FIN 600, MGT 651.

MGT 641 LEGAL ISSUES IN THE ACCOUNTING PROFESSION. (3)
A study of various legal issues in the accounting profession. Among the topics covered are accountant's liability, commercial transactions, business organizations, property concepts and other issues in the legal environment that will be encountered in accounting practice. Prereq: Admission to MSACC program or consent of DGS.

MGT 690 STRATEGIC THINKING AND ANALYSIS. (3)
This course trains students in the art and science of formulating an integrated perspective and approach toward the general management of an entire enterprise; teaches fundamental tools and methods for balancing the competing demands and often conflicting priorities facing strategic managers; will address economic, cultural, operational, financial, organization, technological, political, interpersonal, and other issues impacting the overall performance of firms.

MGT 695 INDIVIDUAL WORK IN MANAGEMENT. (1-6)
Students confer individually with the instructor. May be repeated to a maximum of six credits. Prereq: Consent of the instructor.

MGT 697 LEADERSHIP, COMMUNICATIONS AND ETHICS. (3)
Political, historical, and philosophical perspectives on the meaning and processes of top management leadership. Applications of leadership perspective to the development of organizational culture, ethics and values, stakeholder relations, business-government relations, and competitiveness.

MGT 699 BUSINESS POLICY AND STRATEGY II. (3)
Strategic issues associated with multi-industry, multi-national, multi-business and start-up management; strategy implementation and institutionalization; planning systems. Prereq: MGT 698 or the equivalent.

MGT 700 ADMINISTRATIVE SCIENCE. (3)
Primary emphasis upon the identification and investigation of the schools of thought concerning the field of administration. Analysis of various theory bases for purposes of integration and generalization will also make up a major portion of the course. Prereq: MGT 301 or consent of instructor.

MGT 712 ORGANIZATIONS AND INDIVIDUAL BEHAVIOR. (3)
Examination of current theory and empirical research regarding the behavior of individuals within organizations. Topics are divided into three phases: major behavioral processes, applied models of individual choice behavior, and specific areas of individual choice and decision.

MGT 713 SEMINAR IN ADVANCED ORGANIZATION THEORY. (3)
Seminar will examine broad range of organization theory and research from a multiple paradigm perspective. Interpretive and critique views and research literature will be among those examined. Prereq: MGT 700 and MGT 711, or equivalent and consent of instructor.

MGT 714 SEMINAR IN MANAGEMENT THEORY AND POLICY. (3)
A broad range of literature on organization strategy and structure is examined. Conceptual frameworks and research relating to the Business Policy decision processes are reviewed and critiqued. Prereq: Permission of instructor.

MGT 763 RESEARCH, DESIGN AND ANALYSIS. (3)
This course deals with the design and analysis of business research. Emphasizes the practical application of analysis of variance and correlational techniques to problems in business research. Focus will be on design, implementation, and interpretation of research. Prereq: MGT/MKT/FIN 762. (Same as MKT 763.)

MGT 780 ADVANCED SOCIAL NETWORK ANALYSIS. (3)
The focus of this course is on the theoretical concepts and methodology of social network analysis, both from a research and applied perspective. The course involves in-depth training in the hands on analysis of social networking data using specialized social network analysis software. Prereq: Consent of instructor.

MGT 781 INDEPENDENT WORK IN MANAGEMENT. (1-6)
Designed for advanced students who undertake research problems to be conducted in regular consultation with the instructor. May be repeated to a total of six credit hours. Prereq: Consent of instructor.

MGT 790 DOCTORAL COLLOQUIUM. (1-2)
The doctoral colloquium is intended to be a professional socialization course for the Ph.D. students in Management. The course features a mix of topics related to the Management Ph.D. program, including research, teaching and service, major transitions in the program, preparation for the professoriate, as well as special research topics such as philosophy of science and guest research lectures.

MGT 795 SPECIAL TOPICS IN MANAGEMENT (Subtitle Required). (3)
Analysis of a specialized topic in management. May be repeated to a maximum of 12 credits when taken under different subtitles. Prereq: Consent of instructor.

MI Microbiology and Immunology

MI 494G IMMUNOBIOLOGY. (3)
A survey of theories and mechanisms of immunity, including: nature of antigens and antibodies, antigen-antibody reactions, immunocompetent cells, immunogenetics, allergic reactions, tumor immunology and transplantation immunology. Prereq: BCH 401G (may be taken concurrently) and BIO 208 or BIO 308 or consent of instructor. (Same as BIO 494G.)

#MI 495G BACTERIAL PATHOGENESIS. (3)
This course will examine the pathogenic mechanisms used by bacteria to cause human disease. Bacterial virulence factors and host susceptibility factors will be discussed, with an emphasis on understanding the techniques that can be used to identify these traits in newly emerging pathogens. Prereq: BIO 308, BIO 315, BCH 401 recommended. Or permission of instructor. (Same as BIO 495G.)

#MI 582 VIROLOGY. (3)
Physical, chemical and biological properties of viruses. Modes of replication and control of gene product formation displayed by representative plant, animal, and bacterial viruses. Prereq: BIO 304 and biochemistry or equivalent strongly recommended, or consent of instructor. (Same as BIO 582.)

MI 590 CELLULAR AND MOLECULAR PHYSIOLOGY. (4)
This course will focus on the cellular and molecular physiology of inter-and intracellular communication. In particular, it will provide an overview of established and emerging intracellular signaling mechanisms which utilize i) cyclic nucleotides (cAMP; cGMP), ii) calcium (phosphatidylinositol metabolism: cyclic ADP-ribose), iii) transmembrane ion fluxes (voltage- and receptor-operated channels), iv) tyrosine kinases, and v) nuclear transcription

factors. The material will be presented in a number of formats including didactic lecture and group discussions of selected readings. Prereq: PGY 412G, PGY 502 or consent of instructor. (Same as PGY 590.)

MI 595 IMMUNOBIOLOGY LABORATORY. (2)
Laboratory in immunology and serology. Preparation, standardization, and uses of biological products; serology. Laboratory; four hours. Prereq: BIO/MI 494G or concurrently; or consent of instructor. (Same as BIO 595.)

MI 598 CLINICAL MICROBIOLOGY. (3)
An introduction to the concepts of clinical microbiology through a survey of the microbial diseases of man using an organ system approach. Prereq: BIO 208 and 209, BIO 476G recommended, CHE 230 or 236, or consent of instructor. (Same as PAT 598.)

MI 601 SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS. (1)
Each semester five distinguished scientists visit the UK campus to deliver a series of three formal lectures each and participate in numerous informal contacts with graduate students. The emphasis is on the presentation of the most current advances (often unpublished) in selected topics in molecular and cellular genetics. May be repeated to a maximum of six credits. (Same as BCH/BIO/PLS/PPA 601.)

MI 611 BIOPATHOLOGY. (3)
The course will examine the mechanisms by which various biological, chemical and physical agents injure susceptible hosts and the complex biochemical and immunological reactions which occur in response to injury. The host defense mechanisms will be illustrated by an analysis of selected human diseases and animal model systems with particular emphasis on the events at the molecular and cellular level. Prereq: BCH 502 or concurrent, BIO/MI 494G or equivalents and consent of instructor. (Same as BIO 611.)

***MI 615 MOLECULAR BIOLOGY. (3)**
This course will develop the student's ability to critically read and evaluate the primary literature in selected areas of molecular biology; various experimental systems and techniques are discussed. While there is some lecture, the time will be predominately spent in class discussions of the primary literature. Prereq: An advanced course in molecular biology and genetics (e.g. IBS 602) or consent of instructor. (Same as BCH/BIO 615.)

MI 616 BIOLOGY AND THERAPY OF CANCER. (3)
Biology of cancer will be discussed at the molecular, cellular and organismic level. Emphasis will be placed on cellular signaling, apostosis and cell cycle unique to cancer cells, which affects tumor cell behavior and its interactions with the host immune system. The biology of hematopoitic cells will also be included. Clinicians active in treatment and research of various types of cancer will be invited to participate in the lectures. Prereq: BCH 502, 502, BIO 685. (Same as MED/PHA 616.)

MI 618 MOLECULAR NEUROBIOLOGY. (4)
This course provides knowledge base and analytical skills in the field of molecular neurobiology. An in-depth introduction to current technologies, their rationale and limitations, will be the focus to address normal brain function and neuropathological conditions. Prereq: BCH 501, 502, NEU 605, or consent of instructor. (Same as ANA/BIO/PGY 618.)

MI 685 IMMUNOBIOLOGY, INFECTION AND INFLAMMATION. (3)
An introductory level graduate course surveying current trends in immunology including the organization of the immune system, cells important for immunity and inflammation; types of immune responses, cellular immunology, molecular immunology, self-nonself discrimination, vaccines and immune mediated diseases. Prereq: BCH 401G, or BCH 501 or 502, IBS 501 or equivalent or consent of the course director. (Same as BIO 685.)

MI 707 CONTEMPORARY TOPICS IN IMMUNOLOGY. (3)
This course will deal with controversial and evolving areas of immunology. Lectures in a given topic will be accompanied by student discussion of contemporary literature. Prereq: MI 685 or equivalent or consent of instructor. (Same as BIO 707.)

MI 710 SPECIAL TOPICS IN MICROBIOLOGY. (2)
A variety of topics relating to modern molecular and cell biology. Prereq: Consent of instructor.

MI 720 MICROBIAL STRUCTURE AND FUNCTION. (3)
Molecular basis of structure and function in unicellular microbes. Molecular genetic and structural approaches to the analysis of bacterial architecture growth, division, and differentiation. Prereq: (to reflect appropriate IBS course). (Same as BIO 720 and OBI 720).

MI 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

MI 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams. (Same as MB 749.)

MI 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

MI 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours. (Same as MB 768.)

MI 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (1-12)
May be repeated indefinitely. (Same as MB 769.)

MI 772 SEMINAR IN MICROBIOLOGY. (0-1)
Review of current literature in microbiology; presentation of papers on work in progress in the department or on assigned topics; reports on meetings of national and international scientific and professional societies and symposia. Required of all graduate students. Two hours per week. May be repeated nine times for a maximum of 10 credits. (Same as BIO 772.)

MI 798 RESEARCH IN MICROBIOLOGY. (1-9)
May be repeated to a maximum of 24 credits. Prereq: Consent of instructor. (Same as BIO 798.)

MI 815 FIRST-YEAR ELECTIVE, MEDICAL MICROBIOLOGY AND IMMUNOLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Medical Microbiology and Immunology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

MI 816 CELLULAR STRUCTURE AND FUNCTION/GENETICS. (4)
The course combines small group meetings, lecture, clinical correlations, problem-based learning, and problem-solving sessions in providing an understanding of the relationship of human genetics to human health and disease. Close integration with biochemistry topics provides a better picture of how biochemistry, genetics and molecular biology contribute to normal human development and medicine. Lecture, 20 hours per week. Prereq: Admission to Medical School (first year).

MI 822 IMMUNITY, INFECTION, AND DISEASE. (9)
The course provides basic concepts of immunology and of bacterial, viral, fungal and protozoal biology. It focuses on mechanisms of human immunity, immunologically mediated disease, and pathogenesis in infectious disease. The material covered includes relevant pathology associated with both immunologic and infectious diseases, and a brief summary of infectious diseases from an organ system perspective. Lecture, 20 hours per week. Prereq: Admission to second year of medical curriculum.

MI 825 SECOND-YEAR ELECTIVE, MEDICAL MICROBIOLOGY AND IMMUNOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Medical Microbiology and Immunology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

MI 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

MKT Marketing

MKT 300 MARKETING MANAGEMENT. (3)
The literature and problems in the retail distribution of consumers' goods, wholesale distribution of consumers' goods, industrial goods, sales organizations, sales promotion and advertising, and price policies. Prereq: ECO 202 or consent of instructor.

MKT 303 SUPPLY CHAIN MANAGEMENT. (3)
The study of supply chain management involves the management of key business processes, the flow of goods and information, and relationships with fellow members of the supply chain. This course will introduce students to the terminology, concepts, and skills related to supply chain management. Students will develop an understanding of the complexities associated with the physical movement of goods and information, and how they affect the mission of the firm. Discussions will address the various processes and activities within an organization and how they interface with other members of the supply chain. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Non B&E Upper Division undergraduate students may be enrolled with the consent of the instructor. (Same as AN 303.)

MKT 306 ANALYTICS: MODELS AND METHODS. (3)
Analytical activities are rapidly expanding in businesses, government and not-for-profit organizations. For the modern enterprise, problems in practically every domain are being formulated as models, which are then used to analyze data – producing explanations and predictions to help solve these problems. Using potentially vast volumes of data, these models are implemented and solved via computers – generating solutions that must then be interpreted and appropriately applied in decisional processes. This course leads students through the steps of model formulation, solution, interpretation, and application in such crucial decision domains as investment, scheduling, production, inventory, and logistics. It furnishes hand-on experiences with such widely used modeling techniques as linear programming, network flow

programming, and multiple-objective decision modeling. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Non-B&E Upper Division undergraduate students may be enrolled with the consent of the instructor. (Same as AN 306.)

MKT 310 CONSUMER BEHAVIOR. (3)
The application of psychology, sociology, and anthropology to marketing. Includes such topics as consumer decision process, communications, interpersonal behavior, innovation. Prereq: MKT 300.

MKT 320 RETAIL AND DISTRIBUTION MANAGEMENT. (3)
Analysis of the functions, structure, policies, and performance of distribution channels and institutions. The course objective is to provide students with an understanding of concepts and decision making tools useful in managing manufacturer-retailer relationships and distribution costs at both the channel and retail level. The course is also concerned with the legal and socio-economic impact of distribution trends and practices. Prereq: MKT 300.

MKT 324 DATA BASE MANAGEMENT. (3)
Databases are the backbone of information systems. Almost every modern organization uses database technology to support its routine operations such as inventory management, customer relationship management, human resources management, and electronic commerce. Database technology is also the foundation of data-driven decision-making that has permeated the business world. With the proliferation of data-driven decision-making and end-user computing, understanding database technologies is necessary for business students to remain competent in the modern business environment. Prereq: Completion of all college pre-major requirements and admission to Upper Division in Business and Economics. Non B&E Upper Division undergraduate students may be enrolled with the consent of the instructor. (Same as AN 324.)

MKT 330 PROMOTION MANAGEMENT. (3)
The objectives of the Promotion Management course are to develop awareness and understanding of the role and functions of promotion within firms and within society and to explicitly attempt to develop student thinking skills, i.e., problem identification, problem analysis, and problem solving, in the area of promotion. Prereq: MKT 300 and MKT 310 or permission of instructor.

MKT 340 INTRODUCTORY MARKETING RESEARCH. (3)
Managerial applications of research in marketing decision making. The course objective is to provide students with expertise in defining information needs, selecting information sources and organizing information in decision-making contexts. Application of major concepts will be illustrated in marketing policy areas. Prereq: MKT 300, ECO 391.

MKT 390 SPECIAL TOPICS IN MARKETING (Subtitle required). (1-3)
Readings, projects, lecture and/or discussion to illuminate current topics of special interest or concern in marketing. May be repeated to a maximum of six credits. May not be repeated under the same title. A particular topic may be offered at most twice under the MKT 390 number. Prereq: Consent of instructor.

MKT 395 INDIVIDUAL WORK IN MARKETING. (1-6)
Student develops a specific program with instructor. One or more papers is typically expected. May be repeated to a maximum of six credits. Prereq: GPA of 3.0 in major, approval of instructor and chairperson.

MKT 403 PRODUCTION AND INVENTORY SYSTEMS. (3)
This course is an advanced introduction to the complexities of managing production and inventory systems. An enterprise's success in today's highly-competitive, often-global business environment, depends on effectively managing its production activities and the related inventories at various production-process stages. Because such decisions are invariably tied to demand forecasts, the course begins with an examination of forecasting. Students are then led through the topics of production planning, master scheduling, material-requirements & manufacturing-resources planning, production activity control, capacity management, and sequencing & scheduling. The course culminates with coverage of contemporary trends toward just-in-time manufacturing systems and lean manufacturing systems. Applications of analogous systems and principles in the service sector are also addressed throughout the course. Prereq: Completion of all college pre-major requirements and admission to Upper Division or graduate student status in Business and Economics. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor. (Same as AN 403G.)

MKT 406 PRODUCTIVITY AND QUALITY MANAGEMENT. (3)
This course is an advanced treatment of two related concepts that are vital to the success of an enterprise: quality and productivity. As a key ingredient of competitive strategy, quality encompasses many attributes of a product or service – such as its design, its features, fit and finish, durability, safety, and customer treatment. In highly competitive settings, a firm that achieves and sustains high quality levels for its goods and/or services, while remaining at least as efficient as competitors in processes used to produce these outputs, tends to outperform its competitors. Beginning with an examination of connections between quality and productivity, this course examines their underlying philosophic, strategic, and human issues. The coverage includes emergent practices for continuous improvement including Kaizen, Six Sigma, customer relationship management, and strategic planning. Prereq: Completion of all college pre-major requirements and admission to Upper Division or Graduate Student status in Business and Economics. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor. (Same as AN 406G.)

MKT 410 PERSONAL SELLING. (3)
A detailed exposure to personal selling techniques. Emphasis placed on sales process, especially planning and delivery of sales presentations. Selected sales management topics include recruiting, training, motivating and evaluating sales people, as well as ethical and legal issues. Prereq: MKT 300 and marketing majors only.

MKT 420 DATA MINING. (3)
Data mining is concerned with tools and techniques to help a data/business analyst numerically and visually explore vast data sets, classify data, predict outcomes, or identify associations, patterns, and exceptional events. In practical terms, such capabilities allow firms to better segment markets, evaluate and classify stocks, identify prospective customers, foretell contingencies and catastrophes, identify defaulters and fraudulent transactions, measure churn, identify threats, perform service requests, bundle goods and services, recognize how events (e.g., purchases) are likely to unfold over time, and so on. Such capabilities often make the difference between survival and demise in today's increasingly global, increasingly competitive, and increasingly volatile business settings. Prereq: Completion of all college pre-major requirements and admission to Upper Division or graduate student status in Business and Economics. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor. (Same as AN 420G.)

MKT 430 SERVICES MARKETING MANAGEMENT. (3)
This course addresses marketing and management issues and problems faced by service organizations. Marketing and management concepts are broadened and applied to the service organizations. Topics related to service quality, the marketing mix, and service delivery are covered. Prereq: MKT 300, MGT 301. (Same as MGT 430.)

MKT 435 INTERNATIONAL MARKETING. (3)
The primary objectives of this course are to: 1) familiarize the student with selected strategic marketing issues in a multinational environment, 2) examine alternative ways by which a firm can expand internationally, and 3) help the student develop a systematic approach for dealing with global and international marketing issues. Prereq: MKT 300.

MKT 440 TOPICS IN ANALYTICS. (3)
This course covers contemporary topics in enterprise data, analysis, and decision making. Past coverage has included Data Mining, Data Communications, and Valuation of Information. The topics covered would also be valuable to students from programs such as Computer Science, Telecommunications, Statistics and Engineering. Prereq: Completion of all college pre-major requirements and admission to Upper Division or Graduate Student status in Business and Economics. Non-B&E Upper Division undergraduate students and graduate students may be enrolled with the consent of the instructor. (Same as AN 440G.)

MKT 445 SPORTS MARKETING. (3)
The purpose of the course is to develop an understanding of strategic marketing concepts and activities as they apply to the context of sports. Marketing concepts and activities related to the marketing mix, consumer/fan behavior, and business organization-sport organization relationships will be examined. Prereq: MKT 300 and Marketing majors only.

MKT 450 MARKETING STRATEGY AND PLANNING. (3)
As the capstone course for marketing majors, this class examines analytical processes for managerial marketing decisions. Topics will include such problem areas as product planning, distribution systems, advertising strategies, information systems, pricing decisions and buying behavior. Prereq: MKT 300, MKT 310, MKT 340 and one other marketing elective.

MKT 600 MARKETING MANAGEMENT. (3)
This course is designed to provide students with an understanding of: the role of marketing function in an organization; the types of marketing decisions and analytical procedures involved in making each decision; the overall marketing planning process; and, the impact of the social, economic, and legal environment on marketing decisions. Prereq: Completion of first semester of MBA program, graduate standing, MGT 611, ECO 610, ACC 628, MGT 650.

MKT 601 MARKETING RESEARCH. (3)
MKT 601 entails a vigorous examination of research methodology applicable to marketing situations. Emphasis is placed on 1) experimental design, 2) survey design and administration, and 3) analytical procedures. Practical application of marketing research is stressed. Legal and social issues are also examined. Prereq: MKT 600, MGT 650, and MGT 651.

MKT 611 NEW PRODUCT DEVELOPMENT. (3)
An examination of how firms manage the new product development or service process. Topics covered include ideation, screening; design and prototyping; product portfolio management, new product launch and product acceptance. Prereq: DIS 651; ECO 610; MKT 600.

MKT 622 SALES MANAGEMENT. (3)
MKT 622 entails a comprehensive examination of the planning, implementing, and control of personal contact programs designed to achieve the sales objectives of the firm. Managerial decision-making is emphasized through the application of lecture material, readings, and case studies. Prereq: Completion of first year of MBA program or permission of instructor.

MKT 623 MARKETING IN SERVICE AND NONPROFIT ORGANIZATIONS. (3)
The purpose of the course is to broaden and apply the conceptual system of marketing to the marketing problems of service and nonprofit organizations. Concepts such as marketing mix, marketing segmentation, market positioning, channels of distribution and others will be applied to the problems of service and nonprofit organizations. Prereq: MKT 600 or permission of the instructor.

MKT 624 INTERNATIONAL MARKETING MANAGEMENT. (3)
Examines the broad implications for marketing strategy and decision making of the firm in an international context. Addresses comprehensive survey of firm entry strategies, marketing mix decisions, product policies, and environmental factors in a global context. Context-based problems such as implicit barriers to entry through distribution channel management will also be addressed. Prereq: MKT 600 or permission of instructor.

MKT 695 INDIVIDUAL WORK IN MARKETING. (1-6)
Students confer individually with the instructor. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

MKT 700 SEMINAR IN MARKETING MANAGEMENT. (3)
A doctoral seminar directed toward the basic decision areas of marketing management. Emphasis is on traditional, classic, and contemporary literature that presents important conceptualizations of marketing practices and empirical research in marketing management. Prereq: Consent of instructor.

MKT 710 SEMINAR IN CONSUMER BEHAVIOR. (3)
The seminar is specifically designed for the needs of doctoral students in marketing in that it emphasizes empirical research, theory and methodology as they relate to consumer behavior. The objectives of the seminar are (1) to familiarize the students with the literature of consumer behavior, (2) to stimulate critical thinking about existing research, and (3) to evaluate existing theories, conceptualizations, and models of buyer behavior. Prereq: Consent of instructor.

MKT 720 SEMINAR IN MARKETING THEORY. (3)
A survey, analysis and evaluation of the current research in marketing theory. Detailed attention is given to problems of determining the meaning and boundaries of marketing theory. Emphasis is placed on introducing the student to the substantive content of marketing theories and their methodologies. Prereq: MKT 600 or consent of instructor.

MKT 763 RESEARCH, DESIGN AND ANALYSIS. (3)
This course deals with the design and analysis of business research. Emphasizes the practical application of analysis of variance and correlational techniques to problems in business research. Focus will be on design, implementation, and interpretation of research. Prereq: MGT/MKT/FIN 762. (Same as MGT 763.)

MKT 771 SEMINAR IN BUSINESS ADMINISTRATION. (3)
Each semester some topic currently discussed in scholarly journals in business administration will be studied intensively. May be repeated to a maximum of nine credits. Prereq: Consent of instructor.

MKT 781 INDEPENDENT WORK IN MARKETING. (1-6)
Designed for advanced students who undertake research problems to be conducted in regular consultation with the instructor. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

MLS Medical Laboratory Science

MLS 120 MEDICAL LABORATORY SCIENCE AS A CAREER. (1)
Medical Laboratory Science encompasses multiple major and minor discipline areas thus offering various career opportunities. In this course, we will explore these discipline areas and career opportunities as well as discuss the changing roles of laboratory practitioners.

MLS 400 LABORATORY TECHNIQUES AND PHLEBOTOMY. (2)
Students will be introduced to basic clinical laboratory principles and techniques and provided an opportunity to learn and practice the skills necessary for obtaining a blood specimen by venipuncture and dermal puncture. This course includes a mandatory clinical phlebotomy training opportunity that provides the student with experience collecting venous blood specimens for laboratory testing. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 410 MEDICAL LABORATORY BIOCHEMISTRY. (3)
This course provides the student with an understanding of biochemical systems in the body. During this course, the student will be able to describe how these systems work, the interaction between the systems and understand the consequences that occur when there is a disruption of a system. At the completion of this course, the journey through these metabolic pathways will provide a relevant and informative experience. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 420 CLINICAL IMMUNOLOGY AND SEROLOGY. (3)
This course is designed to provide students with a comprehensive study of the immune system including principles of immunological and serological procedures, immunological disorders and diseases, and significance of laboratory methods used for diagnosis. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 430 CLINICAL MYCOLOGY, PARASITOLOGY, AND VIROLOGY. (3)
The study of clinically significant fungi, parasites and viruses. Included are the morphological characteristics, pathogenicity, epidemiological characteristics, laboratory testing and treatment. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 440 MOLECULAR TECHNIQUES. (3)
This course focuses on the newest medical laboratory discipline known as molecular diagnostics. The content will include principles of molecular diagnostics, principles and procedures of molecular techniques, and the application of these techniques that aid in identification and diagnosis of conditions and disease states. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 450 MLS EDUCATION AND MANAGEMENT. (3)
This course will focus on concepts of laboratory organization, principles of laboratory management, and fundamental instructional skills necessary for the entry-level medical laboratory scientist. Additional course topics include leadership, career planning, and professionalism. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 460 CLINICAL HEMATOLOGY. (3)
This course is a study of the formed elements of the blood including the practice of routine and specialized test procedures. Anemias, leukemias and non-malignant disorders are discussed and emphasis is placed on the correlation of hematology test results with these diseases and disorders. Prereq: Admission to the Medical Laboratory Science Program or consent of instructor.

MLS 461 CLINICAL MICROBIOLOGY. (3)
The study of medically significant microbiology, including normal flora and pathogens. Lectures also cover microbial physiology, interactions between host and pathogenic microorganisms, and the clinical and epidemiological consequences of these interactions. Clinical bacteriology knowledge will be applied through case studies. Prereq: Admission to the Medical Laboratory Science Program or consent of instructor.

MLS 462 CLINICAL CHEMISTRY. (3)
This course focuses on the study of the theory and practice of routine and specialized clinical chemistry laboratory testing. This will include discussion of quality assurance issues and instrumentation principles, problem-solving scenarios, and an emphasis on accuracy and confidentiality of patient laboratory findings. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 463 IMMUNOHEMATOLOGY. (3)
This course consists of the primary principles and practices of blood banking which include blood group systems, antibody detection and identification, compatibility testing, quality control requirements, instrumentation, blood transfusion, donor selection, and component preparation. In addition, the course will focus on advanced immunohematology topics including transfusion therapy, apheresis and component therapy, hemolytic diseases, histocompatibility (HLA), testing, and federal regulation of blood banking. Prereq: Admission to the Medical Laboratory Science Program or consent of instructor.

MLS 464 BODY FLUIDS AND HEMOSTASIS. (2)
This course is a combination of three minor medical laboratory disciplines including Urinalysis, Body Fluid Analysis, and Hemostasis. Urinalysis will include a comprehensive study of the urinary system, principles and methods of testing urine, and urinary disorders or diseases. Body Fluid Analysis will include a study of the various fluids analyzed in the laboratory, principles and methods of testing these fluids, and any associated diseases. Hemostasis is the study of blood coagulation and will include the study of this process, principles and methods of testing, and hemostatic disorders and diseases. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 465 CLINICAL HEMATOLOGY LABORATORY. (2)
Laboratory experiences will provide students with the practice of clinical hematology testing. Experiences will include testing with manual and automated procedures, instrumentation principles, role of quality assurance, and the promotion of problem-solving skills. Special emphasis will be placed on the relationship of clinical hematology test results and associated disease states. Prereq: Enrollment in or successful completion of MLS 460.

MLS 466 CLINICAL MICROBIOLOGY LABORATORY. (2)
Basic techniques will be practiced in the student laboratory and conventional microscopic, cultural and immunologic techniques used for the isolation and identification of microorganisms, that are pathogenic to humans, will be reviewed. Prereq: Enrollment in or successful completion of MLS 461.

MLS 467 CLINICAL CHEMISTRY LABORATORY. (2)
This laboratory course includes various basic laboratories associated with the study of clinical chemistry theory and problem-solving. Laboratories will include the study of assays for routine clinical chemistry testing as well as more specialized testing. Students will perform these assays under simulated conditions and will abide by best laboratory practices. Safety and quality control of all procedures will be expected from students. Prereq: Enrollment in or successful completion of MLS 462.

MLS 468 IMMUNOHEMATOLOGY LABORATORY. (2)
Clinical laboratory practice in blood banking procedures and testing. Laboratories will include blood group system identification, antibody detection and identification, compatibility testing; quality control testing, and an introduction to immunohematology (blood bank) instrumentation. Prereq: Enrollment in or successful completion of MLS 463.

MLS 469 BODY FLUIDS AND HEMOSTASIS LABORATORY. (2)
Laboratory experiences will provide students with the practice of urinalysis and other body fluid analysis, and hemostasis testing. Experiences will include testing with manual and automated procedures, instrumentation principles, role of quality assurance, and the promotion of problem-solving skills. Special emphasis will be placed on the relationship of test results and associated disease states. Prereq: Enrollment in or successful completion of MLS 464.

MLS 470 CLINICAL CORRELATIONS. (3)
This course is designed to review primary concepts taught in the major medical laboratory science disciplines. Reviews will be conducted by utilization of clinical and multi-disciplinary case studies, certifying mock examinations, comprehensive writing activity, and additional review assignments. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 475 ADVANCED TOPICS IN MEDICAL LABORATORY SCIENCE (INDEPENDENT STUDY). (1-3)
Independent study for undergraduate students with an interest in a specific problem, topic, or issue in Medical Laboratory Science. Prereq: Admission into the Medical Laboratory Science Program and consent of instructor.

MLS 476 VARIABLE TOPICS IN MEDICAL LABORATORY SCIENCE. (1-3)
In-depth study of a current problem or issue related to the medical laboratory science profession. Prereq: Admission into the Medical Laboratory Science Program or consent of instructor.

MLS 480 CLINICAL HEMATOLOGY PRACTICUM. (1-4)
This course consists of a supervised practicum in which students will integrate practice and theory of clinical hematology in a health care setting and expose them to the scope of work, variety of tests, and automation found within the hematology department. Laboratory, 35-40 hours per week. The number of credits will depend on the student's prior experience. Prereq: Successful completion of MLS 460 and MLS 465.

MLS 481 CLINICAL MICROBIOLOGY PRACTICUM. (1-4)
This course consists of a supervised practicum in which students will integrate practice and theory of clinical microbiology in a health care setting and expose them to the scope of work, variety of tests, and automation found within the microbiology department. Laboratory, 35-40 hours per week. The number of credits will depend on the student's prior experience. Prereq: Successful completion of MLS 461 and MLS 466.

MLS 482 CLINICAL CHEMISTRY PRACTICUM. (1-4)
This course consists of a supervised practicum in which students will integrate practice and theory of clinical chemistry in a health care setting and expose them to the scope of work, variety of tests, and automation found within the hematology department. Laboratory, 35-40 hours per week. The number of credits will depend on the student's prior experience. Prereq: Successful completion of MLS 462 and MLS 467.

MLS 483 IMMUNOHEMATOLOGY PRACTICUM. (1-4)
This course consists of a supervised practicum in which students will integrate practice and theory of immunohematology (blood bank) in a health care setting and expose them to the scope of work, variety of tests, and automation found within the immunohematology department. Laboratory, 35-40 hours per week. The number of credits will depend on the student's prior experience. Prereq: Successful completion of MLS 463 and MLS 468.

MLS 485 SPECIAL TOPICS PRACTICUM. (1-3)
This course offers students an opportunity to observe and learn in an area of clinical laboratory sciences not found in the routine laboratory. Laboratory, 35-40 hours per week. Prereq: Consent of MLS Program Director.

MNG Mining Engineering

MNG 101 INTRODUCTION TO MINING ENGINEERING. (1)
Orientation to the mining engineering profession; introduction to key mining engineering activities and functions; mining methods and equipment; health and safety subsystems.

MNG 191 MINE GRAPHICS. (1)
This course is designed to provide students an understanding of CAD core functionality and features so that they can create, edit, and organize their engineering drawings. It covers essential CAD commands and functions, including coordinate systems, drawing tools, layer management, dimensioning, undoing and altering, moving and duplicating, arrays, blocks, viewports, file maintenance, measurement and calculations, plotting and printing. The course emphasizes hands-on experience with CAD software and practical applications in mining and processing applications.

#MNG 201 MINING ENGINEERING FUNDAMENTALS. (3)
Introduction to the fundamentals of mining engineering and the profession. Prospecting and exploration concepts introduced including ore reserve estimation techniques. Underground and surface mining methods will be studied with emphasis to applications to given deposit types and spatial constraints. General mine plan, sequence of development and cycle of operations for each method evaluated along with required auxiliary operations and equipment.

MNG 211 MINE SURVEYING. (2)
Surveying as applied to mining engineering, including the use and care of surveying instruments, measurement of horizontal and vertical distances, angles and direction, collection of ground and underground data for the design and layout of surface and underground mineral workings; and some aspects of the precise determination of position and direction for survey control. Prereq: MNG 101 and MA 113 or consent of instructor.

MNG 264 MINING METHODS. (3)
A study of the principal underground and surface mining methods practiced in coal and hard rock mines; method classification; support and equipment requirements; general mine planning; sequence of development, cycle of operations, and method application and variation. Prereq: MNG 101 or consent of instructor.

MNG 291 ELEMENTS OF MINE DESIGN. (2)
Practical knowledge of computational tools used in mine design projects for both underground and surface mining. Basic elements in modern mine modeling through the manipulation of software packages commonly used by mining engineers. Projects will cover the areas of surveying, geology, economics and mining. Prereq: MNG 191, MNG 264.

***MNG 301 MINERALS PROCESSING. (3)**
Principles and practices of mineral processing with emphasis on state-of-the-art separation technologies. Mineral deposits, sampling theory, slurry calculation, and particle motion in fluid streams. Unit operations for processing particulate materials. Crushing and grinding, screening, gravity separation, magnetic and electrostatic separation, froth flotation, dewatering and clarification. Flowsheets, process selection and plant performance evaluation. Prereq: CHE 105, MA 114, PHY 231, engineering standing.

MNG 302 MINERALS PROCESSING LABORATORY. (1)
Application of the principles studied in MNG 301. Laboratory, two hours. Prereq or concur: MNG 301.

MNG 303 DEFORMABLE SOLIDS LABORATORY. (1)
Experimental studies of the mechanical properties of materials and structural elements. Laboratory, four hours per week for three-fourths of the semester. Prereq or concur: EM 302.

MNG 322 MINE SAFETY AND HEALTH MANAGEMENT AND PROCESSES. (2)
History and overview of mine health and safety; effective health and safety management systems; building a health and safety culture; hazard anticipation and identification, risk management and hazard control; Federal processes for health and safety system management; mine safety and health resources; mine laws, including safety regulations and interpretations for mining engineers and supervisors; and contemporary issues in mine safety. Prereq: MNG 101; concur: MNG 264 or consent of instructor.

MNG 331 EXPLOSIVES AND BLASTING. (2)
Drilling and drill performance, types and properties of commercial explosives, initiation and priming, explosives selection, blast design, explosives applications, environmental effects, and safety and regulatory compliance. Prereq: MNG 264 or consent of instructor.

MNG 332 MINE PLANT MACHINERY. (3)
Theory and practice of mine haulage, hoisting, and drainage and pumping. Application of engineering principles to the analysis and selection of materials handling mediums for the minerals industry. Prereq: MNG 264, PHY 231; concur: EM 221 and ME 330 or CME 330.

***MNG 335 INTRODUCTION TO MINE SYSTEMS ANALYSIS. (3)**
An introduction to probability, statistics, and statistical inferential reasoning. Probability distributions for discrete and continuous random variables; descriptive statistics and claims arising from them; construction and evaluation of claims arising from formal statistical inference conveyed in confidence intervals and hypothesis tests; analysis of variance; information literacy for statistical inferential reasoning. The course emphasizes mining applications. Prereq: MA 113, or equivalent quantitative foundations course, and MNG 201, or consent of instructor.

MNG 341 MINE VENTILATION. (3)
Hazards of dust and gaseous contamination of mine atmosphere, air dilution requirements, flow distribution in mine network, computer analysis of the ventilation network, natural ventilation and fans. Lecture, two hours; laboratory, three hours. Prereq: Engineering standing and prerequisite or concurrent ME 330.

MNG 371 PROFESSIONAL DEVELOPMENT OF MINING ENGINEERS. (3)
Development of professional skills important to the practice of mining engineering. Topics include written and oral communication skills, understanding ethical responsibility and appropriate ethical conduct, real world problem formulation and solution skills, exercise of abilities important to lifelong learning, knowledge of contemporary issues important to mining engineering. Concur: COM 199; prereq: engineering standing.

MNG 395 INDEPENDENT WORK IN MINING ENGINEERING. (1-6)
Individual work on some selected problem in the field of mining engineering. May be repeated for a maximum of six credits. Prereq: Consent of department chairperson and the instructor, engineering standing.

MNG 431 MINING ENGINEERING ECONOMICS. (2)
Engineering economics including discounted cash flow, opportunity cost of capital, cost (incremental, sunk, etc.), net present value and rate of return, and uncertainty; topics in mineral economics. Prereq: Engineering standing.

MNG 435 MINE SYSTEMS ENGINEERING AND ECONOMICS. (4)
Optimization of mining systems and investment decisions based on the time value of money and the application of deterministic and stochastic models. Application of advanced features in spread-sheet programming for solving mine systems problems. Prereq: MNG 335 and Engineering Standing.

***MNG 463 SURFACE MINE DESIGN. (3)**
Principles of surface excavations designs related to quarries and mines; including orebody description, pit layouts and excess spoil disposal areas, stability of the slopes, material handling

and surface drainage control. Surface mine planning and scheduling, equipment selection, cost estimating, optimization. Prereq: MNG 211, MNG291, MNG 331, Engineering Standing.

MNG 511 MINE POWER SYSTEM DESIGN. (3)
A study of mine power distribution systems, major power system components, and techniques of power system analysis. Topics include per-unit analysis; symmetrical component analysis; grounding, including ground-bed design, ground-resistor sizing, and ground wire monitoring; cable and transformer sizing; and load-flow analysis. Course may not be used to satisfy degree requirements in electrical engineering if credit is earned in EE 538. Prereq: EE 305 or equivalent and engineering standing.

MNG 531 ADVANCED BLAST DESIGN AND TECHNOLOGY. (3)
Advanced theory and application of explosives in excavation; detailed underground blast design; specialized blasting including blast casting, construction and pre-splitting. Bulk systems for blasting, electronic detonators, and introduction to demolition blasting. Introduction to blasting research. Examination of field applications. Prereq: MNG 331, engineering standing.

MNG 541 COMPUTER DESIGN OF MINE VENTILATION SYSTEMS. (3)
Computer methods applied to the design and analysis of mine ventilation networks; flow distribution, location and size of regulators and fans; evaluation of existing ventilation systems and application of correction methods to improve effectiveness of ventilation system. Prereq: MNG 341 with a **C** or higher.

MNG 551 ROCK MECHANICS. (4)
Determination of the physical properties of rocks, rock mass classification, stress around mine openings, strain and displacement of the rock mass, rock reinforcement and support, stress interaction and subsidence, strata control. Lecture, three hours; laboratory, three hours per week. Prereq: EM 302, MNG 303, GLY 220, and engineering standing.

MNG 561 MINE CONSTRUCTION ENGINEERING I. (3)
Development of underground capital openings (shafts, chambers, tunnels, and drifts) in mines. Design and construction under normal conditions. Organization and management of construction operations. Prereq: MNG 551.

MNG 563 SIMULATION OF INDUSTRIAL PRODUCTION SYSTEMS. (3)
Discrete event simulation and its application to performance analysis of industrial production systems. Topics include concepts for characterizing production systems, approaches to structuring simulation models, instruction in a simulation language, and techniques for comparing alternative system designs and control strategies. Applications to manufacturing, commercial and mining production systems are considered. Prereq: CS 221 or 270, STA 281 or 381, engineering standing. (Same as MFS 563.)

MNG 575 COAL PREPARATION DESIGN. (3)
Design a coal preparation plant by integrating unit operations preceded by certain back-up laboratory experiments. Cost sensitivity analysis of competing design schemes will be determined on a selected coal. Lecture: two hours; laboratory: three hours per week. Prereq: MNG 301 or equivalent, engineering standing.

MNG 580 MINERAL PROCESSING PLANT DESIGN. (3)
Design of mineral processing plants including the associated unit operations; flowsheet development, unit selection, sizing and number, water/mass flow balancing. Prereq: MNG 301, 302; engineering standing.

MNG 591 MINE DESIGN PROJECT I. (2)
First course of a two-part capstone design project. Emphasis is on ore reserve evaluation, development of a preliminary mine plan, design of auxiliary processes, teamwork, and oral and written communication. Minable reserves will be quantified and quality distribution assessed. An appropriate mining technique will be identified and implemented into a proposed mine design. Lecture, one hour; laboratory, three hours per week. Prereq: MNG 211, MNG 291, and engineering standing

MNG 592 MINE DESIGN PROJECT II. (3)
Students will undertake a major design project such as the overall design of a mining system, including design of major components of the system and economic evaluation. Students will write reports documenting this design, which will also be presented orally before a group of peers and invited experts. Prereq: MNG 332, MNG 341, MNG 551, MNG 591, and engineering standing.

MNG 599 TOPIC IN MINING ENGINEERING. (2-3)
A detailed investigation of a topic of current significance in mining engineering. May be repeated to a maximum of six credits, but only three credits can be earned under the same title. A particular topic may be offered at most twice under the MNG 599 number. Prereq: Engineering standing and consent of instructor.

MNG 611 MINE POWER SYSTEM PROTECTION. (3)
A study of components and methods for providing protection to mine electrical systems. Review topics include power distribution arrangements, per-unit system, and symmetrical components. Course topics include sources of transients and faults, protective equipment, phase Overcurrent relaying, and ground fault protection. Prereq: MNG 511.

MNG 621 INSTRUMENTATION FOR BLASTING AND BLAST MITIGATION. (3)
In depth coverage of instrumentation utilized for commercial/mine blast analysis as well as instrumentation used in blast mitigation testing. The course includes hands on operation of advanced instrumentation systems in a laboratory setting. Prereq: MNG 331 or MNG 531.

MNG 641 ADVANCED MINE VENTILATION. (3)
Planning, designing and redesigning the ventilation systems using computers; data acquisition (ventilation survey); non-steady state flow in mine openings; influence of the ventilation conditions upon the dynamics of the methane concentration; automation of the ventilation system. Lecture, two hours; laboratory, two hours. Prereq: MNG 341.

MNG 690 ADVANCED MINERAL BENEFICIATION ENGINEERING. (3)
State of the art techniques in mineral beneficiation and their application in coal and mineral preparation industry. Prereq: MNG 301 and MNG 572.

MNG 691 SIMULATION OF MINERAL PROCESSING CIRCUITS. (3)
Flowsheet modeling and analysis for coal preparation and ore dressing plants. Topics include unit models for comminution, gravity separation, and froth flotation; relevant techniques for solving systems of nonlinear equations; convergence acceleration techniques; sequential modular, simultaneous modular, and equation-solving flowsheeting frameworks; flowgraph techniques for analysis of certain classes of mineral processing circuits. Prereq: MNG 575.

MNG 699 TOPICS IN MINING ENGINEERING (Subtitle required). (3)
A detailed investigation of a topic of current interest in mining engineering. May be repeated to a maximum of six credits, but only three credits may be earned under the same subtitle. A particular topic may be offered only twice under the MNG 699 number. Prereq: Consent of instructor.

MNG 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

MNG 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

MNG 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

MNG 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

MNG 769 RESIDENCE CREDIT FOR DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

MNG 771 SEMINAR IN MINING ENGINEERING. (1)
Review of current research in specific areas of mining engineering. Required of all graduate students. Prereq: Graduate classification.

MNG 780 SPECIAL PROBLEMS IN MINING ENGINEERING. (1-6)
Individual work on some selected design problems in one area of mining engineering. May be repeated to a maximum of six credits. Prereq: Approval of the chairperson of the department.

MNG 790 SPECIAL RESEARCH PROBLEMS IN MINING ENGINEERING. (1-9)
Individual work on some selected problems in one of the various fields of mining engineering. Laboratory and field measurements, six hours. May be repeated to a maximum of nine credits. Prereq: Approval of the Director of Graduate Studies.

MSE Materials Science and Engineering

MSE 101 MATERIALS ENGINEERING. (1)
An introduction to the materials engineering profession. Professional growth, conduct, ethics and organizations. Introduction to the techniques of materials engineering.

MSE 201 MATERIALS SCIENCE. (3)
Microscopic and macroscopic structure as related to the properties of materials with engineering applications. Prereq or concur: MA 114 and freshman chemistry.

MSE 202 MATERIALS SCIENCE LABORATORY. (1)
To teach students the basic materials characterization laboratory techniques and demonstrate the difference in properties between different types of materials. Prereq: Concurrent enrollment in MSE 201.

MSE 212 ELECTRONIC PROPERTIES OF MATERIALS. (3)
Modern ideas on the engineering properties of solids, crystallographic properties; relationship of properties to structure and electronic properties of materials. Prereq: PHY 232 and 242, MA 214 concurrent.

MSE 301 MATERIALS SCIENCE II. (3)
Introduction to processing of ceramic, polymer and composite materials; relating the structure and bonding in these materials to their properties; considerations in choosing appropriate materials for engineering applications. Prereq: MSE 201, or consent of instructor.

MSE 351 MATERIALS THERMODYNAMICS. (3)
Solution thermodynamics; partial molal quantities; ideal and non-ideal solutions; application of thermodynamics to phase equilibria; heterogeneous equilibria; free energy-composition relationships; temperature-pressure relationships. Prereq: MSE 201, MA 213 or concurrent.

MSE 395 INDEPENDENT WORK IN MATERIALS ENGINEERING. (1-3)
Research for undergraduate departmental students. May be repeated to a maximum of 12 credits. Prereq: Department major and approval of chairperson.

MSE 401G METAL AND ALLOYS. (3)
Crystal structures, phase diagrams, diffusion, nucleation and growth, deformation, recovery, recrystallization and grain growth are discussed to understand the structure-property relations in metals and alloys. Prereq: MSE 201, 301 and Engineering Standing.

MSE 402G ELECTRONIC MATERIALS AND PROCESSING. (3)
This course will examine electron behavior in a variety of materials and the processing methods used for integrated device production. Additional topics will include thin film growth, diffusion, oxidation, electronic device principals, defect control, and a survey of current challenges to the semiconductor industry. Prereq: MSE 201, MSE 301 or related engineering/science senior/graduate level courses with instructor permission.

MSE 403G CERAMIC ENGINEERING AND PROCESSING. (3)
Microstructure of crystalline ceramics and glasses, and role of thermodynamics and kinetics in its formation. Effect of microstructure on mechanical and physical properties. Prereq: MSE 201, MSE 301 or consent of instructor, Engineering standing.

MSE 404G POLYMERIC MATERIALS. (3)
Synthesis, structure, and processing of polymers, useful geometric forms, mechanical and thermal properties, crystallinity, polymer blends, evaluation of polymers for specific applications (aerospace, automotive, biomedical), laboratory activities for each of the above. Prereq: Engineering standing. CHE 230 or CHE 236. MSE 301 or consent of instructor. (Same as CME 404G.)

MSE 407 MATERIALS LABORATORY I. (3)
Various laboratory experiments that demonstrate behavior of polymers, metals, ceramics, and electronic materials. Includes instruction and practice in use of numerous instruments and equipment, typical of the materials engineering discipline. Data reduction, analysis, and interpretation is covered, as well as correct writing of reports. Prereq: MSE 202, MSE 301, MSE 351, Engineering standing.

MSE 408 MATERIALS LABORATORY II. (3)
Various laboratory experiments that illustrate crystal structure, behavior of multi-component systems, and failure modes. Provides hands-on experience with some more advanced characterization methods of polymers, metals, and ceramics. Includes data reduction, analysis, and interpretation, as well as correct writing of reports. Prereq: MSE 407.

MSE 436 MATERIAL FAILURE ANALYSIS. (3)
A review of common engineering materials, their potential failure mechanisms and corresponding technology developed to avoid these failures. This course illustrates applications of current technology to practical industrial problems and is designed for engineers of all disciplines. Prereq: MSE 201 and EM 302 and Engineering standing.

MSE 480 MATERIALS DESIGN. (3)
A capstone engineering design experience involving analysis, with some treatments of engineering economics of real processes, design of materials, fabrication problems and techniques, and prediction of model material systems. Prereq: MSE 408.

MSE 506 MECHANICS OF COMPOSITE MATERIALS. (3)
A study of structural advantages of composite materials over conventional materials, considering high strength-to-weight and stiffness-to-weight ratios. Fiber reinforced, laminated and particulate materials are analyzed. Response of composite structures to static and dynamic loads, thermal and environmental effects, and failure criteria are studied. Prereq: EM 302, engineering standing or consent of instructor. (Same as EM/ME 506.)

MSE 531 POWDER METALLURGY. (3)
Study of the principles of powder metallurgy relating to alloys of unusual compositions, metal and nonmetal combinations, porous and laminated products, composite metals, and high-melting alloys. Prereq: Consent of instructor.

MSE 535 MECHANICAL PROPERTIES OF MATERIALS. (3)
Introductory elasticity and plasticity theory; crystallographic nature of slip and twinning; fracture. Prereq: MSE 201, EM 302 and engineering standing or consent of instructor.

MSE 538 METALS PROCESSING. (3)
Solidification of molten alloys; fundamentals of metal working; application of metal working theories to forging, rolling, extrusion, drawing and sheet forming. Prereq: Engineering standing.

MSE 554 CHEMICAL AND PHYSICAL PROCESSING OF POLYMER SYSTEMS. (3)
Theory and practice as related to the chemical and physical processing of polymer systems. Polymer rheology, heat transfer in polymer flows, polymer engineering properties. Polymer processing operations and materials selection; flow instabilities. Prereq: CME 330, CME 425 or ME 325; or consent of instructor. (Same as CME/ME/MFS 554.)

MSE 555 INTRODUCTION TO MICRO-/NANO-ELECTROMECHANICAL SYSTEMS. (3)
This course provides an overview of micromachined structures with an emphasis on operational theory and fabrication technology. Prereq: Engineering standing or consent of instructor. (Same as EE/ME 555.)

MSE 556 INTRODUCTION TO COMPOSITE MATERIALS. (3)
Applications, materials selection and design of materials. Relation between properties of constituent materials and those of composite. Processing methods for materials and for some structures. Lab focuses on preparation and testing of composite materials and their constituents. Prereq: MSE 201, 301, CHE 236, and Engineering Standing, or consent of instructor. (Same as CME/ME 556.)

MSE 561 ELECTRIC AND MAGNETIC PROPERTIES OF MATERIALS. (3)
Study of dielectric and magnetic materials. Topics include dielectric relaxation, conduction and breakdown mechanisms, liquid crystals, ferroelectrics, magnetic resonance and relaxation, measurement techniques. Prereq: MSE 212 and PHY 361 or EE 461G or consent of instructor. (Same as EE 561.)

MSE 569 ELECTRONIC PACKAGING SYSTEMS AND MANUFACTURING PROCESSES. (3)
Study of packaging systems which interconnect, support, power, cool, protect, and maintain electronic components. The course will address systems at the chip, board, and product levels. Topics include design, properties, materials, manufacture, and performance of various packaging systems. Laboratory will provide familiarity with design software and production equipment and processes. Prereq: EE 211 or EE 305, EE 360 or MSE 402G, or consent of instructor. (Same as EE 569.)

MSE 570 FUNDAMENTALS OF NANOELECTRONIC DEVICES AND MATERIALS. (3)
Energy bonds in crystals; heterostructures; quantum wells and low dimensional systems; the two-dimensional electron gas and MODFET; transmission in nanostructures; current topics in nanoscale devices. Prereq: EE 360 and engineering standing, or consent of instructor. (Same as EE/ME 570.)

MSE 585 MATERIALS CHARACTERIZATION TECHNIQUES. (3)
This course will present the fundamentals of x-ray and electron beam interactions with solid-state materials. Both elastic and inelastic interactions will be treated, with emphasis on elastic diffraction effects. Prereq: MSE 301 and Engineering standing, or graduate status or consent of instructor.

MSE 599 TOPICS IN MATERIALS SCIENCE AND ENGINEERING (Subtitle required). (1-4)
A detailed investigation of a topic of current significance in engineering and materials science such as: biomedical synthetics, electronic properties of materials, advances in metal working, history of materials technology, quantitative metallography. Theory of disclinations, scanning electron microscopy. May be repeated to a maximum of eight credits, but only four credits can be earned under the same title. A particular topic may be offered at most twice under the MSE 599 number. Prereq: Variable; given when topic identified.

PREREQUISITE FOR GRADUATE WORK: *Students desiring to take any of the following courses should have a thorough working knowledge of chemistry, physics and mathematics.*

#MSE 601 INTRODUCTION TO MATERIALS SCIENCE AND ENGINEERING. (3)
The purpose of this course is to provide a general background in the field of materials science and engineering for graduate level students. Fundamental topics include chemical bonding in materials, crystal structure and defects, diffusion and phase diagrams. The mechanical, electrical and optical properties of materials will be discussed in the context of processing history and application. Important concepts such as anisotropic properties of materials and their tensor representation will be introduced. The course covers major materials systems (metals, ceramics, polymers, composites, and electronic materials) and offers examples of materials applications in a range of technical areas. Prereq: Graduate standing in chemical engineering or materials science and engineering, or consent of instructor.

MSE 607 ANALYSIS OF METAL CUTTING PROCESSES. (3)
Advanced study of metal cutting involving the mechanics of metal cutting including cutting forces, tool-wear/tool-life and temperature analysis, surface finish and integrity, chip control, machinability assessments and advances in cutting tool technology. Prereq: ME 505. (Same as ME/MFS 607).

MSE 620 COMPUTATIONAL MATERIALS SCIENCE ENGINEERING. (3)
The effective use of existing computer software in the area of materials science engineering. Use of computers to model processes and examine and predict materials properties at the macroscopic and atomistic level. Prereq: Graduate standing in physical sciences and engineering, strong background in material properties and structure similar to the material covered in MSE 401G, MSE 403G, and MSE 404G, and some programming experience in C or FORTRAN; or consent of instructor.

MSE 622 PHYSICS OF POLYMERS. (3)
An in-depth look at the physical and mathematical descriptions of polymer behavior. Comparison of diverse approaches to modeling the same behavior. Study of isolated polymer chain and how it relates to polymers in rigid, rubbery, melt, and solution states. Prereq: Graduate standing and undergraduate degree in the physical sciences or engineering that includes advanced calculus, differential equations, and matrix algebra. (Same as CME 622.)

MSE 632 ADVANCED MATERIALS SCIENCE. (3)
Classification of solids, atomic structure and bonding, relation of structure to properties, deformation behavior and failure. Prereq: Consent of instructor.

MSE 635 ADVANCED MECHANICAL METALLURGY. (3)
Theory of dislocations in crystals and their role in strength, plasticity, work hardening and fracture of crystalline solids. Prereq: Consent of instructor.

MSE 636 DISLOCATION THEORY. (3)
Fundamentals of elastic theory of dislocations and the kinematics of dislocation motion: straight dislocations, curved dislocation, self-energies, interactions with other crystal defects, dislocation multiplication. Prereq: MSE 535 or EM 531 or equivalent.

MSE 650 ADVANCED MATERIALS THERMODYNAMICS. (3)
Study of reactions of materials with chemical environments. Introduction to irreversible thermodynamics. Emphasis on current literature. Prereq: Consent of instructor.

MSE 661 ADVANCED PHYSICAL METALLURGY I. (3)
Study of the theory of phase transformations in metallic systems. Analysis of rate controlling processes for nucleation and growth controlled phase changes and for order-disorder reactions. Prereq: MSE 362 and 412 or consent of instructor.

MSE 662 ADVANCED PHYSICAL METALLURGY II. (3)
Solidification theory and mechanisms. Diffusion in solids. Prereq: MSE 661 or consent of instructor.

MSE 663 OPTOELECTRONIC DEVICES. (3)
Theory and applications of photodetectors, solar cells, semiconductor lasers, light emitting diodes and display devices, nanocrystalline structures and organic semiconductors applications in optoelectronic devices. Prereq: EE 360 or MSE 402G, consent of instructor and/or graduate standing. (Same as EE 663.)

MSE 664 MULTIDISCIPLINARY SENSORS LABORATORY. (3)
A multidisciplinary laboratory course with laboratory experiences in areas related to sensors and sensing architectures, typically including chemistry, chemical and materials engineering, and electrical engineering. Lecture, 1 hour; laboratory, 2 hours. Prereq: One year of college chemistry, calculus and physics. GS 660 or by consent of instructor. (Same as CHE/CME/EE 664.)

MSE 699 ADVANCED TOPICS IN MATERIALS SCIENCE AND ENGINEERING (Subtitle required.) (3)
A detailed investigation of an advanced topic of current significance in materials science and engineering such as (1) nanometer materials, (2) structures of superconductors and (3) materials characterization under high rates of deformation. May be repeated under different subtitles to a maximum of nine credits, but only three credits can be earned under the same title. A particular topic may be offered at most twice under the MSE 699 number. Prereq: Variable, given when topic is identified.

MSE 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

MSE 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

MSE 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

MSE 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

MSE 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

MSE 771 SEMINAR. (0)
Review of current literature in the field of metallurgical engineering and presentation of papers thereon. Presentation of talks on departmental research. Group and panel discussions. Required of all graduate students every semester. Lecture, one hour per week.

MSE 781 SPECIAL PROBLEMS, LITERATURE AND LABORATORY. (1-3)
Literature research and planning of research programs; shop problems and technical writing, including a term paper, are required. Consultation and lecture by appointment. May be repeated to a maximum of nine credits.

MSE 782 SPECIAL PROBLEMS, LITERATURE AND LABORATORY. (3)
A continuation of MSE 781. Laboratory, six hours; consultation and lecture by appointment. May be repeated to a maximum of nine credits.

MSE 790 RESEARCH IN MATERIALS SCIENCE. (3-9)
Active research (experiments, library work, theory) toward Ph.D. degree. May be repeated indefinitely.

MUC Class Instruction in Music

MUC 110 DOUBLE REED MAKING LAB. (1)
This lab is designed for double reed players to learn how to make and adjust the reeds used to play the oboe and bassoon. May be repeated to a maximum of eight semesters. Prereq: Concurrent registration in MUP oboe or bassoon, or with consent of the instructor.

MUC 150 CLASS INSTRUCTION IN PIANO. (1)
A beginning course in the fundamentals of playing the piano. Lecture, two hours. Prereq: For music majors; other students by consent of instructor.

MUC 151 CLASS INSTRUCTION IN PIANO. (1)
A beginning course in the fundamentals of playing the piano. For music majors; other students by consent of instructor. Lecture, two hours. Prereq: MUC 150.

MUC 152 CLASS INSTRUCTION IN PIANO. (1)
A course in the fundamentals of playing the piano. For music majors; others by consent of instructor. Lecture, two hours. Prereq: MUC 151.

MUC 153 CLASS INSTRUCTION IN PIANO. (1)
A course in the fundamentals of playing the piano. For music majors; others by consent of instructor. May be repeated to a maximum of two credits with consent of instructor. Instruction, two hours. Prereq: MUC 152.

MUC 155 VOICE CLASS FOR NON-MUSIC MAJORS. (1)
Applied voice group instruction for non-music majors with emphasis on basic breathing and vocal technique, elements of music notation, and diction. May be repeated to a maximum of two credits. Laboratory, two hours per week. Prereq: Consent of instructor.

MUC 157 CLASS INSTRUCTION IN PERCUSSION INSTRUMENTS. (1)
A beginning course in the fundamentals of playing and teaching percussion instruments. Instruction, three hours. Prereq: For music majors only; others by consent of instructor.

MUC 158 CLASS INSTRUCTION IN WOODWIND INSTRUMENTS. (1)
A beginning course in the fundamentals of playing and teaching woodwind instruments. May be repeated to a maximum of two credits. Prereq: For music majors; others by consent of instructor.

MUC 161 CLASS INSTRUCTION IN STRING INSTRUMENTS. (1)
A beginning course in the fundamentals of playing and teaching violin, viola, cello and string bass. May be repeated to a maximum of two credits. Prereq: For music majors; others by permission of instructor. For nonstring majors who take this course for two semesters, it must be taken sequentially beginning in the fall semester.

MUC 163 CLASS INSTRUCTION IN BRASS INSTRUMENTS. (1)
A beginning course in the fundamentals of playing and teaching brass instruments. Lecture, three hours per week. May be repeated to a maximum of two credits. Prereq: For music majors; others by consent of instructor.

CHAMBER MUSIC ENSEMBLES

MUC 170 STRING ENSEMBLE. (1)
The study of string instrument chamber music through performance. May be repeated to a maximum of eight credits. Laboratory, two hours. Prereq: Consent of instructor.

MUC 171 BRASS ENSEMBLE. (1)
The study of brass instrument chamber music through performance. May be repeated to a maximum of eight credits. Laboratory, two hours. Prereq: Consent of instructor.

MUC 172 WOODWIND ENSEMBLE. (1)
The study of woodwind instrument chamber music through performance. May be repeated to a maximum of eight credits. Laboratory, two hours. Prereq: Consent of instructor.

MUC 173 PERCUSSION ENSEMBLE. (1)
The study of percussion instrument chamber music through performance. May be repeated to a maximum of eight credits. Laboratory, two hours. Prereq: Consent of instructor.

MUC 174 UNIVERSITY CHORALE. (1)
An auditioned choral ensemble for the study of choral literature through performance. Class will meet for five hourly rehearsals per week. May be repeated to a maximum of eight credits. Prereq: Audition and consent of instructor.

MUC 176 PIANO ENSEMBLE. (1)
Study of piano ensemble chamber music through performance. May be repeated to a maximum of eight credits. Laboratory, two hours. Prereq: Consent of instructor.

MUC 177 GUITAR ENSEMBLE. (1)
The study of guitar ensemble music through performance. May be repeated to a maximum of eight credits. Laboratory, two hours. Prereq: Consent of instructor.

LARGE MUSICAL ORGANIZATIONS

MUC 175 JAZZ ENSEMBLE. (1)
Study of jazz through performance. May be repeated to a maximum of eight credits. Laboratory, three hours. Prereq: Consent of instructor.

MUC 187 CONCERT BAND. (1)
A large concert band primarily for the general student desiring continuation of instrumental music experience. Laboratory, three hours. May be repeated to a maximum of four credits. Prereq: Consent of instructor.

MUC 188 SYMPHONIC BAND. (1)
A select band engaged in preparation and performance of a variety of music composed for this medium. May be repeated to a maximum of four credits. Laboratory, four hours. Prereq: Audition and consent of instructor.

MUC 189 WIND ENSEMBLE. (1)
The University's select band for performance of challenging literature in the wind repertoire. May be repeated to a maximum of eight credits. Prereq: Audition and consent of instructor.

***MUC 190 ATHLETIC BAND.** (1)
Preparation for and performance at University athletic functions, primarily basketball and volleyball events. May be repeated to a maximum of eight credits. Prereq: Audition and permission of instructor.

MUC 191 ORCHESTRA. (1)
Students who have demonstrated the required ability are given an opportunity to study and perform standard orchestral literature. May be repeated seven times for a total of eight credits. Prereq: Audition and consent of instructor.

MUC 192 UNIVERSITY CHORISTERS. (1)
Ordinarily for music majors only. Three one-hour meetings per week. May be repeated seven times for a total of eight credits. Prereq: Audition and consent of instructor.

MUC 196 OPERA WORKSHOP. (1)
Study of the principles and techniques of opera production through class presentation of scenes and complete works. May be repeated to a maximum of four credits. Prereq: Consent of instructor.

MUC 197 MOVEMENT FOR SINGERS. (1)
A course to teach movement and coordination of the body for singers. Course will also introduce different styles of movement required for singers in opera and musical theatre. May be repeated to a maximum of 8 times. Prereq: Consent of instructor.

MUC 198 OPERA PRODUCTION PRACTICUM. (1)
The study and practice of production techniques through rehearsal and performance participation. May be repeated to a maximum of 4 credit hours (1 credit hour per semester). Prereq: Consent of instructor.

MUC 423G FUNCTIONAL GUITAR SKILLS. (1)
This course is designed to impart basic guitar skills with emphasis on folk guitar, group leading, and accompanying skills. This course is geared toward music therapy majors, but is open to other students space permitting. Prereq: Permission of the instructor.

MUC 570 ADVANCED CHAMBER MUSIC ENSEMBLE. (1)
Study of chamber music through performance. May be repeated to a maximum of six credits. Laboratory, two hours. Prereq: Consent of instructor.

MUC 596 OPERA WORKSHOP. (1-3)
Study of the principles and techniques of opera production and direction through class presentation of scenes and complete works. May be repeated to a maximum of six hours. Prereq: Consent of instructor.

MUC 675 JAZZ ENSEMBLE. (1)
Study of jazz through performance. Laboratory, two hours per week. May be repeated to a maximum of six credits. Prereq: Audition and consent of instructor.

MUC 689 WIND ENSEMBLE. (1)
The University's select band for performance of challenging literature in the wind repertoire. Laboratory, three hours per week. May be repeated to a maximum of six credits. Prereq: Audition and consent of instructor.

MUC 691 ORCHESTRA. (1)
Students who have demonstrated the required ability are given an opportunity to study and perform standard orchestral literature. Laboratory, five hours per week. May be repeated to a maximum of six credits. Prereq: Audition and consent of instructor.

MUC 692 UNIVERSITY CHORISTERS. (1)
The course offers students the opportunity to learn and perform the best choral literature in the repertoire. Laboratory, three hours per week. May be repeated to a maximum of six credits. Prereq: Audition and consent of instructor.

MUP Music Performance

SPECIAL FEE

NOTE: Students enrolled in MUP courses for two or more credit hours may be required to attend performance classes as well as lessons. See individual course syllabus for more information.

Prereq: Satisfactory audition and/or approval of instructor.

Undergraduate Courses Numbered 100-499 (1-3)	Graduate Courses Numbered 500 and above (1-4)
Piano MUP 101, 201, 301, 401,	501, 601, 701
Voice MUP 102, 202, 302, 402,	502, 602, 702
Organ MUP 103, 203, 303, 403,	503, 603, 703
Violin MUP 104, 204, 304, 404,	504, 604, 704
Viola MUP 105, 205, 305, 405,	505, 605, 705
Cello MUP 106, 206, 306, 406,	506, 606, 706
String Bass MUP 107, 207, 307, 407,	507, 607
Flute MUP 108, 208, 308, 408,	508, 608, 708
Oboe MUP 109, 209, 309, 409,	509, 609, 709
Clarinet MUP 110, 210, 310, 410,	510, 610, 710
Bassoon MUP 111, 211, 311, 411,	511, 611, 711
Trumpet MUP 112, 212, 312, 412,	512, 612, 712
French Horn MUP 113, 213, 313, 413,	513, 613, 713
Trombone MUP 114, 214, 314, 414,	514, 614, 714
Euphonium MUP 115, 215, 315, 415,	515, 615
Tuba MUP 116, 216, 316, 416,	516, 616, 716
Saxophone (alto) MUP 117, 217, 317, 417,	517, 617, 717
Percussion MUP 118, 218, 318, 418,	518, 618, 718
Harp* MUP 119, 219, 319, 419,	519, 619
Harpsichord MUP 120, 220, 320, 420,	520, 620
English Horn MUP 321,	521
Historical Instruments* MUP 322, 422,	522, 622
Classical Guitar MUP 123, 223, 323, 423,	523, 623

Consult the School of Music before enrolling.

MUP 330 VOCAL COACHING FOR SINGERS. (1-3)
A course to prepare the vocal student for performance in concert, recital, and opera. Materials to be covered include style, performance practices, diction, interpretation, and audition preparation. Course will include preparation of operative as well as art song literature.

Repertoire suitable for the individual student will be assigned by the voice teacher and prepared in this course by the vocal coach only after the music has been technically prepared by student's individual voice teacher. May be repeated to a maximum of six credits. Prereq: Permission of vocal instructor.

MUP 430 VOCAL COACHING FOR SINGERS. (1-3)
A course to prepare the vocal student for performance in concert, recital, and opera. Materials to be covered include style, performance practices, diction, interpretation, and audition preparation. Course will include preparation of operative as well as art song literature. Repertoire suitable for the individual student will be assigned by the voice teacher and prepared in this course by the vocal coach only after the music has been technically prepared by student's individual voice teacher. May be repeated to a maximum of six credits. Prereq: Permission of vocal instructor.

#MUP 440 UNDERGRADUATE DEGREE RECITAL. (0)
This course provides a capstone senior experience. B.M. Performance majors must present a full senior recital with a duration of a minimum of 50 minutes and consists largely of solo compositions. B.M.M.E. students must present a senior recital with a duration of a minimum of 25 minutes of music and consists largely of solo compositions. Prereq: Approval of Applied Professor and passing of pre-recital hearing.

MUP 530 VOCAL COACHING FOR SINGERS. (1-3)
A course to prepare the vocal student for performance in concert, recital, and opera. Materials to be covered include style, performance practices, diction, interpretation, and audition preparation. Course will include preparation of operatic as well as art song literature appropriate to designated course level. May be repeated to a maximum of six credits. Prereq: Permission of vocal/opera instructors.

MUP 558 CONDUCTING. (1-4)
Private instruction in advanced conducting. Prereq: MUS 358 or MUS 364 or MUS 365 or consent of instructor.

MUP 630 VOCAL COACHING FOR SINGERS. (1-3)
A course to prepare the vocal student for performance in concert, recital, and opera. Materials to be covered include style, performance practices, diction, interpretation, and audition preparation. Course will include preparation of operatic as well as art song literature appropriate to designated course level. May be repeated to a maximum of six credits. Prereq: Permission of vocal/opera instructors.

MUP 640 GRADUATE DEGREE RECITAL. (0)
This course provides capstone experience for M.M. and D.M.A. in Performance majors who must present full recitals and lecture-recitals that consist of a minimum of 50 minutes and consists mainly of solo and chamber compositions. Prereq: Approval of applied professor and passing of pre-recital hearing.

MUP 658 CONDUCTING. (1-4)
Private instruction in advanced conducting. Prereq: MUS 358 or MUS 364 or MUS 365, or consent of instructor.

MUP 730 VOCAL COACHING FOR SINGERS. (1-3)
A course to prepare the vocal student for performance in concert, recital, and opera. Materials to be covered include style, performance practices, diction, interpretation, and audition preparation. Course will include preparation of operatic as well as art song literature appropriate to designated course level. This course may only be taken after all applied vocal lesson requirements have been met. Prereq: Permission of vocal/opera instructors.

MUP 758 CONDUCTING. (1-4)
Private instruction in advanced conducting. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

One-Hour Credit

The following may register for one-hour credit performance courses:

1) Music majors electing a secondary instrument or a major instrument credit by direction of the adviser to fulfill degree performance requirements.
2) Students from other divisions of the University desiring elective credit but only upon approval of the School of Music.

Students in one-hour credit performance courses for secondary instrument credit may be taught in studio groups of four or less. Each undergraduate one-hour course may be repeated twice for credit. Each graduate one-hour course may be repeated three times for credit.

Two-Hour Credit

The following may register for two-hour credit performance courses:

1) Music majors in the Music Education or B.A. in Music degree programs;
2) Music minors;
3) Graduate students by direction of the adviser.

Each undergraduate two-hour course may be repeated twice for credit. Each graduate two-hour course may be repeated three times for credit.

Three-Hour Credit

The following may register for three-hour credit performance courses:

1) Music majors in the B.M. or M.M. in performance degree programs;
2) D.M.A. students by direction of the adviser.

Each undergraduate three-hour course may be repeated twice for credit. Each graduate three-hour course may be repeated three times for credit. Not offered during the summer session.

Four-Hour Credit

Only graduate students in the music performance programs may register for four-hour courses. These courses are available only at the 600- and 700-levels. Doctoral students only may register for 700-level courses. Four-hour credit courses may be repeated three times for credit. Not offered during the summer session.

MUS Music

MUS 001 RECITAL ATTENDANCE. (0)
The course will consist of attendance at recitals. Each freshman and sophomore student must attend a minimum of 16 concerts per semester (for a total of four semesters), to be chosen from faculty recitals, senior or graduate recitals, concerts by UK ensembles, Tuesday noon student recitals, Chamber Music series, Central Kentucky Concert and Lecture Association, and Gallery Series. One-hour lab per week. Grade: P or F.

MUS 100 INTRODUCTION TO MUSIC. (3)
A study of the elements of music as they apply to the listening experience; designed for the nonmusic major with no prior knowledge of music. Emphasis will be placed upon developing an awareness and understanding of musical styles from the Renaissance to the present. Music majors may not use this course to fulfill either General Studies, University Studies, or music history requirements.

MUS 120 FOREIGN LANGUAGE VOCAL DICTION. (1)
A study of diction factors in Italian, German, and French vocal music. Lecture, two hours. May be repeated to a maximum of three hours. Prereq: Consent of instructor.

MUS 123 BEGINNING CLASSROOM GUITAR. (3)
MUS 123 will be an introductory course for guitar playing as well as a study of the history and repertoire of the guitar. Included will be assigned reading on the different manifestations of the guitar through historical and cross-cultural studies. Prereq: Students must have little or no knowledge of classical/general guitar playing. If students have some experience, ask about MUP 123, Guitar Lessons.

MUS 130 PERFORMING WORLD MUSIC (Subtitle required). (3)
This course fulfills three Arts and Creativity credit hours in the UK Core curricular framework. Through lectures, class discussions, and participation in ensemble rehearsals, students will be introduced to the musical traditions and performance practice of several world cultures. The class will also introduce elements of ethnomusicological study, and promote a better understanding of the way creativity and the arts (music, dance, theater) function within each society.

MUS 140 ACOUSTICS OF MUSIC. (3)
In this class you will investigate the basic principles relating to the nature and production of musical sound. An understanding of these principles will enable you to make meaningful comparisons among sounds, appreciate how the characteristics of sound are dependent on the way it is created, and apply your knowledge in making health conscious decisions concerning the sound environment in which you live. In addition, you will gain some understanding of the acoustical principles in the design of instruments and performance spaces.

MUS 170 THEORY I – ELEMENTARY AURAL THEORY. (2)
Development of aural responsiveness to all elements of music, and of sightsinging techniques as an aid to music comprehension and performance. Prereq: Satisfactory completion of Theory Placement Exam; prereq or concur: MUS 171.

MUS 171 THEORY I – ELEMENTARY WRITTEN THEORY. (2)
The acquisition of harmonic vocabulary and development of part-writing techniques, elementary counterpoint, free composition, and analysis. Prereq: Open only to Music Majors, Music Minors and Arts Administration Majors.

MUS 172 THEORY I – ELEMENTARY AURAL THEORY. (2)
Development of aural responsiveness to all elements of music, and of sightsinging techniques as an aid to music comprehension and performance. Prereq: MUS 170; prereq or concur: MUS 173

MUS 173 THEORY I – ELEMENTARY WRITTEN THEORY. (2)
The continuation of the work of MUS 171. Lecture, three hours. Prereq: MUS 171.

MUS 174 THEORY FOR NONMUSIC MAJORS. (3)
An introduction to the basic materials of musical organization, focusing on music reading, rudiments of notation, pitch, scale, tonal, and rhythmic organization, melodic construction, simple harmonic vocabulary, and beginning aural training. Individual composition and improvisation exercises are used to approach much of this material. Ability to read music is not a prerequisite.

MUS 200 MUSIC FOR LIVING. (3)
This course is designed for undergraduate students who wish to gain a global perspective and understanding of the role of music in life and culture, advancements in music, and the impact of music on our own lives. Students will gain a broad musical vocabulary, explore the elements of music relevant to various cultures across time, and contemplate the role of music in their own lives and society through assignments and a collaborative creative project. Prereq: Sophomore standing.

MUS 201 MUSIC IN WESTERN CULTURE TO 1700. (3)
Music from Ancient Greece to the end of the 17th century, as seen against a background of artistic, cultural, religious, and political change in Western Europe. Music majors may not use this course to fulfill either the University Studies or music history requirements.

MUS 202 MUSIC IN WESTERN CULTURE, 1700-PRESENT. (3)
A survey of music from 1700 (Vivaldi, Bach, Handel) to the present, in the context of artistic, cultural, political, and social changes in the Western cultural community. Music majors may not use this course to fulfill either University Studies or degree requirements.

MUS 203 HISTORY OF MUSIC I. (3)
Survey of the history of music from the Medieval through the Baroque period (approximately 800-1750). Required of all music majors. Prereq: For music majors, sophomore standing; non-music majors, consent of instructor.

MUS 206 AMERICAN MUSIC. (3)
A history of music in America from c. 1620 to the present. Will require listening to recordings, reading the primary text and suggested readings in books, periodicals and documents. Students should become aware of important names, places, events and styles in music as well as important historical trends and movements.

MUS 220 SYMPHONIC MUSIC. (3)
A survey of the symphonic repertoire from the Classical through the Contemporary Periods. Emphasis will include the development of listening skills and an awareness of musical styles. Music majors may not use this course to fulfill University Studies or degree requirements.

MUS 221 SURVEY OF VOCAL MUSIC: OPERA, ART SONG, CHORAL MUSIC. (3)
A survey of vocal genres: opera from the Baroque; the Art Song from the Renaissance; and choral music from the Baroque to the present. Significant attention will be given to texts set and to poets and playwrights. Music majors may not use this course to fulfill University Studies or major requirements.

MUS 222 CREATIVITY AND INNOVATION IN ROCK MUSIC. (3)
Through lectures, discussions, and class participation in musical activities, students will be introduced to the fundamental elements of rock music, the artists and stylistic periods in rock history, and the cultural and social issues rock has raised in the United States. The class will promote a better understanding of the way creativity impacts rock lyrics, compositional processes, and will also introduce elements of ethnomusicology to study issues of rock's creative presentation of identity, gender, race, sexuality, and ethnicity.

MUS 262 VOCAL MUSIC METHODS AND MATERIALS SEMINAR I. (3)
Development of personal philosophy of music education. Elements of singing posture, breathing, diction and choral tone. Demonstration of effective choral warm-ups. Beginning conducting and rehearsal keyboard skills. Prereq: MUS 172, 173, or consent of instructor.

MUS 263 INSTRUMENTAL MUSIC METHODS AND MATERIALS SEMINAR I. (3)
Historical and philosophical foundations of music education. Comprehensive study of teaching methods and materials for instrumental music in the elementary and early middle schools. Secondary instrument performance and group teaching. Observations in the public schools with emphasis on the elementary and middle school levels. Prereq: MUS 172 and 173 or consent of instructor.

MUS 264 VOCAL MUSIC METHODS AND MATERIALS SEMINAR II. (3)
Comprehensive study of teaching methods and materials for choral music in the middle school and high school. Study of the changing voice and supervised experimental teaching in middle school. Audition procedures, placement of voices, sight-reading methods and evaluation of repertoire. Beginning to intermediate choral conducting, keyboarding skills. Prereq: MUS 262.

MUS 265 INSTRUMENTAL MUSIC METHODS AND MATERIALS SEMINAR II. (3)
A study of the organization and administration of the school instrumental music program. Repertoire for secondary school bands and orchestras. Study of teaching methods, styles, and music literature for the high school jazz band. Continuation of observations and visitations. Continuation of secondary instrument performance and group teaching. Prereq: MUS 263.

MUS 266 TEACHING MUSIC IN ELEMENTARY GRADES. (3)
Music fundamentals, methods and materials for elementary school teachers. For non-music majors only.

MUS 270 THEORY II – AURAL THEORY. (2)
Development of aural responsiveness to all elements of music, and of sightsinging techniques as an aid to music comprehension and performance. Prereq: MUS 172; prereq or concur: MUS 271.

MUS 271 THEORY II – WRITTEN THEORY. (2)
A continuation of the acquisition of harmonic vocabulary and development of part-writing techniques, elementary counterpoint, free composition, and analysis. Prereq: MUS 171, 173.

MUS 272 THEORY II – AURAL THEORY. (2)
Development of aural responsiveness to all elements of music, and of sightsinging techniques as an aid to music comprehension and performance. Prereq: MUS 270; prereq or concur: MUS 273.

MUS 273 THEORY II - WRITTEN THEORY. (2)
The continuation of the work of MUS 271. Three class hours per week. Prereq: MUS 271.

MUS 300 HISTORY OF JAZZ. (3)
A listening survey course covering the chronological evolution of jazz from its West African and European roots, through its germination in America, to the present. Emphasis will be on the various styles and functions of jazz, particularly as they have been affected by changing social-cultural patterns during the twentieth century. (Same as AAS 300.)

MUS 301 APPALACHIAN MUSIC. (3)
A survey of musical genre and styles in the Southern Appalachian region. Vocal and instrumental, sacred and secular materials will be covered, together with the interchanges between black and white contributions.

MUS 302 HISTORY OF MUSIC II. (3)
A survey of the history of European music during the Classic and Romantic periods of the 18th and 19th centuries. Required of all music majors. Prereq: For music majors, MUS 203 and junior standing; non-music majors, consent of instructor.

MUS 303 HISTORY OF MUSIC III. (3)
A survey of the history of music from the Twentieth century including vernacular and cultivated musical expression of the United States. Required of all music majors. Prereq: Music majors - junior standing; non-music majors - consent of instructor.

#MUS 304 MUSIC COMMUNICATION I: ORAL COMMUNICATION OF MUSIC. (1)
This course is the first of a two-course sequence (with MUS 305), designed to develop students' written and oral communication skills and information literacy in music. MUS 304 focuses on oral communication. To be taken simultaneously with MUS 302. With MUS 305, satisfies the Graduation Composition and Communications Requirement. Prereq: Junior standing in music.

#MUS 305 MUSIC COMMUNICATION II: WRITTEN COMMUNICATION OF MUSIC. (1)
This course is the second of a two-course sequence (with MUS 304), designed to develop students' written and oral communication skills and information literacy in music. MUS 305 focuses on written communication. To be taken simultaneously with MUS 303. With MUS 304, satisfies the Graduation Composition and Communications Requirement. Prereq: Junior standing in music; MUS 302 and MUS 304.

MUS 317 MUSIC TECHNOLOGY. (1)
An introductory instructional media experience including basic production and utilization techniques for media materials and operation of commonly used educational media equipment. Topics include audio/video materials, notation software, music sequencing software, website design software, Internet/web-based education, and electronic portfolios. Prereq: Admission to the Teacher Education Program (TEP).

MUS 325 SHAKESPEARE AND MUSIC. (3)
The study of music inspired by the plays of Shakespeare, Shakespeare's use of music in his plays, and an overview of music in Elizabethan times. The course is designed for non-majors.

MUS 330 MUSIC IN THE WORLD (Subtitle required). (3)
This course examines the music of a chosen country or region of the world. The study of the historical, stylistic, theoretical, and functional aspects of the music will be related to the socio-historical, philosophical and other cultural aspects of the people in that country or region. Prereq: Junior standing or permission of the instructor.

MUS 335 EXPLORING WORLD MUSIC AND ETHNOMUSICOLOGY. (3)
In this course, we will learn some of the basic concepts and methodologies of ethnomusicology while engaging with the styles and practices of various world musical cultures around the world, including that of China, Bulgaria, Ireland, India, Sub-Saharan Africa, Korea, Native America, Bali and Cuba. There will also be an emphasis on performance and musical participate, community-based learning and applied ethnomusicology. We will also explore methodologies such as participant-observation, site-specific fieldwork and small-scale service activities. Be prepared to embody the music as much as possible through in-class singing, playing, dancing and taking part in performance workshops. This class is designed for students with some musical background. Prereq: Junior standing or permission of instructor.

MUS 350 MUSIC EDUCATION WORKSHOP. (1-2)
Intensive study of specialized methods and materials in one of the following areas of music education: elementary and general music; piano; orchestra, band; jazz or choral. May be repeated to a maximum of four credits. Prereq: Consent of instructor.

MUS 358 CONDUCTING I. (2)
A study of the technique and practice of fundamentals of conducting. Prereq: Junior standing in music.

MUS 360 GENERAL MUSIC I. (3)
A study of the philosophy, the curriculum, and the process involved in promoting musical development of children in the elementary, middle, and high school environment. A field experience is required. Prereq: Junior standing in music.

MUS 361 GENERAL MUSIC II. (3)
Methods, materials and techniques of teaching general music with emphasis on activities for the early childhood and elementary children. A field experience is required. Prereq: MUS 360.

MUS 362 VOCAL MUSIC METHODS AND MATERIALS SEMINAR III. (3)
A continuation of 262 and 264. Study of performance practice and rehearsal techniques for the choral music of each historical period. Conducting/study of the literature for the high school chorus. A study of the organization and administration of the school choral program. Prereq: MUS 262, 264.

MUS 363 INSTRUMENTAL MUSIC METHODS AND MATERIALS SEMINAR III. (3)
A continuation of MUS 263 and 265. Beginning to intermediate instrumental conducting. An introduction to teaching high school marching band; fundamentals, administrative procedures, drill writing, music selection and rehearsal. Continuation of secondary instrument performance and group teaching. Continued observation in the public schools with emphasis on high school bands and orchestras. Prereq: MUS 265.

MUS 365 INSTRUMENTAL MUSIC METHODS AND MATERIALS SEMINAR IV. (3)
Advanced conducting; emphasis on advanced rehearsal techniques with use of instructional materials and advanced music for the high school ensemble. Continuation of secondary instrument performance and group teaching. Continued observation in the public schools with options for teacher-aide assignment. Prereq: MUS 363.

MUS 366 MARCHING BAND TECHNIQUES. (2)
A study of techniques, styles and trends with emphasis on drill writing, music arranging, and administrative/instructional methods as they relate to the contemporary marching band. A combination of lecture and laboratory instruction will be utilized. Prereq: Consent of instructor.

MUS 370 THEORY III - ADVANCED HARMONY AND COUNTERPOINT. (2)
A study of the 19th century harmonic idioms through projects in analysis and composition. Lecture, three hours. Prereq: MUS 273.

MUS 371 INSTRUMENTATION AND ARRANGING. (2)
A basic course in instrumentation and arranging for typical school instrumental and vocal ensembles. Prereq: MUS 273.

MUS 372 MUSICAL ANALYSIS. (2)
A study of musical style through structural, harmonic and melodic analyses. Prereq: MUS 273.

MUS 390 TOPICS IN MUSIC HISTORY (Subtitle required). (3)
Studies of a specific composer, genre, school of composers, or a topic crossing the traditional boundaries of music history. May be repeated to a maximum of six credits when identified by different course subtitles. Prereq: MUS 203, 302, and 303, or consent of instructor.

MUS 395 INDEPENDENT WORK IN MUSIC. (1-3)
May be repeated to a maximum of six credits. Prereq: Major in music and a standing of 3.0 or consent of instructor.

MUS 400G MUSIC HISTORY REVIEW. (3)
A review of music history from the Medieval period through the twentieth century. May not be used to satisfy major requirements for Bachelors degrees in the College of Fine Arts. Prereq: Provisional graduate standing.

MUS 430G MUSIC THERAPY FOUNDATIONS AND PRINCIPLES I. (3)
This course is directed toward developing entry-level competencies needed in the field of music therapy. Prereq: Permission of instructor.

MUS 431G MUSIC THERAPY FOUNDATIONS AND PRINCIPLES II. (3)
This course is a continuation of Music Therapy Foundations and Principles I and is directed toward developing entry-level competencies needed in the field of music therapy. Prereq: MUS 430G or permission of instructor.

MUS 432G MUSIC THERAPY APPLICATIONS. (3)
This course is directed toward developing entry-level competencies needed in the field of music therapy. MUS 432G builds on the music therapy principles and foundations established in MUS 430G and 431G, specifically focusing on professional applications. Prereq: MUS 430G and MUS 431G or permission of instructor.

MUS 433G MUSIC THERAPY CLINICAL INTERNSHIP. (3)
This course involves off-site clinical experiences in a student-selected area of interest. Students will complete a minimum of 900 hours and a maximum of 1044 hours of internship-based clinical training in medical, psychiatric, special education, geriatric or other clinical music therapy setting. Prereq: All music therapy equivalency course work must be completed prior to internship.

MUS 434G MUSIC THERAPY CLINICAL SKILLS. (2)
This course is designed to teach clinical applications of music skills (folk/rock guitar, percussion skills) and group leading/therapeutic interaction skills for music therapy practice. Students will have the opportunity to develop these skills in the classroom setting and implement the skills in community-based experiences. Special emphasis will be placed on developing the ability to simultaneously implement both music and group leading/interaction skills. Prereq: Permission of the instructor.

MUS 435G ANATOMY FOR MUSIC THERAPY PRACTICE. (3)
This course is an introduction to basic terminology related to human anatomy with an added emphasis on applications of this information to multiple aspects of the practice of music therapy. Students will learn to identify important physical components of anatomical systems and relate knowledge of human systems to personal health and wellness, needs of client populations, music performance, music therapy research, and human physiology. Prereq: Music therapy major or permission of instructor.

MUS 470G REVIEW OF HARMONY. (1)
A review of common practice diatonic and chromatic harmony, through written work and analysis. May not be used to satisfy major requirements for Bachelors degrees in the College of Fine Arts. Lecture, two hours per week. Prereq: Provisional graduate standing.

MUS 471G REVIEW OF AURAL SKILLS. (1)
A review and continued development of basic listening skills, and the ability to comprehend aurally harmonic function within a tonal framework and musical structures, both micro-structures and macro-structures. May not be used to satisfy major requirements for Bachelors degrees in the College of Fine Arts. Lecture, two hours per week. Prereq: Provisional graduate standing.

MUS 500 MUSIC OF THE MIDDLE AGES. (3)
The development of Western music through the 14th century. Prereq: MUS 203 or consent of instructor.

MUS 501 MUSIC OF THE RENAISSANCE. (3)
A survey of vocal and instrumental music of the 15th and 16th centuries. Prereq: MUS 203 or consent of instructor.

MUS 502 MUSIC OF THE BAROQUE ERA. (3)
The history of vocal and instrumental music in the Baroque style from 1600 to 1750. Prereq: MUS 302 or consent of instructor.

MUS 503 MUSIC OF THE CLASSIC PERIOD. (3)
The development of music in the Classic style from the early 18th century to 1800. Prereq: MUS 302 or consent of instructor.

MUS 504 MUSIC OF THE 19th CENTURY. (3)
A study of master works of music composed in the 19th century. Prereq: MUS 303 or consent of instructor.

MUS 505 MUSIC OF THE 20th CENTURY. (3)
A stylistic study of representative compositions of the 20th century. Prereq: MUS 303 or consent of instructor.

MUS 506 HISTORY OF AMERICAN MUSIC. (3)
A survey of cultivated and vernacular musical styles in America from Colonial times to the present. Prereq: MUS 302 and 303 or consent of instructor.

#MUS 507 TOPICS IN MUSIC HISTORY AND LITERATURE (Subtitle required). (3)
A focused study of a single composer, genre, or musical topic. May be repeated, with different subtitles, for up to 9 credits. Prereq: Junior or graduate standing in music. MUS 203, 302, and 303, or permission of instructor.

MUS 520 VOCAL SOLO LITERATURE. (3)
A stylistic study of solo vocal music from the Baroque to the present. Prereq: MUS 302 and 303 or consent of instructor.

MUS 521 ORGAN LITERATURE. (3)
A course of study designed to give the organ student a practical knowledge of the development of the organ, its construction, the standard literature, and teaching materials. Prereq: MUS 302 and 303 or consent of instructor.

MUS 522 PIANO LITERATURE TO 1830. (3)
An historical and analytical study of music for piano to 1830, including discussion of the development of the instrument and the emergence of the idiomatic piano writing. Prereq: MUS 302 or consent of instructor.

MUS 523 PIANO LITERATURE SINCE 1830. (3)
A historical and analytical study of music written for the piano from the inception of the Romantic period to the present, from the parallel perspectives of changes in the approach to the instrument and stylistic developments as they are reflected in piano writing. Prereq: MUS 303 or permission of instructor.

MUS 540 APPLICATIONS OF MUSIC TECHNOLOGY. (3)
Applications of music technology hardware and software, including but not limited to MIDI systems, sequencing, notation software, and MIDI code. Emphasis will be on use of technology as tools for creativity and productivity. Content will be continually updated. No prior computer or MIDI experience assumed; space preference given to music majors. Prereq: Nonmusic majors must obtain permission of instructor; ability to read music required.

MUS 550 TOPICS IN MUSIC EDUCATION (Subtitle required). (1-3)
In-depth study of a designated topic, special issue, philosophy, or methodology of music education. May be repeated to a maximum of nine credits when identified by different course subtitles. Prereq: Junior standing in music.

MUS 555 SOUNDS OF MUSIC: PSYCHOLOGY AND PERCEPTION. (3)
This course focuses on the roles of music in human life. Issues and research findings regarding what makes music and how human beings perceive and respond to musical sounds are examined. Critical thinking and reflection on topics such as music preferences, musical performance, and listening to music are meant to encourage the student to identify the relationship between music and human behavior. This course is suitable for students who are curious to learn about the influence of music on people. It is open to all students with or without musical training.

MUS 560 ORFF SCHULWERK. (1-3)
The study of the philosophy and the pedagogy of the Orff Schulwerk method through movement, discussion, performance, improvisation, composition, and demonstration. Number of credits awarded will depend on total number of hours of participation and the amount of work in musical arrangement, orchestration, and composition. May be repeated to a maximum of six credits. Prereq: Junior standing in music or approval of instructor.

MUS 561 ORFF CERTIFICATION: LEVEL I, II, OR III. (2)
An intensive and systematic study of the philosophy and the pedagogy of the Orff Schulwerk method based on the curriculum recommended by the American Orff Schulwerk Association. The three main components are ensemble, recorder, and movement. Participants must demonstrate competency in orchestration, recorder, and pedagogy in order to obtain certification. Lecture, two hours; laboratory, two hours per week. May be repeated in sequence to a maximum of six credits. Prereq: Junior standing in music or approval of instructor.

MUS 566 PIANO PEDAGOGY. (3)
Investigation of techniques and materials for teaching piano in groups and to individual students, both children and adults. Prereq: Consent of instructor.

MUS 570 ORCHESTRATION. (2)
This course includes a study of the individual instruments of the orchestra and band with practice in scoring for these instruments. Prereq: MUS 371.

MUS 571 ORCHESTRATION. (2)
A continuation of MUS 570. Prereq: MUS 570.

MUS 572 COUNTERPOINT. (3)
A study of 16th century contrapuntal techniques and of contrapuntal influences in common-practice music. Prereq: MUS 273 or equivalent.

MUS 573 COUNTERPOINT. (3)
A study of 18th century contrapuntal techniques and of contrapuntal influences in Romantic and 20th century music. Prereq: MUS 273 or equivalent.

MUS 574 COMPOSITION. (2)
A basic course in original composition and orchestration. Prereq: MUS 371.

MUS 575 COMPOSITION. (2)
A continuation of MUS 574. Prereq: MUS 574.

MUS 578 ANALYSIS AND STYLE SURVEY. (3)
Studies in analytical terminology and methodology; survey of major stylistic practices of Western music. Prereq: MUS 372 or equivalent.

MUS 600 RESEARCH I. (3)
A course designed to acquaint students with basic techniques and tools used in music education research.

MUS 601 FOUNDATIONS IN MUSIC EDUCATION. (3)
An historical survey of thought concerning the place and significance of music in the education of the individual and the group.

MUS 618 RESEARCH METHODS. (3)
A survey of basic research techniques and materials in musicology and theory. Prereq: A reading knowledge of French or German.

MUS 620 ADVANCED VOCAL REPERTORY (Subtitle required). (3)
An intensive study of the stylistic and interpretive characteristics of solo vocal literature of a specified repertory. May be repeated as desired with different subtitles. Prereq: Graduate standing or consent of instructor.

MUS 622 SYMPHONIC LITERATURE. (3)
An intensive study of orchestral literature from the classical period to the present. Prereq: Graduate standing in music or consent of instructor.

MUS 623 OPERA LITERATURE I. (3)
An intensive study of the history and literature of opera from its origins around 1600 through the early Romantic period. Prereq: Graduate standing in music or consent of instructor.

MUS 624 CHAMBER MUSIC LITERATURE. (3)
An intensive study of the development of instrumental chamber music. Prereq: Graduate standing in music or consent of instructor.

MUS 625 CHORAL LITERATURE. (3)
An intensive study of choral literature from the Renaissance period to the present. Prereq: Graduate standing or consent of instructor.

MUS 627 OPERA LITERATURE II. (3)
An intensive study of the history and literature of opera from the early Romantic period through the present. Prereq: Graduate standing in music or consent of instructor.

MUS 630 MEDICAL MUSIC THERAPY. (3)
This course is directed toward developing advanced competencies in medical music therapy objectives. Current research related to medical music therapy, current laws and regulations governing medical practice, and current music therapy theory related to the practice of music therapy in a medical setting will be addressed. Prereq: Permission of the instructor.

MUS 631 MUSIC IN COUNSELING. (3)
This course is directed toward developing advanced competencies in music therapy theory and clinical skills. Specifically, the use of music in counseling and the development of counseling techniques appropriate in music therapy will be addressed. Prereq: Permission of the instructor.

MUS 633 GRADUATE CLINICAL PLACEMENT IN MUSIC THERAPY. (1-3)
This course is directed toward the development of advanced clinical skills in music therapy in an area chosen by the student in consultation with program faculty. Prereq: Permission of instructor and satisfactory completion of MUS 433G.

#MUS 648 MUSIC SOFTWARE TECHNOLOGY. (3)
This course is directed toward developing advanced competencies in music technology common to the fields of music education and music therapy. Supervised projects will be a large component of this course and projects will be individualized based on students' educational track and career goals. All course instructional materials are conducted online but there are three face-to-face meetings during the second half of the course. Two of these meetings are individual conferences with the instructor, and one is for presentation of the project on Saturday morning of the last week of class schedule. Prereq: Permission of instructor.

MUS 650 MUSIC EDUCATION WORKSHOP. (1-4)
Intensive study of advanced methods and materials in one of the following areas of music education: elementary and general music, the school orchestra, the school band, choral music. May be repeated once for a total of two, three or four credits.

MUS 660 ADVANCED MUSIC EDUCATION METHODS AND MATERIALS (Subtitle required). (3)
An in-depth study and analysis of the methodology and materials and their development in music education. May be repeated to a maximum of 12 credits when identified by different course subtitles. Prereq: Graduate standing or consent of instructor.

MUS 662 DALCROZE APPROACH I. (3)
This course is especially designed for music teachers who wish to acquire knowledge and skills in Dalcroze pedagogy and musicianship. There are two parts of this course: on-site participation and a Blackboard component. Students will be immersed in the principal subjects of the Dalcroze approach: eurhythmics, solfège, and improvisation. The on-site session provides creative experiences of hands-on activities and the Blackboard component covers assignments related to the philosophy, history, composition, lesson designs, and discussion of the Dalcroze approach in music education.

MUS 663 DALCROZE APPROACH II. (3)
This course is especially designed for music teachers who wish to acquire knowledge and skills in Dalcroze pedagogy and musicianship. There are two parts of this course: on-site participation and a Blackboard component. Students will be immersed in the principal subjects of the Dalcroze approach: eurhythmics, solfège, and improvisation. The on-site session provides creative experiences of hands-on activities and the Blackboard component covers assignments related to the philosophy, history, composition, lesson designs, and discussion of the Dalcroze approach in music education. Prereq: Successful completion of MUS 662 or equivalence and permission by instructor.

MUS 664 MUSIC AND SPECIAL LEARNERS. (3)
This course provides an overview of the characteristics and instructional needs of special learners. Students will be introduced to administrative issues and laws governing special educational practices in the public school setting. Educational strategies and adaptations/modifications will be addressed with emphasis on applications in the music setting. Teaching adult learners and gifted students will be included, as will therapeutic uses of music appropriate for music therapists working in special education settings. A field experience is required. Prereq: Consent of instructor.

MUS 665 PHYSIOLOGY AND FUNCTIONING OF THE SINGING VOICE. (3)
Detailed study of vocal physiology and acoustics of the singing voice. Major historical sources and recent scientific research form the basis of the course. Designed for professional voice teachers and music educators who work with singers. Prior study of acoustics recommended.

MUS 666 ADVANCED ORFF SCHULWERK. (1-3)
For experienced music teachers who already had basic Orff Schulwerk training. This course enables students to advance their musicianship, refine pedagogic techniques, and/or do research in Orff Schulwerk. Prereq: MUS 561 – equivalent to Level Two Orff-Schulwerk Teacher Training or permission of the instructor.

MUS 667 MATERIALS, TECHNIQUES AND LITERATURE OF VOICE TRAINING. (3)
Survey of currently published books, anthologies, and other materials for voice teaching. Various approaches to teaching vocal technique will be examined; other pertinent literature explored. Prereq: MUS 665.

MUS 668 DALCROZE APPROACH III. (3)
This course is especially designed for music teachers who wish to acquire knowledge and skills in Dalcroze pedagogy and musicianship. There are two parts of this course: on-site participation and a Blackboard component. Students will be immersed in the principal subjects of the Dalcroze approach: eurhythmics, solfège, and improvisation. The on-site session provides creative experiences of hands-on activities and the Blackboard component covers assignments related to the philosophy, history, composition, lesson designs, and discussion of the Dalcroze approach in music education. Prereq: Successful completion of MUS 663 or equivalence and permission by instructor.

MUS 669 INDIVIDUAL DALCROZE PROJECT. (3)
This course is especially designed for music teachers who have acquired adequate knowledge and skills in Dalcroze pedagogy and musicianship and are ready to demonstrate independence in designing and completing an instructional or research project that exemplifies the Dalcroze approach. The student is guided at a distance by the instructor at all phases of the project and carry out the study at his or her own school or location. Prereq: a) Successful completion of MUS 663 (or equivalent) and permission by instructor, or b) successful completion of MUS 668.

MUS 670 ANALYSIS OF TONAL MUSIC I. (3)
An introduction to and exploration of analytical techniques and issues relevant to music before 1900, addressing as well the performance implications of analytical decisions insofar as possible. Various musical dimensions will be studied including motivic structure, meter/rhythm, harmonic syntax, formal processes and text/music relationships. Prereq: MUS 578 or equivalent.

MUS 671 ANALYSIS OF TONAL MUSIC II. (3)
Introduction to the theories of Heinrich Schenker, their application to the analysis of tonal music and to performance. Intensive analytical work and selected readings. Prereq: MUS 578 or equivalent.

MUS 672 ANALYSIS OF MUSIC SINCE 1900 I. (3)
An introduction to and exploration of analytical techniques and issues relevant to the literature since 1900, addressing as well the performance implications of analytical decisions insofar as possible. Various musical dimensions will be studied including motivic structure, meter/rhythm, harmonic syntax, formal processes and text/music relationships. Prereq: MUS 578 or equivalent.

MUS 673 ADVANCED COMPOSITION. (2)
May be repeated to a maximum of six credits. Prereq: MUS 575.

MUS 674 PEDAGOGY OF THEORY. (3)
Examination of the resources and techniques of teaching undergraduate music theory (aural and written components). Extensive review of the textbook literature, study of the application of contrasting theoretical approaches, and the examination of relevant Computer Assisted Instruction materials. Requirements to include practice teaching and observation of undergraduate music theory classes (MUS 171-173; 271-273; 170-172; 270-272). Prereq: MUS 578 or equivalent.

MUS 675 INTERNSHIP IN THEORY PEDAGOGY. (1)
An internship providing pedagogical experience in undergraduate music theory (written and aural). Internship is conducted under the supervision of a faculty member who is teaching an undergraduate music theory course (MUS 170, 171, 172, 173, 270, 271, 272, or 273). May be repeated to a maximum of four credits.

MUS 676 ADVANCED ANALYTICAL TECHNIQUES. (3)
Study of the most significant approaches to music analysis of the 20th century, including Schenkerian analysis, Forte set theory, and others. Prereq: MUS 578 or equivalent.

MUS 677 CONTEMPORARY MUSIC IDIOMS. (3)
Survey, with intensive study of representative works, of musical trends since 1935. Prereq: MUS 578 or 671 or 672.

MUS 678 HISTORY OF THEORY. (3)
A survey of theoretical ideas from the Greeks through 19th century English and German theorists. Prereq: MUS 578 or equivalent.

MUS 680 BAND HISTORY AND LITERATURE. (3)
A study of the heritage of the wind band through its leaders and literature, from its earliest roots to the present, with emphasis on the period from 1950 to the present. Prereq: Consent of instructor.

MUS 681 ADVANCED REHEARSAL TECHNIQUES – BAND. (3)
The development of effective rehearsal skills in the secondary school and university band settings, with emphasis on performance orientation, the development of aural concepts and advanced rehearsal analysis and techniques. Prereq: MUS 365, teaching experience or permission of instructor.

MUS 684 ADVANCED STRING METHODS AND MATERIALS. (3)
The study of string pedagogy through historical perspectives as it relates to the individual instruments as well as to class instruction. Prereq: Graduate standing in music or approval of instructor.

MUS 690 TOPICS IN MUSICOLOGY (Subtitle required). (3)
Investigation of critical and historical problems in musicology; intensive study of a specific composer, genre, or school of composers. May be repeated to a maximum of six credits when identified by different course subtitles. Prereq: Graduate standing and consent of instructor.

MUS 693 WORLD MUSIC FOR TEACHERS. (3)
This course provides a comprehensive survey of world music for teachers, an introduction to theories and methodologies of ethnomusicology and preparation for developing a more in-depth knowledge of a given musical region. Prereq: Graduate standing or consent of instructor.

MUS 694 INTERNSHIP IN SACRED MUSIC. (1)
An internship to provide students in the Master of Music in Sacred Music program with a practical field experience in a sacred setting. The internship is identified and conducted under the supervision of a UK School of Music faculty supervisor and on-site coordinator. Students must file a Learning Contract with the School of Music DGS. May be repeated to a maximum of three credits. Prereq: Completion of 12 hours in the M.M. in Sacred Music program or by consent of instructor.

MUS 695 INDEPENDENT WORK IN MUSIC. (1-3)
Study of an individually selected topic relevant to a student's academic development. For work in musicology, theory, music education, or vocal literature, students should enroll in the designated independent work courses listed separately. May be repeated to a maximum of six credits. Prereq: Graduate standing in music and consent of instructor.

MUS 700 MEDIEVAL AND RENAISSANCE NOTATION. (3)
The study and transcription of the notation of medieval and Renaissance polyphony, and of the various keyboard and lute tablatures of the 16th and 17th centuries. Prereq: Consent of instructor.

MUS 702 SEMINAR IN MUSICOLOGY. (3)
Study and research in specific musicological problems. May be repeated to a maximum of eighteen hours. Prereq: Consent of instructor.

MUS 703 PROSEMINAR IN MUSICOLOGICAL METHODS. (3)
An introductory exploration into the methodologies currently utilized in the field of musicology. Prereq: Consent of instructor.

MUS 705 RESEARCH II. (3)
A course designed to lead the student in music education to do experimental research in the area of music education. Prereq: MUS 600.

MUS 706 MUSIC LEARNING AND BEHAVIOR. (3)
This course is intended for graduate students in music education with the major focus of the class involved in learning behavioral principles, learning observational categories pertaining to classroom reinforcement and role playing and practicing techniques to be employed later in the classroom. Prereq: Graduate standing in music.

MUS 707 TESTS AND MEASUREMENTS IN MUSIC. (3)
This course is designed to provide students with knowledge in measurements and evaluation in the field of music education and research. Topics include principles of measurement, administration and evaluation of published standardized and teacher-made tests, interpretation of test results, and test construction. Prereq: MUS 600.

MUS 710 INTRODUCTION TO ETHNOMUSICOLOGY. (3)
An introduction to the materials and methodologies of the field of ethnomusicology. Prereq: Graduate standing in music.

MUS 711 SEMINAR IN ETHNOMUSICOLOGY (Subtitle required). (3)
Intensive research-based study of specific problems and topics in ethnomusicology. May be repeated under a different subtitle to a maximum of twelve credits. Prereq: Graduate standing in music.

MUS 719 INDEPENDENT WORK IN MUSICOLOGY. (1-3)
May be repeated to a maximum of six hours. Prereq: Four to six hours of graduate credit in the area of specialization and consent of instructor.

MUS 730 INDEPENDENT WORK IN MUSIC THERAPY. (1-3)
This course is directed toward developing individualized advanced competencies in music therapy in one of the following areas: Music Therapy Theory, Research, Musical Development and Personal Growth, and Clinical Administration. Prereq: Permission of instructor.

#MUS 731 MUSIC PERCEPTION AND COGNITION. (3)
This course is designed for doctoral students with a concentration in music education and will cover the physiological, sensory, and organizational processes involved in music perception and cognition. It is also directed toward developing advanced competencies in understanding how music can be used to treat neurological disorders and stroke. Prereq: Permission of instructor.

MUS 732 SEMINAR: TOPICS IN MUSIC THERAPY. (3)
This course is directed toward developing advanced competencies in various topics in and related to music therapy. Topics will include supervision, leadership skills, research, current theories of practice and clinical administration. Prereq: Permission of instructor.

MUS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

MUS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

MUS 750 INDEPENDENT WORK IN MUSIC EDUCATION. (1-3)
May be repeated to a maximum of six hours. Prereq: Four to six hours of graduate credit in area of specialization and consent of instructor.

#MUS 760 MUSIC RESEARCH III. (3)
This course is directed toward developing advanced competencies in research methods common to the fields of music education and music therapy. MUS 760 will build upon and expand the foundations established in MUS 600 and MUS 705, covering topics such as mixed methods research, integrative or advanced statistical analyses, and social/behavioral science designs and medical research designs. Supervised research projects will be a large component of this course and projects will be individualized based on students' educational track and career goals. Prereq: MUS 600 Research I and MUS 705 Research II and permission of instructor.

MUS 762 MUSIC IN HIGHER EDUCATION. (3)
Historical and comparative studies in the teaching and administration of music in colleges and universities. Includes case studies in administration, music in European higher education and the relationship of music to all other elements of the academic program. Prereq: MUS 751.

MUS 766 SEMINAR IN MUSIC EDUCATION. (3)
Advanced professional study in the theory and practice of music education. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

MUS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

MUS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

MUS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

MUS 770 PSYCHOLOGY OF MUSIC. (3)
A study of the processes of musical thinking and the effects of music on human behavior.

MUS 772 SEMINAR IN THEORY. (3)
Individual and group study of theoretical problems and areas of inquiry. May be repeated to a maximum of nine credits. Prereq: Graduate standing in Theory, or consent of instructor.

MUS 780 DIRECTED RESEARCH IN VOCAL LITERATURE. (1-3)
Individual directed research. Elective course for master's degree students. Required for doctoral voice majors; topics assigned at discretion of instructor in proportion to credits undertaken. May be repeated to a maximum of 12 credits. Prereq: MUS 618 and MUS 620 or permission of instructor.

MUS 799 INDEPENDENT WORK IN MUSIC THEORY. (1-3)
May be repeated to a maximum of six hours. Prereq: Four to six hours of credit in area of specialization and consent of instructor.

NEU Neurology

NEU 815 FIRST-YEAR ELECTIVE, NEUROLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Neurology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

NEU 825 SECOND-YEAR ELECTIVE, NEUROLOGY. (1-4)
With the advice and approval of his or her adviser, the second-year student may choose approved electives offered by the Department of Neurology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

NEU 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth-year College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
NEU 850 ACTING INTERNSHIP IN NEUROLOGY
NEU 851 CHILD NEUROLOGY IN DEPTH
NEU 852 RESEARCH IN NEUROLOGY
NEU 853 NEUROLOGY CONSULTATION
NEU 854 CLINICAL NEUROPHYSIOLOGY (EEG, EMG, AND EVOKED POTENTIALS)

NRE Natural Resources and Environmental Science

NRE 201 NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE. (3)
An introductory course in management of natural resources as supported by environmental science at an ecosystem level. Students will write a range of papers about natural resource issues. An overnight field trip is required. Prereq: CIS/WRD 111 or equivalent (ENG 101, ENG 102, and COM class) and sophomore standing.

NRE 320 NATURAL RESOURCE AND ENVIRONMENTAL ANALYSIS. (3)
A field-oriented course taught off campus as a three-week summer camp in August. Emphasis is placed on methodologies for field data collection necessary to evaluate a variety of natural resources on forest, agricultural, and surface mined lands. Students will become familiar with sampling instrumentation, collection, preservation, analysis and data interpretation. Lecture, 10 hours; laboratory, 30 hours per week (Monday-Friday) for three weeks. Prereq: BIO 150/152 and CHE 105.

NRE 355 INTRODUCTORY GEOSPATIAL APPLICATIONS FOR LAND ANALYSIS. (3)
An introduction to the concepts and methods of compilation, management, analysis, and display of spatially-referenced and tabular data utilizing vector and raster data models. Lecture will be complemented with computer based laboratory exercises. Lecture, two hours; laboratory, four hours per week. Prereq: Third year and above LA major, junior/senior NRES major, or permission of instructor. (Same as LA 355.)

NRE 381 NATURAL RESOURCE AND ENVIRONMENTAL POLICY ANALYSIS. (3)
This course examines the historical development of natural resource and environmental policies, provides an overview of the policy process and key federal agencies which manage natural resources or implement environmental regulations, and introduces basic policy analysis techniques so students can prepare and present a case-specific analysis of existing resource or environmental policy.

NRE 390 SPECIAL TOPICS IN NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE. (1-3)
This course focuses on unique and timely topics in natural resources and environmental science. May be repeated under a different subtitle for a maximum of six credits. Prereq: NRE 301 or consent of instructor.

NRE 395 INDEPENDENT STUDY IN NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE. (3)
Study and independent work on selected problems related to natural resources and environmental science conducted under the supervision of a faculty member and with clear relevance to the student's Environmental Systems Emphasis Area. The goal of NRE 395 is for students interested in research to have an authentic research experience, working directly with a faculty member or graduate student in data collection and analysis, as well as conducting a portion of the research independently. Prereq: Consent of appropriate faculty and a plan of learning objectives approved by the NRCM Internship Coordinator.

NRE 399 EXPERIENTIAL EDUCATION IN NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE. (3)
A learning experience in natural resources and environmental sciences conducted under the supervision of a faculty member and with clear relevance to the student's Environmental Systems Emphasis Area. The goal of this requirement is to provide the student with pre-professional experiential learning experience in their chosen emphasis area within natural resources and environmental science. Prereq: Consent of appropriate faculty and approval by NRCM Internship Coordinator.

***NRE 420G TAXONOMY OF VASCULAR PLANTS. (4)**
A survey of the evolutionary relationships among the major of vascular plant groups, concentrating heavily on important families flowering plants. Issues in contemporary systematics, including cladistic methods, will be covered. Students will gain practical experience learning the language of descriptive botany and using botanical keys in technical manuals for species identification. Field trips highlight the local spring flora. Lecture, three hours; laboratory, three hours; plus two Saturday field trips. Prereq: Junior standing; BIO 148 and BIO 152 or one course in introductory botany or consent of instructor. (Same as BIO 420G.)

NRE 450G BIOGEOCHEMISTRY. (3)
A lecture and lab course emphasizing the role of microbial processes on elemental and pollutant cycling in terrestrial soils and aquatic sediments. Soils and sediments from different ecosystems are evaluated for microbial community composition and biogeochemical cycling of organic and inorganic nutrients and pollutants using advanced molecular and laboratory techniques. Several all day field trips and laboratory exercises required. Limited to eight students at the senior or higher level standing. Prereq: CHE 105, 107, 111, 113. (Same as PLS 450G.)

NRE 455G WETLAND DELINEATION. (3)
Basic concepts of natural wetland ecosystems, their importance, functions, and major features used for their identification and classification. Application of basic hydrology, hydrophytic vegetation and hydric soil indicators for identification of jurisdictional wetlands utilizing documentation and analysis of field collected data. Three laboratory exercises and four short field trips required. Prereq: PLS 366 or consent of instructor. (Same as PLS 455G.)

NRE 456G CONSTRUCTED WETLANDS. (3)
Important aspects of the functions of natural and constructed wetlands as water purifiers. Principles and mechanisms of the purification process, design, construction, operation and management criteria for efficient usage. Case studies and design problems of constructed wetlands on mining, agricultural, industrial and municipal wastewater treatment applications. Two all day field trips are required. Prereq: PLS 366 or consent of instructor. (Same as PLS 456G.)

NRE 470G SOIL NUTRIENT MANAGEMENT. (3)
Soil reaction/cycling of elements essential for plant growth; rates, timing and placement of nutrient sources in modern crop/soil management systems; plant and soil sampling and analysis to diagnose plant nutrient stress. Prereq: CHE 105, PLS 366 and PLS 386 or consent of instructor. (Same as PLS 470G.)

***NRE 471 SENIOR PROBLEM IN NATURAL RESOURCES AND ENVIRONMENTAL SCIENCE. (4)**
This course is designed to provide students with the opportunity to apply the skills and information acquired in previous courses to a real world problem in natural resources and environmental science. The class will focus on a single current issue in Kentucky and will research that issue in depth, using a variety of techniques, including library research, interviews, and data collection and analysis. In addition to research and problem-solving skills, written and oral skills will be emphasized. Lecture, three hours; laboratory, two hours per week. Prereq: NRE 201, NRE 320, FOR 340, PLS 366, NRE 381, FOR 460/EES 385 (or concurrent enrollment), NRE 355 (or concurrent enrollment), and senior standing.

NRE 545 RESOURCE AND ENVIRONMENTAL ECONOMICS. (3)
This is an advanced level course focused on economic analysis. It will help students frame natural resource and environmental problems so that they can be analyzed and solved. Major topic areas include water resources, fisheries, energy (and other non-renewable resources), agriculture, and pollution. Policy instruments such as pricing, emission fees, and tradable permits will be covered in detail. Prereq: AEC 303 or AEC 445G or consent of instructor. (Same as AEC 545.)

NRE 556 CONTEMPORARY GEOSPATIAL APPLICATIONS FOR LAND ANALYSIS. (3)
Advance concepts in data base analysis, model development, and ancillary functions in geographic information systems. Lecture, two hours; laboratory, four hours per week. Prereq: LA 855/NRE 355 and either STA 291 or STA 570. (Same as LA 556.)

NS Nutritional Sciences

NS 601 INTEGRATED NUTRITIONAL SCIENCES I. (3)
The material covered in CNU/NS 601 consists of three major emphasis areas: (1) review of carbohydrate, lipid, and protein structure, synthesis, absorption, and metabolism, (2) the impact of nutritional influences on macronutrient metabolism to health and disease, (3) the influence of macronutrient metabolism on the regulation of energy balance. Prereq: IBS 601, PGY 206. (Same as CNU 601.)

NS 602 INTEGRATED NUTRITIONAL SCIENCES II. (3)
Integrated study of the properties, metabolism, biochemical and physiological functions and interactions of vitamins and minerals, and their relationships to chronic diseases, deficiency symptoms and toxicity. Prereq: IBS 601, PGY 206. (Same as ASC/CNU 602.)

NS 603 INTEGRATED NUTRITIONAL SCIENCES III. (2)
This course is aimed at providing medical and health professional students with a working knowledge of dietary requirements and guidelines, nutritional assessment and nutritional requirements, food safety issues and nutritional needs throughout the lifecycle. Prereq: Health Professional Graduate Status. (Same as CNU/FSC 603.)

NS 604 LIPID METABOLISM. (3)
Emphasis on factors influencing the absorption of fats and fatty acids, distribution and incorporation of fatty acids into body tissues, the biosynthesis of and catabolism of fatty acids, as well as cholesterol, bioactive eicosanoid production and the involvement of fats in the disease process. Lecture and problem-based learning approach with incorporation of student presentations, three hours per week. Prereq: NS/CNU 601, BCH 401G and PGY 412G or consent of instructor. (Same as CNU 604.)

NS 605 WELLNESS AND SPORTS NUTRITION. (3)
Emphasis is directed toward nutrition as applied to prevention of disease through lifestyle management and the application of nutrition in exercise and sport. Targeted focus areas are: body composition and energy expenditure, the metabolic basis of weight management, nutrient needs throughout the lifecycle, the metabolic changes associated with obesity, behavioral management of obesity, nutrient metabolism and exercise, water and electrolyte balance during exercise, nutritional ergogenic aids, nutrition-strength and performance enhancement. Prereq: PGY 412G, and BCH 401G or equivalent or consent of instructor. (Same as CNU/PT 605.)

NS 606 MOLECULAR BIOLOGY APPLICATIONS IN NUTRITION. (2)
Focus will be on the use of the most recently developed techniques and model systems in molecular biology for studying nutrient regulation of gene expression. Examples include current problems in nutrition such as models for engineering plants containing more desirable nutrient sources (fats); for studying effects of various nutrients in transgenic mice on tumor suppressor genes and oncogene expression, that are important in cancer prevention; and for studying nutrient effects on genes that modulate obesity. Prereq: BCH 501 and 502 or equivalent; or BCH 401G and consent of instructor. (Same as CNU 606.)

NS 608 NUTRITIONAL IMMUNOLOGY. (3)
Theories and mechanisms of immunity will be introduced. The effects of nutrition on immunity will be discussed from experimental and clinical perspectives. A lecture and problem-based learning approach with incorporation of student presentations, three hours per week. Prereq: PGY 412G and CNU 601, or consent of instructor. (Same as CNU 608.)

NS 609 ETHICS IN CLINICAL SCIENCES RESEARCH. (1)
Students will examine ethical issues in biomedical research using a case-study approach. Representative issues addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, scientific misconduct, and informed consent. Prereq: Graduate student status. (Same as CNU 609.)

NS 620 NUTRITION AND AGING. (2)
Emphasis on current research in nutrition and aging, nutrition needs of the elderly and nutrition-related diseases associated with aging. Prereq: NFS 510 and 511 or equivalent. (Same as NFS 620.)

#NS 623 PROFESSIONAL DEVELOPMENT FOR SCIENTISTS IN TRAINING. (3)
The purpose of this course is to introduce graduate students to useful topics in their quest to attain and retain a tenure track researcher position (or equivalent) at some point in their scientific future. These subjects are not always taught by mentors or through a traditional curriculum, but they are of utmost importance in a successful career. A breadth of issues will be presented that many principal investigators would say they wished they learned in graduate school and should give students the resources to become competitive scientific professionals. (Same as PHA 623.)

NS 630 ADVANCED COMMUNITY NUTRITION. (3)
Study of nutrition surveys and of bases for judging community nutrition. Emphasis is placed upon economic, geographic, social and educational causes of malnutrition. Experience is given in development of nutrition programs. May be repeated to a maximum of six credits. Prereq: NFS 503. (Same as NFS 630.)

NS 640 HUMAN NUTRITION: ASSESSMENT. (3)
Assessment of dietary, anthropometric and biochemical parameters of nutritional status in health and disease. Lecture, two hours; laboratory, three hours per week. Prereq: NFS 510, NFS 511 or equivalent. (Same as NFS 640.)

NS 651 TOPICS IN NUTRITIONAL SCIENCES I. (2)
Faculty from different disciplines will provide in-depth coverage of selected topics in nutritional sciences as related to health and disease, e.g. nutrition and gastrointestinal diseases, diabetes, cancer, cardiovascular disease. Prereq or concur: Six credit hours from ASC 681, 683, 687, ASC/NFS 685, NFS 610, CNU 601 or consent of instructor.

NS 652 TOPICS IN NUTRITIONAL SCIENCES II. (2)
Faculty from different disciplines will provide in-depth coverage of selected topics in nutritional sciences as related to health and biological functions (e.g. nutrition and exercise, stress, and environmental interactions). Prereq or concur: Six credit hours from ASC 681, 683, 687. ASC/NFS 685, NFS 610, CNU 601 or consent of instructor.

NS 701 NUTRITION AND CHRONIC DISEASES. (4)
Selected topics in nutritional sciences as related to health and chronic diseases, e.g., gastrointestinal disease, cancer, AIDS, diabetes, cardiovascular disease, obesity, including drug-nutrient interactions. Prereq or concur: NS/CNU 601, NS/ASC 602. (Same as CNU 701.)

NS 702 CLINICAL/WELLNESS NUTRITION PROBLEM-BASED CASE STUDIES. (1-3)
A problem-based learning approach to case studies is integrated with a traditional didactic approach to offer options in therapeutic nutrition, and/or health promotion. Efforts are directed toward patient, worksite and laboratory data interpretation as well as patient education. Students are directed to develop independent critical thinking related to class presentations including case studies regarding rotations through various medical or health services e.g. surgery, pediatrics, nutrition support and health promotion. Prereq: NS/CNU 601, NS/ASC 602, NS/CNU 701, NS/NFS 610 and graduate status or consent of instructor. (Same as CNU 702.)

NS 704 CURRENT TOPICS IN NUTRITIONAL SCIENCES. (1)
This course is designed to develop the student's independent thinking and critical analysis related to various nutritional sciences issues. These skills will be developed through reading assignments and group discussion related to current topics in nutrition. Prereq: Consent of instructor. (Same as CNU/NFS 704.)

NS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed. (Same as NFS 748.)

NS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

NS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

NS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours. (Same as NFS 768.)

NS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

NS 771 GRADUATE SEMINAR IN NUTRITIONAL SCIENCES. (0-1)
Reports and discussion on recent research and current literature in nutritional sciences. May be repeated to a maximum of eight credits. Prereq: Graduate standing and consent of instructor for non-NS students enrolled for one credit.

NS 782 SPECIAL PROBLEMS. (1-6)
Independent advanced work on a special problem in nutritional sciences. Prereq: Consent of graduate advisor. (Same as CNU/NFS 782.)

NS 790 RESEARCH IN NUTRITIONAL SCIENCES. (0-6)
Research work involving original investigation. May be repeated to a maximum of 18 credits. Prereq: Consent of graduate advisor. (Same as CNU/NFS 790.)

NSG Neurosurgery

NSG 864 ACTING INTERNSHIP IN NEUROSURGERY. (4)
These are surgical acting internship rotations and students will fulfill the general objectives as given, in addition to the more specific goals and objectives for all AIs as outlined in the AI syllabus. Prereq: Promoted without reservation from third to fourth year. Approval of faculty advisor. Approval of course coordinator.

NUR Nursing

NUR 101 ACADEMIC ORIENTATION AND INTRODUCTION TO NURSING. (1)
Designed to help pre-nursing freshmen make the transition to college and understand while exploring nursing as an educational system and a profession. Lectures, discussions, exercises and out of class assignments will introduce the students to the University's expectations of its students, the history and mission and traditions. Attention will also be given to honing academic skills. Prereq: Pre-Nursing Majors only.

NUR 200 FOUNDATIONS FOR PROFESSIONAL NURSING. (2)
This course will enable nursing students to develop skills for student success. Students will discover nursing as a profession in historical and emerging contexts of today's interprofessional health care delivery system. Students will begin to develop professional behaviors to promote high quality and safe patient-centered care in an interprofessional healthcare environment. Prereq: Admission to the professional Nursing program. Co-req: NUR 861.

NUR 201 ASSESSMENT AND HEALTH PROMOTION ACROSS THE LIFESPAN. (8)
This course introduces the baccalaureate student to the concepts of health and physical assessment, health promotion, and therapeutic communication skills as they are applied with diverse populations in a variety of clinical settings. In addition, students will develop critical thinking skills useful to the nurse in promoting health in individuals and families across the life span. Lecture, five hours; laboratory nine hours per week. Prereq: Admission to the professional Nursing program, completion of Certified Nurse Assistant Program, current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations, completion of HIPPA. Coreq: NUR 200.

NUR 210 PATHOPHARMACOLOGY I. (3)
This course is the first of a two semester course sequence that addresses pathophysiological and pharmacologic concepts basic to nursing practice. Prereq: NUR 201, BIO 208, NFS 212 with minimum grade of C in each. Coreq: NUR 211 or NUR 221.

NUR 211 FUNDAMENTALS OF ADULT NURSING CARE. (7)
The course will provide didactic and clinical experiences that enable the students to provide beginning professional nursing care with adults requiring intervention. Students will use the key concepts of safety, patient-centered care, nursing process, teaching-learning, and physical and psychosocial assessment in the care of adults with basic alterations in ability to meet human needs. Content related to providing a safe care environment, such as administering and monitoring medications, aseptic technique, and psychomotor skills will be addressed. Prereq: NUR 200, NUR 201, BIO 208, DHN 212 with grade of C or higher.

NUR 221 INTRODUCTION TO PROFESSIONAL NURSING CARE ACROSS THE LIFESPAN FOR SECOND DEGREE STUDENTS. (8)
This course introduces the baccalaureate student to the concepts of health and physical assessment, growth and development, health promotion and therapeutic communication skills as they are applied with diverse populations in a variety of clinical settings. The course will provide didactic and clinical experiences that enable the students to provide beginning professional nursing care with individuals and families requiring interventions across the lifespan. Students will use the key concepts of nursing process, teaching-learning, and physical and psychosocial assessment in the care of people with basic alterations in ability to meet human needs. Content related to providing a safe care environment, such as administering and monitoring medications and aseptic technique will be addressed. In addition, students will develop critical thinking skills useful to the nurse in promoting health in individuals and families across the lifespan. Prereq: Admission to the College of Nursing Second Degree Option; NFS 212, BIO 208 with a grade of C or higher; completion of Certified Nurse Assistant Program, current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations, completion of HIPPA.

NUR 300 PATHOPHARMACOLOGY II. (3)
This course is the second of a two semester course sequence that addresses pathophysiological and pharmacologic concepts basic to nursing practice. Prereq: NUR 211 or NUR 221, and NUR 210 with a minimum grade of C in each. Coreq: NUR 301 or consent of instructor.

NUR 301 FAMILY CENTERED CARE OF ADULTS WITH COMMON HEALTH PROBLEMS. (7)
This course will provide classroom and clinical experiences to enable the student to provide continuity of nursing care for adult populations with a variety of common health problems across settings. Lecture, three hours; clinic, 12 hours per week. Prereq: Junior year standing in nursing, NUR 201 and NUR 211 or NUR 221, NUR 210 with a minimum grade of C in each course; current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations. Coreq: NUR 300.

NUR 310 RESEARCH FOR EVIDENCE-BASED NURSING PRACTICE. (3)
This course provides an introduction to the research methodology essential to providing evidence-based nursing care. Students will acquire the fundamental basics in quantitative and qualitative nursing research. Legal and ethical issues are discussed. The students will also develop the knowledge and skills necessary to appraise research and apply to evidence-based nursing practice, including up-to-date electronic resources. Students learn to apply this knowledge through evidence-based practice processes. Students will then communicate an evidence-based project to their peers. Prereq: STA 210 or BST 330, or consent of instructor. RN-BSN Prereq: NUR 350, STA 210 or BST 330 or equivalent, or consent of instructor.

NUR 311 NURSING CARE OF CHILDREARING FAMILIES. (5)
This course is designed to provide classroom and clinical experiences to enable the student to provide continuity of nursing care for families when children and adolescents experience a variety of health problems. Lecture, two hours; laboratory, 6 hours per week. Prereq: NUR 871, current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations. Coreq: NUR 313.

NUR 313 NURSING CARE OF CHILDBEARING FAMILIES. (4)
This course is designed to provide classroom and clinical experiences to enable the student to provide continuity of nursing care for families during uncomplicated labor and delivery, postpartum and neonatal periods. Lecture, two credits; clinical, two credits (six hours per week). Prereq: NUR 871, current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations. Coreq: NUR 311.

***NUR 350 CONCEPTS IN PROFESSIONAL NURSING. (5)**
This course will provide students with an opportunity to explore and understand theories from other disciplines/professions and to apply these theories in nursing practice. Student learning will be facilitated with the use of case studies, scholarly journal articles, peer review of classmates' writing, and informatics. Additionally this course will focus on client education that encompasses the assessment of the learner and consideration of the learner's needs in various health care situations. The student will learn how to develop a teaching plan and will demonstrate effective teaching strategies. Students will expand their knowledge of cultural diversity and evidence-based practice to promote quality and safe, patient-centered care. This course is taught in an online format. Students must be active, self-directed learners to be successful in this class. Students will practice skills of critical thinking and writing within the discipline. Prereq: Admission to College of Nursing RN-BSN option.

NUR 351 HEALTH ASSESSMENT. (2)
This health assessment course offers essential assessment and skill development opportunities for nursing. It includes intensive work on the principles and techniques of performing a health assessment in the context of developmental, physiological, psychological, and environmental parameters. Individual and family models will be analyzed and utilized for use with diverse populations; case studies will be used to analyze family assessment models. Clinical emphasis will be placed on the assessment of individual clients. Prereq: Admission to College of Nursing RN-BSN option.

NUR 352 PHARMACOLOGY. (3)
This is a general introductory course to drugs and drug therapy. Various drugs will be studied and categorized in the context of clinical pathological disorders or problems. The general approach will involve a review of the pathophysiology of specific disorders and the categories of drugs currently employed in the treatment of these problems. The students will learn

mechanism of action, therapeutic effect, side effects, drug interactions, and toxicities of these drugs, and will be provided with examples of commonly used drugs in each category of drugs discussed. RN-BSN prereq or coreq: NUR 364.

NUR 354 PATHOPHYSIOLOGY. (3)
This course addresses pathophysiological concepts basic to nursing practice. Concepts essential for understanding major health problems which occur across the life span and that are encountered in multiple care settings are discussed. Emphasis is on understanding how and why various pathophysiologic signs and symptoms occur. RN-BSN coreq: NUR 352.

NUR 380 ENERGY HEALING LAB. (1)
This course is designed to introduce students to the use of self as a healing force and to a variety of biofield energy healing techniques from the modalities of Therapeutic Touch, Reiki, Pranic Healing, Healing Touch, Bowen Therapy, Polarity Therapy, and from the work of Rosalyn Bruyere. The format of this course will be a controlled, laboratory setting for the demonstration and practice of these techniques; students will practice the techniques on each other and on volunteers from the community. Research involving these techniques will be read and discussed and faculty will share clinical experiences in the use of these techniques. Prereq: Admission to the College of Nursing or consent of instructor.

NUR 381 NURSING PRACTICE INTERNSHIP. (1)
This seminar is designed to enhance the nursing knowledge gained throughout the nursing curriculum. Students will study major nursing concepts in-depth, roles of the professional nurse and apply them to their clinical practice experiences. Prereq: NUR 210 and NUR 211 or NUR 221.

NUR 382 SPECIAL TOPICS IN NURSING. (1-3)
Study and analysis of current and topical problems and issues in nursing. Directed by a faculty member with expertise in the topic under study. May be repeated to a maximum of 18 credits.

NUR 384 INTRODUCTION TO PERIOPERATIVE NURSING. (1)
This course will introduce the student to the perioperative nursing process. Students will learn basic information about planning patient care for all three perioperative phases – preoperative, intraoperative, and postoperative. Class will meet for 4 hours (1 hour didactic; 3 hours lab) every other week for 8 weeks. Prereq: NUR 301.

#NUR 386 EMERGENCY NURSING ELECTIVE. (1)
The course emphasizes critical thinking, planning, implementation and evaluation in the nursing management of patients requiring emergent trauma care. This course provides a foundation of trauma nursing and focuses on application of scientific process to needs of trauma patients. Prereq: Successful completion of NUR 300 and 301 or licensed RN or permission of instructor.

NUR 391 NURSING RESEARCH INTERNSHIP. (1-3)
This nursing research internship is an independent study elective designed to provide students with experience in conducting nursing research. Students will work with a nursing research faculty mentor on a research project. Prereq: Admission to the professional nursing program.

NUR 395 ELECTIVE STUDY IN NURSING. (1-4)
An independent study project investigating an area of interest under the guidance of faculty. May encompass library study or patient care utilizing aspects of scientific approach. May be repeated to a maximum of four credits.

NUR 397 NURSING SKILLS LAB INTERNS. (1-3)
This nursing skills laboratory internship is an independent study elective designed to provide students with experience in implementing the teaching learning process. Students will work with nursing skills laboratory instructors as mentors as they assist beginning nursing students in learning clinical nursing and med math skills. Prereq: NUR 211 or NUR 221.

NUR 399 STUDENT NURSE ACADEMIC PRACTICUM. (3)
A 10 week clinical practicum (summer only) that allows student nurses to apply in clinical setting what they have learned to date. Emphasis will be placed on critical thinking, management of responsibilities, and professionalism in the clinical setting. Prereq: Currently enrolled in an accredited school of nursing, within 2 semesters of graduation with either BSN or ADN. Cumulative GPA of 2.75 and GPA of 2.75 in all NUR courses; current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations. Students must meet the employment requirements of UK HealthCare Enterprise.

***NUR 400 LEADERSHIP/MANAGEMENT IN NURSING CARE DELIVERY. (3)**
This course is designed to advance the student's ability to use leadership and management theory in nursing practice within current and emerging organizational systems. The professional nurse's role in management of care will be examined. Responsibilities for resource management and management of legal and ethical dilemmas in various organizational systems also will be addressed. Prereq: HSM 241, NUR 870, NUR 872, NUR 873 and NUR 875 with a minimum grade of C in each, or consent of instructor. RN-BSN prereq: NUR 854.

***NUR 401 PSYCHIATRIC-MENTAL HEALTH NURSING. (5)**
This course is designed to develop students' skill in the use of psychiatric/mental health concepts to provide nursing care to clients across the lifespan and in a variety of settings. Lecture, three hours; clinic, six hours per week. Prereq: HSM 241, NUR 870, NUR 872, NUR 873, NUR 875 with a minimum grade of C in each; and current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations. Coreq: NUR 883.

***NUR 403 PUBLIC HEALTH NURSING. (5)**
This course is designed to develop students' skills in applying health promotion and disease prevention frameworks and in using epidemiological and public health concepts to deliver nursing care with diverse populations in a variety of settings. Emphasis will be placed on the effect of changing healthcare delivery systems on nursing practice. Lecture, three hours; clinic, six hours per week. Prereq: NUR 870, NUR 872, NUR 873, NUR 875, HSM 241 with a minimum grade of C in each, and current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations. Coreq: NUR 881. RN-BSN prereq: NUR 854, NUR 872 or consent of instructor and current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations.

***NUR 410 CAREER MANAGEMENT IN NURSING. (2)**
The course provides students with the skills for ongoing professional development and success in nursing. Prereq: NUR 880, NUR 881, NUR 883 or consent of instructor. Coreq: NUR 885, NUR 886.

***NUR 411 HIGH ACUITY NURSING. (5)**
The course emphasizes critical thinking and data analysis skills in the nursing management of patients with complex health problems with and unpredictable outcomes. Students will collaborate with other health care professionals to plan, implement, and evaluate family-centered nursing care across the life span in high-acuity settings. Lecture, four hours; clinic, three hours per week. Prereq: All University and College of Nursing course requirements except NUR 884, NUR 885, and NUR 886, current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations. Coreq: NUR 884 and 886 seminars.

NUR 510 OLDER WOMEN AND THEIR HEALTH. (3)
This course is designed to increase the awareness and understanding of the relationships among gender, health status and the aging process among older women. Such issues as changing social and cultural mores, public policies and utilization of health care resources are discussed as they impact women. Prereq: Upper division or graduate standing. (Same as HSE 510.)

NUR 511 END OF LIFE CARE IN THE ACUTE CARE SETTING. (3)
This course is designed to provide insight into the special needs of adult and pediatric patients in the acute care setting who are near the end of life. This course will cover pain and symptom management; ethical issues in palliative care nursing; cultural considerations in end-of-life care; communication, loss, grief, and bereavement; achievement of quality care at end-of-life; and preparation for and care at the time of death. Prereq: Admitted to Nursing Program or consent of instructor.

NUR 512 COMPLEMENTARY/ALTERNATIVE APPROACHES TO HEALTH CARE. (3)
Using a holistic approach to wellness, this course is an overview of alternative ways of conceptualizing health and illness. Non-traditional methods of managing illness and promoting health and well-being will be discussed. Practitioners of these methods will participate in discussions and involve students in experiencing some of these practices. Alternative methods that reflect use in a number of other cultures will be explored as complementary to the traditional western style of medicine which is used almost exclusively in this country. Prereq: Junior level. Consent of instructor for students outside the health professions.

NUR 520 SPECIAL TOPICS IN NURSING (Subtitle required). (2-4)
Exploration of selected topics or issues in nursing. Directed by a faculty member with expertise in the topic under study. Lecture, 0-4 hours; laboratory, 0-12 hours per week. May be repeated with different topics to a maximum of nine credits. Prereq: Variable, specified when topic identified.

NUR 530 EXPLORING MEDICAL MISSIONS: A MULTIDISCIPLINARY PERSPECTIVE. (3)
This seminar is designed to provide information on: (1) historical perspectives of mission work; (2) health, political, economic, and cultural diversities of mission sites in selected countries; and (3) eligibility and funding criteria for selected sites. This course provides an opportunity to learn about short-term humanitarian medical missions (sponsored by independent non-governmental and multi-denominational religious organizations). Health care professionals who have participated in medical missions will share their experiences. Prereq: Available to graduate or senior level undergraduate students.

#NUR 540 HEALTH CARE SYSTEMS FROM AN INTERPROFESSIONAL PERSPECTIVE. (3)
Health Care Systems from an Interprofessional Perspective provides a review and analysis of health care systems, the wellness-illness spectrum, and interprofessional collaborative practice. Areas of appraisal include the nature and functions of health services, agencies and professionals, and the impact of social, political, economic, regulatory, and technological forces on health care delivery and population outcomes. The course provides a unique opportunity for students to evaluate major health issues and related health care programs from an interprofessional and systems perspective. Working collaboratively with others, students will assess and plan evidence-based interventions that optimize health outcomes and improve quality of care and safety. Undergraduate prereq: This is a required course in the undergraduate nursing curriculum. Students must have completed NUR 211 or 221 with a minimum grade of C or receive approval to take NUR 540 from the faculty of record. Graduate prereq: There are no graduate prerequisites. This course may be taken as an elective course by graduate students.

NUR 601 THEORETICAL BASIS FOR ADVANCED PRACTICE NURSING. (2)
Selected concepts and theories useful for guiding advanced practice nursing are examined. The concepts and theories are drawn from nursing science as well as from other disciplines. All are discussed within the context of the nature of nursing knowledge and the expanding scientific basis for advanced practice nursing. Prereq: Enrollment in graduate program in Nursing or consent of instructor.

NUR 602 RESEARCH METHODS IN ADVANCED PRACTICE NURSING. (3)
This course provides the knowledge and skills essential for using research to support clinical and organizational decision-making. The strengths and limitations of various research designs and methods are reviewed for their utility in answering clinical questions, evaluating care delivery and patient outcomes, and making clinical decisions. Prereq: Graduate statistics course and NUR 924, admission to DNP program, graduate programs in nursing, or consent of instructor. (Same as NUR 925.)

NUR 603 CLINICAL REASONING IN ADVANCED PRACTICE NURSING. (3)
The intent of this course is for students to enhance their abilities to think logically, use clinical evidence and research findings in making clinical decisions. Concepts and principles from the biopsychosocial sciences, clinical epidemiology, informatics, and ethics will be used in developing ways for defining problems; managing the health care of individuals, groups, and populations; and measuring and monitoring the outcomes of care. Strategies for organizing, managing, and using clinical data in decision making will be addressed. Prereq: MHA students admitted to Graduate Certificate in Nursing Studies; NUR 601 and 602 for students enrolled in graduate program in Nursing; or consent of instructor.

NUR 604 LEADERSHIP IN ADVANCED PRACTICE NURSING. (3)
This course focuses on leadership and management of health care delivery by advanced practice nurses. Emphasis will be placed on leading change related to improving health outcomes, especially in relation to those areas targeted by national health care objectives. Students will critically analyze theory and research from nursing and related sciences to understand social, cultural, economic, and political issues in the health care environment. Legislative and regulatory requirements related to the practice of advanced nursing will be appraised, with an emphasis on understanding how to promote the health of the public within appropriate legal boundaries and within the context of interdisciplinary practice. Students will use selected frameworks for evaluating organizational and public policies affecting health. Prereq: MHA students admitted to Graduate Certificate in Nursing Studies; NUR 603 for students admitted to graduate nursing program; or consent of instructor.

NUR 605 EVIDENCE-BASED NURSING PRACTICE. (3)
This course provides the opportunity to apply knowledge of the research process, research utilization and program evaluation models, or evidence-based practice to address a clinical problem. Under the guidance of a faculty advisor, students are expected to work with clinical staff to identify and address a clinical problem. A written scholarly report reflecting the process and outcomes of the activity is the final product. Prereq: NUR 602, enrollment in graduate program in Nursing or consent of instructor. Co-req: NUR 708, NUR 714, NUR 724, NUR 727, or NUR 734 (depending on student's specialty area.)

NUR 613 RESEARCH APPLICATIONS IN NURSING. (3)
This course provides an opportunity for application of selected aspects of the research process to a clinical nursing problem. Students work individually or in small groups. The specific nature of the research effort is negotiated with the faculty advisor and is under the direction of that advisor. A written scholarly report is the final product. May be repeated to a maximum of six credits. Prereq: NUR 612.

NUR 614 PRACTICUM IN CLINICAL NURSING I. (4)
Conceptual frameworks, theories, and research findings are applied in clinical practice. The testing of theoretical concepts related to nursing management of clients in an area of clinical concentration is emphasized. Collaborative practice with other disciplines is an expectation. Prereq: Kentucky licensure and relevant post-baccalaureate experience, NUR 610; prereq or coreq: NUR 700, 710, 715 or 720.)

NUR 615 PRACTICUM IN CLINICAL NURSING II. (5)
Advanced knowledge, research, leadership, and clinical skills are integrated in managing nursing care with individuals, families, and groups or communities. Evaluation strategies to promote change and resolve problems in nursing care delivery are analyzed. Multidisciplinary strategies to promote and resolve problems in health care delivery are emphasized. Prereq: NUR 614, 701, 711, 716, 717 or 720.

NUR 620 PROBLEMS IN CLINICAL NURSING. (2-6)
This course provides opportunity for the study of nursing problems in particular clinical areas and for the further development of techniques of nursing intervention. Ratio of discussion/laboratory hours will vary according to designated clinical problems. May be repeated to a maximum of 12 credits. Prereq: Admission in graduate program in nursing or consent of instructor.

NUR 627 ISSUES IN RURAL NURSING AND HEALTH CARE DELIVERY. (3)
This course will focus on the exploration of models for providing preventive, primary health care, acute care, and chronic health care services in rural areas, including nursing care delivery models. Model standards for implementing the national health objectives in rural communities will be the primary focus. Demographic characteristics and organization of the community will be considered in assessing appropriateness and effectiveness of models for improving access to service and reducing disparity among subpopulations. Prereq: Enrollment in graduate program in nursing or consent of instructor.

NUR 629 EPIDEMIOLOGICAL PRINCIPLES APPLIED TO HEALTH CARE AND NURSING PRACTICE. (3)
This course reviews the basic concepts and methods of epidemiology applied to population focused health care and nursing practice. Emphasis is placed on the use of epidemiologic reasoning in deriving inferences about the etiology of health outcomes from population data, and in guiding the design of health service programs. Prereq: STA 570 or equivalent.

NUR 631 APPLICATIONS OF ADVANCED HEALTH ASSESSMENT. (3)
This advanced health assessment course offers comprehensive assessment of the individual within the context of the family and community. It includes comprehensive (systematic) history, physical, and psychological assessment of signs and symptoms, pathophysiologic changes, and psychosocial variations of the individual patient. Assessments are performed within the context of developmental, physiological, psychological, cultural, and environmental parameters. Emphasis is placed on developing a thorough understanding of the individual patient and differentiating normal and abnormal findings to determine current health status. Course requires four hours per week clinical laboratory. Prereq: Admission to DNP program, graduate program in nursing. Prereq: NUR 921 or consent of instructor. (Same as NUR 923.)

NUR 632 COMPREHENSIVE PATIENT MANAGEMENT I. (2)
This clinical course places an emphasis on the role of the advanced practice nurse as a member of the health care team across a variety of settings. The clinical experience focuses on comprehensive patient assessment, diagnosis and management of health problems for individuals and their families. Prereq: NUR 631, NUR 706 or NUR 726 or NUR 722 (depending on the student's specialty track).

NUR 633 COMPREHENSIVE PATIENT MANAGEMENT II. (2-4)
This clinical experience focuses on synthesis of theoretical, scientific, and clinical knowledge as well as practice-based skills in the diagnosis and management of existing and potential health problems based on appropriate standards of care. Emphasis will be placed on the collaborative and leadership roles of the advanced practice nurse in health care delivery. Prereq: NUR 707, 726 or 723.

NUR 635 FOCUSED ADVANCED HEALTH ASSESSMENT. (1)
This advanced health assessment course offers focused health assessment techniques that are commonly used in specialty areas of advanced nursing practice. Assessments are performed within the context of developmental, physiological, psychological, cultural, and environmental parameters. Prereq or coreq: NUR 631.

NUR 640 BEST PRACTICES IN NURSING INSTRUCTION. (3)
This course is designed to assist graduate nursing students to develop the abilities to teach in educational institutions or healthcare agencies. Using a variety of learning theories and teaching methods students will learn how to develop a course syllabus and design appropriate learning activities, develop and deliver a lecture using a variety of active learning techniques, use simulation, teach on-line, work with students in the clinical setting, and assess student performance. The legal aspects of teaching will be addressed along with advantages and disadvantages of distributed learning, use of multimedia, and strategies design to actively engage students in the learning process. Prereq: Six credit hours of elective courses in education, Admission to Certificate in teaching nursing or consent of instructor.

NUR 641 BEST PRACTICES IN CLINICAL TEACHING. (3)
This course will give students the opportunity to plan, initiate, and evaluate learning activities within the profession of nursing. These activities may include lecture, seminar, simulation, on-line teaching, evaluating clinical performance and evaluating a syllabus. Students who plan to teach nursing in an academic setting will have a mentor who is a faculty member in a nursing program. Students who plan to teach nursing in other health care settings will have a mentor appropriate to their field. Prereq: Six credit hours of elective courses in education, NUR 640, Admission to Certificate in teaching nursing.

NUR 652 PHARMACOLOGIC APPLICATIONS IN PRIMARY CARE. (3)
This course is designed to prepare nurse practitioners, nurse midwives, and other health professionals for prescribing drugs within their scope of practice. Basic pharmacologic principles and the pharmacologic actions of the major drug classes will be discussed in relation to physiologic systems with emphasis on the application of these agents to primary care, nurse midwifery practice, and other health professions. Prereq: Graduate level pathophysiology course, admission to DNP program, graduate programs in nursing or consent of instructor.

NUR 653 PATHOPHYSIOLOGY. (3)
This course is designed to present an orientation to disease as disordered physiology. It is intended to enable the nurse practitioner to understand how and why the symptoms and signs of various conditions appear. In approaching disease as disordered physiology, this course analyzes the mechanism(s) of production of the symptoms and signs of different disease syndromes. In doing so, it recognizes the practitioner's need to understand the mechanism(s) underlying the disease and its clinical manifestations so that rational therapies can be devised. Thus, appropriate screening and diagnostic laboratory evaluative methods will also be included. Prereq: Admission to DNP program, graduate programs in nursing or consent of instructor. (Same as NUR 921.)

NUR 658 RISKY BEHAVIORS AND HEALTH. (3)
This course examines the epidemiological, psychological, and theoretical perspectives of risk taking behavior and its health consequences across the lifespan. Fundamental risk concepts about individual and group risk taking behaviors, and models and practices that reduce risky behaviors are discussed. Selected topics include stress, tobacco, drug, alcohol, and medication abuse, unplanned pregnancy, sexually transmitted diseases, eating disorders, occupational and sports activities, and violence. Prereq: Graduate standing.

NUR 662 CLINICAL NURSING PRACTICE IN EXPANDED ROLES I. (1-4)
Clinical practicum focusing on assessment of health status of individuals, families, and/or aggregates; identification of needs and planning for care with emphasis on prevention and health maintenance. Laboratory, three to 12 hours per week. May be repeated to a maximum of four credits. Prereq: Kentucky licensure and relevant post-baccalaureate experience; NUR 654; prereq or coreq: NUR 740 or NUR 741.

NUR 672 CLINICAL NURSING PRACTICE IN EXPANDED ROLES II. (3-4)
Second clinical practicum which focuses on continued assessment of health needs of individuals, families, and/or aggregates which emphasizes planning, implementation, monitoring, and evaluation of nursing services. Laboratory, nine to 12 hours per week. Prereq or coreq: NUR 655; 662; 742 or 744.

NUR 682 CLINICAL NURSING PRACTICE IN EXPANDED ROLES III. (3-8)
Individually arranged in-depth clinical practicum focusing on the development of leadership and clinical management skills and the application, refining, and synthesis of knowledge and skills developed in didactic and clinical courses. May be repeated to a maximum of eight credits. Laboratory, nine to 24 hours per week. Prereq or coreq: NUR 672; coreq: NUR 743, 744, or 745.

NUR 704 ADULT-GERONTOLOGY CLINICAL NURSE SPECIALIST IN PROMOTING HEALTH AND WELLNESS ACROSS THE LIFE SPAN OF THE ADULT. (3)
This course is designed to identify the role of the Adult-Gerontology Clinical Nurse Specialist (CNS) in promoting health and wellness in the adult gerontological individual using advanced practice nursing skills in contemporary health care settings and systems.

The patient population of the Adult-Gerontology CNS practice includes young adults (including late adolescents and emancipated minors), adults and older adults (including young-old, old, and old-old adults) in all contexts of care. A foundation of knowledge related to individual's perceptions of health and illness, preventative lifestyle behaviors, adherence to therapeutic regimes and lifestyle changes will be presented. This course will address how students will utilize the role of the Adult-Gerontology CNS using effective strategies to assist individuals in adopting and maintaining behaviors as they apply to a healthy lifestyle. Prereq: Graduate level pathophysiology; NUR 924, pre or corequisite: NUR 922, NUR 927, NUR 925, NUR 923 and admission to DNP program, graduate nursing programs, or consent of instructor. (Same as NUR 945.)

NUR 705 ACUTE AND CHRONIC ILLNESS AND NURSING THERAPEUTICS II. (6)
This course deals with advanced practice nursing care for adults with acute and chronic illnesses and their families. Emphasis on understanding the conditions influencing patient/family quality of health and the consequences of disease and its treatment continues. Symptom interpretation and management are explored. Nursing therapeutics are examined for their effectiveness in managing symptoms and enhancing quality of health. The clinical experience provides opportunities to analyze selected roles in APN by working with other healthcare professionals. Under the guidance of a faculty advisor and preceptor, the student will assist patients and their families in promoting health across a spectrum of health care transitions. (Course requires 2 hours per week didactic and 16 hours per week clinical.) Prereq: NUR 704, enrollment in graduate program in Nursing or consent of instructor. Pre- or coreq: NUR 604.

NUR 706 ADVANCED PRACTICE NURSING CARE OF ACUTELY ILL ADULTS. (2)
This course focuses on the role of the acute care nurse practitioner in assessing, diagnosing, and managing acute episodes in the chronically ill adult. Emphasis is placed on the use of research and theories from biological, behavioral, and advanced practice nursing to facilitate the comprehensive care of chronically ill patients and their families. Prereq: MHA students admitted to Graduate Certificate in Nursing Studies; NUR 725. Prereq or coreq: NUR 631 and 652 for students enrolled in graduate program in Nursing; or consent of instructor.

NUR 707 ADVANCED PRACTICE NURSING CARE OF CRITICALLY ILL ADULTS. (6)
The didactic portion of this course focuses on the assessment, differential diagnosis and management of critically ill adults. Emphasis is placed upon biological, behavioral and advanced nursing concepts and research in order to facilitate the management and evaluation of therapies for critically ill adults and their families. The clinical portion of this course focuses on the care of critically ill adults in high acuity environments. The emphasis is placed upon students becoming a collaborative member of the health care team and incorporating both medical and advanced nursing concepts in the care of critically ill adults and their families. Prereq: NUR 632, NUR 706.

NUR 708 MEASURING AND DOCUMENTING NURSING PRACTICE. (4)
This course provides the knowledge and skills essential for advanced practice nurses to evaluate patient care. A systematic approach to collecting information related to nursing practice provides nurses with opportunities to substantiate their contributions to advanced practice. Measuring, documenting, and reporting patient, family, and organizational outcomes will be addressed. Mechanisms for evaluating nursing practices with regard to available resources also are examined. Clinical experience provides opportunities to continue to work with adults with acute and chronic illnesses. In addition, students will focus on the use of practice evaluation methods to document patient/family outcomes within a specific agency. Prereq: NUR 705 or NUR 707 (depending on the student's specialty area). Coreq: NUR 605.

NUR 712 ADVANCED PARENT-CHILD SEMINAR. (3)
The student will focus on evaluation of relevant beliefs, concepts, and theories related to maximizing the health of the family from pre-conception through adolescence. Using evidence-based literature, the student will explore physiologic, pathophysiologic, cognitive, behavioral, and psychosocial concepts, theories, and issues for their relevance in providing innovative approaches to family health care. Attention will be directed toward economic, ethical, cultural, legal, political and geographic factors that influence health behavior and care delivery. Family and child developmental theories will be used as an integrating framework. Prereq: MHA students admitted to Graduate Certificate in Nursing Studies; NUR 601 and 602 for students admitted to graduate nursing program; NUR 924 and NUR 925 for students admitted to the DNP program; or consent of instructor. (Same as NUR 955.)

NUR 713 ADVANCED NURSING CARE FOR FAMILIES, PRE-CONCEPTION THROUGH ADOLESCENCE I. (4-6)
The students in this course will test concepts and theories relevant to families. Collaboration with the family and other health care disciplines related to clinical decision making is expected. Students will apply knowledge with a variety of populations. Prereq: NUR 712, enrollment in graduate program in Nursing or consent of instructor.

NUR 714 ADVANCED NURSING CARE FOR FAMILIES, PRE-CONCEPTION THROUGH ADOLESCENCE II. (2-4)
Knowledge of families, pre-conception through adolescence, leadership, and clinical skills are applied to provide advanced nursing care to a selected population. Emphasis is placed on maximizing health and resolving actual or potential health problems for the individual and the family. Analysis of system problems in health care delivery is conducted. Prereq: NUR 713, enrollment in graduate program in Nursing or consent of instructor. Pre- or coreq: NUR 604.

NUR 722 ROLE AND PRACTICE ISSUES FOR THE ADVANCED PRACTICE PSYCHIATRIC NURSE. (3)
The focus of this course is on concepts, theories and research underlying advanced practice psychiatric nursing (APPN). The scope and standards of psychiatric-mental health nursing practice frame study of APPN functions – psychotherapy, psychopharmacology interventions, community interventions, case management activities and consultation-liaison activities. Epidemiology, definitions, and classification models for mental health and mental illness are explored as a base for ethical, clinical decision making in advanced psychiatric nursing practice. Psychological, biological, social and cultural influences on coping responses of individuals and families across the lifespan for groups and communities of people/populations at risk are explored. Intervention models including prevention are introduced. Prereq: Pathophysiology and Health Assessment, admission to DNP program, graduate programs in nursing or consent of instructor. (Same as NUR 965.)

NUR 723 ADVANCED PRACTICE PSYCHIATRIC NURSING I. (6)
This course provides the opportunity for study of conceptual frameworks, theories, and research findings in clinical practice. The course focuses on the psychotherapy, psychobiological and supervision functions of the Advanced Practice Psychiatric nurse. Expansion of practice, the scope of primary prevention, biological and pharmacological theories, and psychotherapy model for interventions with clients, families, and the community are emphasized. Clinical experiences and sites will reflect multicultural concerns and emerging trends in the delivery of psychiatric care. During clinical experiences, comprehensive psychiatric assessments, diagnosis of common psychiatric illnesses, and co-occurring physical and substance abuse problems, and interventions will be practiced. Supervision as a function of the Advanced Practice Psychiatric Nurse is incorporated in clinical work. Prereq: NUR 722, enrollment in the graduate program in nursing or consent of instructor. Co-requisite: NUR 631.

NUR 724 ADVANCED PRACTICE PSYCHIATRIC NURSING II. (4)
This course builds on knowledge and skills acquired in NUR 723 (Practicum I) and provides the student with the opportunity to integrate and apply knowledge acquired in other course work. Theory of group therapy structure and process, practice models, and collaboration with mental health consumer/advocacy groups are introduced and emphasized to fit with emerging health care delivery systems. Mental health policy and practice implications are reviewed as well as the fiscal consequences of public policy on mental health service delivery. Diagnosis of common physical illnesses that mimic psychiatric illness and common psychiatric symptoms that occur in physical illness are studied. Ethical dilemmas in practice are studied. Prereq: NUR 723, NUR 652, enrollment in the graduate program or consent of the instructor. Co-requisite: NUR 605.

NUR 725 ADVANCED PRACTICE NURSING SEMINAR FOR NURSE PRACTITIONERS. (3)
This course provides an overview of advanced practice nursing. Select physical, pathophysiologic, social, mental health, and behavioral concepts will be discussed as a basis for clinical decision-making. Trends in health and nursing at national and state levels will be analyzed, as well as issues of professionalism. Emphasis will be on the role of the nurse practitioner as a collaborative member of the health care team, and on the nurse practitioner's contributions to health, wellness, and health promotion. Prereq: MHA students admitted to Graduate Certificate in Nursing Studies; NUR 601 and 602 for students enrolled in graduate program in Nursing; or consent of instructor.

NUR 726 PRIMARY CARE ADVANCED PRACTICE NURSING SEMINAR. (1-3)
This course focuses on the advanced practice nurse's management of common, acute health problems of individuals across the lifespan and determining the effect of the illness on families. Emphasis will be on differentiating a variety of signs and symptoms to formulate possible diagnoses. Students will demonstrate proficiency in assessing, diagnosing, managing, and evaluating common, acute health problems. Emphasis is on analysis of the role of the nurse practitioner as a collaborative member of the health care team. Prereq: NUR 725 or NUR 722. Pre- or co-requisites: NUR 652, 631, 603.

NUR 727 PRIMARY CARE ADVANCED PRACTICE NURSING SEMINAR. (2-5)
Seminar (2 credits): This course focuses on the advanced practice nurse's management in select common and stable chronic health problems of individuals across the lifespan. Emphasis will be placed on differentiating signs and symptoms to formulate possible diagnoses and determining the effect of the illness on the family. In addition, the nurse practitioner's role as a collaborative member of the health care team will be evaluated. Practicum (3 credits): Students will demonstrate proficiency in assessing, diagnosing, managing and evaluating selected chronic health problems based on appropriate standards of care. Prereq: NUR 632 and NUR 726 or NUR 722. Co-requisite: NUR 723 (psychiatric nurse practitioner students only).

NUR 732 ADVANCED PRACTICE IN PUBLIC HEALTH NURSING ASSESSMENT SPECIALTY SEMINAR. (3)
The community health nurse in advanced practice completes a three course sequence. Each course builds upon one of the three core functions of public health and nursing as identified by the Public Health Service of the U.S. This seminar addresses the first core function of assessment in advanced nursing practice in public health including the collecting, analyzing and dissemination of information about the health conditions, risks and resources in communities, or a population in targeted health care environments, such as home health or managed care. Advanced community level assessment concepts, models, theories and research findings are used. Assessing vulnerable and multicultural populations, using informatics in the assessment process, and distinguishing between decisions based on individual and aggregate data are emphasized. Prereq: MHA students admitted to Graduate Certificate in Nursing Studies; prereq or coreq: NUR 629 and 653 for students enrolled in graduate program in Nursing; or consent of instructor.

NUR 733 ADVANCED PRACTICE IN PUBLIC HEALTH NURSING PRACTICUM I: POLICY. (3 or 6)
This course addresses the second public health core function: the use of assessment data in the analysis and development of policy and program plans to meet the health, illness and health resource needs of communities. Students will evaluate the use of policy as an aggregate-level intervention strategy and determine the extent to which a nursing intervention classification can be used to categorize policy strategies. Policies will be evaluated in relation to current national and state health objectives for special populations. Students will evaluate the potential impact of policies affecting communities and populations in targeted health care environments such as home health or managed care. They will use evidence from the literature to develop and implement policy recommendations designed to improve health outcomes. Working with vulnerable and multicultural communities and using informatics in policy and planning are emphasized. Prereq: NUR 732; enrollment in the graduate program in Nursing, enrollment in graduate certificate in Public Health Nursing, or consent of instructor.

NUR 734 ADVANCED PRACTICE IN PUBLIC HEALTH NURSING: PRACTICUM II: ASSURANCE. (3-4)
This course focuses on the third core public health function of monitoring health services to communities, collaborating with other health disciplines in the development and delivery of needed services, and using quality assurance activities to improve health, illness and health resources to communities. Students will learn the use of surveillance, evaluation, and performance improvement techniques in assuring cost-effective health services for communities and targeted health care environments such as home health or managed care. They will evaluate the use of nursing taxonomies for classification of aggregate level outcomes. Culturally competent care in vulnerable and multicultural communities and the use of informatics in assurance are emphasized. Prereq: NUR 733; enrollment in the graduate program in Nursing, enrollment in graduate certificate in Public Health Nursing, or consent of instructor.

NUR 735 FAMILY AND COMMUNITY HEALTH PROMOTION. (3)
Focus is on concepts, theories, and techniques for assessing families and communities and assisting individuals, families, and groups to maximize their health status. The evaluation of community resources to meet health care needs is emphasized. Research related to the influence of lifestyle, health habits, and coping with developmental and situational crises on health is reviewed. Selected field of observational experiences are included. Prereq: Admission to graduate program in nursing or consent of instructor.

NUR 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

NUR 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

NUR 750 CLINICAL MODELS FOR PROFESSIONAL AND ADVANCED NURSING CARE. (4)
Students will learn concepts underpinning clinical and business modeling. They will conduct integrated literature reviews around a particular clinical problem and develop evidence-based clinical models for practice using the best available research findings and best practices. Each will prepare a business plan for adoption of a clinical model by a nursing unit, clinical department, or clinical program that is fiscally and organizationally feasible. Students will incorporate concepts of teamwork and interdisciplinary collaboration into the plans, including evaluation and supervision. Prereq: NUR 604; enrollment in graduate program in nursing or consent of instructor.

NUR 751 RURAL HEALTH NURSING MANAGEMENT PRACTICUM. (3)
This course provides students with in-depth clinical experience in nursing management of an inpatient unit, a clinic, or a program. The focus is on use of clinical research in designing, implementing and evaluating an innovative model of care for a defined rural population. Students integrate knowledge of nursing research, leadership, management of personnel and financial management of clinical services in the application of their practice models. Prereq: NUR 704, 712, 722, 725, or 732; and NUR 740; or consent of instructor.

NUR 752 CULTURALLY COMPETENT HEALTHCARE: CLIENT, CLINICIAN, AND ORGANIZATIONAL PERSPECTIVES. (3)
This interprofessional course will increase students' multicultural awareness, knowledge, and skill in the assessment and provision of healthcare. Models will be evaluated that aim to enhance the assessment and provision of culturally competent care, from the clinician to the organizational levels. Students will learn how to integrate evidence-based decision-making competencies to maximize attention to the needs of a diverse healthcare workforce. Prereq: Completion of applicable theory and research course (e.g., NUR 601 and 602); enrollment in graduate program or consent of instructor.

NUR 760 OCCUPATIONAL/ENVIRONMENTAL HEALTH NURSING I (OEHNI): PRINCIPLES AND PRACTICE. (3)
This course is designed to provide a basic understanding of occupational/environmental health nursing (OEHN). The history and value of OEHN will be explored. Standards and scope of OEHN practice will be examined. The roles of OEHNs within the framework of interdisciplinary professionals will be presented. Concepts and principles will be applied through field work and topic specific assignments. Legal and ethical issues are discussed. The students will also develop the knowledge and skills necessary to appraise research and apply to evidence-based nursing practice, including up-to-date electronic resources. Students learn to apply this knowledge through field experiences. Prereq: Admission to the PhD or DNP program or consent of instructor.

NUR 761 OCCUPATIONAL/ENVIRONMENTAL HEALTH NURSING II (OEHNI): RESEARCH AND POLICY. (3)
This course will provide graduate nursing students with knowledge and skills needed to improve health outcomes of populations in occupational environments. Emphasis will be placed on research and policy development using nursing and interdisciplinary lenses. Further, this course will prepare the student to be proficient in the knowledge, skills, and abilities to effectively work with complex organizational systems and occupational settings. Students will learn how to utilize occupational data sets for the development of workplace research and policies at the local, state, national and global levels. Prereq: Admission to the PhD or DNP program or consent of the instructor and successful completion of NUR 760.

NUR 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

NUR 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

NUR 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

NUR 770 PHILOSOPHICAL FOUNDATIONS OF NURSING SCIENCE. (3)
The study of science as a way of reasoning and knowing, as it is influenced by the social, political, and gender contexts of scientists; the exploration of the philosophical foundations of nursing as a science and a historical evaluation of significant contributions to nursing science. Prereq: Admission to the graduate program in nursing or consent of instructor.

NUR 771 RESEARCH EXPERIENCE. (1-3)
Students work closely with a faculty research mentor to develop specific research skills by actively participating in a research study. Emphasis is placed on obtaining skills or research experiences needed to begin a sustained program of research. Prereq: Admission to the Ph.D. program in nursing or consent of instructor.

NUR 776 SPECIAL TOPICS SEMINAR (Subtitle required). (2-4)
A seminar on selected topics in nursing, with emphasis on knowledge development and application of research findings to clinical practice. Examples of topics are: computerized health surveillance at home, prevention of drug use in young children, support systems for the mentally ill, rehabilitation of injured farmers. May be repeated to a maximum of eight credits. Prereq: Consent of instructor.

NUR 778 PROSEMINAR IN CONTEMPORARY HEALTH AND NURSING POLICY ISSUES. (3)
A critical analysis of the development of policy related to health and nursing is emphasized. Attention is focused on the formation of a policy strategy to address a major policy issue affecting health care and the discipline of nursing.

NUR 779 DOCTORAL SEMINAR. (1-3)
A series of two-hour colloquia held every other week focusing on issues relative to the development of nursing science, the dissertation, and the role of the nurse scientist. The topics are selected by the students who are at various points of doctoral study in nursing. Included are topics on scientific integrity, the ethical conduct of research, and federal guidelines for inclusion of research subjects. The seminar is required for three semesters, one-credit hour each semester. Prereq: Enrollment in the doctoral program in nursing.

NUR 781 INDEPENDENT STUDY IN NURSING. (1-3)
An elective course which gives the student an opportunity to explore a topic of special interest. May be repeated to a maximum of eight credits. Prereq: Admission to graduate program in nursing or consent of instructor.

NUR 790 KNOWLEDGE DEVELOPMENT IN NURSING. (3)
This course focuses on the nature of nursing science and on approaches to the development of knowledge for use in nursing practice. Concepts and theories from philosophy of science and methods of theory development are used to critically examine the process of knowledge development in nursing. Emphasis is placed on the role of logical analysis and critical thinking in the development of theory for nursing practice. Prereq: Consent of instructor or enrollment in the doctoral program in nursing.

NUR 791 QUALITATIVE METHODS IN NURSING RESEARCH. (3)
The focus of this course is exploration of qualitative approaches to developing clinical nursing research. The relationship of data production and analysis strategies to underlying assumptions, theories, and research goals are considered. Applications of qualitative methods to research questions relevant to nursing science are explored. Prereq: NUR 790 or consent of instructor.

NUR 792 QUANTITATIVE METHODS IN NURSING RESEARCH. (3)
This course focuses on the application of quantitative research designs and methods for testing hypotheses in clinical nursing research. Students develop skills in critical evaluation of both intervention and nonintervention studies. Emphasis is placed on the identification and control of competing hypotheses in quantitative research. Prereq: STA 570 or consent of instructor.

NUR 793 MEASUREMENT OF NURSING PHENOMENA. (4)
This course focuses on measurement issues in conducting nursing research. Methods of instrument development and assessment of reliability and validity are discussed. The psychometric properties of instruments and measurement methods used in research are analyzed. Students conduct pilot psychometric research related to their dissertation topic. Prereq: NUR 790, 791, 792.

NUR 794 ANALYSIS, INTERPRETATION, AND PRESENTATION OF QUANTITATIVE DATA. (3)
This course provides opportunities for skill development in the application of a variety of analysis strategies to existing datasets. Students will identify hypotheses and/or research questions, test them using appropriate statistical methods, and interpret the results of their secondary analyses. Students also will gain experience in the presentation of findings via narrative, tabular, and oral formats. Prereq: STA 671 or equivalent, doctoral standing, and consent of instructor.

NUR 824 CLINICAL DECISION MAKING IN PROFESSIONAL NURSING I. (6)
The focus of this course is methods for making clinical decisions. Emphasis will be on how to collect and utilize data in formulating judgments about patient states and in choosing nursing actions for patients with health problems with predictable outcomes. Lecture, four hours; laboratory, six hours per week. Prereq: Junior standing in the RN-BSN curriculum in the College of Nursing. Prereq or coreq: NUR 831 and NUR 833.

NUR 826 CLINICAL DECISION MAKING IN PROFESSIONAL NURSING II. (6)
This course emphasizes clinical decision making with clients, families or groups experiencing complex or multiple health problems with unpredictable outcomes. The emphasis is on interpreting and using complex patterns of data in making decisions about patient care. Lecture, four hours; laboratory, six hours per week. Prereq: NUR 824. Prereq or coreq: NUR 835, NUR 837.

NUR 831 BIOLOGICAL CONCEPTS: THREATS TO HUMAN HEALTH. (2)
This course addresses biological concepts basic to nursing practice. Concepts essential for understanding major health problems which occur across the life span and that are encountered in multiple health care settings are discussed. Prereq: Junior year standing in the College of Nursing; coreq: NUR 832, NUR 834 for non-RN students.

NUR 833 EPIDEMIOLOGIC CONCEPTS FOR HEALTH CARE. (2)
This course is an introduction to epidemiologic concepts and interdisciplinary applications to health care of aggregates; structure of the community as it relates to access and utilization of available resources; structure of the health care system; levels of prevention; levels of care and economic factors affecting health. Field assignments will allow students to explore data sources. Prereq: Junior standing in the College of Nursing; STA 200.

NUR 835 FAMILY HEALTH CONCEPTS. (2)
This course provides theoretical perspectives on family functioning throughout the lifespan. The focus will be on the developmental stages of families as influenced by social, cultural, economic, and political forces. Family assessment, promotion of health in families, and resources for referral will be emphasized. Prereq: Junior year standing in the College of Nursing; coreq: NUR 834 and NUR 836.

NUR 837 MENTAL HEALTH CONCEPTS. (2)
This course presents concepts which are foundational to psychiatric-mental health nursing and are fundamental to professional nursing practice. Prereq: Junior year standing in the College of Nursing.

NUR 839 NURSING RESEARCH. (3)
This course provides a theoretical and methodological basis for applying nursing research to clinical practice. Skills necessary for participating in the use of nursing research are addressed. Legal and ethical ramifications of research are discussed. Prereq: Junior year standing in the College of Nursing; coreq: STA 200.

NUR 841 ISSUES IN NURSING. (2)
This course involves a critical analysis of the emerging issues and problems affecting nursing and their impact on health care. The responsibilities of the individual practitioner and of the professional are emphasized. Prereq: Senior year standing in the College of Nursing or consent of the instructor.

NUR 843 NURSING ETHICS. (1)
A variety of vignettes/case studies will be used to enable students to use decision-making processes to explore viable options to ethical dilemmas confronted in nursing practice. Delineation of facts and principles involved in each case will be prepared by the student in advance of each class in order for them to select a particular stance which they will then be prepared to defend. Prereq: Senior standing in the College of Nursing.

NUR 846 LEADERSHIP/MANAGEMENT IN NURSING. (5)
This course is designed for the student to demonstrate management and leadership skills as they relate to human and material resource management and clinical decision-making. Lecture, three hours; laboratory, six hours per week. Prereq: Senior standing in the College of Nursing; coreq: NUR 844.

NUR 886 SYNTHESIS OF CLINICAL KNOWLEDGE FOR NURSING PRACTICE. (6)
This course was designed to provide opportunity to develop independence and competence in applying principles of care management and leadership to nursing practice in a variety of clinical settings. Lecture, one hour; clinic, 15 hours per week. Graded pass/fail. Prereq: All other courses in the curriculum, current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations. Completion of NUR 886 seminars and NUR 885 before beginning the clinical component of NUR 886. Coreq: NUR 884 and NUR 885 for the first half of the semester. RN-BSN prereq: All other courses in the RN-BSN curriculum, current certification in Basic Life Support for Healthcare Providers (CPR and AED) for infant, child and adult, current TB screening and required immunizations.

NUR 900 PROCESS OF NURSING LEADERSHIP. (3)
Students synthesize theoretical leadership concepts with personal and professional values and gain an appreciation for the changing socio-cultural context in which clinical leadership is practiced. Issues of power, creativity, innovation, ethics and gender concerns are addressed. Self-reflection and self-mastery are two themes that underpin the entire course of study and support interpersonal skills that enhance leadership. Prereq: Admission to DNP program or consent of instructor.

NUR 902 NURSING LEADERSHIP IN HEALTH CARE SYSTEMS. (3)
Students use theories of leadership, motivation, power and influence to evaluate interpersonal relationships within health care organizations and, in particular, the impact of these relationships on clinical care delivery. Shared visions, advocacy and change management are addressed. Students study the change process in health care systems by critically analyzing demographic and cultural trends that affect health care choices, examining current trends in the health care delivery system and assessing readiness for change in select health care systems. Prereq: Enrollment in Doctor of Nursing Practice program, NUR 900 or awarded MSN degree, or consent of instructor.

NUR 903 APPLIED BIOSTATISTICS FOR OUTCOMES EVALUATION. (4)
This course provides opportunities for the application of a variety of quantitative analysis strategies in the evaluation of clinical outcomes. Statistical and other quantitative methods, including bivariate analysis, multiple regression, logistic regression, survival analysis and cost-benefit analysis are discussed. Students will apply these methods in the analysis of existing outcome data. Students also will gain experience in the presentation of findings via narrative, tabular, and oral formats. Prereq: Enrollment in DNP program, approved graduate level statistics course, STA 570 or STA 569 or equivalent within the past 3 years or consent of instructor.

NUR 904 EPIDEMIOLOGY APPLIED TO THE DESIGN AND EVALUATION OF NURSING AND HEALTH SERVICES. (3)
This course applies and integrates the principles and tools of epidemiology to the decision-making in a health care environment. It is intended for epidemiologists, managers, and clinical nurse executives and leaders who want to understand the value of epidemiology and population-based health care to the process of rational decision-making. The course builds upon fundamental epidemiologic principles and theory, with specific applications to nursing and public health services. Prereq: Enrollment in DNP program, approved graduate level statistics course, or consent of instructor.

NUR 910 CLINICAL RESIDENCY. (3)
This course provides students with the tools to evaluate and improve health care programs and clinical outcomes. Students develop feasible and reliable program evaluation designs. Students analyze the nature of, and explanations for variations in clinical practice patterns and clinical outcomes. Emphasis is on the use of program evaluation for improvements in clinical outcomes, efficiency, resource allocation, and cost reduction. Requires 12 hours per week residency time. Course must be repeated to a minimum of six credits. Graded pass/fail. Prereq: Completion of all DNP required course work with the exception of NUR 930.

NUR 914 ECONOMIC AND FINANCIAL ASPECTS OF CLINICAL AND POPULATION-BASED HEALTH CARE DELIVERY SYSTEMS. (4)
This course focuses on the application of economic and financial theories to understanding the strategic impact of market dynamics, utilities, incentive structures, and driving and restraining forces in health care change. The emphasis will be on critically analyzing the actual and potential impact of these dynamics on the structure and functioning of the health care system. Prereq: Passing score on self-assessment of basic accounting and economics; applied biostatistics course; or consent of instructor.

NUR 915 FOUNDATIONS OF EVIDENCE BASED PRACTICE AND PROGRAM PLAN. (4)
This course provides students with the knowledge and tools to develop and implement evidence based clinical and administrative programs in nursing and health care delivery systems. Students will explore the philosophies, theories, research and evidence-based clinical practices in nursing and related fields that have been used to define and resolve the population health problems in their areas of interest. Emphasis is on a broad strategic view of health care systems and on effective clinical program planning/implementation within integrated care delivery systems. Students evaluate program planning frameworks, study the evidence that supports them, and examine strategic ways of implementation. Prereq: Enrollment in DNP program, NUR 924 and NUR 925 or awarded MSN degree with graduate statistics course in past 3 years or consent of instructor.

NUR 916 EVALUATION FOR IMPROVEMENT OF CLINICAL PRACTICE AND OUTCOMES. (3)
This course provides students with the tools to evaluate health care programs and for improvement of clinical outcomes. Students will learn how to use evidence for effective decision making. Emphasis is on the use of program evaluation for improvements in clinical outcomes, efficiency, resource allocation and cost reduction within integrated care delivery systems. Prereq: NUR 915 or consent of instructor.

NUR 917 TECHNOLOGY FOR TRANSFORMING NURSING AND HEALTHCARE. (3)
This course focuses on information systems technology as applied to nursing and healthcare. Knowledge and skills necessary for utilizing information systems and technology for the advancement of practice and health services research are emphasized. The use of computer systems and technology will be explored. Course requires four hours per week clinical. Prereq: Admission to DNP program or consent of instructor.

NUR 918 PROTECTION OF HUMAN SUBJECTS. (1)
This course provides an overview of the institutional review board process. Included are scientific integrity and ethics in clinical scholarship. Prereq: Enrollment in Doctor of Nursing Practice program; prereq: NUR 916, NUR 919 and written capstone proposal approved by student's DNP advisory committee or consent of instructor.

NUR 919 QUALITY AND SAFETY IN NURSING AND HEALTHCARE. (3)
This course provides the foundation to improve health outcomes for patient populations. National strategies, theories and methods to improve health outcomes will be explored. Emphasis will be placed on the systematic analysis of systems of care to promote safe, timely, effective, efficient, equitable, patient-centered care. Students will learn how to optimize the translation of evidence into clinical practice to enhance quality and safety. Students will gain knowledge to lead quality improvement and patient safety initiatives in health care systems. Prereq or coreq: NUR 916 or consent of instructor.

NUR 920 ADVANCED NURSING PRACTICE IN DYNAMIC HEALTH CARE SYSTEMS (Subtitle required). (3)
This synthesis course focuses on evolving nursing interventions in advanced clinical and administrative practice. Based on student's specialty/role, these interventions encompass direct care of individuals, management of individuals or populations, healthcare administration and health policy issues. Emphasis is on ways for expert nurse clinicians and administrators to solve problems and improve care in a dynamic healthcare system. This course requires eight hours per week clinical practice time. Prereq: NUR 914 and 917; coreq: 914 or consent of instructor.

NUR 921 PATHOPHYSIOLOGY. (3)
This course is designed to present an orientation to disease as disordered physiology. It is intended to enable the nurse practitioner to understand how and why the symptoms and signs of various conditions appear. In approaching disease as disordered physiology, this course analyzes the mechanism(s) of production of the symptoms and signs of different disease syndromes. In doing so, it recognizes the practitioner's need to understand the mechanism(s) underlying the disease and its clinical manifestations so that rational therapies can be devised. Thus, appropriate screening and diagnostic laboratory evaluative methods will also be included. Prereq: Admission to DNP program, graduate programs in nursing or consent of instructor. (Same as NUR 653.)

NUR 922 ADVANCED PHARMACOLOGY FOR ADVANCED PRACTICE NURSES. (3)
This course is designed to prepare advanced practice nurses to prescribe drugs within their scope of practice. Basic pharmacologic principles and the pharmacologic actions of the major drug classes will be discussed in relation to physiologic systems with emphasis on the application of these agents in practice. Prereq: Graduate level pathophysiology course, admission to DNP program, graduate programs in nursing or consent of instructor. Co-requisite: NUR 927.

NUR 923 APPLICATIONS OF ADVANCED HEALTH ASSESSMENT. (3)
This advanced health assessment course offers comprehensive assessment of the individual within the context of the family and community. It includes comprehensive (systematic) history, physical, and psychological assessment of signs and symptoms, pathophysiologic changes, and psychosocial variations of the individual patient. Assessments are performed within the context of developmental, physiological, psychological, cultural, and environmental parameters. Emphasis is placed on developing a thorough understanding of the individual patient and differentiating normal and abnormal findings to determine current health status. Course requires four hours per week clinical laboratory. Prereq: Admission to DNP program, graduate program in nursing. Prereq: NUR 921 or consent of instructor. (Same as NUR 631.)

NUR 924 CONCEPTS, THEORIES, AND MODELS FOR ADVANCED PRACTICE NURSING. (3)
Students will examine the processes underlying the development of models, theories and conceptual framework. Selected models, theories and conceptual frameworks from nursing and other disciplines will be evaluated for their utility in advanced nursing practice. All are discussed within the context of the nature of nursing knowledge and the expanding scientific basis for advanced practice nursing. This course serves as a foundation for clinical courses in which models, theories, and conceptual frameworks are used to develop and evaluate new approaches to the clinical practice of advanced nursing practice. Prereq: Admission to DNP program or consent of instructor.

NUR 925 RESEARCH METHODS IN ADVANCED PRACTICE NURSING. (3)
This course provides the knowledge and skills essential for using research to support clinical and organizational decision-making. The strengths and limitations of various research designs and methods are reviewed for their utility in answering clinical questions, evaluating care delivery and patient outcomes, and making clinical decisions. Prereq: Graduate statistics course and NUR 924, admission to DNP program, graduate programs in nursing, or consent of instructor. (Same as NUR 602.)

NUR 926 SYSTEMS APPLICATION OF ADVANCED HEALTH ASSESSMENT. (3)
This systems level advanced health assessment course offers comprehensive assessment and skill development opportunities for Advanced Practice Public Health Nurses and Nurse Executives. It includes intensive work on the principles and techniques of performing a comprehensive systems health assessment in the context of aggregate, population, community, and organizational parameters. Aggregate, population, community, and organizational models are analyzed for use with diverse/varied systems. Emphasis is placed on working with diverse stakeholders for achievement of aggregate, population, community or organizational health related goals. Prereq: Admission to DNP program or consent of instructor.

NUR 927 SPECIAL TOPICS IN PHARMACOLOGY: (Subtitle required). (1)
This course is designed to introduce the Advanced Practice Registered Nurse (APRN) student to the application of pharmacologic principles to special populations and specialized therapeutic areas. Students will enroll in section related to their nursing specialty: family-primary care, adult-gero primary care, pediatric-primary care, adult-gero acute care, or family psychiatric mental-health. Prereq: Graduate pathophysiology course, enrollment in the graduate program in Nursing, or consent of instructor. Required coreq: NUR 922.

NUR 930 PROBLEMS IN ADVANCED PRACTICE NURSING (Subtitle required). (1-5)
This course provides opportunity for study of clinical problems encountered in particular clinical areas of advanced nursing practice. Application of the scope and standards of specialty practice, application of evidence-based practices, and development of techniques for nursing interventions are emphasized. Course requires four hours per week clinical time for each credit hour enrolled. Prereq: Admission to DNP Program, and completion of second DNP specialty course with clinical experience (5 credit) or consent of instructor.

NUR 940 ADVANCED PRACTICE NURSING IN ACUTE CARE: THE ADULT-GERONTOLOGY ACUTE CARE NURSE. (3)
This course provides an overview of advanced practice nursing and the adult-gerontology acute care nurse practitioner role. This course will focus on the adult-gerontology acute care nurse practitioner's contributions to health, wellness, and health promotion among populations commonly served. Select physical, pathophysiological, social, mental health and behavioral concepts will be discussed as a basis for clinical decision-making. Clinical immersion skills are utilized to help obtain relevant comprehensive histories and physicals in the adult-gerontology patient. Issues and trends in healthcare at both state and national levels will be analyzed, as well as issues of professionalism. Emphasis will be on the role of the adult-gerontology acute care nurse practitioner as a collaborative member of the health care team. Prereq: NUR 900, NUR 924. Prereq or coreq: NUR 921, NUR 922, NUR 923.

NUR 941 THE ADULT-GERONTOLOGY ACUTE CARE NURSE PRACTITIONER: ADVANCED PRACTICE NURSING IN ACUTE CARE OF ADULTS AND GERIATRIC PATIENTS WITH ACUTE ILLNESS. (5)
The didactic and clinical components of this course focus on the role of the acute care nurse practitioner in assessing, diagnosing, and managing acute and chronic health problems in the adult and geriatric patient population. The patient population of the Adult-Gerontology ACNP includes young adults (including late adolescents and emancipated minors), adults and older adults in all contexts of acute illness and complex chronic illness. Emphasis is placed on the use of research and biological, behavioral, and advanced practice nursing theories to facilitate the comprehensive care of patients and their significant others. Course requires 12 hours per week clinical time. Prereq: NUR 940, 921, 923, 922, and 927.

NUR 942 THE ADULT GERONTOLOGY ACUTE CARE NURSE PRACTITIONER: CARE OF CRITICALLY ILL ADULT AND GERIATRIC PATIENTS. (5)
The didactic portion of this course focuses on the assessment, differential diagnosis and management of critically ill adult and geriatric patient populations. Emphasis is placed upon biological, behavioral and advanced nursing concepts and research in order to facilitate the management and evaluation of therapies for critically ill adults, geriatrics and their families. The clinical portion of this course focuses on students becoming collaborative members of the health care team, incorporating both medical and advanced practice nursing concepts in providing care to critically ill adult and geriatric patients. Course requires 12 hours per week clinical. Prereq: NUR 941, 921, 922, 923, 927.

NUR 945 ADULT-GERONTOLOGY CLINICAL NURSE SPECIALIST IN PROMOTING HEALTH AND WELLNESS ACROSS THE LIFE SPAN OF THE ADULT. (3)
This course is designed to identify the role of the Adult-Gerontology Clinical Nurse Specialist (CNS) in promoting health and wellness in the adult gerontological individual using advanced practice nursing skills in contemporary health care settings and systems.

The patient population of the Adult-Gerontology CNS practice includes young adults (including late adolescents and emancipated minors), adults and older adults (including young-old, old, and old-old adults) in all contexts of care. A foundation of knowledge related to individual's perceptions of health and illness, preventative lifestyle behaviors, adherence to therapeutic regimes and lifestyle changes will be presented. This course will address how students will utilize the role of the Adult-Gerontology CNS using effective strategies to assist individuals in adopting and maintaining behaviors as they apply to a healthy lifestyle. Prereq: Graduate level pathophysiology; NUR 924, pre or corequisite: NUR 922, NUR 927, NUR 925, NUR 923 and admission to DNP program, graduate nursing programs, or consent of instructor. (Same as NUR 704.)

NUR 946 ADULT-GERONTOLOGICAL CLINICAL NURSE SPECIALIST PROVIDING ACUTE CARE ACROSS THE LIFE. (2-5)
This course deals with advanced practice nursing care for adults and geriatrics with acute illnesses in a variety of settings in complex health care systems. The patient population includes young adults (including late adolescents and emancipated minors), adults and older adults (including young-old, old, and old-old adults) in all contexts of care. Emphasis is on developing clinical expertise in a specialty area to interpret and manage acutely ill patients and their clinical problems. Planning, directing, delivering and evaluating care is based on theory and research. Students will combine didactic learning with clinical experiences. Course requires 12 hours per week clinical. Prereq: NUR 921, NUR 922, NUR 927, NUR 945 or consent of the instructor.

NUR 947 ADULT-GERONTOLOGICAL CLINICAL NURSE SPECIALIST PROVIDING CHRONIC CARE ACROSS THE LIFE. (2-5)
This course deals with advanced practice nursing care for adults and geriatrics with chronic disease and illnesses in a variety of settings in complex health care systems. The patient population includes young adults (including late adolescents and emancipated minors), adults and older adults (including young-old, old, and old-old adults). Emphasis is on developing clinical expertise to interpret and manage chronically ill patients and their clinical problems. Planning, directing, delivering and evaluating care is based on theory and research. Students will combine didactic learning with clinical experiences. Course requires 12 hours per week clinical. Prereq: NUR 945, NUR 946 or consent of instructor.

NUR 950 PRIMARY CARE ADVANCED PRACTICE CLINICAL (Subtitle required). (3)
This clinical experience focuses on comprehensive patient assessment, diagnosis and management of health problems commonly seen in primary care. Emphasis will be placed on differentiating signs and symptoms to formulate possible diagnoses and determining the effect of the illness on the family. Students will demonstrate competence in assessing, diagnosing, managing and evaluating selected health problems based on appropriate standards of care. Health promotion and disease prevention strategies will be emphasized. In addition, the primary care nurse practitioner's role as a collaborative member of the health care team will be evaluated. Course requires 12 hours per week clinical. Prereq: Admission to DNP Program; NUR 960 or NUR 955. Coreq: NUR 956, 957, 961 or 962.

NUR 955 ADVANCED PARENT-CHILD SEMINAR. (3)
The student will focus on evaluation of relevant beliefs, concepts, and theories related to maximizing the health of the family from pre-conception through adolescence. Using evidence-based literature, the student will explore physiologic, pathophysiologic, cognitive, behavioral, and psychosocial concepts, theories, and issues for their relevance in providing innovative approaches to family health care. Attention will be directed toward economic, ethical, cultural, legal, political and geographic factors that influence health behavior and care delivery. Family and child developmental theories will be used as an integrating framework. Prereq: MHA students admitted to Graduate Certificate in Nursing Studies; NUR 601 and 602 for students admitted to graduate nursing program; NUR 924 and NUR 925 for students admitted to the DNP program; or consent of instructor. (Same as NUR 712.)

NUR 956 PNP-PRIMARY CARE: COMMON ACUTE ILLNESS MANAGEMENT. (5)
This course allows the practice-doctorate, primary care pediatric or family nurse practitioner student collaborate with other health care disciplines and incorporate clinical decision-making into the planning of care for the child with common, acute minor illnesses seen in primary care. Health restoration strategies will be incorporated into the management of common deviations from health as they occur in children (birth to 21 years). Focus will be given to the synthesis of knowledge obtained from nursing, medicine, pharmacology and the social/behavioral sciences and its incorporation into the framework of advanced practice nursing. Developmental, pathophysiologic, cognitive, behavioral, and psychosocial concepts will be applied in assessing children of various ages (birth to 21 years) using a variety of modalities integrating current research and evidence-based findings into planned clinical management. Prereq: Admission to DNP program and NUR 921, NUR 922, NUR 923 and NUR 955 or NUR 960. Coreq: NUR 950 (3 credit hour clinical).

NUR 957 PNP-PRIMARY CARE: COMMON CHRONIC ILLNESS AND SPECIAL NEEDS MANAGEMENT. (2)
This course allows the practice-doctorate primary care pediatric or family nurse practitioner student the opportunity to examine the impact of children and adolescents (birth through 21 years) with special health care needs and those with complex, chronic health deviations on the pediatric client, their families, and the community. By incorporating the role of the primary care PNP into the process of utilizing clinical decision-making skills, interprofessional collaboration, management and intervention strategies, the student will plan collaborative care for the pediatric client with chronic health deviations or special healthcare needs in the primary care or tertiary care setting. Current evidence-based, research and management guidelines will be analyzed using the synthesis of knowledge gained from collaborative sciences and applied to the framework of advanced practice nursing. Prereq: Admission to DNP program and NUR 921, NUR 922, NUR 923 and NUR 956. Coreq: NUR 950 (3 credit hour clinical).

NUR 958 PNP-ACUTE CARE: ACUTE/COMPLEX ILLNESS MANAGEMENT. (5)
This course allows the graduate pediatric nursing student to collaborate with other health care disciplines and incorporate clinical decision-making into the provision of care and management of the child with complex, acute/critical illnesses seen in the acute care setting. Current evidence and practice guidelines will be integrated into the role of the PNP in the management of acute illnesses commonly seen in children (birth to 21 years) and applied to health restoration strategies in various acute clinical settings. Focus will be given to the synthesis of knowledge obtained from nursing, medicine, pharmacology and the social/behavioral sciences and its incorporation into the framework of advanced practice nursing. Developmental, pathophysiologic, cognitive, behavioral, and psychosocial concepts will be applied in assessing children of various ages (birth to 21 years) using a variety of modalities integrating current research and evidence-based findings into clinical practice. This course includes 12 hours of clinical practice per week. Prereq: NUR 955, NUR 930 for students admitted to the DNP program; or consent of the instructor.

NUR 959 PNP-ACUTE CARE: CHRONIC ILLNESS AND SPECIAL NEEDS MANAGEMENT. (5)
This course allows the graduate pediatric nursing student the opportunity to examine the impact of children and adolescents (birth through 21 years) with special health care needs and those with complex/critical, chronic health deviations on the pediatric client, their families, and the community. By incorporating the role of the PNP into the process of utilizing clinical decision-making skills, interprofessional collaboration, management and intervention strategies, the student will provide collaborative care to the pediatric client with acute/critical chronic health deviations or special healthcare needs in the acute care setting. Current evidence-based, research and management guidelines will be analyzed using the synthesis of knowledge gained from collaborative sciences and applied to the framework of advanced practice nursing. Collaboration with the child, family, and interprofessional teams will be integrated throughout the course. This course includes 12 hours of clinical practice per week. Prereq: NUR 958 for students admitted to the DNP program; or consent of the instructor.

NUR 960 HEALTH PROMOTION AND ROLE DEVELOPMENT FOR PRIMARY CARE NURSE PRACTITIONERS. (3)
This course provides an overview of the primary care nurse practitioner's role in the health care system. The nurse practitioner's contributions to health promotion, clinical prevention and population health will be explored. Selected physical, pathophysiologic, social, mental health, behavioral, cultural, and ethical concepts will be discussed as a basis for clinical decision-making. Professional issues and trends in health and nursing at national and state levels will be analyzed. Emphasis will be on the role of the primary care nurse practitioner as a collaborative member of the health care team. Prereq or coreq: NUR 921, NUR 922, NUR 927, NUR 923 and Admission to DNP Program or consent of instructor.

NUR 961 EPISODIC HEALTH PROBLEMS IN ADULT AND GERIATRIC PRIMARY CARE. (5)
This course focuses on the primary care nurse practitioner's assessment, diagnosis and management of episodic health problems of adult and geriatric individuals. Emphasis will be on differentiating a variety of signs and symptoms and interpreting data to formulate differential diagnoses. The use of evidence-based clinical practice guidelines to assist in the development, implementation, and evaluation of the plan of care will be emphasized. The impact of episodic health problems on the family as a whole will be analyzed. In addition, the primary care nurse practitioner's role as a collaborative member of the health care team will be evaluated. Prereq: Admission to DNP program and NUR 921, NUR 922, NUR 923 and NUR 960. Coreq: NUR 950 (3 credit hour clinical).

NUR 962 CHRONIC HEALTH PROBLEMS IN ADULT AND GERIATRIC PRIMARY CARE. (3)
This course focuses on the primary care nurse practitioner's assessment, diagnosis and management of common chronic health problems of adult and geriatric individuals. Emphasis will be on differentiating a variety of signs and symptoms and interpreting data to formulate differential diagnoses. The use of evidence-based clinical practice guidelines to assist in the development, implementation, and evaluation of the plan of care will be emphasized. The impact of chronic health problems on the family as a whole will be analyzed. In addition, the

primary care nurse practitioner's role as a collaborative member of the health care team will be evaluated. Prereq: Admission to DNP program, and NUR 961. Coreq: NUR 950 (3 credit hour clinical).

NUR 965 ROLE AND PRACTICE ISSUES FOR THE ADVANCED PRACTICE PSYCHIATRIC NURSE. (3)
The focus of this course is on concepts, theories and research underlying advanced practice psychiatric nursing (APPN). The scope and standards of psychiatric-mental health nursing practice frame study of APPN functions – psychotherapy, psychopharmacology interventions, community interventions, case management activities and consultation-liaison activities. Epidemiology, definitions, and classification models for mental health and mental illness are explored as a base for ethical, clinical decision making in advanced psychiatric nursing practice. Psychological, biological, social and cultural influences on coping responses of individuals and families across the lifespan for groups and communities of people/populations at risk are explored. Intervention models including prevention are introduced. Prereq: Pathophysiology and Health Assessment, admission to DNP program, graduate programs in nursing or consent of instructor. (Same as NUR 722.)

NUR 966 DIAGNOSIS AND MANAGEMENT OF PSYCHIATRIC DISORDERS IN ADULTS AND ELDERLY. (5)
This course provides the student with the opportunity to integrate and apply knowledge acquired in NUR 965. It focuses on the study of conceptual frameworks, theories, and research findings related to common psychiatric disorders among adults and elderly patients. Biological and pharmacologic theories, developmental issues of adults and elderly patients, psychotherapeutic modalities, primary prevention, and evaluation of treatment will be emphasized. During clinical experiences, foundational competencies for advanced nursing practice will be addressed and practiced. Students will conduct comprehensive and systematic psychiatric assessments, diagnose common psychiatric illnesses, implement pharmacologic and psychosocial interventions, and evaluate treatment outcomes for adults and elderly patients with psychiatric disorders. A variety of settings across the healthcare continuum will be utilized. Multidisciplinary and interprofessional collaboration as functions of the Advanced Practice Psychiatric Nurse is incorporated into clinical work. Course requires 12 hours per week clinical time. Prereq: NUR 965; Admission to the DNP or Graduate Nursing Program, or consent of instructor; Pathophysiology and Health Assessment.

NUR 967 DIAGNOSIS AND MANAGEMENT OF PSYCHIATRIC DISORDERS IN CHILDREN, ADOLESCENTS, AND YOUNG ADULTS. (5)
This course provides the student with the opportunity to integrate and apply knowledge acquired in NUR 965 and NUR 966. It focuses on the study of conceptual frameworks, theories, and research findings related to common psychiatric disorders among children, adolescents, and young adults. Biological and pharmacologic theories, developmental issues of children, adolescents, and young adults, psychotherapeutic modalities, primary prevention of psychiatric disorders, and evaluation of treatment will be emphasized. Theories of individual and family therapy will be introduced. During clinical experiences, foundational competencies for Advanced Nursing Practice will be addressed and practiced. Students will conduct comprehensive and systematic psychiatric assessments, diagnose common psychiatric illnesses, implement pharmacologic and psychosocial interventions, and evaluate the outcomes of treatment for children, adolescents, and young adults. A variety of settings across the healthcare continuum will be utilized. Multidisciplinary and interprofessional collaboration as functions of the Advanced Practice Psychiatric Nurse is incorporated into clinical work. Course requires 12 hours per week clinical time. Prereq: NUR 965; NUR 966; Admission to the DNP or Graduate Nursing Program, or consent of instructor; Pathophysiology and Health Assessment.

NUR 970 SYSTEMS APPLICATION OF ADVANCED HEALTH ASSESSMENT: SEMINAR. (3)
This systems level advanced health assessment course offers comprehensive assessment and skill development opportunities for Advanced Practice Public Health Nurses and Nurse Executives. It includes intensive work on the principles and techniques of performing a comprehensive systems health assessment in the context of aggregate, population, community, and organizational parameters. Aggregate, population, community, and organizational models are analyzed for use with diverse/varied systems. Emphasis is placed on working with diverse stakeholders for achievement of aggregate, population, community or organizational health related goals. Prereq: Admission to DNP program or consent of instructor.

NUR 971 SYSTEMS APPLICATION OF ADVANCED HEALTH ASSESSMENT CLINICAL: SYSTEMS ASSESSMENT OF ORGANIZATIONS, POPULATIONS, AND COMMUNITIES. (1)
This systems level advanced health assessment course provides opportunities to use the comprehensive assessment and skills for Advanced Practice Public Health Nurses and Nurse Executives from the co-requisite course, NUR 970 seminar. It includes using appropriate models/theories to perform a comprehensive systems health assessment of diverse/varied aggregates, populations, communities, and organizations; and to determine health-related issues and priorities. Emphasis is placed on working with diverse stakeholders for achievement of aggregate, population, community or organizational health related goals. Course requires 4 hours per week clinical time. Prereq: Enrollment in DNP program; corequisite: NUR 970.

NUR 972 POPULATIONS AND ORGANIZATIONAL SYSTEMS LEADERSHIP I: HEALTHY PRACTICE ENVIRONMENTS. (3)
This systems level course provides opportunities for leadership development for Advanced Practice Public Health Nurses and Nurse Executives. The course focuses on theories of systems, leadership, motivation, power, influence, justice, ethics, and organizational behavior to lead individuals and groups providing healthcare in organizations and in the community. The course will also focus on organizational, legal, economic, and technical issues concerned with acquiring, motivating, and retaining employees, with emphasis directed to the development, implementation, and assessment of policies and practices consistent with legal, social, human, and environmental dynamics. Emphasis will be placed on analyzing the practice environment using research findings, literature and aggregate data. Students will learn how to integrate evidence-based decision making competencies to maximize attention to diverse challenges in the work environment. This course will provide an introduction to practice and business models. Prereq or coreq: NUR 970 and 971, or consent of instructor.

NUR 974 POPULATIONS AND ORGANIZATIONAL SYSTEMS LEADERSHIP II SEMINAR: MANAGEMENT OF POPULATION HEALTH IN COMPLEX HEALTHCARE SYSTEMS. (2)
The focus of this course will be to increase knowledge and abilities of Advanced Practice Public Health Nurses and Nurse Executives related to the effective management of resources and capital for the micro, meso, and macro systems of care. Additionally models to enhance ability to assess and provide culturally competent care at the organization, system, and population levels will be evaluated. Students will build on leadership strategies for promoting health, preventing disease, and managing illnesses in both organizations and populations. Students will develop strategies to work with diverse populations and a diverse workforce. Prereq: NUR 970, 971, 972, and 915; corequisite: NUR 975, or consent of instructor.

NUR 975 POPULATIONS AND ORGANIZATIONAL SYSTEMS LEADERSHIP II CLINICAL: MANAGEMENT OF POPULATION HEALTH IN COMPLEX HEALTHCARE SYSTEMS. (3)
This course is a companion to NUR 974. It provides directed clinical/practicum experiences designed so the student is able to apply content from NUR 974. The focus of this course will be to increase knowledge and abilities of POSL students related to the effective management of resources and capital for the micro, meso, and macro systems of care. Additionally models to enhance ability to assess and provide culturally competent care at the organization, system, and population levels will be evaluated. Students will build on leadership strategies for promoting health, preventing disease, and managing illnesses in both organizations and populations. Students will develop strategies to work with diverse populations and a diverse workforce. Course requires 12 hours per week clinical time. Prereq: NUR 972 and 915. Corequisite: NUR 974.

NUR 976 POPULATIONS AND ORGANIZATIONAL SYSTEMS LEADERSHIP III SEMINAR: SYSTEMS AND COMMUNITY DIMENSIONS OF CRISES AND DISASTER PREPAREDNESS. (2)
This course will provide Advanced Practice Public Health Nurses and Nurse Executives with knowledge and skills needed to improve health outcomes of populations and micro, meso, and macro systems. Further, this course will prepare the student to be proficient in the knowledge, skills, and abilities to effectively work with complex organizational and community systems in crisis and disaster situations. Students will learn how to integrate evidence-based decision-making competencies to maximize attention to organizational and community resource challenges. Emphasis will be placed on crises and disaster prevention, preparedness, response, and recovery whether human or natural, when nursing, organizational, and system responses are required. Prereq: NUR 974 and 975, or permission of instructor; corequisite: NUR 977.

NUR 977 POPULATIONS AND ORGANIZATIONAL SYSTEMS LEADERSHIP III CLINICAL: SYSTEMS AND COMMUNITY DIMENSION OF CRISES AND DISASTER PREPAREDNESS. (3)
This course is a companion to NUR 976. It provides directed clinical/practicum experiences designed so the student is able to apply content from NUR 976 through exploring, participating in, and providing leadership related to selected aspects of disaster planning, management, and recovery in a specific community or organization. The instructor will work individually with each student to insure that the practicum responds to course objectives, the student's goals, and learning needs. This course requires 12 hours per week clinical time. Prereq: NUR 974 and 975. Corequisite: NUR 976.

NUR 981 INDEPENDENT STUDY IN NURSING. (1-3)
An elective course that provides students with an opportunity to explore a topic of interest under the direction of a faculty member. The end result should be negotiated between students and faculty and should yield a scholarly product. The minimum number of hours to be spent on the project and the means of evaluation will be decided before beginning the project. May be repeated to a maximum of 12 credits. Prereq: Enrollment in Doctor of Nursing Practice Program or consent of instructor.

OBG Obstetrics and Gynecology

OBG 815 FIRST-YEAR ELECTIVE, OBSTETRICS AND GYNECOLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Obstetrics and Gynecology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

OBG 825 SECOND-YEAR ELECTIVE, OBSTETRICS AND GYNECOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Obstetrics and Gynecology. The intent is to provide the student an opportunity for exploration and study in an area which supplements

and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

OBG 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth-year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
OBG 850 GYNECOLOGIC ONCOLOGY
OBG 852 OBSTETRICS AND GYNECOLOGY INDEPENDENT STUDY
OBG 854 CLINICAL CLERKSHIP IN OBSTETRICS
OBG 855 CLINICAL CLERKSHIP IN GYNECOLOGY
OBG 860 RESEARCH IN GYNECOLOGY
OBG 863 HIGH RISK OBSTETRICS (MFM)
OBG 890 OFF-SITE OBSTETRICS AND GYNECOLOGY

OBI Oral Biology

OBI 650 ORAL BIOLOGY FOR POSTGRADUATE DENTAL STUDENTS I. (2)
This seminar course provides a review of selected biological science topics. Emphasis is placed on the use of current literature for an in-depth study of those aspects of the subject particularly relevant to dental practice. Lecture: 32 hours. Prereq: Admission to an advanced education program of the College of Dentistry or consent of instructor.

OBI 651 ORAL BIOLOGY FOR POSTGRADUATE DENTAL STUDENTS II. (2)
This course is a continuation of OBI 650. It is a seminar that uses the scientific literature to review selected biological science topics with emphasis on those especially relevant to dental practice. Lecture: 32 hours. Prereq: OBI 650 or consent of instructor.

OBI 720 MICROBIAL STRUCTURE AND FUNCTION. (3)
Molecular basis of structure and function in unicellular microbes. Molecular genetic and structural approaches to the analysis of bacterial architecture growth, division, and differentiation. Prereq: (to reflect appropriate IBS course). (Same as MI 720 and BIO 720.)

OBI 812 DENTAL BIOCHEMISTRY. (6)
This is a comprehensive course in biochemistry designed to fulfill the specific needs of student dentists. Course content is generally as outlined in the American Association of Dental Schools suggested curriculum guidelines for biochemistry. Part I acquaints students with the chemical constituents of prokaryotic and eukaryotic cells; topics include the chemistry of lipids, carbohydrates, proteins, vitamins and coenzymes, and the nature of enzyme action. Part II integrates the chemical principles learned from Part I with concepts of cell dynamics, structure, function, subcellular organization, and metabolism. Topics include intermediary metabolism, bioenergetics, DNA replication, protein synthesis, and cellular regulatory and control mechanisms. Course content, where possible, is related to current concepts concerning the etiology of oral diseases, their treatment, and prevention to assist student dentists in attaining institutional goals and objectives for clinical competency. Prereq: Admission to the College of Dentistry. (Same as BCH 812).

OBI 813 NEUROPHYSIOLOGY. (1)
The brain uses electrical signals to process all information it receives and analyzes. Individual neurons encode complex information into simple electrical signals; the meaning behind these signals is derived from the specific interconnections of neurons. The purpose of neurophysiology is to describe how the neuron produces electrical and chemical signals and illustrate how these signals are involved in the functional organization of neural circuits. This course also describes how the central nervous system analyzes and integrates the various inputs, elicits command decisions that determine the motor and/or endocrine responses. Lecture: three hours per week for five weeks. Prereq: Admission to the College of Dentistry, or consent of the Course Director. (Same as PGY 813.)

OBI 814 DENTAL HUMAN FUNCTION. (5)
This course provides in-depth instruction on the physiological mechanisms of body function from the single cell to the organism level. The course is team taught primarily by basic scientists. Teaching methodologies include didactic and Socratic lectures with some dental correlations. Prereq: Admission to the College of Dentistry. (Same as PGY 818.)

OBI 815 DENTAL GROSS ANATOMY AND EMBRYOLOGY. (6)
Study of human gross and developmental anatomy with particular emphasis on functional anatomy of the head and neck. Lecture/laboratory course, with dissection being an essential component of the laboratory portion. 140 hours. Prereq: Admission to the College of Dentistry. (Same as ANA 534.)

OBI 817 DENTAL NEUROANATOMY. (2)
Study of human dental neuroanatomy with emphasis on functional neuroanatomy of central nervous system, especially related to cranial nerves 5, 7, 9, and 10, pain, and long tracts. Lecture, one hour per week. Prereq: Admission to the College of Dentistry. (Same as ANA 538.)

OBI 826 DENTAL PHARMACOLOGY AND THERAPEUTICS. (4)
This course will provide students with a fundamental understanding of the pharmacology and therapeutic uses of drugs commonly used by their patients and in their practice. Prereq: OBI 812 and OBI 814. (Same as PHA 822.)

OBI 828 IMMUNITY, INFECTION AND DISEASE FOR THE STUDENT DENTIST. (6)
The course provides basic concepts of immunology and bacterial, viral, fungal and protozoal biology. It focuses on mechanisms of human immunity, immunologically mediated disease, and pathogenesis in infectious disease. The material covered includes relevant pathology associated with both immunological and infectious diseases, and a summary of infectious diseases from a clinical perspective. Lecture: six hours per week. Prereq: Enrolled in the DMD curriculum.

OBI 829 ORAL BIOLOGY. (2)
This course will enable the dental student to apply basic oral biology principles to the contemporary diagnosis and treatment of oral disease. Oral biology is the study of the biologic sciences and their clinical correlates that pertain to the mouth and the contiguous tissues in health and disease. Major oral systems are studied at the complete, cellular, and molecular levels with emphasis on important clinical problems affecting both hard and soft tissues. Lecture, 34 hours. Prereq: ANA 530, OBI 812, OBI 814, CDS 820 or consent of instructor.

OBI 836 DENTAL PHARMACOLOGY. (3)
This course will provide students of dentistry with a fundamental understanding of the pharmacology and the therapeutic uses of drugs commonly used in their practice or by their patients. This course will reinforce topics discussed in CDS 821 (Local Anesthesia); in addition, the course will integrate with ODM 830 (Mngmnt of Med Compromised Patient) and provide focused preparation for CDS 831 (Conscious Sedation). Prereq: OBI 812 (Dent Biochem), OBI 814 (Dent Physio), and CDS 821 (Local Anes).

OBI 840 CLINICAL DENTAL PHARMACOLOGY. (1)
This course will reinforce to fourth year dental students the principles of basic and applied pharmacology enabling them to evaluate and manage patients with systemic and oral diseases. The course will be given before the Dental National Board Examination. This should help the students review for the pharmacology portion of the examination. Advances in drug therapy that have occurred since the basic pharmacology courses will be discussed. The course will be presented in both lecture and case presentation format to help the students understand and recognize the importance of pharmacologic agents in the management of their patients. Lecture: 16 hours. Prereq: OBI 812, OBI 814, OBI 822, OBI 826, CDS 821 CDS 831, and ODM 831. (Same as PHA 840.)

ODM Oral Diagnosis and Oral Medicine

ODM 810 BASIC PRINCIPLES IN ORAL AND MAXILLOFACIAL RADIOLOGY. (2)
This course presents the basic principles of oral and maxillofacial radiology, including radiation biology, radiation physics and Imaging Principles, radiation protection and safety, and radiology techniques. Lecture, 20 hours; seminar, 4.5 hours. Prereq: Admission to the College of Dentistry.

#ODM 814 ORAL DIAGNOSIS/ORAL MEDICINE AND TREATMENT PLANNING. (2)
This course is designed to prepare the student dentists to do overall patient evaluation which would include medical history, dental history, social history, family history and to understand the significance of proper head and neck examination which would ultimately help them in diagnosis and treatment planning. It will also help them in understanding the different needs and extra precautions needed for certain medically complex patients and special needs patients and hands on clinical training in patient examination. It will consist of lectures, stimulated case presentations, hands on clinical examination training in groups, self-practice time and handouts. Prereq: 1st Year University of Kentucky, College of Dentistry student.

ODM 820 ORAL AND MAXILLOFACIAL RADIOLOGY AND DIAGNOSTIC IMAGING. (2)
This course presents the principles of radiographic anatomy, extra-oral projections (including panoramic film and lateral skull film), radiology of caries and periodontal disease, digital radiology, advanced imaging techniques (including CBTC), and the process of radiographic interpretation. Lecture, 24 hours; seminar, 4.5 hours; practicum, 24 hours (three days). Prereq: ODM 810.

ODM 821 CLINICAL ORAL DIAGNOSIS I. (1)
This course consists of two components: 1) examination, diagnosis, and treatment planning for patients assigned to dental students in general clinics; and 2) an emergency clinic assignment in which the students will diagnose and treat patients with acute oral problems. Clinic, 30 hours. Prereq: CDS 815; Coreq: CDS 824.

ODM 830 MANAGEMENT OF THE MEDICALLY COMPROMISED DENTAL PATIENT. (3)
This course will provide students with the knowledge required to manage medically compromised patients in the outpatient dental office. Basic clinicopathological information about commonly occurring medical disorders, the impact medications that these patients take have, the special problems they have, and their effects on dental health care will be presented. Critical thinking is encouraged so that the students can use their diagnostic skills in the appropriate manner to identify and manage patients with systemic disorders. Lecture, 43 hours; laboratory, 4 hours. Prereq: Approval of dean and/or his designee for academic affairs and the course director.

ODM 831 CLINICAL ORAL DIAGNOSIS II. (1)
This course is a continuation of ODM 821 and also consists of two components: 1) examination, diagnosis and treatment planning for patients assigned to dental students in general clinics; and 2) emergency clinic assignments in which the students will diagnose and treat patients with acute oral problems. Clinic, 40 hours. Prereq: ODM 821; coreq: CDS 832.

ODM 841 CLINICAL ORAL DIAGNOSIS III. (1)
This course is a continuation of ODM 831 and also consists of two components: (1) examination, diagnosis and treatment planning for patients assigned to dental students in general clinics; and (2) emergency clinic assignments in which the students will diagnose and treat patients with acute oral problems. Clinic, 40 hours. Prereq: ODM 830 and ODM 831.

OFP Orofacial Pain

OFP 634 CURRENT CONCEPTS IN TEMPOROMANDIBULAR DISORDERS. (3)
This course provides the student with information on the anatomy, physiology and function of the masticatory system. The etiology, diagnosis and treatment of temporomandibular disorders will be emphasized. Lecture, 41 hours; laboratory, 15 hours per semester. Prereq: Acceptance into the College of Dentistry M.S. Program and/or consent of the College of Dentistry's Director of Graduate Studies and the course director.

OFP 636 CLINICAL MANAGEMENT OF TEMPOROMANDIBULAR DISORDERS. (3)
This course provides the student with clinical experience in the diagnosis and management of temporomandibular disorders. The student will provide treatment for patients referred to the Orofacial Pain Center under the supervision of the course director. Clinic, 144 hours. Prereq: Acceptance into the College of Dentistry M.S. Program and/or consent of the College's Director of Graduate Studies and the course director.

OFP 700 OROFACIAL PAIN TREATMENT PLANNING SEMINAR. (2)
This course will provide the student with experience in diagnosing and treatment planning various orofacial pain patients. Lecture: 32 hours per year or 16 hours per semester. Prereq: Acceptance into the College of Dentistry M.S. Program and/or consent of the College's Director of Graduate Studies and the course director.

OFP 734 CURRENT CONCEPTS IN OROFACIAL PAIN. (3)
This course provides the students with information on non-masticatory orofacial pain problems. The etiology and differential diagnosis of head and neck pain will be emphasized. The student will learn the dentist's role in the management and/or referral of complex facial pain problems. Prereq: OFP 634 and OFP 636.

OFP 736 CLINICAL MANAGEMENT OF OROFACIAL PAIN. (3)
This course provides the student with clinical experience in the diagnosis and management of complex orofacial pain problems. The student will provide treatment for patients referred to the Orofacial Pain Center under the supervision of the course director. Clinic, 144 hours. Prereq: OFP 634 and OFP 636.

OFP 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be requested to a maximum of six (6) semesters. Prereq: All course work toward the degree must be completed.

OFP 768 RESIDENT'S CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated for a total of 12 hours. Prereq: Admission to the Orofacial Pain graduate program and consent of the Director of Graduate Studies.

OFP 790 RESEARCH IN OROFACIAL PAIN. (1-6)
This course provides credit hours for the graduate students' independent research efforts. May be repeated to a maximum of 12 hours. Prereq: Admission to the Orofacial Pain Graduate Program and consent of the Director of Graduate Studies in the College of Dentistry.

OHP Oral Health Practice

OHP 850 INDEPENDENT WORK IN ORAL HEALTH PRACTICE. (1-3)
An elective course offered by the department of Oral Health Practice. Students may work on individual projects in one or more of the disciplines encompassed by this department under the direction of a faculty member. The work should involve independent laboratory or clinical research and include supporting literature searches. The end result should be either a table clinic presentation or a paper suitable for publication. The minimum number of hours to be spent on the project and the means of evaluation will be decided before beginning the project. May be repeated to a maximum of 12 credits. Prereq: Specific course prerequisites and year in dental school will depend on the nature of the proposed project; consent of instructor.

OHS Oral Health Science

OHS 850 INDEPENDENT WORK IN ORAL HEALTH SCIENCE. (1-3)
An elective course offered by the department of Oral Health Science. Students may work on individual projects in one or more of the disciplines encompassed by this department under the direction of a faculty member. The work should involve independent laboratory or clinical research and include supporting literature searches. The end result should be either a table clinic presentation or a paper suitable for publication. The minimum number of hours to be spent on the project and the means of evaluation will be decided before beginning the project. May be repeated to a maximum of 12 credits. Prereq: Specific course prerequisites and year in dental school will depend on the nature of the proposed project; consent of instructor.

OPH Ophthalmology

OPH 815 FIRST-YEAR ELECTIVE, OPHTHALMOLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Ophthalmology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

OPH 825 SECOND-YEAR ELECTIVE, OPHTHALMOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Ophthalmology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

OPH 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
OPH 850 CLINICAL CLERKSHIP IN OPHTHALMOLOGY
OPH 851 RESEARCH IN OPHTHALMOLOGY
OPH 852 ADVANCED CLINICAL CLERKSHIP IN OPHTHALMOLOGY
OPH 890 OPHTHALMOLOGY OFF-SITE

OPT Oral Pathology

OPT 650 GRADUATE ORAL PATHOLOGY I. (2)
This is a seminar course in advanced oral pathology in which students study the microscopic, radiographic, and clinical features and the management of diseases that affect oral and perioral tissues. A case study format is used to discuss both common and rare conditions that illustrate all major disease categories and to provide a framework for developing a systematic approach to disease diagnosis. Lecture: 36 hours. Prereq: Dental degree and enrollment in a College of Dentistry postgraduate program, or consent of instructor.

OPT 651 GRADUATE ORAL PATHOLOGY II. (2)
This course is a continuation of OPT 650. It is a seminar in advanced oral pathology in which students study the microscopic, radiographic, and clinical features and the management of diseases that affect oral and perioral tissues. A case study format is used to discuss both common and rare conditions that illustrate all major disease categories and to provide a framework for developing a systematic approach to disease diagnosis. Lecture: 36 hours. Prereq: OPT 650 or consent of instructor.

OPT 820 GENERAL PATHOLOGY FOR STUDENT DENTISTS. (3)
This basic course covers general pathology, which will prepare the student dentist to concentrate on the specialized area of oral pathology. Emphasis is placed on cell damage, inflammation and repair, neoplasia and hemostasis, as well as the in-depth study of selected systemic diseases that may affect dental patient management. Prereq: Enrollment in the College of Dentistry and second year class standing, ANA 530, ANA 534, or consent of course director.

OPT 830 ORAL PATHOLOGY I. (3)
This is a comprehensive lecture course on oral and paraoral diseases. The course deals mainly with the clinical aspects of oral disease, with emphasis on clinical and/or radiographic appearance, etiology, management and prognosis. Lecture, 41 hours, and 4 one-hour examinations. Prereq: OPT 820.

OPT 832 ORAL PATHOLOGY II. (1)
This course teaches the dental student an effective approach to patients with oral lesions. It will stress the following: development of a reasonable differential diagnosis list, procedures to be used in obtaining a definitive diagnosis, management of the patient after a diagnosis has been made, and treatment if indicated. Lecture/Seminar, 26 hours and 1 two-hour final exam. Prereq: OPT 830.

OPT 840 ORAL PATHOLOGY III. (1)
This is an advanced course in oral pathology in which various diseases and abnormal conditions of the head, neck, and oral cavity are presented. The pertinent information on several selected cases will be available online and posted in a display case for a week. Subsequently, an associated seminar will concentrate on the development of a differential diagnosis, establishment of a definitive diagnosis, and discussion of treatment and prognosis. Seminar, 19 hours and 1 2-hour exam. Prereq: OPT 832.

OPT 850 ORAL PATHOLOGY ELECTIVE. (1-10)
Elective courses offered by the Department of Oral Pathology provide opportunities for further study of or experience in various aspects of oral pathology. Topics may include principles of clinical and histologic diagnosis, the management of patients with oral disease, and discussions of specific oral diseases. Hours variable, ranging from a minimum of 16 hours lecture/discussion to a maximum of 10 weeks clinical experience. May be repeated to a maximum of 10 credits. Prereq: The minimum year in dental school and any course prerequisites will be announced for each topic.

OR Operations Research

OR 524 PROBABILITY. (3)
Sample space, random variables, distribution functions, conditional probability and independence, expectation, combinatorial analysis, generating functions, convergence of random variables, characteristic functions, laws of large numbers, central limit theorem and its applications. Prereq: MA 213 and MA 322. (Same as STA 524.)

OR 525 INTRODUCTORY STATISTICAL INFERENCE. (3)
Simple random sampling, statistics and their sampling distributions, sampling distributions for normal populations; concepts of loss and risk functions; Bayes and minimax inference procedures; point and interval estimation; hypothesis testing; introduction to nonparametric tests; regression and correlation. Prereq: STA 320 or STA 524 or consent of instructor. (Same as STA 525.)

OR 624 APPLIED STOCHASTIC PROCESSES. (3)
Definition and classification of stochastic processes, renewal theory and applications, Markov chains, continuous time Markov chains, queuing theory, epidemic processes, Gaussian processes. Prereq: STA 524 or STA 623 or consent of instructor. (Same as STA 624.)

ORT Orthodontics

ORT 610 CRANIO-FACIAL FORM. (2)
This is a two credit-hour seminar course that introduces students to the basic concepts and principles of cephalometrics in orthodontic diagnosis and treatment. The course reviews historical literature as well as contemporary articles. Prereq: Admission to graduate dental programs; D.D.S. or D.M.D. degree.

ORT 620 ORAL-PHARYNGEAL FUNCTION, PART I. (2)
Basic and applied physiology for graduate students in dentistry. Class, two and one-half hours. Prereq: Admission to a graduate program of the College of Dentistry; D.D.S. or D.M.D. degree.

ORT 621 ORAL-PHARYNGEAL FUNCTION, PART II. (2)
A continuation of ORT 620, emphasizing speech physiology and language development. Lecture, two and one-half hours. Prereq: Admission to a graduate program of the College of Dentistry; D.D.S. or D.M.D. degree.

ORT 660 ORTHODONTIC DIAGNOSIS. (2)
This is a two credit-hour seminar course offered at the graduate level within the specialty program in orthodontics. The course provides in-depth information concerning methods and rationale for gathering a comprehensive database for orthodontic patients. Analysis and interpretation of the database is approached by using the orthogonal analysis technique. The process of developing a treatment plan from the database will be thoroughly explored. Prereq: Admission to a postdoctoral program of the College of Dentistry.

ORT 661 ORTHODONTIC SEMINAR-CLINIC. (3)
Seminar, laboratory and clinical instruction in orthodontic theory and practice. Lecture, three hours; laboratory, 15 hours. May be repeated to a maximum of 12 credits. Prereq: ORT 660.

ORT 662 ORTHODONTIC TECHNIQUE. (2)
This is a two credit-hour graduate level course designed to introduce or reacquaint the student with some of the most commonly used techniques in orthodontic practice. It is closely related to the diagnosis and treatment planning course and to the course on mechanics. Prereq: Admission to a postdoctoral program of the College of Dentistry.

ORT 664 BIOMECHANICS. (2)
This is a two-credit-hour seminar course. The purpose of the course is to introduce the foundational concepts for understanding both the laws of mechanics and the typical tissues responses to force systems used in orthodontic appliances. Students will learn theory-guided approaches to planning safe, predictable and efficient orthodontic treatment. Students will be expected to read and critique material in assigned textbooks and journal articles for seminar discussions. This course will supplement subject matter covered in the typodont course, ORT 662. Prereq: Admission to a postdoctoral program in the College of Dentistry.

ORT 710 MANAGEMENT OF COMPLEX OROFACIAL DEFORMITIES. (1)
Seminar discussions of techniques in orthodontic problem solving and planning treatment for patients with orofacial deformities refractory to either orthodontic therapy or oral surgery but which are resolvable by utilizing combinations of orthodontic and oral surgical therapies. Lecture, one hour per week; laboratory, one hour per week. Prereq: ORT 660 or permission of instructor.

ORT 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

ORT 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
Maximum of nine weeks residence credit. Prereq: Admission to the orthodontic graduate program of the College of Dentistry or consent of instructor.

ORT 770 ORTHODONTIC SEMINAR. (1)
Seminar in orthodontic theory and practice for advanced graduate and postdoctoral students in orthodontics. May be repeated to a maximum of six credits. Lecture, three hours. Prereq: Admission to the Orthodontics Graduate Program and consent of course director.

ORT 790 RESEARCH IN ORTHODONTICS. (1-5)
Research in orthodontics. May be repeated to a maximum of five credits. Prereq: Admission to the orthodontic graduate program of the College of Dentistry; special permission.

ORT 822 ORTHODONTICS. (3)
This is a lecture and laboratory course in which the knowledge and skills needed to conduct a thorough orthodontic diagnosis and to plan orthodontic therapy are developed. In addition, the principles of orthodontic mechanotherapy are introduced and the role the general dentist plays in maintaining healthy occlusion is defined. Early lectures are oriented to data base collection, analysis and interpretation. The course provides opportunity to develop skills in analysis of facial proportions, analysis of diagnostic dental casts, cephalometric tracings, formulating a prioritized problem list, and development of long term and short term treatment goals. As the semester progresses, focus shifts to give the student a basic understanding of the skills required to fabricate fixed and removable appliances that are typically indicated for limited tooth movement and retention in interceptive orthodontics and adjunctive orthodontic treatment in a general practice setting. The role of the general dentist in the management of their patients' orthodontic needs will be delineated. Special emphasis will be placed on coordination of treatment between the specialist and general practitioner and maintenance of occlusion over the life span of the patient. The role of orthodontic treatment in a multidisciplinary approach will be discussed. Finally, new technology emerging on the horizon in clinical orthodontics will be explored. Prereq: Students must have second year standing in the College of Dentistry and have passed CDS 812. Otherwise, special permission of the course director is required.

ORT 841 CLINICAL ORTHODONTICS. (1)
This clinical course requires the students to analyze and diagnose the present and developing occlusal disharmonies in their assigned patients and to provide therapy for those patients who need tooth movements judged to be within the scope of the general practice of dentistry. Clinic, 50 hours. Prereq: ORT 820 and consent of course director.

ORT 850 ORTHODONTIC ELECTIVE. (1-10)
Elective courses offered by the Department of Orthodontics provide opportunities for further study of or experience in various aspects of orthodontics. Topics may include principles of comprehensive orthodontic treatment, types of orthodontic appliances, and methods of correcting facial skeletal problems. Hours variable, ranging from a minimum of 16 hours lecture/discussion to a maximum of 10 weeks clinical experience. May be repeated to a maximum of 10 credits. Prereq: Minimum year in dental school and any course prerequisites will be announced for each topic.

OSG Oral and Maxillofacial Surgery

OSG 651 ANATOMICAL RELATIONSHIPS IN SURGERY. (1)
A seminar course for dental graduate students in areas other than surgery, emphasizing anatomical and surgical principles applicable to all dental specialties. Prereq: Admission to graduate or post-doctoral programs of College of Dentistry; D.D.S. or D.M.D. degree.

***OSG 820 ORAL SURGERY I. (1)**
This course is designed to introduce the student to principles of surgery and to prepare them for their clinical rotations, OSG 831 and 841. Emphasis is placed not only on the technical aspects of surgery, but also on the integration of basic sciences to form a scientific basis for the clinical practice of surgery. Prereq: CDS 811 or consent of course director.

OSG 830 ORAL SURGERY II. (1)
This course is an overview of the specialty of oral surgery. The student is introduced to the surgical management of congenital and acquired abnormalities of the oral structures and associated parts. Management of odontogenic infection, cysts and tumors is presented, as well as the role of the dentist in the care of head and neck cancer patients. The diagnosis and management of facial fractures also are presented, particularly as they relate to the general practitioner. Lecture, 25 hours. Prereq: OSG 820 or consent of course director.

OSG 831 ORAL SURGERY ROTATION I. (1)
This course teaches the management of the ambulatory oral surgical patient. It includes patient evaluation, control of pain and anxiety, performance of minor oral surgical procedures, treatment of acute and chronic oral infections and of complications associated with oral surgery, and the use of the problem-oriented record. Slide-text programs and reading assignments supplement the outpatient clinical experience. Clinic, 48 hours. Prereq: CDS 821 and OSG 820 or consent of course director.

OSG 841 ORAL SURGERY ROTATION II. (2)
In this course students learn the management of oral surgical patients in a hospital. It consists

of a full-time rotation on the oral surgery hospital service, including standing in-hospital night call with the oral surgery house staff. Students assist in patient care and perform procedures such as exodontia and biopsy. Oral surgical management of comprehensive care patients in the outpatient clinic is also included. Clinic, two weeks. Prereq: OSG 830 and OSG 831.

OSG 850 ORAL SURGERY ELECTIVE. (1-10)
Oral Surgery provide opportunities for further study of or experience in various aspects of oral surgery. Topics may include hospitalized and ambulatory patient management, emergency care, operating room experience, pain and anxiety control, and surgical technique. Hours variable, ranging from a minimum of 16 hours lecture/discussion to a maximum of 10 weeks clinical experience. May be repeated to a maximum of 10 credits. Prereq: Minimum year in dental school and any course prerequisites will be announced for each topic.

OTH Orthopedics

OTH 856 ORTHOPEDICS FOR THE PRIMARY CARE PHYSICIAN. (4)
Students will spend time in sports medicine orthopedic clinic, two-and- a-half days a week, observing in the operating room a half day a week and half day a week working with physical therapists in the clinical setting or athletic trainers at the high school. Each student will have the opportunity to evaluate and treat patients under the supervision of the attending physician. Students will attend and participate in didactic interactive sessions at weekly sports medicine conferences and on campus at orthopedic conferences one afternoon per week. Prereq: Successful completion of all third year clerkships; priority will be given to those students not pursuing orthopedics training, or those already signed up for an orthopedics AI.

PA Public Administration

PA 602 STRATEGIC PLANNING AND ORGANIZATIONAL CHANGE IN THE PUBLIC AND NONPROFIT SECTORS. (3)
This course focuses on the potential for change and future directions for public and nonprofit organizations. It covers the basics of strategic planning for organizations providing public value and operating in a political context. It addresses such topics as environmental assessments, stakeholder analysis, identification of strategic issues, strategy formulation and implementation, performance measurement and evaluation, and key features of organizational change processes. Prereq: PA 621 and PA 651.

PA 621 QUANTITATIVE METHODS OF RESEARCH. (3)
A survey of behavioral science research methods for the public administrator. Emphasis is placed upon problem selection and identification, research design, and data analytic techniques. Lecture, two hours; laboratory, one hour per week. Prereq: MPA or MHA program status.

PA 622 PUBLIC PROGRAM EVALUATION. (3)
This course is designed to provide students with the conceptual and analytical tools to evaluate the effectiveness of public programs and policies. The focus will be on program monitoring and evaluation. Of particular concern will be program process and outcome measurement; quasi-experimental design; multiple regression analysis; and analysis of variance models. Prereq: PA 621.

PA 623 DECISION ANALYSIS AND DECISION SUPPORT SYSTEMS. (3)
An introduction to organizational decision making under conditions of certainty, uncertainty, risk and multiple objectives. Concepts of analysis from the areas of economics, mathematics, probability, and statistics will be utilized in terms of administrative decision making in public administration. Course work includes use of various management information systems with a focus on how such systems can be used to support and inform decision making. Lecture, two hours; laboratory, one hour per week. Prereq: PA/HA 621, PUAD or HLAD program status or consent of instructor.

***PA 624 GOVERNMENT INFORMATION SYSTEMS. (3)**
Provides an overview of information strategies and management approaches to government functions and public policy programs. It illustrates and analyzes the interaction between information technology and information systems with management and policy decisions in the public and non-nonprofit sectors by using large data. Prereq: MPA or MPP program status.

PA 631 PUBLIC FINANCIAL MANAGEMENT. (3)
An analysis of budget structure and process; revenue structure and administration; and public capital acquisition and debt management. This course emphasizes an applied focus and comparative analysis of alternative budget, revenue, and debt management structures and strategies. Prereq: PUAD or PUAM program status or consent of instructor.

PA 632 PUBLIC FUNDS MANAGEMENT. (3)
A study of the management of public funds including the accumulation, management and investment of such funds and the accounting for those transactions. It will also include topics such as fund accounting, cash forecasting, cash management practices and public funds investment strategies. Prereq: MPA program status.

PA 633 MUNICIPAL SECURITIES. (3)
An analysis of the theoretical and operational issues associated with the municipal securities industry. Prereq: PA 632 or the equivalent and Ph.D. or M.P.A. program status or consent of instructor.

PA 636 HEALTH ECONOMICS. (3)
This course applies general theoretical principles of economics to the health care sector. The basic approach is to recognize the importance of scarcity and incentives, allowing for differences peculiar to health. The demand and supply of health and medical care are examined as they involve physicians, nurses and hospitals. The competitiveness of their markets, health insurance and the role of government are explored. Special topics include regulation and planning, benefit-cost analysis, and reform health plans. Prereq: The economics prerequisite can be met in three ways: (a) an undergraduate principles course in microeconomics and HA/PA 652; (b) an undergraduate microeconomics principles course and a graduate course in managerial economics; or (c) an undergraduate microeconomics principles course and an intermediate microeconomics course. (Same as ECO 653.)

PA 642 PUBLIC ORGANIZATION THEORY AND BEHAVIOR. (3)
A course which examines the interaction of both external and internal resources and constraints upon the administrative decision processes in a number of public organizational settings. The objective is an understanding of the practice of administration in public organizations. Prereq: MPA/MHA program status.

PA 651 THE POLICY PROCESS. (3)
Broad-based course in public policy formulation and social planning. Emphasis is on the parameters of policy formulation as well as the social planning and impact variables. Both policy processes and relevant content areas will be stressed. Prereq: MPA program status.

PA 652 PUBLIC POLICY ECONOMICS. (3)
Principles and practices of economical resource management in the governmental sector: tax and expenditure types, intergovernmental fiscal cooperation, debt financing, budgeting and financial planning. Prereq: ECO 201 or equivalent and MPA or MPP program status or permission of department. (Same as ECO 652.)

PA 653 LOCAL ECONOMIC DEVELOPMENT. (3)
The course develops the capacity to employ the theories, practices and philosophies of economic development as applied to local areas. The primary geographic focus of the course is the rural south-east of the United States, but examples will be drawn from rural areas in other developed countries. Prereq: Graduate status in agricultural economics, public administration, economics, or consent of instructor. (Same as AEC 653.)

PA 660 PUBLIC POLICY OF THE NONPROFIT SECTOR. (3)
This course offers an overview of practical, legal, ethical, and theoretical issues faced by the nonprofit sector and organizations that exist today and over time.

PA 661 FINANCIAL MANAGEMENT OF NONPROFIT ORGANIZATION. (3)
This course explores the techniques and principles of financial management including budgeting, finance, and investment decision making for non-profit orgs.

PA 662 NON-PROFIT MANAGEMENT. (3)
A graduate level management course focusing on the most significant tenets of management, including those that differentiate a non-profit organization from others. Theory and practice will be included. Students will select a non-profit organization to explore and evaluate specific management functions. Prereq: MPA program status or permission of the instructor.

PA 665 PUBLIC POLICY AND POLITICAL ECONOMY IN AN INTERNATIONAL CONTEXT. (3)
The goal of this course is to introduce students to policy analysis and political economy issues in an international setting. This will involve the study of particular aspects of economic policy in individual countries and regions, as well as the development of fundamental principles of economics and political economy which can be used to analyze the impacts of alternative policies and the processes by which policies are made. Prereq: PA 652 or equivalent or consent of the instructor.

PA 667 POLICYMAKING IN AN INTERNATIONAL CONTEXT: POLITICAL AND ORGANIZATIONAL DIMENSIONS. (3)
This class provides students with an understanding of the political systems of and the implementation of policy in nations around the world. We begin by comparing the political systems and the bureaucracies of the U.S. and Canada, which will serve as the backdrop for learning relevant concepts from modern political science and public administration. Having mastered these concepts, we will then use them to examine Mexico, Brazil, the People's Republic of China, India, Japan, Nigeria, Russia, the United Kingdom, Germany, and finally, the European Union as an entity. In all cases, our country studies will focus on who decides on policies and how, and then on how policies are implemented. In selected class sections, the instructor will provide practical information on working in, and with professionals from the countries featured in this class. Prereq: PA 652 or their equivalents or permission of the instructor.

PA 675 EDUCATION: ECONOMICS AND POLICY. (3)
This course will provide an overview of current policy issues in education. The course will cover basic education policy issues with a particular emphasis on the economics and policy analytic perspectives. Many of the issues will be examined both conceptually and empirically and will expose the student to policy evaluation tools and techniques. We will examine questions such as why schooling is provided publicly in the U.S., look at ways to evaluate the current quality of schooling, and think about reform alternatives. Prereq: PA 621 and PA 652 or their equivalents or permission of the instructor.

PA 680 BENEFIT-COST ANALYSIS. (3)
Principles, practices and applications of applied welfare analysis are the content of this course. The basic theory of benefit-cost analysis is presented and the relevance of implementation analysis in policy analysis is established. Prereq: PA 652. (Same as ECO 654.)

PA 681 CAPSTONE IN PUBLIC ADMINISTRATION. (3)
This course provides an opportunity for students to integrate their studies with professional practice. Case studies and special projects require students to integrate knowledge from the core curriculum in the analysis of public management and policy problems. Prereq: MPA program status and completion of 33 credit hours.

PA 683 TAX POLICY. (3)
Tax policy is analyzed from an economic perspective: efficiency and distributional effects of taxation, especially in state, local and international contexts. Prereq: PA 652 or equivalent; PUAD program status or permission of instructor.

PA 690 PUBLIC POLICY ANALYSIS OVERVIEW. (3)
Economic and political foundations of policy analysis are considered in a survey fashion, followed by specific techniques used in the practice of policy analysis. Prereq: Graduate standing and MPA program status.

PA 691 ETHICS AND PUBLIC POLICY. (1)
This course provides an introduction to ethical theory, explores the ethical dimensions of practice in the public sector, and examines ethics in connection with policy development. Prereq: Graduate standing and MPA program status.

PA 692 ECONOMETRICS FOR POLICY ANALYSTS. (3)
Maximum likelihood estimation, ordinary least squares (OLS) regression, instrumental variables (IV) regression, heteroscedasticity-consistent regression, fixed and random effects models, probit, logit and tobit models, and identification and two-state least squares estimation of simultaneous equations models. Prereq: Any undergraduate statistics course. MPA, MPP or PUAD program status for priority registration, other students with permission of instructor. (Same as ECO 692.)

PA 711 INTERNSHIP IN PUBLIC ADMINISTRATION. (3)
Practical field experience in an administrative setting under the direction of an academic and a workplace supervisor. Prereq: MPA program status or consent of instructor.

PA 722 POLICY AND PROGRAM EVALUATION. (3)
This is a doctoral course concerning policy and program evaluation. Major emphasis will be given to specifying the relationship between evaluation and management functions, evaluation concepts and processes and research methods applicable to evaluation systems and processes. Prereq: MKT 762 or PS 671, or equivalent and Ph.D. program status or consent of instructor.

PA 727 ENVIRONMENTAL ECONOMICS, REGULATION AND POLICY. (3)
This course takes a balanced practitioner approach to the problems of the environment and environmental regulation. Efficiency aspects will be developed carefully, so as to provide a background for an extensive coverage of various available alternative policies. Prereq: PA 652 and MPA or economics program status or consent of instructor. (Same as ECO 721.)

PA 731 FISCAL AND BUDGETARY POLICY. (3)
This course examines public budgeting and finance in the public sector. Included is an analysis of economic, managerial, and political approaches to public budgeting and finance. These approaches are then used to analyze several current topics in public finance. Prereq: PA 631 or equivalent, and Ph.D. program status or consent of instructor.

PA 742 THEORY OF PUBLIC ORGANIZATIONS. (3)
This course provides doctoral students an in-depth knowledge of the various aspects of public organization theory. It will attempt to integrate the work on public organizations which is currently spread over the fields of organization theory and behavior, executive and bureaucratic politics and public choice economics. Prereq: PA 642 or equivalent, and Ph.D. program status or consent of instructor.

PA 750 INTRODUCTION TO ECONOMICS FOR PUBLIC POLICY. (3)
Introduction to microeconomic theory and mathematical methods for policy analysis. Prereq: PUAD Master's or Ph.D. program status or permission of the instructor.

PA 751 PUBLIC POLICY FORMULATION AND IMPLEMENTATION. (3)
The major goals of this course are to examine how public issues become policy proposals, how various proposals are filtered into (or out of) the political process, shaped by political institutions and rules, and the process by which policy is implemented. Prereq: PA 651, or equivalent and Ph.D. program status or consent of instructor.

PA 752 THE ECONOMICS OF POLICY ANALYSIS. (3)
This course examines economic approaches to policy analysis. Included is an analysis of the major concepts of economic analysis and their application to a number of policy problems. Prereq: PA 652 and PA 750 or equivalent and Ph.D. program status or consent of the instructor.

PA 754 ADVANCED TOPICS IN PUBLIC FINANCE. (3)
Principles of taxation and expenditure; applications to federal, state, and local policy; fiscal federalism; international public finance. Prereq: PA 752, ECO 701 or permission of the instructor. (Same as ECO 752.)

PA 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

†PA 775 SPECIAL TOPICS IN HEALTH ADMINISTRATION.

PA 795 SPECIAL TOPICS IN PUBLIC ADMINISTRATION. (1-3)
Analysis of specialized topics in public administration of particular interest to practitioners. May be repeated to a maximum of six credits. Prereq: MPA program status or consent of instructor.

PA 796 INDEPENDENT STUDY IN PUBLIC ADMINISTRATION. (1-3)
Tutorial course of directed readings, discussion, and analysis of special topics on public administration. May be repeated to a maximum of six credits. Prereq: MPA program status and consent of instructor.

PAS Physician Assistant Studies

PAS 500 INTEGRATIVE CARE FOR HEALTH SCIENCES. (1-3)
Integrative care involves using the best possible treatments from both complementary/alternative and allopathic medicine, based on the patient's individual needs and condition. The selection of health care providers should be based on good science and this course will introduce students to complementary and alternative health care providers and the practices and beliefs of these practices as well as the scientific evidence in support of these practices. The course integrates successes from both worlds and describe the safest, least invasive, most cost-effective approach while incorporating a holistic understanding of the individual. May be repeated to a maximum of 3 credits (1 credit didactic and up to two credits experiential/research). (Same as AT 500, HS 500, CLS 500, CNU 500, CD 500.)

PAS 610 RESEARCH METHODS AND EPIDEMIOLOGY IN PA STUDIES. (3)
An introductory course designed to introduce students to research applicable to the health care sciences and the field of epidemiology. The course will include a description of the scientific method, research design, measurement techniques, and statistical analysis. Emphasis will be placed on both clinical research and population-based studies. Students will learn how to critically review literature and how to design a research protocol. Prereq: Completion of STA 570, admission to the Physician Assistant Program, or consent of instructor.

PAS 640 SURVEY OF GERIATRIC MEDICINE. (3)
Overview of physician assistant practice with geriatric patients. Emphasis is placed on the practice of geriatric medicine including the anatomy and physiology of normal aging; pathology of aging; health care aspects of geriatric management; the diagnosis, treatment and prevention of geriatric problems; and research aspects of geriatric practice. Prereq: Admission to the Physician Assistant graduate program or consent of the instructor.

PAS 645 MASTER'S PROJECT. (1)
A 4-week course designed to introduce students to methods of identifying and analyzing a health care delivery issue that can be studied through a scientific literature search. The analysis of the topic and writing of a research paper will occur during the student's clinical clerkships. Prereq: STA 570, PAS 610, completion of the first year of the Physician Assistant graduate program.

PAS 646 MASTER'S PROJECT 2. (2-6)
This variable credit hour course is designed to allow PA students to complete a Master's Project while under the guidance of a faculty advisor. Students will identify a health care issue topic, conduct appropriate library research on the topic, develop a research paper on the topic, and make an oral presentation of their project at the conclusion of the Master of Science in Physician Assistant Studies Program. Students will be responsible for developing appropriate audiovisuals, handouts, etc. for the oral presentation. Prereq: Admission to the Physician Assistant Program.

PAS 650 CLINICAL METHODS. (4)
The PAS 650 course is designed to deliver content specific to the principles of obtaining medical histories as well as performing physical examinations. Further, students will be introduced to health care communication in both a lecture as well as laboratory format.

PAS 651 INTRODUCTION TO THE PA PROFESSION. (2)
This course provides an overview of selected health care delivery issues affecting primary care physician assistants. The first half of the semester is devoted to examination of the history and evolution of the PA profession, current PA practice demographics and regulations, principles of quality assurance, risk management, and medical literature evaluation. The second half of the semester is devoted to the study of the ethical dimensions of PA practice. Topics include moral principles and ethical theories, as well as a series of seminar discussions on contemporary ethical issues confronting primary care providers in the 20th and 21st centuries. Prereq: Enrollment in the Physician Assistant Program.

PAS 653 INTRODUCTION TO HEALTH AND DISEASE. (3)
An overview of the etiology, distribution, and prevention of basic disease processes. Prereq: Enrollment in Physician Assistant Program.

PAS 654 CLINICAL LECTURE SERIES I. (4)
A study of diseases and disorders seen in primary care physician assistant practice. Emphasis is placed on identifying the etiology, clinical presentation, laboratory and x-ray abnormalities, management, and prevention of diseases/disorders of the cardiovascular, pulmonary, renal, gastrointestinal, hematological, endocrine, and neurological systems. Research aspects of

selected diseases is also presented. Prereq: Enrollment in the Physician Assistant Studies Program.

PAS 655 PSYCHOSOCIAL FACTORS IN PRIMARY HEALTH CARE. (3)
This course provides a broad overview of the role of psychosocial factors (behavioral, cultural, and environmental) in the nature, cause, course distribution, prevention, and treatment of illness. It develops the student's communication skills for clinical practice and presents psychosocial theories and research, and is organized into fours areas: general behavioral concepts, communications skills, developmental issues, and psychopathology. Prereq: Enrollment in the Physician Assistant Program.

***PAS 656 PATIENT EVALUATION AND MANAGEMENT. (4)**
The PAS 656 course is combination of lecture, formal presentations, laboratory practice sessions, and supervised patient care experiences involving patient evaluation and management skills. Prereq: Enrollment in Physician Assistant Program or consent of instructor.

PAS 657 CLINICAL LABORATORY PROCEDURES. (3)
This is a survey laboratory course covering common laboratory procedures performed in the primary care clinical setting. Emphasis will be placed on performing and interpreting basic clinical tests. Lecture, two hours; laboratory, two hours per week. Prereq: Enrollment in the Physician Assistant Studies Program.

PAS 658 CLINICAL LECTURE SERIES II. (4)
A seminar in diseases and disorders seen by primary care physician assistants. Emphasis is placed on student research and presentation of selected diseases/disorders associated with orthopedics, dermatology, emergency medicine, pediatrics, and obstetrics and gynecology. Prereq: Enrollment in the Physician Assistant Program.

PAS 660 FAMILY MEDICINE CLERKSHIP. (6)
This is an eight-week clinical course designed to provide physician assistant students with experience in evaluation and treating common problems encountered in Family medicine. Experience is provided at the level of a primary care physician assistant, and emphasis is placed on performing a history and physical exam, selecting and interpreting laboratory exams, establishing a logical differential diagnosis, conducting research on clinical problems, performing selected studies, and establishing a tentative treatment plan. Prereq: Enrollment in the Physician Assistant program and successful completion of the didactic portion of the curriculum.

PAS 661 PEDIATRIC CLERKSHIP. (3)
This is a four-week clinical course designed to provide physician assistant students with experience in evaluation and treating common problems encountered in pediatrics. Experience is provided at the level of a primary care physician assistant, and emphasis is placed on performing a pediatric history and physical exam, selecting and interpreting laboratory exams, establishing a logical differential diagnosis, conducting research on pediatric problems, performing selected procedures, and establishing a tentative treatment plan. Prereq: Enrollment in the Physician Assistant program and successful completion of the didactic portion of the PA curriculum.

PAS 662 OBSTETRICS AND GYNECOLOGY CLERKSHIP. (3)
This is a four-week course designed to provide physician assistant students with experience in evaluating and treating common problems encountered in obstetrics and gynecology. Experience is provided at the level of a primary care physician assistant, and emphasis is placed on performing a prenatal history and physical exam, assisting in surgery, selecting and interpreting laboratory exams, establishing a logical differential diagnosis, conducting research on clinical problems, performing selected studies, and establishing a tentative treatment plan. Prereq: Enrollment in the Physician Assistant program and successful completion of the didactic portion of the PA curriculum.

PAS 663 SURGERY CLERKSHIP. (3)
This is a four-week clinical course designed to provide physician assistant students with experience in evaluating and treating surgical problems. Experience is provided at the level of a primary care physician assistant, and emphasis is placed on performing a surgical history and physical exam, assisting in surgery, selecting and interpreting laboratory exams, establishing a logical differential diagnosis, conducting research on surgical problems, and performing selected surgical procedures. Prereq: Enrollment in the Physician Assistant program and successful completion of the didactic portion of the PA curriculum.

PAS 664 GERIATRIC CLERKSHIP. (3)
A 4-week physician assistant clinical clerkship in geriatric medicine. Objectives involve the development of knowledge and skills in the evaluation, management, and prevention of common geriatric disorders and diseases. Principles of business management, evidence-based medicine, research, and use of ancillary medical services are also covered. Prereq: Admission to the Physician Assistant graduate program, or consent of instructor.

PAS 665 CLINICAL PRACTICUM IN PHYSICIAN ASSISTANT STUDIES. (1-6)
This field assignment offers supervised clinical experience appropriate to the PA student's chosen area of practice. May be repeated to a maximum of 12 credits; 40 hours per week. Prereq: Enrollment in Physician Assistant Program.

PAS 669 INTERNAL MEDICINE CLERKSHIP. (6)
This is an eight-week clinical course designed to provide physician assistant students with experience in evaluating and treating common problems encountered in Internal Medicine. Experience is provided at the level of a primary care physician assistant, and emphasis is placed on performing a history and physical exam, selecting and interpreting laboratory exams, establishing a logical differential diagnosis, conducting research on clinical programs, performing selected studies, and establishing a tentative treatment plan. Prereq: Enrollment in the Physician Assistant program and successful completion of the didactic portion of the PA curriculum.

PAS 670 EMERGENCY MEDICINE CLERKSHIP. (3)
This is a four-week clinical course designed to provide physician assistant students with experience in evaluating and treating problems encountered in emergency medicine. Experience is provided at the level of a primary care physician assistant, and emphasis is placed on performing a history and physical exam, selecting and interpreting laboratory exams, establishing a logical differential diagnosis, performing selected studies, and establishing a tentative treatment plan. Prereq: Enrollment in the Physician Assistant program and successful completion of the didactic portion of the curriculum.

PAS 671 PSYCHIATRIC CLERKSHIP. (3)
This is a four-week clinical course designed to provide physician assistant students with experience evaluating and treating common problems encountered in psychiatry. Experience is provided at the level of a primary care physician assistant, and emphasis is placed on performing a history and physical exam, mental status exam, selecting and interpreting laboratory exams, establishing a logical differential diagnosis, and establishing a tentative treatment plan. Prereq: Enrollment in the Physician Assistant program and successful completion of the didactic portion of the PA curriculum.

PAS 672 PHARMACOLOGY I. (3)
This course is designed to prepare students for the pharmacological requirements of practice as a primary care physician assistant. Emphasis is placed on a description of drug categories, prescription writing, drug abbreviations and equivalents, principles of drug research, and the laws on ethics of drug use in primary care medicine. Prereq: Enrollment in the Physician Assistant Program.

PAS 673 PHARMACOLOGY II. (3)
This course is designed to prepare students for the pharmacological requirements of practice as a primary care physician assistant. Emphasis is placed on utilizing specific drugs and drug combinations for specific diseases, and performing literature reviews on current pharmacological problems. A research paper and presentation is required addressing a specific pharmacological problem that occurs in primary care physician assistant practice. Prereq: Enrollment in the Physician Assistant Program.

PAS 678 HEALTH PROMOTION AND DISEASE PREVENTION. (2)
This course is designed to focus on health promotion and disease prevention in primary care medical practice. The course reflects concerns expressed in Healthy People 2010 which call for an increased emphasis on preventive medicine and reflects the need for additional disease education for physician assistant students. The course will address topics such as immunizations, genetic counseling, complementary and alternative medicine, and health and wellness. Prereq: Enrollment in the Physician Assistant Program.

PAS 680 SEMINAR IN PHYSICIAN ASSISTANT STUDIES. (2)
A study of selected topics and contemporary issues regarding physician assistant practice. Emphasis will be placed on review of selected clinical medicine topics, research in primary care, principles of managed care, job searches and interviewing skill. Prereq: Enrollment in the Physician Assistant program and successful completion of the didactic portion of the PA curriculum.

PAS 690 PA CLERKSHIP. (3-6)
This variable credit, 1 to 2 month course is intended to allow MPAS students with a prior baccalaureate degree in PA studies to engage in clinical work relevant to their chosen area of concentration. Course objectives will be developed to include acquiring knowledge in clinical knowledge and library research. It is expected that students will use this course to develop and implement their final Master's Project. Students will be responsible for developing appropriate audiovisuals, handouts, and other presentation materials. Prereq: Completion of PAS 645, admission to the Physician Assistant Program, or consent of instructor.

PAS 867 PRECEPTORSHIP I. (4)
Provides the PA student with the opportunity to integrate his previous year of didactic education and seven months of clinical course work into a functioning system. An assigned textbook and specified reading assignments will be required. In addition, students will be required to successfully pass practical as well as written examinations on course content. Prereq: Successful completion of the junior year and enrollment in the Physician Assistant Program.

PAS 868 PRECEPTORSHIP II. (4)
This course provides the student with the opportunity to integrate his previous year of didactic education and seven months of clinical course work into a functioning system. This course is a continuation of Preceptorship I. An assigned textbook and specified reading assignments will be required. In addition, students will be required to successfully pass practical as well as written examinations on course content. Prereq: Successful completion of the junior year and enrollment in the Physician Assistant Program.

PAT Pathology

PAT 598 CLINICAL MICROBIOLOGY. (3)
An introduction to the concepts of clinical microbiology through a survey of the microbial diseases of man using an organ system approach. Prereq: BIO 208 and 209, BIO 476G recommended, CHE 230 or 236, or consent of instructor. (Same as MI 598.)

PAT 815 FIRST-YEAR ELECTIVE, PATHOLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Pathology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

PAT 823 MECHANISMS OF DISEASE AND TREATMENT/PATHOLOGY. (9)
This is a course in basic mechanisms of disease causation and specific diseases of the organ systems. It introduces fundamental disease processes and the pathophysiology of major diseases affecting each of the organ systems. It stresses how disease alters normal structure and function and is closely integrated with PAT 824. Various teaching methodologies utilized include lectures, small group discussions, workshops, case studies, and computer-assisted instruction. Lecture, 20 hours per week. Prereq: Admission to second year of medical curriculum.

PAT 825 SECOND-YEAR ELECTIVE, PATHOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Pathology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

PAT 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
PAT 850 AUTOPSY PATHOLOGY
PAT 851 SURGICAL PATHOLOGY
PAT 852 LABORATORY MEDICINE
PAT 853 NEUROPATHOLOGY
PAT 855 RESEARCH IN PATHOLOGY
PAT 856 FORENSIC PATHOLOGY

PCE Peace Studies

PCE 201 INTRODUCTION TO PEACE STUDIES. (3)
The course reviews a wide range of theories exploring the nature and causes of conflict, the possibilities for conflict resolution, and the foundations of peace. It provides students with a set of tools for the analysis of contemporary conflicts and shows how evidence and theory can be effectively used to understand peace and conflict. The course draws on a wide range of disciplines, including sociobiology, anthropology, sociology, social psychology, economics, and political science. It also gives students a practical understanding of the strengths and weaknesses of current approaches to conflict resolution and peace-building.

PCE 410 PEACE STUDIES CAPSTONE SEMINAR. (3)
PCE 410 is designed to provide a "capstone" or conclusion to the Peace Studies certificate program. Its objective is to provide an opportunity to conduct independent research on a Peace Studies theme and area selected by the student so that s/he integrates the linkages between the themes, areas, and disciplinary foci of study. In collaboration with A&S faculty, PCE 410 provides peace studies students unique first-hand research experiences. Prereq: PCE 201.

PDO Pediatric Dentistry

PDO 610 PEDIATRIC DENTISTRY SEMINAR I. (2)
This seminar course is the first in a series of four such seminars that discuss essential aspects of clinical pediatric dentistry, with emphasis on the scientific evidence supporting contemporary practice. These four consecutive seminar courses over four semesters (two academic years) provide the pediatric dentistry graduate student with a conceptual basis for caring for the oral health of children. This initial seminar of sixteen two-hour sessions (32 hours) addresses: effective communication with children, strategies for management of children's behavior in the clinical setting, development of the dentition, clinical management of traumatic injuries to the oral cavity, and restoration of carious teeth. Prereq: Enrollment in the College of Dentistry's Master of Science degree program in the Pediatric Dentistry track.

PDO 620 PEDIATRIC DENTISTRY SEMINAR II. (2)
This seminar course is the second in a series of four such seminars that discuss essential aspects of clinical pediatric dentistry, with emphasis on the scientific evidence supporting contemporary practice. These four consecutive seminar courses over four semesters (two academic years) provide the pediatric dentistry graduate student with a conceptual basis for caring for the oral health of children. This second seminar in the series consists of sixteen two-hour sessions (32 hours) and addresses: pulpal therapy, management of the arch circumference of the developing child, clinical management of the child with cleft lip/cleft palate, speech pathology, burns affecting the oral cavity, the use of antimicrobials, and medical compromising conditions affecting oral health care. Prereq: Enrollment in the College of Dentistry's Master of Science degree program in the Pediatric Dentistry track, and completion of PDO 610.

PDO 630 PEDIATRIC DENTISTRY SEMINAR III. (2)
This seminar course is the third in a series of four such seminars that discuss essential aspects of clinical pediatric dentistry, with emphasis on the scientific evidence supporting contemporary practice. These four consecutive seminar courses over four semesters (two academic years) provide the pediatric dentistry graduate student with a conceptual basis for caring for the oral health of children. This third seminar in the series consists of sixteen two-hour sessions (32 hours) and address: deleterious oral habits, orthodontic correction of malocclusions, esthetic dentistry of the child, abnormal development of the dentition, and elements of managing a successful pediatric dental practice. Prereq: Enrollment in the College of Dentistry's Master of Science degree program in the Pediatric Dentistry track, and completion of PDO 610 and 620.

PDO 640 PEDIATRIC DENTISTRY SEMINAR IV. (2)
This seminar course is the fourth and last of a series of four such seminars that discuss essential aspects of clinical pediatric dentistry, with emphasis on the scientific evidence supporting contemporary practice. These four consecutive seminar courses over four semesters (two academic years) provide the pediatric dentistry graduate student with a conceptual basis for caring for the oral health of children. This fourth seminar in the series consists of sixteen two-hour sessions (32 hours) and addresses the required reading list of the American Board of Pediatric Dentistry. Subsequent to completing the graduate program the pediatric dentistry graduate student will take a written and clinical examination administered by the American Board of Pediatric Dentistry in order to be board-certified in the clinical specialty. The seminar is designed to ensure the graduate student is prepared to successfully complete the examination. Prereq: Enrollment in the College of Dentistry's Master of Science degree program in the Pediatric Dentistry track, and completion of PDO 610, 620, and 630.

PDO 790 RESEARCH IN PEDIATRIC DENTISTRY. (1-6)
Participation in clinical, biomedical or biobehavioral research in pediatric dentistry. Research must be conducted independently, but with the supervision of a faculty mentor. Completed research is submitted as either a Master's degree thesis or a manuscript for submission to an appropriate peer review journal, and must be defended before a faculty committee. May be repeated to a maximum of twelve credit hours. Prereq: Enrollment in Pediatric Dentistry/ College of Dentistry M.S. degree program.

PDO 822 PEDIATRIC DENTISTRY I. (2)
In this course in dentistry for children, emphasis will be placed on principles of oral surgical procedures, advanced restorative techniques, diagnosis and treatment of traumatic injuries, preventive dentistry and diagnosis and treatment of oral habits and cosmetic dentistry. Lecture, 26 hours; laboratory, 6 hours. Prereq: Second year standing in the College of Dentistry.

PDO 831 CLINICAL PEDIATRIC DENTISTRY I. (2)
An introductory clinical course instructing student dentists in oral health care for children. Clinic, 75 hours. Pass/fail only. Prereq: PDO 822; coreq: PDO 834.

PDO 834 PEDIATRIC DENTISTRY II. (2)
This course is designed to introduce basic modern concepts in dentistry for children. Emphasis is placed on principles of child behavior management and basic restorative dentistry techniques. Lecture: 32 hours. Prereq: 2nd year standing in the College Dentistry.

PDO 841 CLINICAL PEDIATRIC DENTISTRY II. (4)
An advanced clinical course instructing student dentists in oral health care for children. Clinic, 75 hours. Pass/fail only. Prereq: PDO 822, 834, and 831.

PED Pediatrics

PED 815 FIRST-YEAR ELECTIVE, PEDIATRICS. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Pediatrics. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

PED 825 SECOND-YEAR ELECTIVE, PEDIATRICS. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Pediatrics. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

PED 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

KEY: # = new course * = course changed † = course dropped

Approved electives:
PED 850 NEONATAL INTENSIVE CARE
PED 852 PEDIATRIC RENAL-IMMUNOLOGY
PED 853 INFECTIOUS DISEASE
PED 854 GASTROENTEROLOGY
PED 859 ACTING INTERNSHIP IN PEDIATRICS - UK
PED 865 SLEEP MEDICINE
PED 869 PEDIATRIC ALLERGY AND CLINICAL IMMUNOLOGY
PED 870 PEDIATRIC CARDIOLOGY
PED 871 GENETICS/ENDOCRINOLOGY/METABOLISM
PED 872 ACTING INTERNSHIP IN MED-PEDS
PED 876 DYSMORPHOLOGY/GENETICS
PED 877 PEDIATRIC DEVELOPMENTAL DISABILITIES
PED 878 PEDIATRIC INTENSIVE CARE
PED 879 ADOLESCENT MEDICINE
#PED 885 PEDIATRIC PULMONOLOGY
PED 890 COMMUNITY PEDIATRICS

PER Periodontics

PER 626 ADVANCED CONCEPTS IN GENERAL DENTISTRY. (1)
This course presents, by seminar, lecture or continuing education courses, advanced concepts in general dentistry that are essential to the clinical practice of periodontics. It includes advanced instruction in orthodontics, periodontal prosthesis, prosthodontics and oral surgery. May be repeated to a maximum of four credits. Prereq: Admission to a postdoctoral program of the College of Dentistry or consent of course director.

PER 661 MODERN CONCEPTS IN PERIODONTICS. (2)
A seminar course designed to present the present understanding of the etiology of periodontal disease and current techniques for treatment of periodontal problems. Prereq: Admission to graduate program of College of Dentistry; D.D.S. or D.M.D. degree.

PER 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PER 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated for a total of 12 hours. Prereq: Admission to the Periodontics postdoctoral program and consent of director of graduate studies.

PER 770 TREATMENT PLANNING SEMINAR. (2)
In this seminar course, graduate students present and discuss diagnosis, prognosis, ideal treatment plans and alternative treatment plans for patients with periodontal disease. Each student gives at least eight case presentations. May be repeated to a maximum of eight credits. Lecture, 40 hours. Prereq: Admission to the Periodontics postdoctoral program or consent of course director.

PER 772 PERIODONTAL BIOLOGY AND PATHOLOGY. (2)
Seminar discussions, review and evaluation of the literature covering periodontal anatomy, periodontal biology, the pathology of periodontal diseases and etiological factors in periodontal disease. The subject area will be covered in four semesters. May be repeated four times for a maximum of eight credits. Lecture, 40 hours. Prereq: Admission to the Periodontics postdoctoral program or consent of course director.

PER 774 PERIODONTICS SURGICAL SEMINAR. (1)
In this seminar course participants present, discuss and critique surgical procedures that have been accomplished in the clinic. Reading assignments from the literature augment the clinical discussions and students are encouraged to use the literature to justify their procedures. Cases are presented on a rotating basis. May be repeated to a maximum of four credits. Prereq: Admission to Periodontics postdoctoral program or consent of course director.

PER 776 PERIODONTAL THERAPY SEMINAR. (1)
This is an advanced series of seminars on the clinical aspects of periodontal therapy. During the course, the students will learn about various modalities of periodontal therapy as presented in the periodontal literature, e.g., mucogingival treatment, implants and curettage. May be repeated to a maximum of two credits. Prereq: Admission to the Periodontics postdoctoral program or consent of course director.

PER 790 RESEARCH IN PERIODONTICS. (1-3)
This course involves direct student participation in a research project. Projects and thesis are approved by the course director and may be clinical, laboratory experimental or related to dental education. Projects may include original or ongoing research within the Department of Periodontics or other departments of the Medical Center. May be repeated to a maximum of six credits. Prereq: Admission to the Periodontics postdoctoral program and consent of the department involved.

PER 810 PERIODONTICS I. (1)
This course is an introduction to periodontology. Emphasis is on recognition of healthy gingival characteristics and early disease progression. The student is also introduced to etiology, epidemiology and immunology related to periodontal assessments, and plaque control measures. Lecture, two hours; laboratory, nine hours per week. Prereq: CDS 815 or consent of instructor.

PER 820 PERIODONTICS II. (3)
This course presents the components of the first stages of periodontal therapy. Emphasis is on diagnosis, prognosis, treatment planning and non-surgical treatment of the periodontally involved patient. Lecture, 36 hours; laboratory, 24 hours. Prereq: PER 810 or consent of instructor.

PER 821 CLINICAL PERIODONTICS II. (2)
This is a course designed to provide the student with clinical experience so that he can obtain a minimal competence in the applications of periodontal procedures. Therapeutic procedures involving initial periodontal therapy will be performed by each student. Clinic, 50 hours. Prereq: PER 811, or consent of instructor.

PER 830 PERIODONTICS III. (2)
This is a surgically oriented course which presents information necessary for the diagnosis, treatment planning and treatment of surgical cases. The information gained is applied to planning treatment for actual surgical cases. Lecture, 27 hours; laboratory, 3 hours. Prereq: PER 820 or consent of course director.

PER 831 CLINICAL PERIODONTICS III. (2)
This is a clinical course which offers the student the opportunity to treat patients with more advanced periodontal disease. Therapeutic procedures will be performed by each student as his patients' needs dictate. Clinic, 50 hours. Prereq: PER 821; corequisite: PER 830; or consent of instructor.

PER 841 CLINICAL PERIODONTICS IV. (4)
This clinical course is a continuation of PER 831. The student receives further instruction and experience in diagnosing, planning treatment and treating patients with periodontitis and mucogingival problems. Prereq: PER 830 and PER 831, or consent of instructor.

PGY Physiology

PGY 206 ELEMENTARY PHYSIOLOGY. (3)
An introductory survey course in basic human physiology. Prereq: One semester of college biology.

PGY 207 CASE STUDIES IN PHYSIOLOGY. (1)
Group discussions of clinical cases and clinical applications relevant to human physiology. Prereq: PGY 206 or its equivalent. May be taken concurrently.

PGY 312 CELL PHYSIOLOGY AND PATHOPHYSIOLOGY. (3)
PGY 312, Cell Physiology and Pathophysiology, is a 3 credit-hour course that will provide students with an understanding of the structure and diverse functions of human cells. The general purpose of the lectures is not only to provide a fundamental overview of structure and function of human cell organelles in the context of cellular homeostasis, but also to discuss genetic and/or environmental factors that can impact the structure and function of one or multiple cell organelles. Discussion will include examples of human diseases such as cystic fibrosis, myopathy, and Diabetes Mellitus, wherever possible. Prereq: An introductory college-level Biology course (e.g., BIO 148).

PGY 401G HUMAN REPRODUCTION, TECHNOLOGY, AND SOCIETY. (3)
The objective of this course is to cultivate a student's curiosity in the field of human reproductive biology, modern technological advancements such as contraception, assisted reproduction and stem cell research, and the social, economic, and ethical challenges and issues they create. Class topics will include basic reproductive processes from gametogenesis, fertilization, pregnancy, and embryogenesis, issues that may hamper reproductive successes, and technological advancements in reproductive medicine such as contraceptives, assisted reproductive technologies, prenatal genetic diagnosis, and stem cells. The social impacts of current and future reproductive medicine will also be discussed. Prereq: Elementary Physiology (e.g., PGY 206) or Biochemistry (BCH 401G) or consent by the instructor.

PGY 412G PRINCIPLES OF HUMAN PHYSIOLOGY LECTURES. (4)
The objective of this course is to provide the basic physiological mechanisms of human body function and physiological integration of the organ systems to maintain homeostasis. Students will be learning what the different organ systems do and how they do it. With this knowledge a student should be able to form a general understanding of how the body functions in health and disease. The general purpose of the lectures is to reinforce and expand upon the material presented in the text, with a focus on concepts and problem solving skills. Lectures will be further developed with reading assignments and discussion. Prereq: One year biology or PGY 206.

PGY 413G CRITICAL THINKING IN PRINCIPLES OF HUMAN PHYSIOLOGY. (1)
This is a 1 credit course designed for current and former students in PGY 412G, Principles of Human Physiology. This is a companion course for PGY 412G, Principles of Human Physiology. The objective of this course is to guide students to reinforce and apply physiological concepts to real-life scenarios. Through interactive group discussion formats, students will enhance their critical thinking and problem solving skills using questions, problems and/or case studies corresponding to PGY 412G material. Prereq: Students must have completed or be concurrently enrolled in PGY 412G.

PGY 417 GENOMICS AND EPIGENETICS. (2)
This advanced course is designed for students who desire to become research scientists in any area that makes use of molecular biology, molecular physiology, or molecular systems biology.

It teaches the study of cell and tissue function by global analysis of gene expression and gene regulation. By incorporating both lecture and computer lab exercises, it emphasizes both the technical aspects of measuring gene expression and gene regulation and the conceptual basis for these global analyses. It also teaches experimental design and other statistical concepts necessary to perform genomic and epigenetic experiments. Prereq: At least one course in Cell Biology or Molecular Biology.

PGY 502 PRINCIPLES OF SYSTEMS, CELLULAR AND MOLECULAR PHYSIOLOGY. (5)
Advanced survey of major mammalian physiological systems at the systems, cellular and molecular level; lectures, assigned reading, advanced texts or monographs, demonstrations and problem oriented study questions. Prereq: One year each, physics, general chemistry; PGY 206 or its equivalent. (Same as BIO 502.)

PGY 504 INDEPENDENT WORK IN PHYSIOLOGY. (2-4)
A study of some advanced problems in physiology under the direct supervision of the instructor. Discussion period, one hour; laboratory, four hours. May be repeated to a maximum of eight credits. Prereq: Consent of instructor.

PGY 512 EVOLUTIONARY MEDICINE. (3)
This online course surveys the consequences of evolution on human function and disease. Lecture materials, online discussions, and reading and writing assignments will expand on examples of the repercussions of evolutionary processes on health. Prereq: BIO 150-153 or equivalent introductory biology sequence, BIO 315 or equivalent, and an introductory physiology course (PGY 206, BIO 350, or PGY 412G).

PGY 535 COMPARATIVE NEUROBIOLOGY AND BEHAVIOR. (3)
The course consists of an introduction to neurophysiology and study of the neural basis of sensory processing and motor patterns. A comparative analysis of the neurobiological basis of behavioral responses will be made, utilizing a broad range of vertebrates and invertebrates. Prereq: BIO 350 or consent of instructor. (Same as BIO 535.)

PGY 560 PATHOPHYSIOLOGY: INTEGRATIVE STUDY IN PHYSIOLOGY AND MEDICINE. (1)
This course aims at the development of an integrative conception of the human organism, and involves the study of medical case histories. The complex network of physiologic interactions which underlie disease states is investigated. The physiologic bases of health, illness, dying, and death are explored. May be repeated to a maximum of three credits. Prereq: PGY 412G, PGY 502 or consent of instructor.

PGY 590 CELLULAR AND MOLECULAR PHYSIOLOGY. (4)
This course will focus on the cellular and molecular physiology of inter-and intracellular communication. In particular, it will provide an overview of established and emerging intracellular signaling mechanisms which utilize i) cyclic nucleotides (cAMP; cGMP), ii) calcium (phosphatidylinositol metabolism: cyclic ADP-ribose), iii) transmembrane ion fluxes (voltage- and receptor-operated channels), iv) tyrosine kinases, and v) nuclear transcription factors. The material will be presented in a number of formats including didactic lecture and group discussions of selected readings. Prereq: PGY 412G, PGY 502 or consent of instructor. (Same as MI 590.)

PGY 601 MAMMALIAN ENDOCRINOLOGY. (3)
An introduction to the basic anatomy, physiology and biochemistry of endocrine systems with emphasis on mechanisms of hormone synthesis, secretion and action. Lectures and reading assignments will focus on endocrine function in mammalian species, including laboratory animals, humans and livestock. Prereq: BCH 401G and BIO 350 or equivalents. (Same as ASC 601.)

PGY 602 READINGS IN SYSTEMS, CELLULAR AND MOLECULAR PHYSIOLOGY. (3)
A critical evaluation at the advanced level of the literature of the major mammalian physiological systems at the organ, cellular and molecular level. The course is intended to be taken with and to complement PGY 502. It includes a critical reading of the primary literature. Prereq: One year each of physics, general chemistry; PGY 206 or equivalent.

PGY 603 DESIGN AND ANALYSIS. (3)
This is a course for students in the biomedical sciences interested in understanding the principles and pitfalls of experimental design and data analysis. The course focuses on why specific experimental design and analysis strategies are applied. Prereq: Consent of instructor. An introductory statistics course is recommended, e.g., STA 570 or STA 580.

PGY 604 ADVANCED CARDIOVASCULAR PHYSIOLOGY. (3)
The objective of this course is to examine in-depth the various functions of the cardiovascular system and their proposed mechanisms. Prereq: PGY 502 or consent of instructor.

PGY 605 NEUROBIOLOGY OF CNS INJURY AND REPAIR. (3)
The objective of the course will be to provide a general overview of the current state of knowledge concerning the pathophysiology and therapeutic approaches to central nervous system injury. The course will provide a strong working background concerning the issues, techniques and frontiers of neurotrauma therapeutic discovery research aimed at reducing acute post-traumatic neurodegeneration in the injured brain or spinal cord or enabling regeneration and repair. This course is a graduate level course intended for students who are in their second or subsequent years of graduate study and who are pursuing focused research training in neurotrauma research. No special prerequisites, other than graduate standing, are necessary. However, a background in neuroanatomy and neurophysiology is highly recommended. Prereq: Permission of instructor. (Same as ANA 605.)

PGY 608 ADVANCED RENAL PHYSIOLOGY. (3)
This course will examine in-depth the physiology and pathophysiology of the renal system, as well as provide an understanding of advanced renal physiological techniques. Prereq: PGY 412G, PGY 502 or consent of instructor.

PGY 609 ADVANCED RESPIRATORY PHYSIOLOGY. (3)
This course will examine in-depth the physiology and pathophysiology of the respiratory system. Prereq: PGY 412G, PGY 502 or consent of instructor.

PGY 611 ADVANCED MEDICAL PHYSIOLOGY. (6)
A comprehensive physiology course examining the systems, cellular and molecular basis of clinical physiology. Prereq: Second year graduate standing an completion of IBS 606.

PGY 612 BIOLOGY OF AGING. (3)
A multidisciplinary discussion of how the process of aging affects biological systems. Coverage will be quite broad and includes topics such as subcellular and cellular aging, genetics, immunology, anatomy and physiology, animal model of aging, etc. Prereq: Enrollment in the doctoral program in Gerontology or a biomedical science department or consent of instructor. (Same as ANA/BIO/GRN 612.)

PGY 615 SEMINAR IN TEACHING MEDICAL SCIENCE (MED SCIENCE TEACHING I). (2)
A two (2) credit seminar course in which issues related to the theory and practice of life science education are discussed in a Socratic manner. May be repeated to a maximum of three credits. Prereq: Current enrollment in a life science graduate program. (Same as GRN 615.)

PGY 616 PRACTICUM IN TEACHING MEDICAL SCIENCE (MED SCIENCE TEACHING II). (2)
A two (2) credit experimental course in which students will directly participate in the teaching of Physiology under supervised conditions. May be repeated to a maximum of six credits. Prereq: PGY 615 may be taken concurrently.

PGY 617 PHYSIOLOGICAL GENOMICS. (2)
The study of function by global analysis of gene expression. Teaches the concepts, techniques, and functional significance of analyzing gene expression patterns. The technical emphasis is on the design and analysis of DNA microarray experiments. Examples of normal function or disease states in which gene expression profiling has had a significant impact are also taught. Prereq: IBS 604 and IBS 602 or equivalents. (Same as PHA 617.)

PGY 618 MOLECULAR NEUROBIOLOGY. (4)
This course provides knowledge base and analytical skills in the field of molecular neurobiology. An in-depth introduction to current technologies, their rationale and limitations, will be the focus to address normal brain function and neuropathological conditions. Prereq: BCH 501, 502, NEU 605, or consent of instructor. (Same as ANA/BIO/MI 618.)

PGY 625 MUSCLE FORUM. (1)
Muscle Forum is a course that will allow students to develop critical evaluatory skills for seminars and grant writing in the field of Muscle Biology. Prereq: Students need to be enrolled in the Rehabilitation Sciences doctoral program, one of the graduate programs of the Integrative Biomedical Sciences, or with permission of the course director. (Same as RHB 625.)

PGY 627 PROSEMINAR IN PHYSIOLOGICAL PSYCHOLOGY. (3)
An intensive examination of theories, methods of investigation, and current developments in the field of physiological psychology. Prereq: Graduate standing or consent of instructor. (Same as PSY 627.)

PGY 630 ADVANCED TOPICS IN PHYSIOLOGY. (1-3)
Contemporary topics in physiology. Course designed to utilize the special research interests of resident and visiting faculty. May be repeated to a maximum of six credits. Prereq: PGY 502 or consent of instructor.

PGY 638 DEVELOPMENTAL NEUROBIOLOGY. (3)
An explanation of the processes which contribute to the development of the nervous system. Neurophysiological, cell biological and molecular approaches to cell differentiation, neuronal pathfinding and synapse formation and stabilization will be explored and discussed. Examples will be drawn from both vertebrate and invertebrate preparations. Prereq: BIO 535 or consent of instructor. (Same as ANA/BIO/PSY 638.)

PGY 650 ANIMAL PHYSIOLOGY LABORATORY. (2)
Hands-on laboratory exercises in animal physiology. Prereq: Previous or concurrent enrollment in BIO 550. (Same as BIO 650.)

PGY 660 BIOLOGY OF REPRODUCTION. (3)
Advanced study of current topics in reproductive biology. The course is comprised equally of student-led discussions and lectures given by faculty with research expertise in selected topics. Readings will be taken from current and classic literature. Topics covered include (but are not limited to) molecular and cellular endocrinology, hormone receptors and mechanism of action, reproductive neuroendocrinology, reproductive behavior, gametogenesis, fertilization, sexual differentiation, puberty, menopause and environmental effects on reproduction. Emphasis will be placed on the analysis and understanding of the experimental basis for current concepts in reproductive biology. Prereq: ASC/PGY 601 and ASC 364 or BIO/PGY 502 or consent of instructor. (Same as ANA 660 and ASC 660).

PGY 710 AGING OF THE NERVOUS SYSTEM. (3)
This course will examine the alterations in the brain that occur with aging and in neurodegenerative disorders such as Alzheimer's disease. The emphasis will be on human aging although the

relevance of animal models to studies of human aging will be a recurrent theme. The course will examine aging at several levels, including molecular, cellular, organismic, and behavioral. A strong background in the basic sciences in encouraged. (Same as ANA/GRN/PHA 710.)

PGY 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PGY 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

PGY 766 TOPICAL SEMINAR BEHAVIORAL NEUROSCIENCE. (3)
A study of selected topics in behavioral neuroscience with emphasis on recent research and theory. May be repeated to a maximum of nine credits. Prereq: Consent of instructor. This course may be elected to fulfill requirements in the Psychology and Physiology graduate programs. (Same as PSY 766.)

PGY 767 TOPICAL SEMINAR IN BEHAVIORAL NEUROSCIENCE. (3)
A study of selected topics in behavioral neuroscience with emphasis on recent research and theory. May be repeated to a maximum of nine credits. Prereq: Consent of instructor. This course may be elected to fulfill requirements in the psychology and physiology graduate programs. (Same as PSY 767.)

PGY 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PGY 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

PGY 771 PROSEMINAR IN CELL PHYSIOLOGY. (2)
A comprehensive discussion of topics in cellular physiology and biophysics using advanced texts and readings in the original literature. Includes such topics as biological membranes, transport mechanisms, effects of hormones on membranes. Prereq: Graduate student in physiology and biophysics or consent of Director of Graduate Study.

PGY 774 GRADUATE SEMINAR IN PHYSIOLOGY. (1)

PGY 791 RESEARCH IN PHYSIOLOGY. (1-15)
May be repeated to a maximum of 15 credits. Prereq: Consent of instructor.

PGY 813 NEUROPHYSIOLOGY. (1)
The brain uses electrical signals to process all information it receives and analyzes. Individual neurons encode complex information into simple electrical signals; the meaning behind these signals is derived from the specific interconnections of neurons. The purpose of neurophysiology is to describe how the neuron produces electrical and chemical signals and illustrate how these signals are involved in the functional organization of neural circuits. This course also describes how the central nervous system analyzes and integrates the various inputs, elicits command decisions that determine the motor and/or endocrine responses. Lecture: three hours per week for five weeks. Prereq: Admission to the College of Dentistry, or consent of the Course Director. (Same as OBI 813.)

PGY 814 PRINCIPLES OF HUMAN PHYSIOLOGY FOR DENTAL STUDENTS. (4)
This course enables student dentists to understand the basic principles of human physiology, especially as it relates to the practice of dentistry. The introduction of the course presents the basic physiology of cells, conducting and contracting tissues, lining and secretory tissues, and other special tissues. The course focuses on the major physiological systems and presents them at the system, cellular, and molecular levels; and emphasizes those aspects particularly relevant to dentistry - dentin sensitivity, dental and pulpal pain, muscle dysfunction, ischemic and, hypertensive heart disease, oral manifestations of endocrine abnormalities, temperature regulation, calcium-phosphate homeostasis, and the dental mineralized tissues. Upon successful completion of the course, student dentists will be able to rationally and scientifically apply basic cell, tissue, organ, and organ system function to clinical decision-making. Lectures with assigned reading: 68 hours. Prereq: OBI 812 or consent of the course director. (Same as OBI 814.)

PGY 815 FIRST-YEAR ELECTIVE, PHYSIOLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Physiology and Biophysics. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

PGY 818 HUMAN FUNCTION. (8)
This course provides in-depth instruction on the physiological mechanisms of body function from the single cell to the organism level. The course is team taught by medical scientists and clinicians. Teaching methodologies include didactic and Socratic lectures, small group discussions, demonstrations and live model and computer simulated laboratories. Lecture, 20 hours per week. Prereq: Admission to medical school (first year). (Same as OBI 814.)

PGY 825 SECOND-YEAR ELECTIVE, PHYSIOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Physiology and Biophysics. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

PGY 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved elective:
PGY 850 RESEARCH IN PHYSIOLOGY

PHA Pharmacology

PHA 200 PHARMACOLOGY: DRUGS AND HUMAN HEALTH. (3)
This course will give students the needed background to understand how drugs impact human health and guide their appropriate use. Lectures will focus on how drugs function, how they impact our lives, and how new targets for drugs are discovered. This course will provide a history of drug development, design, and drug discovery, and examine the uses and actions of commonly prescribed and over-the-counter drugs. This course will also cover drugs of abuse and those used in sports and performance enhancement. Students will learn about when drugs should be used, conditions under which their use is prudent, and how to obtain accurate information regarding use, benefits and risks of new drugs. This class will give students valuable scientific insights into drug actions and provide a basis for lifelong learning to better protect and inform health care choices. Prereq: One semester of College Biology.

PHA 422G PHARMACOLOGY OF TREATING HUMAN DISEASE. (3)
This course will provide students with a fundamental understanding of the actions of drugs most commonly used in the treatment of the major human diseases, drugs of abuse, and those used in sports to enhance performance. This course is geared toward the pre-professional and others interested in a career in health care and research. Prereq: BIO 350 and BIO 315.

PHA 612 QUANTITATIVE PHARMACODYNAMICS: PHARMACOKINETICS. (3)
Quantitative treatment of dynamics of drug absorption, distribution, metabolism and excretion, including development of both mathematical models and model-independent approaches for describing these processes. Prereq: MA 114 and consent of instructor. (Same as PHS 612.)

PHA 616 BIOLOGY AND THERAPY OF CANCER. (3)
Biology of cancer will be discussed at the molecular, cellular and organismic level. Emphasis will be placed on cellular signaling, apostosis and cell cycle unique to cancer cells, which affects tumor cell behavior and its interactions with the host immune system. The biology of hematopoitic cells will also be included. Clinicians active in treatment and research of various types of cancer will be invited to participate in the lectures. Prereq: BCH 501, 502, BIO 685. (Same as MED/MI 616.)

PHA 617 PHYSIOLOGICAL GENOMICS. (2)
The study of function by global analysis of gene expression. Teaches the concepts, techniques, and functional significance of analyzing gene expression patterns. The technical emphasis is on the design and analysis of DNA microarray experiments. Examples of normal function or disease states in which gene expression profiling has had a significant impact are also taught. Prereq: IBS 604 and IBS 602 or equivalents. (Same as PGY 617.)

PHA 621 PRINCIPLES OF DRUG ACTION. (3)
The objective of this course is to familiarize graduate students with the principles and mechanisms of drug action in biochemical and physiological systems. Students will discuss the quantitative approaches to assessing drug responses, metabolism and toxicity. Prereq: Consent of instructor.

PHA 622 MOLECULAR DRUG TARGETS AND THERAPEUTICS. (1-4)
PHA 622 is an advanced course designed to provide graduate students with state of the art information regarding drugs, drug action and targets for drug action. Emphasis will be placed on drugs that interact with the cardiovascular system (section 001), the central nervous system (section 002), chemotherapeutic agents (section 003), and other important drug classes such as nonsteroidal anti-inflammatory agents, steroid hormones, antidiabetic agents and toxicology (section 004). Each section is designed to be a separate one hour course. Students may take any combination of sections from one to all four sections. For each agent, emphasis will be placed on the cellular mechanisms of action, the receptors or cellular targets at which they act, therapeutic issues and potential toxicities. This information is intended to be integrated with other disciplines, including anatomy, biochemistry, physiology, psychology and molecular biology. Prereq: IBS 601-609 and PHA 621.

#PHA 623 PROFESSIONAL DEVELOPMENT FOR SCIENTISTS IN TRAINING. (3)
The purpose of this course is to introduce graduate students to useful topics in their quest to attain and retain a tenure track researcher position (or equivalent) at some point in their scientific future. These subjects are not always taught by mentors or through a traditional curriculum, but they are of utmost importance in a successful career. A breadth of issues will be presented that many principal investigators would say they wished they learned in graduate school and should give students the resources to become competitive scientific professionals. (Same as NS 623.)

PHA 630 SPECIAL TOPICS IN PHARMACOLOGY. (1-3)
Detailed examination of current, significant topics in pharmacology such as: contemporary neuroscience methodology, molecular and cellular pharmacodynamics, transmembrane signaling. Course is designed to offer flexibility to students in different tracks, different emphasis in a given year and to utilize the special research interests in resident and visiting investigators. May be repeated to a maximum of six credits. Prereq: Consent of course director.

PHA 634 ADVANCED CARDIOVASCULAR PHARMACOLOGY. (2)
A discussion of the mechanism of action, dosing theory, toxicity and metabolism of drugs used as therapeutic agents in the treatment of cardiovascular disease. Prereq: Consent of instructor.

PHA 649 ADVANCED MOLECULAR PHARMACOLOGY. (2)
This course will provide in-depth coverage of the molecular pharmacology of growth factors, transcription factors, receptors, and ion channels. Emphasis will be placed on both the normal functions of these cell-signaling molecules and perturbations that result in several prevalent human diseases, including cancer, Alzheimer's, diabetes, osteoporosis, and inherited human illnesses. Students will be introduced to experimental approaches to diagnosing and treating these illnesses in the light of our evolving knowledge of molecular pharmacology. Prereq: IBS 601-606 or consent of instructor. (Same as PHR/TOX 649.)

PHA 658 ADVANCED NEUROPHARMACOLOGY. (2)
A study of the general theories of the mode of action of drugs upon nervous tissue and a review of the effects of analgesics, sedatives, hypnotics, anesthetics, tranquilizers, psychotomimetics, analeptics, antidepressants, anti-convulsants and drugs affecting motor dyskinesias upon neurones, synapses and functional components of the central nervous system. Prereq: PHA 522, IBS 601-606, or consent of instructor.

PHA 670 CHEMICAL CARCINOGENESIS. (3)
Lectures and discussion of the chemical and biochemical reactions of chemical carcinogens and their metabolites. Prereq: CHE 232; PHR 400; or BCH 501, 502. (Same as TOX 670.)

PHA 710 AGING OF THE NERVOUS SYSTEM. (3)
This course will examine the alterations in the brain that occur with aging and in neurodegenerative disorders such as Alzheimer's disease. The emphasis will be on human aging although the relevance of animal models to studies of human aging will be a recurrent theme. The course will examine aging at several levels, including molecular, cellular, organismic, and behavioral. A strong background in the basic sciences in encouraged. (Same as ANA/GRN/PGY 710.)

PHA 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PHA 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

PHA 750 RESEARCH IN PHARMACOLOGY. (1-5)
May be repeated to a maximum of 15 credits.

PHA 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PHA 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PHA 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

PHA 770 SEMINAR IN PHARMACOLOGY. (1)
May be repeated indefinitely.

PHA 779 MEMBRANE SCIENCES COLLOQUIUM. (1)
Outstanding membrane scientists present their current research on biological and/or synthetic membranes. Students read a pertinent paper by the speaker prior to his/her talk and write a short paper on the talk; especially important is relevance of the main points of the talk to membrane science in general and the student's own research in particular. May be repeated to a maximum of six credits. (Same as BCH/CHE/CME/PHR 779.)

PHA 815 FIRST-YEAR ELECTIVE, PHARMACOLOGY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Pharmacology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

PHA 822 DENTAL PHARMACOLOGY AND THERAPEUTICS. (4)
This course will provide students with a fundamental understanding of the pharmacology and therapeutic uses of drugs commonly used by their patients and in their practice. Prereq: OBI 812 and OBI 814. (Same as OBI 826.)

PHA 824 MECHANISMS OF DISEASE AND TREATMENT/PHARMACOLOGY. (7)
This course introduces the principal actions of substances which are used as drugs for treatment of diseases and suffering in humans. It will cover the general principles of drug action, how drugs alter the function of normal and pathologic tissues and organisms and how they influence the disease process. Drugs used in the treatment of disease processes will be integrated with discussion of those diseases in PAT 823. Lecture, 20 hours per week. Prereq: Admission to second year of medical curriculum.

PHA 825 SECOND-YEAR ELECTIVE, PHARMACOLOGY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Pharmacology. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

PHA 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

PHI Philosophy

Note: Prior to the priority registration period each semester, the Department of Philosophy publishes information on courses (200 level and above) to be offered for the next semester. This information includes details on course topics and materials to be used in each course. Students are encouraged to obtain the information to assist them in course selection.

PHI 100 INTRODUCTION TO PHILOSOPHY: KNOWLEDGE AND REALITY. (3)
An introduction to philosophical studies with emphasis on issues of knowing, reality, and meaning related to human existence.

PHI 120 INTRODUCTORY LOGIC. (3)
A course which treats argumentation, syllogistic, and sentential logic. The focus will be on the use of formal methods in the construction and criticism of actual arguments, the aim being to inculcate standards of good reasoning, e.g., clarity, consistency and validity. Credit is not given to students who already have credit for PHI 320.

PHI 130 INTRODUCTION TO PHILOSOPHY: MORALITY AND SOCIETY. (3)
An introduction to philosophical studies with emphasis on a critical study of principles of moral action and social and political values.

#PHI 205 FOOD ETHICS. (3)
An examination of philosophical issues about food, including whether taste is subjective or objective, why different foods are acceptable to eat in some cultures but not in others, the moral permissibility of eating animals and animal products, and the impact of food production on the environment.

PHI 245 INTRODUCTION TO PHILOSOPHY OF RELIGION. (3)
An introduction to the philosophical study of religion, with attention to issues such as the nature of religious language, religious experience, concepts of God, science and religion, religious pluralism, miracles and revelation, death and the afterlife, and the problem of evil.

PHI 251 PHILOSOPHY AND CLASSICAL PHYSICS. (3)
An historical introduction to the philosophical background of classical physics as the latter was developed by thinkers like Isaac Newton and James Clerk Maxwell. Concentrating on metaphysics and the philosophy of scientific method, this course includes a study of scientists and philosophers like Aristotle, Copernicus, Galileo, Leibniz, and Faraday. Prereq or concur: PHY 231 or consent of instructor.

***PHI 260 HISTORY OF PHILOSOPHY I: FROM GREEK BEGINNINGS TO THE MIDDLE AGES. (3)**
Western philosophy from ancient through late medieval times including systematic work in logic, metaphysics, epistemology and ethics by such philosophers as Plato, Aristotle, Augustine and Aquinas.

PHI 270 HISTORY OF PHILOSOPHY II: FROM THE RENAISSANCE TO THE PRESENT ERA. (3)
An introductory study of the development of Western philosophy from early modern to recent times including systematic work in logic, metaphysics, epistemology and ethics by such philosophers as Occam, Descartes, Hume and Kant.

PHI 300 SPECIAL TOPICS IN PHILOSOPHY (Subtitle required). (1-3)
Topics that cross traditional systematic or historical lines in philosophy or that relate philosophy to topics or periods in other disciplines. May be repeated under a different subtitle to a maximum of seven credits. Prereq: Determined by instructor.

PHI 305 HEALTH CARE ETHICS. (3)
A consideration of the ethical issues and difficult choices generated or made acute by advances in biology, technology, and medicine. Typical issues include: informed consent, healer-patient

relationships, truth telling, confidentiality, problem of birth defects, abortion, placebos and health, allocation of scarce medical resources, genetic research and experimentation, cost containment in health care, accountability of health care professionals, care of the dying, and death.

PHI 310 PHILOSOPHY OF HUMAN NATURE. (3)
An introductory philosophy course for upper division students that analyzes various ways that philosophers have attempted to define the human individual. It pursues diverse methods of inquiry into questions such as these: Do human beings have a fixed and definable human nature? What differentiates the properly human from the nonhuman? Are human actions free or determined? How are human beings essentially related to history, culture, society and the natural environment?

PHI 315 PHILOSOPHY AND SCIENCE FICTION. (3)
An examination of fundamental questions in metaphysics and epistemology through a comparison of works of philosophy and science fiction. Questions will be discussed such as: Can there be time travel? Can computers think? Can there be non-human persons, and if so how would we identify them? Can there be ways of knowing that are radically different from our own, and what might they be like? How much can a person change while remaining the same person?

PHI 317 EXISTENTIALIST THOUGHT AND LITERATURE. (3)
A survey of existentialism as a literary movement as well as a philosophical one, with emphasis upon their intersection and interaction. The course will trace the emergence of existentialist themes in modern thought and culture, and will analyze and assess the movements' continuing significance.

PHI 320 SYMBOLIC LOGIC I. (3)
A systematic study of sentential logic, elementary quantification, and the logic of identity. The student will acquire specific skills in symbolic methods of analysis which are necessary for further study in logic as well as useful for addressing complex issues in philosophy and other areas.

PHI 330 ETHICS. (3)
An examination of fundamental issues in ethics, such as duty, character, virtue and vice, evil, moral responsibility, free will, the good life, the emotions, skepticism, and rationality.

PHI 332 PROFESSIONAL ETHICS. (3)
A study of ethical issues related to professional roles, especially those of physicians and lawyers. Among the topics to be considered are the nature and justification of professional responsibilities and duties; obligations of professions to society; the professional-client relationship and its rights and obligations; enforcement of codes of ethics.

PHI 334 BUSINESS ETHICS. (3)
An introduction to moral problems that arise in contemporary business practice and the ethical frameworks proposed to resolve them. Topics will include areas such as truth-telling and integrity; social responsibility; property rights and their limitations; and justice in personnel and labor practices.

PHI 335 THE INDIVIDUAL AND SOCIETY. (3)
An examination of several incompatible views concerning the relation between the individual and society, including radical individualism and collectivism, as well as more moderate theories. Attention will be given to contemporary as well as classical spokesmen for these views and emphasis will be placed upon relating these theories to contemporary social, cultural, and political issues.

PHI 336 ENVIRONMENTAL ETHICS. (3)
An introduction to moral problems that arise in human interaction with the natural environment. Topics to be addressed include questions such as: what is man's place in nature? Do nonhuman animals or ecosystems have intrinsic moral worth, and if so, how can it be respected? What problems and ambiguities arise in attempting to live in an environmentally responsible fashion? How can we adjudicate conflicts between social and environmental values?

PHI 337 INTRODUCTION TO LEGAL PHILOSOPHY. (3)
A general introduction to basic concepts, institutions, and mechanisms of law. Understanding of the legal system and its methods is promoted through discussion of topics which include: basic legal reasoning, the function of the legal process, fundamental legal concepts and categories (such as property, crime, and contract).

PHI 340 INTRODUCTION TO FEMINISM AND PHILOSOPHY. (3)
Introduction to basic feminist thought from a philosophical perspective. Emphasis on causes and solutions to the oppression of women. Topics may include philosophical perspectives and gender roles, images of women in society, violence against women, and reproductive choices.

PHI 343 ASIAN PHILOSOPHY. (3)
An introduction to the main concepts, assumptions, problems and texts of one or more Asian philosophical traditions, such as Hinduism, Buddhism, Taoism, and Confucianism.

PHI 350 METAPHYSICS AND EPISTEMOLOGY. (3)
An examination of fundamental issues in metaphysics and epistemology, such as causation, the nature of space and time, personal identity, free will, the existence of God, the nature and types of knowledge, the character of human existence, skepticism, and rationality.

PHI 361 BIOLOGY AND SOCIETY. (3)
A study of the implications of biology for understanding and changing society. Emphasis is on sociobiology and the value of viewing social behavior as a product of adaptive evolution by natural selection. Representative philosophical issues include biological constraints on human nature and society, genetic engineering, reductionism, the scientific method, and bioethics. Prereq: A college course in biology or consent of instructor.

PHI 380 DEATH, DYING AND THE QUALITY OF LIFE. (3)
A philosophical and interdisciplinary investigation of a cluster of prominent issues about the meaning of life and death, caring for dying persons, and the quality of life of the terminally ill. Among topics included are: death definitions and criteria; allowing to die vs. killing; euthanasia and suicide; life prolongation, ethics of care of the terminally ill; and rights of the dying.

#PHI 393 PHILOSOPHY OF FILM. (3)
An examination of the aesthetics of film from the early 20th Century to the present, with a focus on how the experience of film as a medium changes our relation to the world of objects as well as our relation to other people, and how changes in the medium of film itself have altered aesthetic theories.

PHI 395 INDEPENDENT WORK. (3)
Open only to students who have distinguished themselves in philosophy or in allied subjects. May be repeated to a maximum of 12 credits. Prereq: Major and standing of 3.0 in department.

PHI 399 EXPERIENTIAL LEARNING. (1-6)
To provide the opportunity for students to earn credit for work-study experience. The student must work with a faculty member to describe the nature of the experience, the work to be performed, the accompanying philosophical reflection and study, appropriate course credit for the work, and criteria by which the work may be evaluated. This information must be written and filed in the Philosophy Department and the Office for Experiential Education prior to the student's registration for the course. May be repeated to a maximum of 12 credits. Pass-fail only. Prereq: Consent of instructor and department chairperson; completion of a departmental learning agreement.

PHI 500 TOPICS IN PHILOSOPHY (Subtitle required). (1-3)
Topics that cross traditional systematic or historical lines in philosophy or that relate philosophy to topics or periods in other disciplines. May be repeated to a maximum of seven credits.

PHI 520 SYMBOLIC LOGIC II. (3)
An intermediate course in symbolic logic which reviews sentential logic, develops further the logic of quantification, and introduces metalogical issues such as the construction, consistency, and completeness of deductive systems. Prereq: PHI 320 or consent of instructor.

GROUP A

PHI 503 TOPICS IN ANCIENT PHILOSOPHY. (3)
A study of representative texts and issues in Ancient Philosophy with special attention to historical continuity and the interrelations of thinkers and problems. Possible Topics: Pre-Socratic Philosophers, Plato, Aristotle, Stoicism, Epicureanism, Scepticism. May be repeated to a maximum of six credits. Prereq: PHI 260 or consent of the instructor.

PHI 504 ISLAMIC AND JEWISH PHILOSOPHY AND THE CLASSICAL TRADITION. (3)
A study of representative texts and issues in Islamic and Jewish philosophy with special attention to the historical continuity with the Greek philosophical tradition and the interrelations of thinkers and problems. Possible topics: the commensurability of philosophy and (revealed) law, the creation or eternity of the world, the nature of prophecy, the human good, the nature of God and divine language. Prereq: PHI 260 or consent of instructor.

PHI 506 TOPICS IN MEDIEVAL PHILOSOPHY. (3)
An investigation of issues in Medieval Philosophy. Topics will be chosen which illustrate continuity both with Ancient Greek Sources and with problems in Modern Philosophy. Possible Topics: Neo-Platonism, Faith and Reason, Freedom and Determinism, Universals, the Existence of God, Renaissance reactions. May be repeated to a maximum of six credits. Prereq: PHI 260 or the consent of the instructor.

PHI 509 TOPICS IN THE HISTORY OF MODERN PHILOSOPHY. (3)
A selective study of representative issues and texts in modern philosophy, with special emphasis upon historical continuity and interrelation of thinkers and problems. Possible topics: British empiricism; Leibniz and Locke; Descartes and his critics; Hobbes and Rousseau; Hume and Kant; philosophy and the rise of modern science. May be repeated to a maximum of six credits. Prereq: PHI 270 or the consent of the instructor.

PHI 513 NINETEENTH CENTURY PHILOSOPHY. (3)
An examination of the major topics and trends in 19th century philosophy. Prereq: PHI 270 or consent of instructor.

PHI 514 AMERICAN PHILOSOPHY. (3)
A study of the development of philosophy in America from colonial to recent times with attention to religious, political, literary and scientific influences on American thought. The focus will be on the pragmatic spirit that was the moving force from 19th century idealism to 20th century naturalism, with emphasis on the works of such thinkers as Royce, Peirce, James and Dewey.

PHI 515 CONTEMPORARY PHILOSOPHY: THE ANALYTIC TURN. (3)
A survey of several 20th century philosophical movements, such as logical positivism and ordinary language philosophy, whose members agree that careful attention to language is one of the keys to the resolution of philosophical problems. The works of representative thinkers

such as Moore, Russell, the Vienna Circle, Wittgenstein and Austin will be studied. Prereq: PHI 320 or 350 or the consent of the instructor.

PHI 516 CONTEMPORARY PHILOSOPHY: PHENOMENOLOGICAL DIRECTIONS. (3)
A study of 20th century philosophies represented by the works of thinkers such as Husserl and Heidegger, Gadamer and Ricoeur, Habermas and Apel. Generally based in a reflection on human experience, these philosophies undertake a radical criticism of common conceptions of human nature while variously emphasizing rationality, ontology, language, or social and historical context. Prereq: PHI 270 or consent of instructor.

PHI 517 EXISTENTIALISM. (3)
A systematic study of the fundamental concepts and problems of existentialism. Readings selected from such philosophers as Kierkegaard, Nietzsche, Sartre, Marcel, Heidegger, and Jaspers. Prereq: PHI 270 or the consent of the instructor.

GROUP B

PHI 519 CRITICAL SOCIAL THOUGHT. (3)
This course provides a pluralistic introduction to major 20th-century paradigms of critical social thought. Critical social thought in philosophy comprises those authors and schools that focus philosophical methods and questions on the analysis of social conditions and/or focus sociocultural methods and questions on the study of philosophy. These include feminist philosophy, Marxist-influenced social theory, poststructuralism, critical race theory, and post-analytic philosophy. Prereq: For undergraduates, PHI 270, 335, or 340 or consent of instructor. For graduate students outside the philosophy department, permission of the instructor.

PHI 530 ETHICAL THEORY. (3)
A study of ethical theories by detailed examination of a few selected works. Theories considered may include naturalism, intuitionism, noncognitivism, utilitarianism, universalizability, and natural law. Prereq: PHI 130, 330, or 335 or the consent of the instructor.

PHI 531 ADVANCED TOPICS IN ETHICS (Subtitle required). (3)
A topical study in ethics, emphasizing, but not restricted to, contemporary issues. Topics may include the nature of practical reason, justification of moral theories, moral luck, amorality and immorality, moral language, and weakness of will. May be repeated to a maximum of six credits under different subtitles. Prereq: One of the following: PHI 130, 305, 330, or 530; or graduate standing.

PHI 535 SOCIAL AND POLITICAL PHILOSOPHY. (3)
A critical examination of some philosophical problems concerning the nature and evaluation of social and political organizations. For example, questions concerning the nature, justification, and limits of political power may be explored in connection with a study of important classical positions. Prereq: PHI 130, 330, or 335 or the consent of the instructor.

PHI 537 PHILOSOPHY OF LAW. (3)
Concept of law; relations between law and morals; nature of legal reasoning; analysis of legal concepts; justification of punishment. Pass/fail basis only for law students. Prereq: PHI 130, 330, or 335 or the consent of the instructor.

PHI 540 FEMINIST PHILOSOPHY. (3)
An introduction to feminist philosophical theory, including feminist treatments of various questions in metaphysics, epistemology, logic, and value theory, such as: the nature (if any) of the self; the role of perspectives in knowledge; the nature of reason and the criteria for justification in argumentation; feminist theories of morality and feminist theories of social justice.

PHI 545 PHILOSOPHY OF RELIGION. (3)
An analysis of the philosophical issues raised by religion, such as the problem of religious knowledge, the nature of religious language, science and religion, concepts of God, death, and evil. Prereq: PHI 100, 260, or 270 or the consent of the instructor.

PHI 592 AESTHETICS. (3)
Problems of method in aesthetics; major types of aesthetic theory. Aesthetic materials of the arts in literature, music, and the space arts. Form and types of form. Meaning in the arts. Interrelations of the arts. Lectures, discussions, reports. (Same as A-H 592.)

GROUP C

PHI 550 PHILOSOPHICAL PROBLEMS IN KNOWLEDGE AND REALITY. (3)
Critical examination of issues regarding the foundations of knowledge, the nature of reality and the relation between the two. Evidence, belief, certainty, perception and justification will be among problems considered. Understandings of truth, existence, causality, freedom, time, space and matter will also be attended to. Prereq: PHI 100, 260, 270, or 350 or the consent of the instructor.

PHI 560 PHILOSOPHY OF SCIENTIFIC METHOD. (3)
An examination of the logical and epistemological foundations of empirical science, including fundamentals of concept formation, criteria of cognitive significance, issues of explanation, interpretation, and prediction, and testing and confirmation of theories and laws. Prereq: PHI 100, 120, or 350 or the consent of the instructor.

PHI 561 PHILOSOPHICAL PROBLEMS IN THE NATURAL SCIENCES (Subtitle required). (3)
A systematic examination of selected conceptual and/or metaphysical problems in the natural sciences. Possible topics include: reductionism, teleology, causality and determinism, the structure of space-time, and the "anthropic principle" in cosmology. Prereq: PHI 100, 120, or 350 or the consent of the instructor.

PHI 562 PHILOSOPHICAL PROBLEMS IN THE SOCIAL AND BEHAVIORAL SCIENCES. (3)
An examination of various methodological issues and broader philosophical questions of special concern in the social sciences. Among the topics to be studied: the structure of theories and the roles of mathematics and experimentation in the social sciences, the possibility of an objective or value free social science, and the conceptions of human nature presupposed by different schools of social science. Prereq: PHI 100, 120, or 350 or the consent of the instructor.

PHI 565 PHILOSOPHY OF LANGUAGE. (3)
An investigation of problems current in the philosophy of language such as meaning and reference, the nature of analysis, linguistic relativity and the relation of linguistics to philosophy. Prereq: PHI 320 or 350 or the consent of the instructor.

PHI 570 PHILOSOPHY OF HISTORY. (3)
An examination of the theories and methods utilized by historians with special attention to the problems of laws and explanations in history, the nature of historical knowledge and narrative, and the roles of causal judgments and historical understanding. Attention will also be given to theoretical interpretations of history as offered by Marx, Hegel, Toynbee and others. Prereq: PHI 100, 260, or 270 or the consent of the instructor.

PHI 575 PHILOSOPHY OF MIND. (3)
An examination of problems current in the philosophy of mind, such as the concept of person, the relation of mind and body, the relation of minds and machines, knowledge of other minds, and the roles of dispositions and volitions in human action. Attention will be given to the philosophical analysis of such psychological categories as consciousness, feeling, emotion, perception, imagination, thinking and will. Prereq: PHI 100 or 350 or the consent of the instructor.

GRADUATE SEMINARS

PHI 630 SEMINAR IN VALUE THEORY. (3)
A specialized graduate course in value theory that treats the history of value theoretic issues and doctrines, or emphasizes contemporary methodological discussions, or examines the concrete societal implications of major theories, or combines these approaches. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

PHI 650 SEMINAR IN METAPHYSICS AND EPISTEMOLOGY (Subtitle required). (3)
A specialized advanced study of topics in traditional areas of metaphysics and epistemology or of more contemporary topics, some of which may cut across or even challenge the framework of those traditional domains. Topics may include such issues as the nature of human action, problems of reference and modality, conceptions of time and space, and the sociology of knowledge. May be repeated to a maximum of nine credits under different subtitles. Prereq: Consent of instructor.

PHI 680 SPECIAL TOPICS IN PHILOSOPHY. (3)
Studies in philosophical problems which either cut across or lie outside the standard areas of philosophical inquiry. May be repeated to a maximum of six credits.

PHI 700 SEMINAR IN ANCIENT PHILOSOPHY. (3)
Intensive study of original works of such major classical philosophers as Plato and Aristotle. May be repeated to a maximum of six credits. Prereq: PHI 260 or equivalent.

PHI 705 SEMINAR IN MEDIEVAL PHILOSOPHY. (3)
An intensive study of the issues treated by one or more medieval philosophers, e.g., Augustine, Aquinas, Scotus or Ockham. May be repeated to a maximum of six credits. Prereq: PHI 506.

PHI 710 SEMINAR IN MODERN PHILOSOPHY. (3)
Intensive study in the major works of such prominent philosophers of modern times as Descartes, Locke, Hume, Kant, and Hegel. May be repeated to a maximum of six credits. Prereq: PHI 270 or equivalent.

PHI 715 SEMINAR IN RECENT PHILOSOPHY. (3)
Intensive study of major philosophers of the 20th Century such as Russell, Wittgenstein, J.L. Austin, and Merleau-Ponty. May be repeated to a maximum of six credits. Prereq: PHI 515 or equivalent.

PHI 740 PROSEMINAR ON TEACHING METHODS. (1)
An introduction to teaching methods for graduate students.

PHI 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

PHI 755 TUTORIAL IN INTERDISCIPLINARY ISSUES. (1-6)
As a tutorial, this course is structured individually to a student's research and study projects. Topics and issues are to be chosen and pursued in work that integrates philosophical methods and ideas within other disciplinary areas. May be repeated to a maximum of nine credits. Prereq: Approval of the Student's Advisory Committee.

PHI 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PHI 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PHI 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

PHI 790 RESEARCH IN PHILOSOPHY. (3)
This course is primarily intended for advanced students who desire and are prepared to do research in philosophy. May be repeated to a maximum of 12 credits.

PHR Pharmacy

PHR 222 DRUGS, MEDICINES, AND SOCIETY. (3)
The course is designed to enable the university graduate to be sufficiently sophisticated in his understanding of the physiological and behavioral effects of medicines, environmental toxicants, and psychoactive chemicals so that he may make informed decisions regarding their use in his life, home and community. This course provides such information in the context of drug development, standardization, distribution, control, use and misuse in a modern society. (Note: It is felt that this course might be of particular interest to freshmen.)

PHR 776 SEMINAR IN PHARMACEUTICAL SCIENCES I. (1)
Reports and discussion of pertinent research and literature in the pharmaceutical sciences. Required of all graduate students. Prereq: Graduate standing.

PHS Pharmaceutical Science

PHS 510 MODERN METHODS IN PHARMACEUTICAL ANALYSIS. (5)
A course which deals with the application of modern analytical methods, primarily instrumental methods, in the determination of the strength, purity, and quality of drugs and pharmaceuticals. Laboratory exercises include analysis of raw materials and finished dosage forms. Lecture, three hours; laboratory, four hours. Prereq: CHE 226.

PHS 530 RADIOPHARMACEUTICS. (3)
Basics of radioactive decay and detection. Labelling of molecules and cells with radionuclides. Imaging systems and clinical aspects of radiopharmaceuticals. Radioanalytical applications in pharmaceutical sciences, including positron tomography and gamma scintigraphy. Development of new radiopharmaceuticals and absorbed dose calculations. The principles of radiation safety and radiobiology. Prereq: Consent of instructor.

PHS 545 STERILE PARENTERALS AND DEVICES. (2-3)
The course will describe the fundamental concepts, principles and techniques involved in the characterization, development, evaluation and preparation of sterile products. Lecture, two credits; lecture with laboratory, three credits. Prereq: Consent of instructor.

PHS 612 QUANTITATIVE PHARMACODYNAMICS: PHARMACOKINETICS. (3)
Quantitative treatment of dynamics of drug absorption, distribution, metabolism and excretion, including development of both mathematical models and model-independent approaches for describing these processes. Prereq: MA 114 and consent of instructor. (Same as PHA 612.)

PHS 622 ADVANCED BIOPHARMACEUTICS. (2)
An advanced treatment of the factors affecting drug availability from dosage forms and the influence of the route of administration and the dosage regimen on drug availability. Prereq: PHR 612.

PHS 630 PHARMACEUTICAL RATE PROCESSES. (3)
Kinetics of reactions of pharmaceutical interest; mechanisms of drug decomposition and theoretical approaches to stabilization and preservation; accelerated stability analysis. Prereq: MA 213, CHE 538, CHE 548 and PHR 631.

PHS 631 EQUILIBRIUM PHENOMENA IN PHARMACEUTICAL SYSTEMS. (3)
An advanced study in special topics of a physical chemical nature which are applicable to pharmacy, with special emphasis on physical properties and molecular structure, solubility, complexation and equilibria in solution. Prereq: Physical chemistry.

PHS 632 THE PRACTICE OF DRUG METABOLISM. (3)
The purpose of this course is to teach students about practical aspects of drug metabolism research. This includes addressing the function and purpose of drug metabolism studies, how those studies are carried out, why and how they are done, how metabolites are characterized, and some discussion of the limits and utility of the various approaches used in drug metabolism research.

†PHS 647 INTRODUCTION TO MOLECULAR PHARMACOTHERAPEUTICS.

PHS 649 ADVANCED MOLECULAR PHARMACOLOGY. (2)
This course will provide in-depth coverage of the molecular pharmacology of growth factors, transcription factors, receptors, and ion channels. Emphasis will be placed on both the normal functions of these cell-signaling molecules and perturbations that result in several prevalent human diseases, including cancer, Alzheimer's, diabetes, osteoporosis, and inherited human illnesses. Students will be introduced to experimental approaches to diagnosing and treating these illnesses in the light of our evolving knowledge of molecular pharmacology. Prereq: IBS 601-606 or consent of instructor. (Same as PHA/TOX 649.)

PHS 660 BIOSYNTHESIS OF NATURAL PRODUCTS. (3)
An overview of the biochemical pathways leading to compounds called natural products/secondary metabolites. Prereq: Two semesters of organic chemistry. (Same as BCH 620/PLS 642.)

PHS 662 BIOORGANIC MECHANISMS. (3)
An in-depth discussion on the bioorganic chemistry aspects of the active sites of enzymes and drug receptors, the molecular basis of drug design, and principles of drug metabolism. Within these topics, the mode of action of some of the major coenzymes and drugs will be discussed from a mechanistic chemistry point of view. Prereq: CHE 538, CHE 633, BCH 501 or consent of instructor.

PHS 663 MOLECULAR NEUROBIOLOGY OF ABUSED DRUGS. (3)
This course is designed to review major topics, concepts and issues pertinent to the molecular neurobiology of drug abuse and dependence. The proposed course of study will provide a strong background in neuroscience and students will be informed about current trends in our understanding of the molecular neurobiology of drug abuse research. Prereq: IBS 601 or consent of instructor.

†PHS 665 NEUROTOXICOLOGY.

PHS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PHS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

***PHS 750 PHARMACEUTICAL SCIENCES JOURNAL CLUBS. (1)**
Discussion and presentations of foundation or current literature and emerging topics in pharmaceutical sciences. Topics vary by section. May be repeated to a maximum of 5 credit hours. Prereq: Consent of instructor.

***PHS 760 TOPICS IN PHARMACEUTICAL SCIENCES. (1-4)**
Pharmaceutical sciences which are not being covered in other courses. May be repeated to a maximum of 24 hours. Prereq: Consent of instructor.

PHS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PHS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PHS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

PHS 778 SEMINAR IN PHARMACEUTICAL SCIENCES II. (1)
Reports and discussion of pertinent research and literature in a disciplinary area of the pharmaceutical sciences. May be repeated to a maximum of eight credits. Prereq: Graduate standing.

PHS 780 SPECIAL PROBLEMS IN PHARMACEUTICAL SCIENCES. (1-6)
Selected problems of laboratory or literature nature in which a student pursues a topic of interest to him under the supervision of a faculty member particularly qualified in that area. May be repeated once. Prereq: Consent of instructor.

***PHS 790 RESEARCH IN PHARMACEUTICAL SCIENCES. (1-12)**
Research work to be conducted in selected areas of pharmaceutical sciences. May be repeated indefinitely. Prereq: Approval of student's special committee and consent of instructor.

PHS 911 PHYSIOLOGICAL BASIS FOR THERAPEUTICS I. (4)
Integrated concepts of human organ system functions with particular emphasis on the physiology of the central and autonomic nervous system, the cellular and molecular mechanisms of neurotransmission and transduction and the response of target issues. The course includes an introduction to the pathophysiology of each system and the pharmacodynamics of therapeutic agents as a framework for discussion. Variable mixtures of lecture, group discussion and independent study. Prereq: Admission to the first year, College of Pharmacy.

PHS 912 PHYSIOLOGICAL CHEMISTRY AND MOLECULAR BIOLOGY I. (3)
The first of a two course sequence covering integrated concepts of human biochemistry from a physiological viewpoint, functional group chemistry essential to biology, key structural and functional relationships of the biomolecules in living systems, energy metabolism emphasizing

inter organ relationships and an in depth discussion of information storage and transfer. The course includes an introduction to common metabolic diseases and the therapeutic agents used in those diseases as a framework for discussion. Variable mixture of lecture, group discussion and independent study. Prereq: Admission to the first year, College of Pharmacy.

PHS 914 BASIC PRINCIPLES OF PHARMACEUTICAL SCIENCE: PHARMACEUTICS AND BIOPHARMACEUTICS I. (3)
The first of a two course sequence in basic principles of Pharmaceutical Science concentrating on absorption, distribution, metabolism, excretion and bioavailability of drugs; and an introduction to dosage forms, oral drug delivery systems, drug solutions and drug solids, bioequivalence determinations and ratings, and official compendia. Variable mixtures of lectures, discussions and independent study. Prereq: Admission to the first year, College of Pharmacy.

PHS 921 PHYSIOLOGICAL BASIS FOR THERAPEUTICS II. (4)
A continuation of PHS 911 covering integrated concepts of human organ system functions with particular emphasis on the physiology of the cardiovascular, renal, pulmonary and endocrine systems. The course includes an introduction to the pathophysiology of each system and the pharmacodynamics of prototype therapeutic agents as a framework for discussion. Variable mixture of lecture, group discussions and independent study. Prereq: PHS 911 and admission to the first year, College of Pharmacy.

PHS 922 PHYSIOLOGICAL CHEMISTRY AND MOLECULAR BIOLOGY II. (3)
A continuation of PHS 912. Variable mixture of lectures, group discussion and independent study. Prereq: Admission to the first year, College of Pharmacy and PHS 912.

PHS 924 BASIC PRINCIPLES OF PHARMACEUTICAL SCIENCE: PHARMACEUTICS AND BIOPHARMACEUTICS II. (3)
The second of a two course sequence in the basic principles of Pharmaceutical Science concentrating on modified release oral dosage forms; modified release parenteral dosage forms; nasal, buccal, rectal, vaginal and ophthalmic delivery systems; aerosols and pulmonary delivery systems, and the drug development process. Variable mixture of lecture, group discussion and independent study. Prereq: Admission to the first year, College of Pharmacy.

PHS 931 PHARMACOLOGICAL BASIS FOR THERAPEUTICS: NERVOUS SYSTEM. (5)
A study of human disease processes and rational pharmacotherapeutics relating to the autonomic, central and peripheral nervous system including a discussion of the factors influencing the development of substance dependence and the strategies for risk reduction. Emphasis is placed on the principles of pathophysiology, pharmacology, toxicology and therapeutics, the incorporation of these principles in the clinical application of modern drug therapy, and how these principles can be utilized in pharmacy practice. Variable mixture of lecture, group discussion and independent study. Prereq: Admission to the second year, College of Pharmacy.

PHS 932 PHARMACOLOGICAL BASIS FOR THERAPEUTICS: IMMUNOLOGY AND BIOTECHNOLOGY. (3)
A study of the immune system, immunopathologies and select autoimmune diseases and their treatment. Includes a discussion of immunizations, immunology of cancer, neoplasias and an introduction to antineoplastic therapy. The course concludes with a discussion of biotechnology and its application to the production and use of pharmaceuticals, diagnostic agents and advanced therapies. Variable mixture of lecture, group discussion and independent study. Prereq: Admission to the second year, College of Pharmacy.

PHS 933 PHARMACOLOGICAL BASIS FOR THERAPEUTICS: ENDOCRINE SYSTEMS. (3)
A study of the pathophysiology of the major disorders affecting the endocrine system concentrating on the pharmacology of the therapeutic agents used to treat those disorders, including discussions of the rational use of endocrine agents and their congeners in the treatment of non-endocrine diseases. Variable mixture of lecture, group discussion and independent study. Prereq: Admission to the second year, College of Pharmacy.

PHS 944 BASIC PRINCIPLES OF MEDICINAL CHEMISTRY. (3)
The rational design of molecules to produce safe and effective therapeutic responses in humans; molecular changes in drug molecules that affect affinity and activity at drug receptors and influence the absorption, distribution, metabolism, excretion and stability of drugs; and the properties of drug molecules which are important in their formulation into drug products. Variable mixture of lecture, group discussion and independent study. Prereq: Admission to the second year, College of Pharmacy.

PHS 947 APPLIED BIOPHARMACEUTICS AND PHARMACOKINETICS. (4)
The theoretical and practical considerations of the processes of drug absorption (including dosage formulation), distribution, metabolism and excretion and the mathematical models that describe these events including the calculation of dosage regimens for patients with problems ranging from simple to complex. A variable mixture of computer-assisted learning, formal lecture, interactive lecture and problem-based learning laboratory experiences. Prereq: Admission to the second year, College of Pharmacy.

PHS 951 PHARMACOLOGICAL BASIS FOR THERAPEUTICS: CARDIOPULMONARY AND RENAL SYSTEMS. (5)
A study of the pathophysiology of the major disorders affecting the cardiovascular, renal and respiratory system concentrating on the pharmacology of the therapeutic agents used to treat those disorders. Variable mixture of lecture, group discussion and independent study. Prereq: Admission to the third year, College of Pharmacy.

PHY Physics

Note: It is assumed that all prerequisites include, in addition to any specific course listed, the phrase "or equivalent," or "consent of instructor."

PHY 105 PHYSICS AND ASTRONOMY TODAY. (1)
This course is intended for freshmen and others who wish to find out what physics is and how it relates to other fields of study. It is especially useful for physics majors or for those considering physics as a major or minor. One demonstration lecture per week presented by various members of the physics faculty. May only be taken on a pass/fail basis.

PHY 120 HOW THINGS WORK. (3)
The close relationship between physical science, technology and our everyday lives will be illuminated by examination of the technology we purchase and use and by observations of natural phenomena we can make using only the informed mind and eye.

PHY 130 SCIENCE AND TECHNOLOGY FOR THE FUTURE. (3)
This course will explore the energy issues of today and tomorrow, including where the energy of the future will come from, energy independence, global warming, nuclear power, the potential of renewable energy sources, and the future of coal, showing how these are affected by history, geography, politics, technology, and the laws of physics and economics.

#PHY 140 QUANTUM THEORY FOR EVERYONE. (3)
A lecture course to explore the surprising nature of the nano-world. Wave properties of matter, probabilistic interpretation, duality, causality, uncertainty principle and quantum entanglement. Technologies and discoveries which exploit quantum effects will be selectively covered.

PHY 151 INTRODUCTION TO PHYSICS. (3)
A lecture demonstration course covering the mechanics of solids, liquids, gases, heat, and sound. Credit is not given to students who already have credit for PHY 201, 211 or 231. Prereq: Two years of high school algebra, and an ACT math score of 19 or above, or a SAT math score of 515 or above, or MA 108R or higher.

PHY 152 INTRODUCTION TO PHYSICS. (3)
A lecture demonstration course covering electricity, magnetism, optics, atomic and nuclear physics. Credit is not given to students who already have credit for PHY 203, 213 or 232. Prereq: Two years of high school algebra or MA 108R.

PHY 153 LABORATORY FOR MIDDLE SCHOOL TEACHERS. (1)
Laboratory to accompany PHY 151-152 with experiments and exercises designed especially for students preparing to be middle school teachers. Laboratory, two hours per week. Prereq: PHY 151; coreq: PHY 152.

PHY 160 PHYSICS AND ASTRONOMY FOR TEACHERS. (3)
The basics of electric circuits, magnetism, object motion, naked-eye astronomy and light behavior. The course is designed in conjunction with GLY 160 to provide basic concepts of earth science, astronomy and physics appropriate for elementary and middle school teachers. Both courses are taught with an emphasis on inquiry-based, laboratory activities. Lecture, one hour; laboratory, five hours per week.

PHY 170 BLACK HOLES AND TIME TRAVEL. (3)
The course will discuss basic concepts in physics prior to the 20th century and the backdrop to the emergence of the Special Theory of Relativity. Elements of Special and General Relativity will be discussed at a non-technical level. These concepts will be used to explain how very massive stars inevitably collapse to form black holes. Their observational signatures will be discussed. The work of Hawking leading to the prediction that black holes emit faint radiation will be explained. Finally, the possibility of existence of wormholes leading to time travel will be explored.

PHY 210 SPECIAL LABORATORY FOR GENERAL PHYSICS PHY 201. (1)
Special laboratory for students who have completed PHY 201 and later determine that they need an accompanying laboratory. Laboratory, two hours per week. Prereq: PHY 201.

PHY 211 GENERAL PHYSICS. (5)
First part of a two-semester survey of classical and modern physics, focusing on the motion of solids and fluids as governed by Newton's Laws and by the conservation laws of energy, momentum, and angular momentum. Lecture, two hours; recitation, two hours; laboratory, two hours. Credit is not given to students who already have credit for PHY 231 and 241. Prereq: A working knowledge of algebra as obtainable in MA 109 or MA 110 or MA 112, or an ACT math score of 25 or above, or a SAT math score of 590 or above.

PHY 212 SPECIAL LABORATORY FOR GENERAL PHYSICS PHY 203. (1)
Special laboratory for students who have completed PHY 203 and later determine that they need an accompanying laboratory. Laboratory, two hours per week. Prereq: PHY 203.

PHY 213 GENERAL PHYSICS. (5)
Continuation of PHY 211, covering electrostatics, dc circuits, magnetism, Maxwell's Equations, electromagnetic radiation, light and some modern physics. Lecture, two hours; recitation, two hours; laboratory, two hours. Credit is not given to students who already have credit for PHY 232 and 242. Prereq: PHY 211 or equivalent.

PHY 228 OPTICS, RELATIVITY AND THERMAL PHYSICS. (3)
A lecture and problems course covering the principles of geometrical optics, special relativity, and thermal physics. Prereq or concur: MA 114.

PHY 231 GENERAL UNIVERSITY PHYSICS. (4)
First part of a two-semester survey of classical physics. Consequences of the principles of mechanics are developed conceptually, analytically and quantitatively. Lecture, three hours; recitation, one hour per week. Prereq or concur: MA 113.

PHY 232 GENERAL UNIVERSITY PHYSICS. (4)
A general course covering electricity, magnetism, electromagnetic waves and physical optics. Lecture, three hours; recitation, one hour per week. Prereq: PHY 231; concur: MA 213.

PHY 241 GENERAL UNIVERSITY PHYSICS LABORATORY. (1)
A laboratory course offering experiments in mechanics and heat, framed in a small group environment that requires coordination and team work in the development of a well-written lab report. Prereq or concur: PHY 231.

PHY 242 GENERAL UNIVERSITY PHYSICS LABORATORY. (1)
A laboratory course offering experiments in electricity, magnetism, and light, framed in a small group environment that requires coordination and team work in the development of a well written lab report. Prereq: PHY 241; concur: PHY 232.

PHY 306 THEORETICAL METHODS OF PHYSICS. (3)
A lecture and problems course on the applications in physics of vector calculus, Fourier series and transforms, special functions and asymptotic forms. Prereq or concur: MA 214.

***PHY 335 DATA ANALYSIS FOR PHYSICISTS. (1)**
A computational methods course in the theory and techniques of data analysis and error propagation, with emphasis on applications common to the physical sciences: the treatment of statistical errors, the maximum-likelihood method, the chi-square distribution, and curve fitting. Students will learn computer programming, and they will prepare a set of analysis programs for use in subsequent lab courses. Concur: MA 213, PHY 242. (Same as STA 335.)

PHY 361 PRINCIPLES OF MODERN PHYSICS. (3)
An introduction to the foundations of quantum mechanics and selected topics in atomic, nuclear, particle, solid state, and statistical physics. Prereq: MA 213; PHY 232 or, with consent of instructor, PHY 213.

PHY 395 INDEPENDENT WORK IN PHYSICS. (1-3)
Students may select an approved topic for study under the direction of a faculty member. May be repeated to a maximum of 12 credits. Prereq: Major and a standing of 3.0 in the department.

PHY 401G SPECIAL TOPICS IN PHYSICS AND ASTRONOMY FOR ELEMENTARY, MIDDLE SCHOOL AND HIGH SCHOOL TEACHERS. (1-4)
Selected topics in physics and astronomy of special interest to teachers will be discussed. When the course is offered, a specific title with specific credits, the number of hours in lecture-discussion and laboratory will be announced. Lecture/discussion, two-four hours; laboratory, zero-four hours. May be repeated to a maximum of eight credits. Prereq: Open only to elementary, middle school and high school teachers.

PHY 402G ELECTRONIC INSTRUMENTATION AND MEASUREMENTS. (3)
Elementary treatment of electronic circuits emphasizing laboratory work. Topics include AC circuits, filters, theory and operation of transistors and other semiconductor devices and a simple treatment of operational amplifiers. Lecture, two hours per week; laboratory, three hours per week. Prereq: PHY 242 or EE 305 or consent of instructor. (Same as EE 402G.)

PHY 404G MECHANICS. (3)
A lecture and problem course covering the fundamental laws of mechanics. Topics include Newton's Laws, Kepler's Laws, oscillatory motion and an introduction to Lagrangian methods. Prereq: PHY 232, or with permission of Director of Undergraduate Studies, PHY 213; concur: MA 214.

PHY 416G ELECTRICITY AND MAGNETISM. (3)
First of two lecture and problem courses covering: the theory of electrostatic fields in the presence of conductors and dielectric materials, magnetic fields due to steady currents in the presence of magnetic materials, electromagnetic induction, and electromagnetic fields due to time-varying currents. Prereq: PHY 306; MA 214 with a grade of C or better.

PHY 417G ELECTRICITY AND MAGNETISM. (3)
Second of two lecture and problem courses covering: the theory of electrostatic fields in the presence of conductors and dielectric materials, magnetic fields due to steady currents in the presence of magnetic materials, electromagnetic induction, and electromagnetic fields due to time-varying currents. Prereq: PHY 416G.

PHY 422 COMPUTATIONAL PHYSICS LABORATORY (3)
An introductory laboratory and lecture course covering the application of numerical methods to the solution of problems encountered in classical mechanics and electrostatics. Students will be expected to write computer programs, but no previous programming experience is required. Lecture, one hour; laboratory, four hours per week. Prereq: MA 214, PHY 404G.

PHY 435 INTERMEDIATE PHYSICS LABORATORY. (3)
An intermediate-level laboratory course emphasizing quantum phenomena in atomic, solid state and nuclear systems. Laboratory techniques include optical spectroscopy, gamma-ray and particle detection, atomic and nuclear collisions, and interferometry. This course satisfies the Graduation Writing Requirement. Prereq: PHY 335, PHY 361.

PHY 460G HANDS-ON PHYSICS FOR MIDDLE SCHOOL AND HIGH SCHOOL TEACHERS. (2)
An exploration of classical and modern physics, in a laboratory setting. This course may be taken twice for credit. Prereq: PHY 228 and PHY 361.

PHY 472G INTERACTION OF RADIATION WITH MATTER. (3)
Basic aspects of the interaction of ionizing radiation with matter. Bohr atom, atomic spectra, radioactivity, energetics of decay. Sources of radiation, penetration of charged particles, electromagnetic radiation, and neutrons through matter; excitation and ionization processes; selected nuclear reactions; basic radiation detection and dosimetry. Prereq: PHY 213 or 232; MA 114 (may be taken concurrently); or equivalent. (Same as RAS/RM 472G.)

PHY 477 PHYSICS AND ASTRONOMY SEMINAR. (1)
Reports and discussion on student research projects and research topics from the literature of physics and astronomy. May be repeated to a maximum of two credits. Prereq: PHY 361, COM 199 or equivalent.

PHY 495 SENIOR THESIS. (3)
With mentoring from faculty member(s), advanced undergraduate students propose and execute an independent research project. A final report will be written and a presentation will be made in a forum such as a professional meeting, a student group such as a regional or national Society of Physics Students meeting, or a small group of faculty. May be repeated to a maximum of six credits. Prereq: Advanced standing.

PHY 504 ADVANCED MECHANICS. (3)
A continuation and extension of PHY 404G. Includes dynamics of a particle, rigid bodies, Lagrange's equations, constrained motions, and oscillations. Prereq: PHY 404G, MA 214.

PHY 506 METHODS OF THEORETICAL PHYSICS I. (3)
The course and its sequel (MA/PHY 507) are designed to develop, for first-year graduate students, familiarity with the mathematical tools useful in physics. Topics include curvilinear coordinates, infinite series, integrating and solving differential equations of physics, and methods of complex variables. Work with Green's functions, eigenvalues, matrices and the calculus of variations are included as a part of MA/PHY 506 and 507. Prereq: PHY 404G or equivalent. (Same as MA 506.)

PHY 507 METHODS OF THEORETICAL PHYSICS II. (3)
Continuation of MA/PHY 506. Fourier and Laplace Transforms, the special functions (Bessel, Elliptic, Gamma, etc.) are described. Work with Green's functions, eigenvalues, matrices and the calculus of variations are included as a part of MA/PHY 506 and 507. Prereq: MA/PHY 506. (Same as MA 507.)

PHY 508 COMPUTATIONAL PHYSICS. (3)
A laboratory and lecture course using computational and numerical methods to investigate different phenomena in selected topics of physics. Lecture 2 hours; laboratory, 2 hours per week. Prereq: PHY 361.

PHY 520 INTRODUCTION TO QUANTUM MECHANICS I. (3)
A lecture and problem course providing an introduction to the concepts and formalism of quantum mechanics. Primary emphasis is on the time-independent Schrodinger equation and its applications to simple systems such as the harmonic oscillator, the square-well potential, and the hydrogen atom without spin. Prereq: PHY 361, MA 214.

PHY 521 INTRODUCTION TO QUANTUM MECHANICS II. (3)
A continuation of PHY 520, introducing the quantum description of systems with spin, and approximation methods. Principles of quantum mechanics will be illustrated by their application to model systems selected from the fields of atomic, solid state, nuclear and particle physics. Prereq: PHY 520.

PHY 522 THERMODYNAMICS AND STATISTICAL PHYSICS. (3)
Temperature, heat, and entropy, and the Laws of Thermodynamics, as applied to simple systems. Introduction to statistical mechanics and the description of thermodynamic quantities in terms of ensemble averages. Prereq: PHY 361 and MA 214.

PHY 524 SOLID STATE PHYSICS. (3)
Introductory solid state physics with emphasis on the properties of electrons in crystals; crystal structure, crystal diffraction, reciprocal lattice, lattice vibrations and phonons, free electron theory, energy bands in solids, semiconductors. Prereq: PHY 520, or consent of instructor. Engineering standing required for EE 524. (Same as EE 524.)

PHY 525 CONDENSED MATTER PHYSICS. (3)
Optical, magnetic, and transport properties of metals, semiconductors, superconductors, and dielectrics; cooperative phenomena and phase transitions. Prereq: PHY 524 or consent of instructor.

PHY 535 ADVANCED PHYSICS LABORATORY. (3)
An advanced laboratory course emphasizing quantum phenomena in atomic, solid state and nuclear systems. Laboratory techniques include optical spectroscopy, gamma-ray and particle detection, optical pumping, atomic and nuclear collisions, and interferometer. Prereq: PHY 335, PHY 361.

PHY 545 RADIATION HAZARDS AND PROTECTION. (3)
An analysis of common radiation hazards encountered in medicine, research, industry, and the environment. Regulations and procedures for the safe use of ionizing and nonionizing radiations. Lecture, two hours; laboratory, two and one-half hours. Prereq: PHY/RM 472G or consent of instructor. (Same as RM/RAS 545.)

PHY 546 GENERAL MEDICAL RADIOLOGICAL PHYSICS. (3)
The uses and dosimetric aspects of radiation in medicine will be analyzed, including many basic applications in the fields of diagnostic radiology physics, therapy physics, and nuclear medical physics. Prereq or concur: RM/PHY 472G or consent of instructor. (Same as RM/RAS 546.)

PHY 554 FUNDAMENTALS OF ATOMIC PHYSICS. (3)
A continuation of introductory quantum mechanics with application to atomic systems. Topics include angular momentum, perturbation theory, variational principles, interaction of radiation with matter, atomic spectra and the Zeeman and Stark effects. Prereq: PHY 520.

PHY 555 FUNDAMENTAL NUCLEAR PHYSICS. (3)
Topics covered include nuclear systematics, the nucleon-nucleon-interaction, nuclear models, radioactivity, nuclear reactions, fission and fusion. Prereq: PHY 520.

PHY 556 FUNDAMENTAL PARTICLE PHYSICS. (3)
Introduction to elementary particle physics. Topics include: particle interactions and families, the quark model, symmetrics and conservation laws, particle reactions and decays, quark dynamics, and elements of quantumchrodynamics and electroweak interactions. Prereq: PHY 520.

PHY 567 INTRODUCTION TO LASERS AND MASERS. (3)
Basic principles of laser action, atomic transitions; population inversion; two-and three-level systems; optical resonators; pumping methods; applications. Prereq: EE 360, EE 468G, or PHY 417G, or consent of instructor. (Same as EE 567.)

PHY 570 SEMINAR ON TEACHING PHYSICS. (1)
A seminar course for teaching assistants focused on developing the art and science of teaching physics. Journal articles, books and other texts will be studied to serve as sources of discussion about the teaching and learning activities in the Department of Physics and Astronomy. Prereq: Consent of instructor.

PHY 571 SEMINAR ON TEACHING PHYSICS LABORATORIES. (1)
A seminar course for teaching assistants focused on developing the art and science of teaching physics laboratories. Journal articles, books and other texts will be studied to serve as sources of discussion about the teaching and learning activities in the laboratory classes in the Department of Physics and Astronomy. Prereq: Consent of instructor.

PHY 591 ASTROPHYSICS I – STARS. (3)
The physics of stars from star formation to stellar death. Topics include stellar structure and evolution, energy generation and transport, the later stages of stellar evolution and stellar remnants. Prereq: PHY 361, PHY 416G, PHY 417G or consent of instructor. (Same as AST 591.)

PHY 592 ASTROPHYSICS II – GALAXIES AND INTERSTELLAR MATERIAL. (3)
The physics of galaxies and of the interstellar medium. Topics include galaxy formation, evolution and interaction, phases of the interstellar medium, and physical processes in the interstellar medium. Prereq: PHY 361, PHY 416G, PHY 417G or consent of instructor. (Same as AST 592.)

PHY 600 SELECTED TOPICS IN ADVANCED PHYSICS. (2-3)
An advanced seminar course on topics related to departmental research programs. Topics may include astrophysics, atomic physics, condensed matter physics, nuclear physics and particle physics. May be repeated to a maximum of nine hours. Prereq: Consent of instructor.

PHY 605 GRAVITY. (3)
An introduction to the general theory of relativity, covering tensor analysis, Einstein's equations, experimental tests, black holes, and cosmology. Prereq: PHY 504 and PHY 417G, or permission of instructor.

PHY 611 ELECTROMAGNETIC THEORY I. (3)
A lecture and problem course treating electrostatics, boundary conditions, potential problems, energy in electric and magnetic fields, magnetic materials and Maxwell's equations. Prereq: PHY 416G; MA 214.

PHY 613 ELECTROMAGNETIC THEORY II. (3)
Continuation and extension of PHY 611. Includes theory of electromagnetic waves and applications to optical phenomena and radiation. Special theory of relativity and the covariant treatment of Maxwell's equations will be discussed. Prereq: PHY 611.

PHY 614 QUANTUM MECHANICS I. (3)
A lecture and problem course dealing with the description of quantum systems in the forms of wave mechanics, matrix mechanics and state vectors. Also includes angular momentum and its addition, and approximation methods for bound states. Prereq: PHY 520.

PHY 615 QUANTUM MECHANICS II. (3)
Continuation of PHY 614 covering time dependent perturbation theory, symmetry and invariance principles, and elementary scattering theory including the method of partial waves. Prereq: PHY 614.

PHY 616 QUANTUM FIELD THEORY I. (3)
An introduction to field theory and many-body theory. Topics include path integral quantization, second quantization, relativistic field theory of bosons and fermions, Green's function and perturbation theory, field theories on the lattice, renormalization of scalar fields and applications to critical phenomena. Prereq: PHY 615, PHY 632.

PHY 624 CONDENSED MATTER THEORY. (3)
Electron band theory, lattice dynamics, electron-phonon and electron-electron interactions, superconductivity and superfluidity, Fermi liquid theory. Prereq: PHY 524, 614, 632.

PHY 630 TOPICS IN NUCLEAR AND INTERMEDIATE ENERGY PHYSICS (Subtitle required). (3)
A course in nuclear physics, hadron physics and particle physics. Emphasis is placed on topics related to departmental research activities at Jefferson laboratory and elsewhere. Such topics include study of the structure and interactions of hadrons in terms of quarks and gluons. They also include low energy tests of Standard Model predictions. (PHY 630 may be repeated to a maximum of six hours when taken under different subtitles.) Prereq: PHY 629.

PHY 632 STATISTICAL MECHANICS. (3)
A lecture and problem course dealing with the thermal properties of matter from the standpoint of statistical mechanics. Topics include thermodynamic properties, perfect gases, and Fermi-Dirac statistics. Prereq: PHY 504, 520, 522.

PHY 639 PHYSICAL PROCESSES IN ASTROPHYSICS. (3)
A lecture and problem course covering the physical processes encountered in astrophysics. The topics covered will include micro-physical processes in stellar atmospheres and the interstellar medium, high-energy astrophysics, and basic hydrodynamics and shock waves. Prereq: PHY/AST 592 or consent of instructor. (Same as AST 639.)

PHY 716 QUANTUM FIELD THEORY II. (3)
A continuation of PHY 616. Topics include approximation methods in many body theory and applications to condensed matter and nuclear systems, quantum electrodynamics, radiative corrections, Higgs mechanism and applications to particle physics and superconductivity, introduction to non-Abelian gauge fields and the standard model. Prereq: PHY 616.

PHY 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PHY 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

PHY 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PHY 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PHY 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

PHY 770 COLLOQUIUM. (1)
A weekly meeting of the staff and advanced students for the discussion of recent developments in physics and of work in progress in the department. Credit is given to those who satisfactorily present papers. May be repeated to a maximum of eight credits.

PHY 781 INDEPENDENT WORK IN PHYSICS. (1-9)
May be repeated to a maximum of 18 credits. Prereq: Graduate standing in Physics.

PHY 790 RESEARCH IN PHYSICS. (3)
May be repeated to a maximum of six credits.

PHY 791 RESEARCH IN PHYSICS. (5)
May be repeated to a maximum of 10 credits.

PLS Plant and Soil Science

PLS 100 AN INTRODUCTION TO HORTICULTURE PROFESSIONS. (1)
A survey of horticulture as a profession; to inform students of opportunities and to develop an appreciation of horticultural science as it relates to the human environment. Offered on a pass/fail basis only.

PLS 103 PLANTS, SOILS, AND PEOPLE: A GLOBAL PERSPECTIVE. (3)
Only a few things are essential to life, and food is one of them. What people eat is about what they need to be healthy, what they want to eat (personal preference and culture), and what they have available or can afford to eat. Agriculture plays a vital role in human food security. Many experts feel the world is facing a food supply crisis. Knowledge and application of the principles of plant and soil sciences will have a dramatic effect on human food security, now and into the future, both locally and globally. However, these issues will also be impacted by future human population growth, urbanization, consumer preferences, human decisions regarding civic duties, and climate change. Students successfully completing this course will leave with an understanding of the need to sustainably expand the world's food supply, the basic principles of plant and soil science and their application to this problem, and their own potential role in determining our ability to meet this challenge. Students may not receive credit for both this course and PLS 104.

PLS 104 PLANTS, SOILS, AND PEOPLE: A SCIENCE PERSPECTIVE. (3)
An introduction to the looming world food crisis and the scientific basis governing our ability to sustainably meet it. The course explores the biological and environmental constraints on food

production, the ways that agricultural science has dealt with these in the past and possible ways for the future, as well as societal and cultural issues, such as population growth, human health, education, and food definitions, that also impact food security. Intended for any student interested in these topics. Students may not receive credit for both this course and PLS 103.

PLS 210 THE LIFE PROCESSES OF PLANTS. (3)
This course is intended to provide a basic understanding of the natural products and processes that shape the nature of modern plants, and govern their interactions with the environment and characteristics unique to plants, and develop a basic understanding of how these plant attributes relate to oganismic function. Emphasis will be placed on exploring the nature of the major plant biomes of the Earth, their community dynamics, and how member plants compete for space and other resources. Development of optimal plant strategies for reproductive success, plant interaction with other living systems as well as abiotic factors and their defense from predation and attack will also be considered. (Same as BIO 210.)

PLS 220 INTRODUCTION TO PLANT IDENTIFICATION. (3)
An introduction to the techniques used for plant identification based on over one hundred plants encountered in everyday life. Lecture, one hour; laboratory, four hours per week.

PLS 240 INTRODUCTION TO FLORAL DESIGN. (3)
The students in this class will be introduced to design theory and basic techniques of floral design. The basic mechanics necessary to follow the principles of floral design will be stressed. Students will also be exposed to the business basics that are necessary to execute a floral design, as well as the global nature of the floral design industry.

PLS 320 WOODY HORTICULTURAL PLANTS. (4)
A detailed study of evergreen and deciduous trees, shrubs, vines, and ground covers occurring in the landscape; their systematic identification, hardiness, form, growth habit, size, culture, adaptation to environmental conditions, uses, and outstanding horticultural characteristics. Lecture, three hours; laboratory, three hours. Prereq: PLS 220.

PLS 330 HERBACEOUS HORTICULTURAL PLANTS I. (2)
The identification and cultural requirements of herbaceous plants. A designated number of annuals, perennials, commercial cut flowers, flowering pot plants, bulbs, and foliage plants readily available in the fall will be covered. Lecture, three hours; laboratory, two hours per week for one half semester. Prereq: PLS 220.

PLS 332 HERBACEOUS HORTICULTURAL PLANTS II. (2)
The identification and cultural requirements of herbaceous plants. A designated number of annuals, perennials, commercial cut flowers, flowering pot plants, bulbs, and foliage plants readily available in the spring will be covered. Lecture, three hours; laboratory, two hours per week for one half semester. Prereq: PLS 220.

#PLS 335 DISTILLATION, WINE AND BREWING SCIENCE. (3)
Broad introduction into wine, brewing, and distillation science. Information includes viticulture (growing grapes for wine), wine making (production), wine flavor chemistry, commodities for fermentation, brewing science (beer making to distribution) and distilling. This class is not based on consumption, but rather the combination of science and management strategies needed to produce quality products. A structured vocabulary is associated with production, marketing and distribution of wine, brewing and distilled products. An overarching outcome of this course is that students can describe the chemistry, biology and technology involved in fermented beverages and apply these skills in a problem solving setting. The course will focus on introductory concepts, career paths available and problem solving skills required in each element of the production chain.

#PLS 336 INTRODUCTION TO VITICULTURE – GRAPE PRODUCTION. (3)
This class is designed for students interested in pursuing a career in the commercial grape and wine industry. Topics to be discussed include: history of grape production in Kentucky, basic grapevine physiology and anatomy, vineyard design and establishment, important pathogens of grapevines, and economics of grape production. Lecture, three hours per week.

#PLS 337 INTRODUCTION TO ENOLOGY: WINE PRODUCTION. (3)
This course is designed to provide students with an understanding of procedures used to produce commercial wines in Kentucky. Topics to be discussed include: the impact of vineyard management practices on wine quality, chemical constituents of wine grapes, production procedures specific to various wine styles using both small and large scale equipment, and economics of wine production. Lecture, three hours per week. Prereq: Must be 21 years of age prior to first day of class.

#PLS 340 FLORAL DESIGN FOR LIFE'S EVENTS. (2)
Students will explore the use of flowers in life's events such as weddings, funerals, birthdays and various celebrations. Advanced floral techniques and styles will be taught and executed. The significance of flowers used in events of different cultures will be examined. Prereq: PLS 240 Introduction to Floral Design.

PLS 352 NURSERY PRODUCTION. (3)
An introduction to the production practice of container and field grown nursery stock as they relate to management and operation of a nursery business. A two to three-day field trip is required. Lecture, two hours; laboratory, three hours per week. Prereq or concur: HOR 327 and PLS 465 or consent of instructor.

PLS 366 FUNDAMENTALS OF SOIL SCIENCE. (4)
Study of the physical, chemical and biological properties of soils and how these properties relate to plant nutrient availability and plant growth, land-use planning and management issues, and soil and water quality issues. Lecture, three hours; laboratory, three hours. Prereq: CHE 105.

PLS 386 PLANT PRODUCTION SYSTEMS. (4)
In-depth analysis of the underlying principles of plant production systems. Successful strategies, based on application of the principles developed by lecture and laboratory activities, will be discussed in either agronomic or horticultural contexts. Special attention will be given to minimizing the environmental impact of the plant production techniques employed. Prereq: PLS 210 and PLS 366 or concurrently or consent of instructor. (Same as SAG 386.)

#PLS 389 WINE APPRECIATION. (3)
Wine has been produced and enjoyed for thousands of years. It can play an important role in culture, business and social events. While appreciation of wine can be as simple as whether you like a wine, knowledge of the history of wine, aspects of wine aromas and tastes, wine grapes, and winemaking processes opens up a world of deeper enjoyment for experiencing wine. This course will introduce students to these topics plus the major wine producing areas of the world and their wines. The overall goal of the course is to serve as a first step in a life-long journey of learning about and appreciating wines. Prereq: Students must be 21 years of age to enroll.

PLS 390 AGROECOLOGY. (3)
A general introduction to ecological principles and processes applied to agricultural ecosystems, including interactions between plants, soils, and animals on population, community and ecosystems scales. Course concepts will be applied to agricultural ecosystems that are of economic importance and ecological significance to the state of Kentucky. Emphasis will be placed on understanding how an ecological perspective can inform sustainable land management, the ecological basis for best management practices, and the interdisciplinary nature of agroecosystem management. (Same as SAG 390.)

PLS 395 SPECIAL PROBLEMS IN PLANT AND SOIL SCIENCE. (1-4)
May be repeated for a maximum of nine credits. Prereq: Consent of appropriate instructor before registration.

PLS 396 SOIL JUDGING. (1-2)
This course involves basic soil resource evaluation designed to provide the students with essential field training needed to pursue careers as soil scientists, conservationists, planners, agricultural chemical representatives and environmental assessors. It is also used to prepare the UK soil judging team for regional college competition. May be repeated to a maximum of five credit hours. Prereq: Consent of instructor.

PLS 399 EXPERIENTIAL LEARNING IN PLANT AND SOIL SCIENCE. (1-6)
A field-based learning experience in plant and soil science under the supervision of a faculty member. May be repeated for a maximum of six credits. Pass/fail only. Prereq: Complete learning contract before registration.

PLS 404 INTEGRATED WEED MANAGEMENT. (4)
A study of weed management concepts based on the integration of weed biology and ecology data with cultural, biological, and herbicidal control. Lecture, three hours; laboratory, two hours. Prereq: PLS 386.

PLS 406 ADVANCED SOIL JUDGING. (1)
A more advanced treatment of soil site evaluations under diverse climatic and physiographic environments. Students will obtain expertise in assessing properties of contrasting soil types and rating them for soil use and management suitability. The course is also used for preparing the UK soil judging team for national college competition. May be repeated to a maximum of four credit hours. Prereq: PLS 396 and qualifying for national competition.

PLS 408 TOBACCO. (3)
History, botany, pathology, entomology, breeding, and culture of tobacco with special emphasis on burley. Prereq: PLS 386 or consent of instructor.

PLS 440 PLANT PROPAGATION. (3)
A study of the principles and practices involved in producing plants by sexual and asexual methods and to provide the basic skills necessary for using these methods. The interrelationship of plant growth, structure and the environment as they affect the ability to propagate plants by a specific method. Lecture, two hours; laboratory, three hours per week. Prereq: PLS 210.

PLS 450G BIOGEOCHEMISTRY. (3)
A lecture and lab course emphasizing the role of microbial processes on elemental and pollutant cycling in terrestrial soils and aquatic sediments. Soils and sediments from different ecosystems are evaluated for microbial community composition and biogeochemical cycling of organic and inorganic nutrients and pollutants using advanced molecular and laboratory techniques. Several all day field trips and laboratory exercises required. Limited to eight students at the senior or higher level standing. Prereq: CHE 105, 107, 111, 113. (Same as NRE 450G.)

PLS 451 LANDSCAPE MANAGEMENT AND ARBORICULTURE. (3)
Discussion of the protection, pruning, repair, and culture of plant material in landscape plantings as well as the diagnosis of plant-related problems and the management principles of landscape maintenance. Lecture, two hours; laboratory, three hours per week. Prereq: PLS 210, PLS 386.

PLS 455G WETLAND DELINEATION. (3)
Basic concepts of natural wetland ecosystems, their importance, functions, and major features used for their identification and classification. Application of basic hydrology, hydrophytic vegetation and hydric soil indicators for identification of jurisdictional wetlands utilizing documentation and analysis of field collected data. Three laboratory exercises and four short field trips required. Prereq: PLS 366 or consent of instructor. (Same as NRE 455G.)

PLS 456G CONSTRUCTED WETLANDS. (3)
Important aspects of the functions of natural and constructed wetlands as water purifiers. Principles and mechanisms of the purification process, design, construction, operation and management criteria for efficient usage. Case studies and design problems of constructed wetlands on mining, agricultural, industrial and municipal wastewater treatment applications. Two all day field trips are required. Prereq: PLS 366 or consent of instructor. (Same as NRE 456G.)

PLS 465 GREENHOUSES AND CONTROLLED ENVIRONMENTS. (3)
A study of greenhouse structures, coverings, equipment, and the monitoring and regulation of the environment including temperature, light, carbon dioxide, and relative humidity as these factors relate to the commercial production of greenhouse crops. Other types of controlled environments are also included. Lecture, two hours; laboratory, two hours per week. Prereq: PLS 386.

PLS 468G SOIL USE AND MANAGEMENT. (3)
The application of principles related to soils and their management in planning the utilization of land and associated resources. Lecture and discussion. Prereq: PLS 366 or consent of instructor.

PLS 470G SOIL NUTRIENT MANAGEMENT. (3)
Soil reaction/cycling of elements essential for plant growth; rates, timing and placement of nutrient sources in modern crop/soil management systems; plant and soil sampling and analysis to diagnose plant nutrient stress. Prereq: CHE 105, PLS 366 and PLS 386 or consent of instructor. (Same as NRE 470G.)

PLS 490 TOPICS IN PLANT AND SOIL SCIENCE. (3)
A capstone course for majors in Plant and Soil Science to be taken near the conclusion of the student's academic career. The course provides the student the opportunity to integrate knowledge acquired in previous courses in the plant and soil science and support areas. Emphasis will be placed on problem solving, synthesizing and integrating information, critical thinking, group activities, and written and oral communication. Instructional methods may include formal lectures, laboratories or supervised individual research. The specific nature of the course depends upon the student's Area of Emphasis within the Plant and Soil Science major. All topics offered will be approved by the Undergraduate Education Committee in the Area of Emphasis. Prereq: Senior in Plant and Soil Science.

PLS 502 ECOLOGY OF ECONOMIC PLANTS. (3)
Study of the physical environment (radiation, temperature, precipitation, and evapotranspiration) in which crops are grown and the effect of the environment on crop growth and yield. Both micro- and macro-climatic relationships are considered.

PLS 510 FORAGE MANAGEMENT AND UTILIZATION. (3)
Critical study of grassland plants and the biological and physical factors operative in utilization of natural and cultivated grasslands by domestic animals. Lecture, three hours. Prereq: PLS 386, or consent of instructor.

PLS 512 GRAINS AND OILSEEDS. (3)
Management and production of major grains and oilseeds in Kentucky. Prereq: PLS 366, PLS 386, or similar courses; senior or graduate student.

PLS 514 GRASS TAXONOMY AND IDENTIFICATION. (3)
Overview of the grass family, concentrating on taxonomic issues and identification skills for ~200 species (turf, forages, weeds, etc.). Lecture: two hours; laboratory: two hours per week. Prereq: PLS 220 or permission from instructor.

PLS 515 TURF MANAGEMENT. (3)
A study of the selection, culture, and management of certain turf species used for home lawns, golf courses, athletic fields, and highway slopes. Lecture, two hours; laboratory, two hours. Prereq: PLS 210 and PLS 366.

PLS 520 FRUIT AND VEGETABLE PRODUCTION. (4)
Commercial production practices for major fruits and vegetables. Prereq: PLS 386.

***PLS 525 NURSERY AND FLORICULTURE CROP PRODUCTION. (4)**
This course presents advanced methods and concepts for the commercial production of selected nursery and floriculture crops under field, greenhouse and controlled environments. Field trips for this course may end up to one hour later than the scheduled time due to distances traveled to commercial greenhouse and nursery firms. Prereq: PLS 386 and PLS 440.

PLS 531 FIELD SCHOOLS IN CROP PEST MANAGEMENT. (2)
A course for the Plant Pest Management option in Plant and Soil science to reinforce the concepts of pest management learned in previous courses. Emphasis will be placed on integrating information to develop pest management strategies. Instructional methods will include formal lectures and laboratories in the field. Prereq: ENT 300 or ENT 310 or ENT 320; PLS 404 and PPA 400G; or consent of instructor.

PLS 556 SEED PRODUCTION AND TECHNOLOGY. (3)
A study of seeds of improved cultivars as a delivery system for plant genetics. Principles of seed production, harvesting and conditioning for agronomic and horticultural crops within and outside of the region of adaptation. Seed multiplication systems, seed testing and the laws and regulations related to marketing high quality seed. Lecture, two hours; laboratory, four hours for 12 weeks. Prereq: PLS 386 or consent of instructor.

PLS 557 SEED VIGOR. (2)
Study of the concept of seed vigor, methods for seed vigor testing, and the relationship of seed vigor to seedling emergence and crop performance. Prereq: An introductory crop production or basic botany course.

PLS 560 ENVIRONMENTAL PHYSIOLOGY AND TOXICOLOGY. (4)
Emphasis will be placed on the physiological and toxicological effects of chemicals on natural biota, including considerations at cellular, organismal, population, and community levels. This will include assimilation and metabolism of pollutants by animal species, with emphasis upon biochemical and physiological mechanisms involved in stress-induced responses and stress reduction. Additional areas of concern will include the transport, fate, and effects of chemical stressors on structure and function of biotic communities and will include introductions to ecotoxicology and environmental regulatory strategies. Prereq: CHE 105, CHE 107, BIO 150, BIO 153 and BIO 315 or BIO 350 or PGY 502 or equivalents or consent of instructor. (Same as TOX 560.)

PLS 566 SOIL MICROBIOLOGY. (3)
The nature and biochemical activities of soil microflora; their significance in soil genesis and structure and their role in soil fertility. Prereq: PLS 366 or an introductory microbiology course or consent of instructor.

PLS 567 METHODS IN SOIL MICROBIOLOGY. (1)
Methods in Soil Microbiology will be a laboratory course dedicated to introducing upper division students to the methods and techniques used by microbiologists and other soil scientists to examine organisms, interactions, and processes in soil systems. Laboratory, three hours per week. Prereq: PLS 366 or introductory microbiology course.

PLS 573 SOIL MORPHOLOGY AND CLASSIFICATION. (3)
Study of concepts of soil horizons, soil profiles and soilscapes; morphological, physical, chemical and mineralogical parameters useful in their characterization. Soil forming factors and processes. Basic principles of soil classification. Characterization of selected Kentucky soils and their placement in the modern system; practical field problems in soil identification, characterization and classification. Lecture, two hours; laboratory, three hours per week. Prereq: PLS 366 and PLS 367 or consent of instructor.

PLS 575 SOIL PHYSICS. (3)
This course deals with the state and movement of matter, and with the fluxes and transformations of energy, in soil systems. Its objectives are to develop a basic theoretical understanding of soil physical properties and processes (with emphasis on the statics and dynamics of soil water), and to demonstrate how this understanding can be applied under field conditions to make sound management decisions concerning both agricultural and non-agricultural uses of soils. Prereq: MA 113 or MA 123, PHY 201 or PHY 211, PLS 366 or consent of instructor.

PLS 576 LABORATORY IN SOIL PHYSICS. (1)
This course consists of laboratory and field exercises designed to increase understanding of important soil physical properties and processes. Its objectives are to develop familiarity with standard methods of measuring soil physical parameters, and to instill scientific methods of data collection, analysis and interpretation. Prereq: PLS 367, concurrent enrollment in PLS 575, or consent of instructor.

PLS 581 CHEMICAL ANALYSIS OF SOILS AND PLANTS. (4)
Laboratory emphasis on instrumental methods and techniques used in quantitative and qualitative chemical analysis of soil and plant materials and relation of these analyses to physical, chemical and biological systems. Lecture, one hour; discussion, one hour; laboratory, four hours. Prereq: PLS 366 or equivalent, or consent of instructor.

PLS 597 SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (Subtitle required). (1-3)
Special topical or experimental courses in crop science, soil science or related areas of horticulture, or plant physiology for graduate and advanced undergraduate students. Special subtitle required and must be approved by the chair of Agronomy or Horticulture. A particular subtitle may be offered twice under PLS 597. Students may not repeat under the same subtitle. Prereq: Permission of instructor.

PLS 599 SPECIAL PROBLEMS IN PLANT AND SOIL SCIENCE. (1-4)
May be repeated for a maximum of nine credits. Prereq: Consent of instructor.

PLS 601 SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS. (1)
Each semester five distinguished scientists visit the UK campus to deliver a series of three formal lectures each and participate in numerous informal contacts with graduate students. The emphasis is on the presentation of the most current advances (often unpublished) in selected topics in molecular and cellular genetics. May be repeated to a maximum of six credits. (Same as BCH/BIO/MI/PPA 601.)

PLS 602 PRINCIPLES OF YIELD PHYSIOLOGY. (3)
Critical study of the physiological factors and processes involved in determining economic yield in grain crops. The focus will be on factors operating at the whole plant and plant community level as opposed to physiological processes at the cellular or subcellular level. A logical, analytical description of the process of economic yield production by grain crops will be developed and related to historical changes in crop yields and the potential for increasing yields in the future. Prereq: PLS 386 and BIO 430G or consent of instructor.

PLS 605 PHYSIOLOGICAL MECHANISMS IN HORTICULTURAL PLANTS. (3)
A critical evaluation of the recent concepts in certain selected areas of horticultural science. Prereq: BIO 430G.

PLS 609 PLANT BIOCHEMISTRY. (3)
The course will consider the chemical constituents of plants (with emphasis on biologically or nutritionally significant compounds unique to plants), their biosynthesis, contribution to key metabolic and defense processes and the regulation of their synthesis. Included will be discussions of photosynthesis, carbohydrates, lipids, isoprenoids and phenylpropanoids, nitrogen fixation, nitrogen and sulfur reduction and assimilation, alkaloids and additional secondary compounds, frontiers in plant biochemistry. Prereq: BCH 607 or equivalent or consent of instructor. (Same as BCH/PPA 609.)

PLS 615 ADVANCED PLANT GENETICS AND GENOMICS. (3)
Genomics is reshaping the life sciences, providing high-throughput tools to decipher function of individual genes and to characterize their regulation and interactions. This course will introduce graduate students to most recent advances in the area of plant genetics and genomics. The topics will include structural and functional analysis of plant genomes, genome evolution, application of genomics tools to crop improvement, and basic concepts of bioinformatics. Prereq: Introductory courses in genetics and biochemistry.

PLS 620 PLANT MOLECULAR BIOLOGY. (3)
This course is intended to be a treatment of current concepts of plant molecular biology. It will be a literature-based course, supplemented by handouts and reading lists. The course will deal as much as is possible with topics that are unique to plants. Current aspects of molecular biology that are relevant to the course content will be covered in the first part of the course; however, these lectures will not be a review of topics that should have been retained from introductory genetics and biochemistry courses. Also, they will not be a substitute for a molecular biology course. Prereq: One semester of undergraduate genetics and biochemistry or consent of instructor. (Same as BIO 620.)

PLS 622 PHYSIOLOGY OF PLANTS I. (3)
A physiological/biochemical treatment of central topics in modern plant physiology. Topics will include: plant-cell biology, ion transport, water and translocation, respiration and photosynthesis. Prereq: BIO 430G or equivalent or consent of coordinator. Prereq or concur: BCH 607. (Same as BIO/FOR 622.)

PLS 623 PHYSIOLOGY OF PLANTS II. (3)
A physiological/biochemical treatment of central topics in modern plant physiology. Topics will include: plant hormones, an introduction to plant biotechnology, senescence and abscission, stress physiology, phytochrome-photomorphogenesis-phototropism nitrogen and sulfur metabolism. Prereq: BIO 430G or equivalent or consent of coordinator. Prereq or concur: BCH 607. (Same as BIO/FOR 623.)

PLS 640 IDENTIFICATION OF PLANT DISEASES. (3)
Recognition and identification of plant diseases and their causes and development. The course is designed to give students practical experience in dealing with a wide array of plant diseases, symptom expressions, causal agents and interactions with environmental factors encountered in the difficult task of identifying plant diseases. May be repeated to a maximum of nine credits. Lecture, one hour; laboratory, six hours. Prereq: PPA 400G or equivalent or consent of instructor. (Same as PPA 640.)

PLS 642 BIOSYNTHESIS OF NATURAL PRODUCTS. (3)
An overview of the biochemical pathways leading to compounds called natural products/secondary metabolites. Prereq: Two semesters of organic chemistry. (Same as BCH/PHR 620.)

PLS 650 SOIL-PLANT RELATIONSHIPS. (3)
An advanced course on the relationships between media and the root systems of plants growing therein. Prereq: PLS 366, BIO 430G (or equivalent), or consent of instructor.

PLS 655 SPATIAL AND TEMPORAL STATISTICS. (3)
Opportunities for spatial and temporal monitoring strategies, the diagnosis and analysis of spatial and temporal agricultural and ecosystem processes are taught. Methodology is based on Statistical Time Series Analysis and Geostatistics. Prereq: STA 570 or other prerequisite in agreement with the instructor.

PLS 657 SEED BIOLOGY. (3)
Structure, development and function during plant reproductive development and seed ontogeny, including fertilization, embryogeny and endosperm development, seed formation, maturation, germination, dormancy and deterioration. Prereq: ABT 360, BIO 430G or consent of instructor.

PLS 660 ADVANCED SOIL BIOLOGY. (2)
A critical evaluation of the current research status in selected aspects of soil biology. Prereq: PLS 566 or consent of instructor.

PLS 664 PLANT BREEDING I. (3)
The application of advanced genetic principles to plant improvement. An in-depth study of existing plant breeding procedures and their applications and consideration of new techniques that can be applied to plant breeding and crop improvement. Prereq: STA 570 or consent of instructor.

PLS 671 SOIL CHEMISTRY. (4)
A study of the chemical characteristics of the soil and of the more important chemical processes in the soil. Lecture and discussion, three hours; laboratory, two hours. Prereq: PLS 470G, 581; CHE 442G, or consent of instructor.

PLS 676 QUANTITATIVE INHERITANCE IN PLANT POPULATIONS. (3)
After a brief review of population genetics theory, the course is divided into two sections which cover methods of estimating genetic variances and selection methods in population improvement. The course will focus on handling and interpretation of actual data sets through data analysis and discussion of current literature. Prereq: STA 570, STA 671, and STA 672. (Same as STA 676.)

PLS 697 SPECIAL TOPICS IN PLANT AND SOIL SCIENCE (Subtitle required). (1-3)
Special topic or experimental course in cross science, horticulture, plant physiology or soil science for advanced graduate students. Special title required and must be approved by the chairpersons of the Departments of Agronomy and Horticulture. A particular title may be offered twice, at most, under PLS 697. Students may not repeat under the same title. May be repeated to a maximum of six hours. Prereq: Consent of appropriate instructor before registering.

PLS 712 ADVANCED SOIL FERTILITY. (4)
An integration of the effects of soil, climate, species and management on the nutrition and dry matter accumulation of plants. Lecture, three hours; laboratory, two hours per week. Prereq: PLS 470G or PLS 650 or consent of instructor.

PLS 741 ENVIRONMENTAL CLAY MINERALOGY. (3)
A comprehensive study of the crystal structures of clay minerals commonly found in soils and sediments. Lecture and discussion, two hours; laboratory, three hours. Prereq: GLY 360 or consent of instructor. (Same as EES 741.)

PLS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PLS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of qualifying exams.

PLS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PLS 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PLS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

PLS 772 SEMINAR IN PLANT AND SOIL SCIENCE (Subtitle required). (1)
Reports and discussion of problems and research in crops, soils, horticultural science and plant physiology. May be repeated three times for a maximum of four credits.

PLS 799 RESEARCH IN PLANT AND SOIL SCIENCE. (1-4)
May be repeated for a maximum of 12 credits. Prereq: Consent of instructor.

PM Preventive Medicine and Environmental Health

PM 602 OCCUPATIONAL AND ENVIRONMENTAL HEALTH. (4)
A continuation of topics in PM 601. Lecture, three hours; laboratory, two hours per week. Prereq: PM 601 or consent of instructor.

PM 621 ADVANCED EPIDEMIOLOGY. (3)
This course provides specialized epidemiologic content and method designed to meet the research and practice needs of health professionals. Practice-based problem sets and hands-on computer assignments will complement this seminar-oriented course, focusing on the role of epidemiology in the prevention of disease and injury. Prereq: SPH 605 or consent of instructor. (Same as SPH 611.)

PM 661 INDUSTRIAL HYGIENE SAMPLING. (3)
This course, using lectures and laboratory exercises, will cover sampling and analysis techniques for industrial hygiene assessment and monitoring. The laboratory experiments are intended to simulate typical industrial hygiene measurement situations and to provide a basis for selection of sampling techniques and critical evaluation of laboratory results. Lecture, two hours; laboratory, two hours per week. Prereq: Consent of the instructor.

PM 663 PRACTICUM IN ADVANCED INDUSTRIAL HYGIENE. (1-3)
In this individual tutorial/internship course, the student will apply sampling and workplace hazard survey techniques to real-world problems. Evaluations of ventilation and engineering controls will be conducted and discussed, and special techniques for the evaluation of personal protective equipment and documentation of dermal exposures will be utilized. May be repeated to a maximum of six credits. Prereq: Completion of PM 601, 602, and 661.

PM 670 CLINICAL EPIDEMIOLOGY. (3)
The student will learn the fundamentals of designing clinical research studies of diagnostic tests, prognosis, and causation. Students will practice these skills through focused critiques of the

medical literature and by designing clinical research studies. Prereq: PM 521 or consent of instructor. STA 570 or equivalent is recommended.

PM 675 RESEARCH DESIGN IN PUBLIC HEALTH. (4)
The techniques, strategies, and issues of conducting scientific investigations within the domain of public health and preventive medicine. Numerous theoretical and methodological approaches to public health problems will be addressed in a chronological manner that matches the sections of a peer-reviewed journal article, e.g., background, methods, results, and discussion. Prereq: PM 521 and STA 570 and/or permission of instructor.

PM 770 SEMINAR IN PREVENTIVE MEDICINE AND PUBLIC HEALTH. (1-3)
A special seminar focusing each semester on an important topic, such as health problems of special working groups, cancer control, and health policy issues. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

PM 780 SPECIAL PROBLEMS IN PREVENTIVE MEDICINE AND PUBLIC HEALTH. (1-3)
Organized study or tutorial focused on special problems or issues. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

PM 815 FIRST-YEAR ELECTIVE, PREVENTIVE MEDICINE AND ENVIRONMENTAL HEALTH. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Preventive Medicine and Environmental Health. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

PM 825 SECOND-YEAR ELECTIVE, PREVENTIVE MEDICINE AND ENVIRONMENTAL HEALTH. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Preventive Medicine and Environmental Health. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

PM 841 PREVENTIVE MEDICINE CLERKSHIP SELECTIVE. (1-6)
The medical student working singly or in small groups will, with Preventive Medicine faculty assistance, identify a question in the broadest sense in "medicine" which can best be answered by a population-based study. This could include comparison of therapeutic techniques, status of knowledge by health provider or consumer about certain conditions or costs of care, problems of organizing health services, ethical problems, or any other population-based question amenable to study. Building on the second year experience, the project will involve identification of a question, design and conduct of the study, appropriate analysis of data, and a written and oral presentation. Prereq: Admission to College of Medicine.

PM 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
PM 850 PREVENTIVE MEDICINE OFF-SITE ELECTIVE
PM 852 RESEARCH IN PREVENTIVE MEDICINE AND ENVIRONMENTAL HEALTH

PPA Plant Pathology

PPA 395 INDEPENDENT STUDY IN PLANT PATHOLOGY. (1-4)
Independent study in Plant Pathology under the supervision of a faculty member. Prereq: Consent of appropriate instructor.

PPA 400G PRINCIPLES OF PLANT PATHOLOGY. (3)
To present students with the principles of plant pathology. The causes, effects, control and nature of plant diseases will be studied; the laboratory will expose students to common diseases and pathogens discussed in lecture. Emphasis will be given to diseases important in Kentucky. Lecture, two hours; laboratory, two hours. Prereq: One semester of botany (e.g. BIO 351) and microbiology (e.g. BIO 108/109) or consent of instructor.

PPA 500 PHYSIOLOGY OF PLANT HEALTH AND DISEASE. (3)
First-semester graduate students and upper class undergraduates will gain a basic understanding of physiology, structure and development of plants and their associated fungi, viruses, bacteria and nematodes, and to appreciate how interactions with symbionts and pathogens influence plant health and disease. Prereq: PPA 400G (can be concurrent).

PPA 600 CRITICAL METHODS IN PLANT-MICROBE INTERACTIONS. (2)
The course will provide instruction on experimental methods commonly used in Plant-Microbe Interaction and will train students in critical thinking, grant writing, scientific ethics and seminar presentation. Prereq: PPA 500.

PPA 601 SPECIAL TOPICS IN MOLECULAR AND CELLULAR GENETICS. (1)
Each semester five distinguished scientists visit the UK campus to deliver a series of three formal lectures each and participate in numerous informal contacts with graduate students. The emphasis is on the presentation of the most current advances (often unpublished) in selected topics in molecular and cellular genetics. May be repeated to a maximum of six credits. (Same as BIO/BCH/MI/PLS 601.)

PPA 609 PLANT BIOCHEMISTRY. (3)
The course will consider the chemical constituents of plants (with emphasis on biologically or nutritionally significant compounds unique to plants), their biosynthesis, contribution to key metabolic and defense processes and the regulation of their synthesis. Included will be discussions of photosynthesis, carbohydrates, lipids, isoprenoids and phenylpropanoids, nitrogen fixation, nitrogen and sulfur reduction and assimilation, alkaloids and additional secondary compounds, frontiers in plant biochemistry. Prereq: BCH 607 or equivalent or consent of instructor. (Same as BCH/PLS 609.)

PPA 620 FUNGICIDES, ADVANCED CONCEPTS. (3)
An in-depth exploration of diverse factors that affect field performance of fungicides, as well as environmental and toxicological dimensions of these disease-control chemicals. Prereq: Principles of Plant Pathology (PPA 400G) or the equivalent, or permission of the instructor.

#PPA 630 INTRODUCTION TO GENETICALLY ENGINEERED CROPS, RISKS AND BENEFITS I. (1)
This is Part I of a two-part series of one-credit, graduate-level courses exploring GMO (genetically engineered) crops. In Part I (PPA 630), students will be introduced to what they are; and how GMO crops are similar to, and different from, other crops. In Part II (PPA 631), students will explore perceived risks and benefits to the use of these technologies. Prereq: A Bachelor's degree in any subject; a college-level course in biology or permission of the instructor.

#PPA 631 INTRODUCTION TO GENETICALLY ENGINEERED CROPS, RISKS AND BENEFITS II. (1)
This is Part II of a two-part series of one-credit, graduate-level courses exploring GMO (genetically engineered) crops. In Part I (PPA 630), students will be introduced to what they are; and how GMO crops are similar to, and different from, other crops. In Part II (PPA 631), students will explore perceived risks and benefits to the use of these technologies. Prereq: PPA 630.

PPA 640 IDENTIFICATION OF PLANT DISEASES. (3)
Recognition and identification of plant diseases and their causes and development. The course is designed to give students practical experience in dealing with a wide array of plant diseases, symptom expressions, causal agents and interactions with environmental factors encountered in the difficult task of identifying plant diseases. May be repeated to a maximum of nine credits. Lecture, one hour; laboratory, six hours. Prereq: PPA 400G or equivalent or consent of instructor. (Same as PLS 640.)

PPA 641 PLANT DISEASE, POPULATION BIOLOGY, AND BIOTECHNOLOGY. (1)
To understand implications of deployment of biotechnology and other disease management practices at the level of host and pathogen populations. Prereq: PPA 400G.

PPA 650 FUNGAL BIOLOGY. (3)
The Fungal Biology course introduces basic mycological concepts, including systematics, anatomy, cell biology, metabolism, developmental biology, ecology, population genetics, and reproduction. There is a focus on modern molecular approaches to these concepts. Students will also learn about the use of fungi in research and biotechnology. Prereq: Undergraduate courses in biology, genetics, and chemistry.

PPA 670 PLANT BACTERIOLOGY. (1)
Bacterial mechanisms underlying pathogenesis and virulence in interactions causing plant disease, and symbiotic compatibility in mutualisms. Prereq: PPA 400G, PPA 500, PPA 600, PPA 640 can be concurrent.

PPA 671 ADVANCED PLANT VIROLOGY. (2)
Molecular basis of plant virus infection of plants. Virus replication and spread. Virus control strategies. Prereq: PPA 400G, PPA 500, PPA 600.

PPA 673 ADVANCED PLANT DISEASE RESISTANCE. (1)
Bacterial mechanisms underlying pathogenesis and virulence in interactions causing plant disease, and symbiotic compatibility in mutualisms. Prereq: PPA 400G, PPA 500, PPA 600.

PPA 700 PLANT PATHOLOGY LABORATORY VISITS. (1-3)
Semester-long rotations in Plant Pathology laboratories other than the students' "home lab". An opportunity will be provided to apply new approaches that are utilized in those labs to the students' research problems. May be repeated to a maximum of six credit hours.

PPA 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PPA 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

PPA 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PPA 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PPA 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

PPA 770 PLANT PATHOLOGY SEMINAR. (1)
Reports and discussion of problems and investigations of problems in plant pathology. May be repeated to a maximum of four credits.

PPA 784 SPECIAL PROBLEMS IN PLANT PATHOLOGY. (1-3)
May be repeated to a maximum of nine credits. Prereq: PPA 400G or equivalent or consent of instructor.

PPA 794 RESEARCH IN PLANT PATHOLOGY. (1-9)
May be repeated to a maximum of 30 credits. Prereq: PPA 400G or equivalent or consent of instructor.

PPA 799 TEACHING IN PLANT PATHOLOGY. (1-2)
Discussion of, and experience with, various instructional techniques in plant pathology; effective preparation, presentation and evaluation of lectures and laboratories focusing on plant diseases; practical experience in lectures, teaching laboratories and/or mentoring undergraduate research projects. May be repeated to a maximum of four credits. Prereq: PPA 400G or equivalent.

PPH Population Health

PPH 355 SOCIOLOGY OF HEALTH AND ILLNESS. (3)
Who defines health and illness? Why is disease and premature death unequally distributed in society? What social forces cause individuals to get sick or stay healthy? How have changes in the medical profession, the health care system, and health policy affected treatment outcomes and illness experiences? This course addresses these questions through a presentation of important concepts and substantive issues the sociology of health and illness (or medical sociology), and an introduction to major classic and contemporary research in this area. We will compare and contrast sociological perspectives on health with the perspectives offered by biomedicine, psychiatry and allied disciplines. The course has two major sections: The first covers the social origins of illness—the social construction of illness and biomedical knowledge, social epidemiology, and social influences on personal experiences of illness. The second section covers social and institutional responses to illness and the impact of these on physician-patient interactions, health outcomes, and the distribution of disease. In this section we will examine the medical profession, the health care system, health policy, and the changing nature of these. Class sessions will emphasize group discussions and exercises based on original scholarly writings. Discussions and exercises are designed to encourage the development of analytic skills, recognition of the benefits of collaborative approaches to complex problems, and independent exploration of course material. (Same as SOC 355.)

PPH 499 POPULATION HEALTH CAPSTONE (Subtitle required). (3)
This course provides an integrative experience for Population Health majors in their junior or senior year. The seminar format fosters integration of the program's interdisciplinary coursework, while providing the opportunity to focus on a particular area of interest within the topical theme of the seminar. Students will engage in a variety of activities designed to increase their understanding of the theoretical and methodological approaches that characterize the Population Health perspective. They will then use this perspective to develop, or to critically analyze, a project that addresses health change. The course will consist of seminar sessions, smaller peer group meetings, and individualized tutorial sessions. Students will learn to critically and respectfully engage with the work of their peers and effectively communicate the results of their projects. Prereq: Junior or Senior standing in Population Health; or consent of instructor.

PPS Pharmacy Practice and Science

PPS 101 PILLS, POTIONS AND POISONS: WHAT YOU NEED TO KNOW ABOUT MEDICATIONS. (3)
Students will learn basic principles of drug action, characteristics of drug dosage forms, important features of a variety of common drug classes, legal requirements of drugs, and contemporary issues with the use of prescription and over-the-counter drugs. These concepts will be discussed with an emphasis on applying this information in common, everyday life situations. Prereq: BIO 152 or equivalent CHE 105 or equivalent CHE 107 or equivalent.

#PPS 102 COMPLEMENTARY AND ALTERNATIVE MEDICINE: WHAT YOU NEED TO KNOW ABOUT DIETARY SUPPLEMENTS. (3)
Students will learn basic principles of herbs and dietary supplements used for common conditions, how they are regulated by the federal government, marketing of these products, and contemporary issues that have occurred with use of dietary supplements. These concepts will be discussed with an emphasis on applying this information in common, everyday life situations. Prereq: BIO 152 or equivalent; CHE 105 or equivalent; CHE 107 or equivalent.

PPS 520 SPECIAL TOPICS IN PHARMACY LAW. (2)
Discussion of the legal framework and special legal issues in pharmacy practice. Topics will include application of antitrust laws to pharmacy, patent and trademark issues relevant to pharmacy, legal issues related to prescription drug insurance programs, professional liability and legislative issues such as drug product selection.

PPS 564 INTRODUCTION TO FDA AND THE DRUG DEVELOPMENT PROCESS. (2)
A broad overview of the regulatory and scientific principles employed in pharmaceutical development including the regulatory framework and pre-clinical experimentation necessary to initiate a first time in human (Phase 1) trial through the objectives, principles, study designs, methods and reporting to evaluate a new pharmaceutical in a human. Students will develop an understanding of how certain forms of translational, or "bench to bedside" research must be organized and executed. Prereq: Enrollment in the Colleges of Pharmacy, Dentistry, Law, Medicine or Public Health, the NIH K-30 program, a junior or senior undergraduate, or consent of instructor.

PPS 605 PHARMACOECONOMICS AND DECISION ANALYSIS. (2)
Pharmacoeconomics and Decision Analysis is designed to equip students with a basic working knowledge and understanding of the application of pharmacoeconomic analysis and the results can be applied to clinical practice. Prereq: ECO 201, PPS 940 and/or permission of instructor.

PPS 665 ETHICAL ISSUES IN CLINICAL RESEARCH. (3)
Based on NIH guidelines for Responsible Conduct of Research, this course will present ethical and regulatory guidelines for conducting clinical research. Prereq: Participation in curriculum leading to Graduate Certificate in Clinical Research Skills, or permission of instructor. (Same as CPH 665.)

PPS 700 INTRODUCTION TO PHARMACEUTICAL OUTCOMES AND POLICY. (2-3)
This course provides an overview of approaches to the study of pharmaceutical outcomes and public policy. The course is designed to give students an introduction to the field, provide an opportunity to conduct introductory research in one of the various approaches, and experience the research environment through three half day research rotations in selected areas. Prereq: Graduate standing and permission of instructor.

PPS 701 PHARMACOEPIDEMIOLOGY. (3)
This course will provide an overview of the field of pharmacoepidemiology and its relationship to health care research. Various topics including methodology and analytical issues relevant to the conduct of pharmacoepidemiologic research will be covered. Time will also be spent reviewing existing papers in the field of pharmacoepidemiology. Prereq: CPH 605 and STA 580 or equivalent; may be concurrent. (Same as CPH 713.)

PPS 702 PHARMACEUTICAL HEALTH POLICY. (2-3)
The purpose of this course is to enable students to think systematically about the pharmaceutical health policy problems and the various strategies for their solution. This course will cover a range of theoretical and empirical literature on health care and public policy. Topics covered will include a basic understanding of the policy process and policy analysis, and a historical development of the health care system with special focus on quality, access, and cost. In addition, the course covers a range of reform initiatives focused on pharmaceutical policy and regulation. Prereq: Graduate standing and permission of instructor.

PPS 704 PHARMACY INFORMATICS. (2-3)
This course explores the theory and methods of measuring the performance and quality of pharmaceutical health outcomes emphasizing evidence-based practice and quality improvement approaches. Particularly, the course focuses on the use of data and information systems to measure quality, performance, and outcomes. Topics covered include designing and testing outcome based measures, measuring and evaluating satisfaction, measuring and evaluating treatment, risk adjustment, survey methods, patient records, encounter data, administrative data, claims data, and an assessment of the current outcome based standard National Committee on Quality Assurance, HEDIS 2009. Prereq: Graduate standing and permission of instructor.

PPS 706 INTERMEDIATE PHARMACOECONOMICS AND DECISION ANALYSIS. (3)
This course is designed to equip students with a working knowledge and understanding of the application of pharmacoeconomic analysis with an emphasis on critical review of the literature. Prereq: Graduate standing and permission of instructor.

#PPS 710 TECHNIQUES IN SECONDARY DATA RESEARCH. (3)
A successful pharmaceutical outcomes and policy researcher must have the ability to independently assess the literature in order to identify a clinically relevant research question, design a study that will address the question and analyze and present the results appropriately to the scientific community. This course will provide an introduction to the conduct of pharmaceutical outcomes and policy research through in-depth didactic and practical instruction on the development, design, and presentation of relevant research study.

The course will have two components. Approximately half of the course will involve didactic instruction on specific topics related to the conduct and execution of pharmaceutical outcomes and policy research and half will be a hands-on experience in which the learner develops their own research question and hypothesis, designs a study and begins to analyze an existing healthcare dataset in order to answer a relevant pharmaceutical outcomes and policy question and present the results. Prereq: BST 580 or equivalent.

PPS 750 PHARMACEUTICAL OUTCOMES AND POLICY JOURNAL CLUB. (1)
Pharmaceutical Outcomes and Policy journal club is a weekly meeting scheduled for scholarly discussion and presentation of journal articles and relevant topics (new methodologies, current pharmaceutical policy drugs issues, etc.) pertaining to the fields of pharmaceutical policy and pharmaceutical outcomes.

PPS 760 SPECIAL TOPICS IN PHARMACY PRACTICE AND SCIENCE. (1-4)
This course deals with emerging concepts in Pharmacy Practice and Science which are not covered in other courses. May be repeated under a different subtitle to a maximum of twelve credits. Prereq: Graduate standing and permission of instructor.

PPS 764 DRUG DEVELOPMENT REGULATION AND CLINICAL RESEARCH. (3)
A study of the pharmaceutical development process and its regulation, including a detailed examination of clinical research methodologies. Students will demonstrate their competence by developing a clinical trial protocol. Prereq: Enrollment in the Pharmaceutical Sciences graduate program or consent of instructor.

PPS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PPS 778 SEMINARS IN PHARMACY PRACTICE AND SCIENCE. (1)
Reports and discussion of pertinent research and literature in pharmaceutical outcomes and policy. Required of all graduate students. Prereq: Graduate standing and permission of instructor.

PPS 790 RESEARCH IN PHARMACY PRACTICE AND SCIENCE – PRE QUAL. (1-12)
Research work to be conducted in selected areas of pharmacy practice and science. Prereq: Graduate standing and permission of instructor.

PPS 811 COMPUTER APPLICATIONS IN PHARMACY. (2)
A guide to the selection and use of computers in pharmaceutical practice. Descriptions of functions, cost-benefit considerations, hardware and software, capabilities of various systems, language, applications to patient profiles, inventory control and accounts are considered.

PPS 813 GERIATRIC PHARMACY. (3)
A course designed to educate students in the basic knowledge of attitudes and skills required to meet the pharmaceutical needs of the elderly. Topics include discussions of the aging process, physiological and psychological changes in the elderly, how these changes influence patient compliance and the responses to drug and nondrug treatments, monitoring drug use in long-term care facilities, and special community services available to the elderly. Prereq: PHR 849, 852, 853, 854 and 856 or permission of instructor. (Same as GRN 513.)

PPS 832 ADVANCED COMMUNITY PRACTICE MANAGEMENT. (2)
A study of the principles and methods unique to the management of a community pharmacy, building on previous foundations and focusing on the entrepreneurial aspects of management. Prereq: PHR 831 and consent of instructor.

PPS 833 ADVANCED INSTITUTIONAL PRACTICE MANAGEMENT. (2)
Application of management principles to institutional and group practices. Emphasis is on the acquisition, distribution and control of drugs by pharmacists in the institutional practice settings and the justification, establishment and evaluation of clinical pharmacy services. Prereq: PHR 831, PPS 848.

PPS 848 INSTITUTIONAL PRACTICE AND STERILE PRODUCTS. (4)
An introduction to the practice of pharmacy in institutional settings and clinics. Emphasis is placed on principles of parental drug preparation, home health care and the delivery of pharmaceutical services in group practices. Lecture with some laboratory experiences and demonstrations. Prereq: PHR 805; coreq: PHR 849.

PPS 895 INDEPENDENT PROBLEMS IN CLINICAL PHARMACY. (1-3)
Selected problems in patient care, drug information, pharmacy administration, and pharmaceutical technology as related to pharmaceutical services. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

PPS 896 INDEPENDENT PROBLEMS IN PHARMACY. (1-3)
Selected problems pertaining to the various aspects of pharmacy which may include such problems as pharmaceutical procedures, pharmaceutical formulations, pharmaceutical history, and pharmaceutical economics. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

PPS 910 INTRODUCTION TO PHARMACY PRACTICE. (3)
An introduction to the practice of pharmacy within the major practice settings. Includes an introduction to the profession and discussions of the pharmacist within the health care system, professional pharmacy organizations, models and sites of practice, postgraduate educational and career opportunities, an introduction to product compounding and administration, professionalism, and required community service experiences. Prereq: Admission to first year, College of Pharmacy.

PPS 913 PHARMACOLOGICAL BASIS OF THERAPEUTICS: ANTIBIOTICS. (3)
A study of the pathophysiology and microbiology of infectious diseases concentrating on the pharmacology of the therapeutic agents (antibiotics) used to treat those diseases, including discussions of their rational use. Variable mixture of lectures, discussions and independent study. Prereq: Admission to the first year, College of Pharmacy.

PPS 916 NONPRESCRIPTION PHARMACEUTICALS AND SUPPLIES I. (2)
A study of various nonprescription pharmaceuticals, medical and surgical supplies and appliances commonly found in ambulatory pharmacy practice sites, their rational use and therapeutic efficacy. Decision making skills for ambulatory patient triage are emphasized. The use of home remedies and their limitations in the treatment of minor ailments is considered. Variable mixture of lecture, discussions and independent study. Prereq: Admission to the first year, College of Pharmacy.

PPS 919 PATIENT CARE LABORATORY I. (1)
An integration and application of the skills needed to fill the professional responsibilities of pharmacy practice as they relate to patient centered care and the patient care process, utilizing principles taught in the corequisite courses to provide the contextual framework for the skills considered. Prereq: Admission to the first year College of Pharmacy. Coreq: All concurrent PHR 91X series courses.

PPS 920 COMMUNICATION AND BEHAVIOR IN PHARMACY PRACTICE. (3)
An introduction to the social and behavioral issues that impact health including their influence on the pharmacist-patient relationship and the ability of the pharmacist to provide patient care. Includes discussions of stress and stress coping, communication with patients and other health care professionals, cultural and religious influences on patient compliance and disease management, and required community service experiences. Prereq: PPS 910 and PPS 919.

PPS 923 PHARMACOLOGICAL BASIS FOR THERAPEUTICS: NUTRITION, HEALTH PROMOTIONS. (3)
Consideration of the role of the pharmacist in health promotion and disease prevention including both pharmacologic and non-pharmacologic methods. Major problems of nutrition and certain metabolic/chronic disorders for which nutrition plays a pivotal role will be addressed including hypertension, cancer, and eating disorders. In addition the pharmacology of drugs affecting the gastrointestinal tract and drugs used to treat common gastrointestinal problems are discussed. Variable mixture of lecture, group discussion and independent study. Prereq: Admission to the first year, College of Pharmacy.

PPS 926 NONPRESCRIPTION PHARMACEUTICALS AND SUPPLIES II. (2)
A continuation of PPS 916. Variable mixture of lecture, group discussions and independent study. Prereq: Admission to the first year, College of Pharmacy and PPS 916.

PPS 928 INTRODUCTORY PHARMACY PRACTICE EXPERIENCE I. (4)
An introductory practice experience designed to provide students a structured, supervised program of participation in the practice of pharmacy. Experiences may involve on-call and evening/weekend responsibilities. Offered on a pass/fail basis only. Laboratory, 40 or more hours per week. Prereq: Successful completion of required courses in the 920 series and consent of instructor.

PPS 929 PATIENT CARE LABORATORY II. (1)
A continuation of PPS 919. Prereq: PPS 919. Coreq: All concurrent PHR 92X series courses.

PPS 930 LEGAL, ETHICAL, AND ACCESS ISSUES IN PHARMACY. (4)
The legal, ethical and access issues affecting the practice of pharmacy. Course includes community service experiences. Prereq: PPS 920.

PPS 939 PATIENT CARE LABORATORY III. (2)
A continuation of PPS 929. Prereq: PPS 929. Coreq: All concurrent PHR 93X series courses.

PPS 940 EVIDENCE BASE FOR PHARMACY PRACTICE. (4)
A discussion of the evidence base for pharmacy practice including sources of drug information, drug study design, applied data analysis, and biostatistics in the interpretation and critical analysis of biomedical literature with the purpose of developing evidence based care recommendations for a given patient or patient population. The course is implemented using a variety of educational methods including lectures, structured reading of biomedical literature, and practice in developing protocols to address various health-related research questions. Course includes community service experiences. Prereq: PPS 930.

PPS 946 ADVANCED PHARMACOTHERAPY I. (5)
An advanced study of the pathology, pathophysiology and optimal treatment of common diseases. Through a series of case studies students will acquire and/or reinforce their skill at understanding diseases and developing and defending optimal treatment plans for successfully managing those diseases. The case studies utilized will integrate relevant pathophysiological, pharmacokinetic, pharmacoeconomic and pharmacological concepts with appropriate patient specific parameters. Students will be expected to communicate and defend their decisions, including the process followed in making those decisions, in understandable, appropriate written and verbal formats. Variable mixture of discussion, lecture, independent study and laboratory. Prereq: PHR 93X series courses; coreq: PHS 947 and PPS 949.

PPS 948 INTRODUCTORY PHARMACY PRACTICE EXPERIENCE II. (4)
A continuation of PPS 928 – Introductory Pharmacy Practice Experience I. Prereq: Successful completion of required PHR 940 series courses and consent of instructor.

PPS 949 PATIENT CARE LABORATORY IV. (1)
A continuation of PPS 939. Prereq: PPS 939. Coreq: All concurrent PHR 94X series courses.

PPS 950 PHARMACEUTICAL POLICY AND PUBLIC HEALTH. (4)
An introduction to health economics, pharmaceutical policy and public health, including issues of access to and disparities in healthcare and pharmaceuticals, health and disease indicators, health promotion, emergency preparedness, and the involvement of the pharmacist in public health and pharmaceutical policy. Course includes community service experiences. Prereq: PPS 940.

PPS 953 CURRENT TOPICS IN PHARMACY SEMINAR. (1)
A seminar course dealing with some of the current clinical and nonclinical issues affecting health care and health care practitioners. Prereq: PPS 940.

PPS 957 ADVANCED PHARMACOTHERAPY II. (5)
A continuation of PPS 946. Variable mixture of discussion, lecture, independent study and laboratory. Taught part of term. Prereq: Admission to third year, College of Pharmacy; co-req: PPS 959.

PPS 959 PATIENT CARE LABORATORY V. (2)
A continuation of PPS 949. Prereq: PPS 949. Coreq: All concurrent PHR 95X series courses.

PPS 960 PHARMACY PRACTICE MANAGEMENT. (5)
A discussion of pharmacy practice management in both community and health system practice settings including general business, human, financial, and operations management, and quality assurance/risk management issues. Course includes community service experiences. Prereq: PPS 950.

PPS 966 ADVANCED PHARMACOTHERAPY III. (5)
A continuation of PPS 957. Variable mixture of discussion, lecture and independent study. Taught part of term. Prereq: Admission to the third year, College of Pharmacy; PPS 957, 959; co-req: PPS 969.

PPS 967 ADVANCED PHARMACOTHERAPY IV. (5)
A continuation of PPS 966. Variable mixture of discussion, lecture and independent study. Taught part of term. Prereq: Admission to third year College of Pharmacy; PPS 957, 959; co-req: PPS 969.

PPS 969 PATIENT CARE LABORATORY VI. (2)
A continuation of PPS 959. Prereq: PPS 959. Coreq: All concurrent PHR 96X series courses.

PPS 971 INTRODUCTION TO ANTICOAGULATION. (2)
The intent of this eight week, two credit hour, elective course is to provide students with a working knowledge of basic anticoagulation concepts sufficient to enhance their participation in anticoagulation services during fourth year advanced pharmacy practice experiences and in practice as a pharmacist. Students should expect to spend approximately four hours per week on class related activities. Prereq: Students must be enrolled for the summer session and have satisfactorily completed all requirements of the PY2 year. Students will be expected to employ knowledge and understanding of material from all previous and concurrent courses in the College of Pharmacy curriculum.

PPS 972 INTRODUCTION TO THE ADVANCED PHARMACOTHERAPY GATEWAY AND PHARMACY RESIDENCY TRAINING. (2)
This course introduces students to the concepts of the pharmacist's involvement in research, education, post-graduate training, and to local sites of scholarly clinical pharmacy practice. The course will provide information and tools for pursuing post-graduate training, including a curriculum vitae and foundational education on human subject protection and residency training. Prereq: Student in good standing in the second professional year of the College of Pharmacy curriculum.

PPS 973 INTRODUCTION TO CRITICAL CARE PHARMACY. (2)
Advanced, clinically-focused course building on critical care foundation provided in PHR 956/ PPS 957. Prereq: Successful completion of PHR 956/PPS 957.

PPS 974 CLINICAL ASPECTS OF PRESCRIPTION MEDICATIONS. (2)
A discussion of the clinical aspects of prescription medications designed to supplement, integrate and enhance the material covered in the Patient Care Laboratory course series (PHR 919-969) and the Advanced Pharmacotherapy course sequence (PPS 946, PHR 956, PPS 957, PPS 966 and PPS 967). Emphasis is placed on 1) a critical analysis of the important difference between various drugs and drug classes, and 2) refining drug information and clinical communication skills through simulated written drug consults and oral exams involving other health care practitioners. Prereq: PHR 956 and PPS 957. Coreq: PPS 960, 966, 967 and 969.

PPS 975 EMERGENCY MEDICINE. (2)
Emergency Medicine is an evolving and increasingly recognized practice area for clinical pharmacists. As interest and professional opportunities continue to expand in this therapeutic arena, it is imperative for students to become cognizant of the various aspects of this unique specialty. In addition, the practice of Emergency Medicine is a collection of various therapeutic areas, so this course will not only serve to expose the learner to many new and exciting topics but also serve as a refresher of many topics that are briefly covered in the regular curriculum with an added emphasis on the rapid treatment of the undifferentiated patient. Prereq: PY3.

PPS 976 COMPUTER AND INFORMATION TECHNOLOGIES IN PHARMACY. (2)
A discussion and introduction to the use of computer and other information technologies, such as Personal Data Assistants (PDAs) and patient management software, as aids to providing more effective and efficient pharmaceutical care services. Lecture: 1 hour; laboratory, 2 hours per week. Prereq: Admission to the second or third year, College of Pharmacy.

PPS 977 HERBS AND DIETARY SUPPLEMENTS. (2)
This Blackboard-based elective course focuses on herbs and dietary supplements used for common conditions. The evidence-based course includes readings with weekly quizzes and sets of discussion questions. The course prepares pharmacy students to assist patients in the appropriate use of these products. Prereq: Admission to IPPE I, College of Pharmacy.

PPS 978 PEDIATRIC PHARMACOTHERAPY. (2)
This course explores additional information relating to pediatric drug therapy and factors that build on the existing knowledge base of the student, to prepare students to address drug related problems in the pediatric patients and to demonstrate competency in evaluating patient drug therapy in at least two patients as well as numerous case scenarios. Since the class size is kept at about 15 students, a seminar and hands on approach to simulations will be done along with didactic teaching and group discussion. Materials will be provided to supplement classroom interaction; at least one laboratory experience is planned. Discussions will be provided to allow the interchange necessary to explain individual judgments. Active learning processes will be employed in order to facilitate inter-professional communication skills and to allow student's exposure to a variety of pediatric pharmacy practitioners. The course is presented in a series of therapeutic modules facilitated with the use of Blackboard® technology. Prereq: Permission of instructor.

PPS 979 TOXICOLOGY IN CLINICAL PRACTICE. (2)
Potentially any substance can be considered a poison if enough of it is ingested, and patients who ingest chemicals, drugs and dietary supplements are commonly seen in clinical practice. This elective course will help develop the pharmacy student's knowledge of the toxic effects of chemicals and drugs when humans are exposed to these agents in acute/toxic overdoses. In addition, the course will emphasize how to prevent exposures, and drug therapy associated with each type of ingestion. This elective is highly recommended for students interested in critical care and/or emergency medicine as clinical toxicology consultations are an element of practice in these areas. Coreq: PY3 core courses.

PPS 980 BEHAVIOR MODIFICATION COACHING. (2)
This elective course is a companion course to the Behavior Modification Project that is part of the PPS 923 Nutrition, Health Promotion, Disease Prevention course. Each student will serve as the coach for a group of 5-6 PY1 students as they complete their semester long project. Coaches will conduct weekly meetings, review student record keeping, provide motivation and accountability to PY1 students, and serve as role models in behavior modification. Coaches also develop skills in human resource management. Prereq: Admission to PY2, College of Pharmacy.

PPS 981 THINKING CREATIVELY FOR INNOVATION. (2)
This 2 credit course revolves around developing the creative and critical thinking skills necessary for innovation and change. This involves exercises and activities to help students develop original and creative solutions to problems. The objective of this course is to equip students with skills to think through, develop and present original, creative ideas that have the potential to contribute to improvement and/or innovation in the healthcare professions. Prereq: Advancement to PY2 or PY3 year in the College of Pharmacy.

PPS 982 INTRODUCTION TO ISSUES IN CLINICAL RESEARCH AND THE INVESTIGATIONAL DRUG SERVICE. (2)
This course is designed to introduce elements of the Investigational Drug Service (IDS) and clinical research operations from a pharmacy perspective. The course will present an overview of clinical research operations and the regulatory bodies that govern research in both hospital and outpatient settings, while focusing on the roles of pharmacists and the interactions of the IDS with the other members of the clinical research team. Emphasis is on 1) an analysis of the investigational drug service, clinical research operations and the many roles involved, and 2) opportunities for pharmacists in clinical research and potential pathways to those opportunities. Prereq: Successful advancement to the third professional year (PY3) in PharmD program, or with permission of the instructor if a current PY2 student.

PPS 984 PRACTICAL APPLICATIONS OF PHARMACY PRACTICE. (2)
This course is intended for students who want to enhance their knowledge of therapeutics and apply it to patient cases. Dosing and preparation of medications will also be a focus, since these topics are not covered in depth in other courses. The other primary emphasis of this class will be on introducing the students to other common topics that will come up while they are on their various student rotations (e.g., IV compatibilities, infusion pumps, ventilator settings, etc.).

PPS 985 CONTROVERSIES IN EMERGENCY MEDICINE. (2)
Emergency Medicine is a potential area of practice for pharmacists. Emergency Medicine involves and interrelates to a number of pharmacotherapeutic areas. This course will address in more detail several topics that are briefly covered in the PharmD curriculum and emphasize how to make clinical decisions with limited information and at a moment's notice. This course will also provide students with insight into some of the controversies surrounding some of the therapeutic decisions in this practice setting and give them experience analyzing the primary literature.

#PPS 986 INTRODUCTION TO ACADEMIC PHARMACY. (2)
Students will learn about basic elements of a career in academia, including faculty appointments and professional program accreditation. Students will also learn the fundamentals of teaching in higher education, including distance learning, lesson planning, and student engagement. This course will culminate with a final presentation, including a lesson plan, on a pharmacy topic

of the student's choice. Prereq: Admission to UK College of Pharmacy third academic year (PY3) and/or permission of instructor.

PPS 988 ADVANCED PHARMACY PRACTICE EXPERIENCE. (3-6)
A clinical experience in the use of drugs in the diagnosis, treatment and management of diseases. Emphasis is placed on a rationale of drug therapy, the provision of contemporary pharmaceutical care services and functioning as a member of an interdisciplinary health care team. Experiences will be obtained in a variety of areas and may involve on-call and evening/weekend responsibilities. May be repeated to a maximum of 48 credits. Laboratory, 40 or more hours per week. Prereq: Admission to the fourth year, College of Pharmacy and permission of instructor.

PPS 991 ADVANCED COMMUNITY PRACTICE. (6)
This course is an advanced pharmacy practice experience (APPE) focused on the prevention, diagnosis, treatment and management of diseases in patients receiving care in the community setting. Emphasis is placed on choosing rational drug therapy, providing contemporary patient care services and functioning as a member of an interdisciplinary health care team. Experiences may include on call and evening/weekend responsibilities. Prereq: Admission to the fourth year, College of Pharmacy; and permission of instructor.

PPS 992 ADVANCED COMMUNITY HOSPITAL. (6)
This course is an advanced pharmacy practice experience (APPE) focused on the prevention, diagnosis, treatment and management of diseases in patients receiving care in the community hospital setting. Emphasis is placed on choosing rational drug therapy, providing contemporary patient care services and functioning as a member of an interdisciplinary health care team. Experiences may include on call and evening/weekend responsibilities. Prereq: Admission to the fourth year, College of Pharmacy; and permission of instructor.

PPS 993 AMBULATORY CARE PRACTICE. (6)
This course is an advanced pharmacy practice experience (APPE) focused on the prevention, diagnosis, treatment and management of diseases in patients receiving care in an ambulatory setting. Emphasis is placed on choosing rational drug therapy, providing contemporary patient care services and functioning as a member of an interdisciplinary health care team. Experiences may include on call and evening/weekend responsibilities. Prereq: Admission to the fourth year, College of Pharmacy; and permission of instructor.

PPS 994 ACUTE CARE/INPATIENT PRACTICE. (6)
This course is an advanced pharmacy practice experience (APPE) focused on the prevention, diagnosis, treatment and management of diseases in patients receiving care in an acute care/inpatient setting. Emphasis is placed on choosing rational drug therapy, providing contemporary patient care services and functioning as a member of an interdisciplinary health care team. Experiences may include on call and evening/weekend responsibilities. Prereq: Admission to the fourth year, College of Pharmacy; and permission of instructor.

PPS 995 PATIENT CARE PRACTICE ELECTIVE. (6)
This course is an advanced pharmacy practice experience (APPE) elective focused on the prevention, diagnosis, treatment and management of disease in patients receiving care in a variety of settings, including community, hospital, long-term care, and specialized clinics. Emphasis is placed on integrating knowledge of therapeutics and pathophysiology in the provision of care to patients, providing drug therapy management, delivering contemporary patient care services, and functioning as a member of an interdisciplinary health care team. Prereq: Admission to the fourth year, College of Pharmacy; and permission of the instructor.

PPS 996 NON-PATIENT CARE PRACTICE ELECTIVE. (6)
This course is an advanced pharmacy practice experience (APPE) that allows the student to sample pharmacy practice opportunities outside of the required experiences. An elective experience may be selected (but not limited to) in the following areas: Practice management administration, pharmacy education, pharmacoeconomics, pharmacoepidemiology, research, pharmaceutical industry, association management, governmental, and international experiences. Prereq: Admission to the fourth year, College of Pharmacy; and permission of the instructor.

PRO Prosthodontics

PRO 820 PRECLINICAL COMPLETE DENTURE PROSTHODONTICS (LECTURE). (2)
This preclinical lecture course provides an introduction to basic concepts of diagnosis and treatment planning, placement and maintenance of complete dentures, as well as the related biological and mechanical factors that must be incorporated for living tissue to be compatible with complete dentures. Prereq: Advancement to Second Year standing or consent of course director. Coreq: PRO 822.

PRO 821 CLINICAL COMPLETE DENTURE PROSTHODONTICS. (1)
The treatment of a patient with complete maxillary and mandibular denture needs is performed in the clinic by the student. The student will assist an upper level student in the examination of a complete denture and a removable partial denture recall patient. Clinic, 52 hours. Coreq: PRO 820.

PRO 822 PRECLINICAL COMPLETE DENTURE PROSTHODONTICS (LAB). (2)
This preclinical laboratory course provides an introduction to basic concepts of fabrication of complete dentures as well as the related biological and mechanical factors that must be incorporated for living tissue to be compatible with complete dentures. Prereq: Advancement to Second Year standing or consent of course director. Coreq: PRO 820.

PRO 824 REMOVABLE PARTIAL DENTURES. (2)
This course is designed to teach the student the basic principles and the practical procedures in providing a therapeutic and functional removable restoration. The course also presents the laws and effects of leverages as related to removable partial dentures as well as the considerations for support, occlusion, and health of all oral structures. Lecture, 19 hours; laboratory, 45 hours. Prereq: PRO 820.

PRO 830 ADVANCED REMOVABLE PROSTHODONTICS. (1)
This course is a continuation of PRO 820. It presents more advanced technique and treatment planning for complex prosthodontic needs. Subjects included are immediate dentures, overdentures and dental implants. Lecture, 21 hours. Prereq: PRO 820 and PRO 824.

PRO 831 CLINICAL REMOVABLE PROSTHODONTICS. (2)
A patient with complete denture needs is treated by the student clinically in the course. The student may opt to treat a patient with immediate, intermediate or overdenture needs. He may initiate and/or complete the treatment of two patients with removable partial denture needs. The student may also treat an optional, additional patient in need of a complete or removable partial denture. The student will recall a minimum of two removable prosthodontic patients and perform any treatment necessary for these patients. Clinic, 110 hours. Prereq: PRO 821; coreq: PRO 830.

PRO 834 PRECLINICAL RESTORATIVE DENTISTRY III. (4)
This is a preclinical course with emphasis on dental hard tissue surgery and restorative procedures for anterior and posterior fixed prosthodontics. Contemporary principles of fixed prosthodontics, including the long term maintenance of dental health, are presented in lectures and applied in practice using manikins. Knowledge gained in previous restorative dentistry courses are applied to more extensive restorations. Lecture, 24 hours; laboratory, 84 hours. Prereq: RSD 822, 823, 824, 825 and 826.

PRO 836 PRINCIPLES OF FIXED PROSTHODONTICS. (2)
This course is a lecture series concerning diagnosis and treatment planning for fixed prosthodontics care and the principles of providing that care. The relationship of tooth restoration and replacements to occlusion, periodontics, orthodontics and removable prosthodontics in both treatment planning and treatment is emphasized. Lecture, 30 hours. Prereq: RSD 823, RSD 821, RSD 822, RSD 824; and/or consent of course director.

PRO 841 ADVANCED CLINICAL REMOVABLE PROSTHODONTICS. (2)
This course covers basically the same area as PRO 831 with the exception that the student is to treat the patient with complete denture needs with less supervision from the instructors. If not done previously, the student must initiate and complete the treatment of two patients with removable partial denture needs. The student will recall three removable prosthodontic patients and will perform any treatment necessary for these patients. Clinic, 114 hours. Prereq: PRO 831.

PS Political Science

Note: It is assumed that all prerequisites include, in addition to any specific course listed, the phrase "or equivalent," or "consent of instructor."

PS 101 AMERICAN GOVERNMENT. (3)
A survey of national government and the political process in the United States, with emphasis on the Constitution, the President, Congress, and the judicial system.

PS 210 INTRODUCTION TO COMPARATIVE POLITICS. (3)
A general introduction to the domestic politics of countries in the various regions of the world, with an emphasis on the concepts used to understand why political issues and processes differ across developed and developing nations. Students also learn how domestic politics are shaped by super-national institutions and by national integration into a global economy.

PS 235 WORLD POLITICS. (3)
A study of the most significant problems of world politics, including the fundamental factors governing international relations, the techniques and instruments of power politics, and the conflicting interests in organizing world peace.

PS 240 INTRODUCTION TO POLITICAL THEORY. (3)
An introduction to modern political thought as it relations to debates over the meaning of democracy, citizenship, justice, authority, and identity. Readings and discussions center on the themes and ideologies dominant in Western political theory, but also will explore contemporary challenges to that tradition, such as feminist political theory and the work of theorists concerned with what is popularly called globalization.

PS 360 POLITICS OF LAW AND COURTS. (3)
A survey of the actors in American government and society who shape the meaning of the law, focusing especially on the judiciary. The course will outline the structure of the judicial system including both state and federal courts as well as the judicial process followed within that system. Prepares students for advanced study in public law and judicial politics. Prereq: UN2 status.

PS 372 INTRODUCTION TO POLITICAL ANALYSIS. (3)
Introduction to the basic knowledge of research methodology in political science; a review of methods of data collection; historical, quantitative and comparative techniques of analysis. Prereq: UN2 status; PS majors only.

PS 391 SPECIAL TOPICS IN POLITICAL SCIENCE (Subtitle required). (3)
Course will focus on selected topics drawn from various areas of political science taught by faculty members with special interests and competence. May be repeated in courses of differing topics to a maximum of 12 credits. Prereq: UN2 status.

PS 395 INDEPENDENT WORK. (1-6)
Consent of instructor. May be repeated to a maximum of 12 credits. Prereq: A standing of 3.0 in political science courses.

PS 399 INTERNSHIP IN GOVERNMENT. (1-6)
This course is designed for students who are participating in a state, local or federal internship program with which the political science department is associated. The student must have approval of the department chairperson upon the recommendation of the Committee on Internship and Experiential Education to take the course, negotiate a learning contract with a departmental academic supervisor, and provide the department with a report or a paper on his internship. Pass/Fail only. May be repeated to a maximum of 12 credits.

PS 410 TOPICS IN REGIONAL POLITICS (Subtitle required). (3)
A survey of politics and government in one region of the world. The course will consider the region's unique political character, but also explain how and why nations within the region differ from each other politically. Some sections will compare and contrast a region's political systems in general, whereas others may be more specialized topically. May be repeated to a maximum of 12 credits under differing subtitles. Prereq: PS 210 or PS 212.

PS 415G COMPARATIVE JUDICIAL POLITICS. (3)
A comparison of the judicial institutions operating across a wide variety of political systems. Emphasis will be on topics such as why different nations or regions evolve different types of courts, how those courts gain legitimacy with the public, and what forces shape the behavior of judges serving in these various court systems. Prereq: PS 210, PS 212, or PS 360.

PS 417G SURVEY OF SUB-SAHARAN POLITICS. (3)
A survey of sub-Saharan government and politics intended to give the student broad knowledge about the setting of African politics, precolonial African political systems, the political legacies of major European colonial powers, and problems of political development. Prereq: PS 210 or 212. (Same as AAS 417G.)

PS 419G THE GOVERNMENTS AND POLITICS OF EASTERN ASIA. (3)
A comparative analysis of the modern political experiences of China and Japan, exploring their responses to the West, the development of differing political elites in each country, and contemporary problems of the Chinese Communist and Japanese politics. Prereq: PS 210 or 212.

PS 420G GOVERNMENTS AND POLITICS OF SOUTH ASIA. (3)
A comparative analysis of contemporary political development in India, Pakistan, Bangladesh and Sri Lanka, with emphasis on political cultures, participation, institutions and the capabilities of these political systems. Prereq: PS 210 or 212.

PS 427G EAST EUROPEAN POLITICS. (3)
This course is meant to provide an opportunity for advanced undergraduates and graduate students to (1) understand the historical, socioeconomic and philosophical context of the communist party states in Eastern Europe, (2) to learn who governs in Eastern Europe and the structures through which they rule, (3) to assess the "dynamics" of communist politics, i.e., factors contributing to political change vis-a-vis political continuity. Prereq: Junior or senior standing and instructor's written permission.

PS 428G LATIN AMERICAN GOVERNMENT AND POLITICS. (3)
A study of contemporary Latin American political institutions and of the dynamics of the Latin American political process. Prereq: PS 210 or 212.

PS 429G GOVERNMENT AND POLITICS IN RUSSIA AND THE POST-SOVIET STATES. (3)
Analysis of political development in the Soviet Union with emphasis on party-government relations, Communist ideology, and major approaches to the study of Soviet politics. Prereq: PS 210 or 212.

PS 430G THE CONDUCT OF AMERICAN FOREIGN RELATIONS. (3)
The formulation of American foreign policy from several analytic perspectives, with somewhat more emphasis on inputs and process than on substantive outputs. Prereq: PS 101 or consent of instructor.

PS 431G NATIONAL SECURITY POLICY. (3)
The organization and formulation of military policy; the theory and practice of deterrence; and the problems of disarmament and arms control. Prereq: PS 235 or consent of instructor.

PS 433G POLITICS OF INTERNATIONAL ECONOMIC RELATIONS. (3)
The course examines contending theoretical approaches to global political economy. These approaches are used to analyze various issues of global political economy, such as the international monetary system, multinational corporations, foreign aid, and trade. Prereq: PS 235.

PS 436G INTERNATIONAL ORGANIZATION. (3)
A study of the evolution of international organizations in the 20th Century. Examination of the increasing size, complexity, and diversity of contemporary global and regional international organizations. The role of international organizations in future world order.

PS 437G DYNAMICS OF INTERNATIONAL LAW. (3)
An examination of the politics of the development of international law and its operation in a multicultural world. Legal principles and international political processes are discussed through illustrative issue areas: management of conflict; distribution of territorial resources; environmental problems; and human rights. Prereq: PS 235 or PS 360.

PS 439G SPECIAL TOPICS IN INTERNATIONAL RELATIONS (Subtitle required). (3)
Course will focus on selected advanced topics in international relations drawn from various areas of that field of political science, taught by faculty members with special interests and competence. May be repeated in courses of differing topics for a maximum of 9 credits. Prereq: PS 235.

PS 441G EARLY POLITICAL THEORY. (3)
A survey of political theorists in the Western political tradition from classical Greece to the Renaissance. The formative influences upon our conceptions of politics, citizenship, justice, and natural rights will be highlighted and key issues in controversies over rhetoric and philosophy, time and political order, education and the body politic, and political action and human artifice will be illuminated.

PS 442G MODERN POLITICAL THEORY. (3)
Western political theory from Machiavelli to Marx and Weber with emphasis on the impact of early modern culture and liberalism upon contemporary views of power, individualism, community, and political consciousness. Key contributions of modern political theorists to perennial debates on power and the intellectual, institutional bases of modern constitutionalism, human nature and aggression, the sources of alienation, and the relation of modern science and technology to contemporary forms of domination will be explored.

PS 456G APPALACHIAN POLITICS. (3)
A study of the interrelationships of the Southern Appalachian region and its people with the larger American political system, culture, and economy. Selective examination of public policies and major issues and their development in the politics of the region.

PS 458 AMERICAN STATE AND LOCAL GOVERNMENT. (3)
A comparative examination of subnational governments, especially state governments but also smaller units such as cities, counties, and school districts. Readings and discussions will explore the variety of institutions and policies found across the United States, seeking an understanding of why places differ from each other politically. The course also will examine the relationship between the national government and the states. Prereq: PS 101; UN2 status.

PS 461G CIVIL LIBERTIES. (3)
A study of the philosophy and development of civil liberties in the U.S. Major concentration on the interpretation of constitutional guarantees by the Supreme Court. Prereq: PS 360.

PS 463G JUDICIAL POLITICS. (3)
A survey of how politics influences, and in turn is influenced by, the behavior of judicial institutions and the judges who staff them. Draws heavily on the social science literature studying judicial behavior, the structure of the court system, and the implementation of legal rulings. Prereq: PS 101 and UN2 status.

PS 465G CONSTITUTIONAL LAW. (3)
A non-chronological study of major Supreme Court decisions and recent issues relating to separation of powers, federalism, the commerce clause, taxes, criminal justice and other non-civil liberties areas. Prereq: PS 360.

PS 470G AMERICAN POLITICAL PARTIES. (3)
An analysis of American national and state party systems, organization, and functions; nominations and elections; and voting patterns. Prereq: PS 101; UN2 status.

PS 471 RACE, ETHNICITY AND POLITICS. (3)
An examination of the role that race and ethnicity play in the political arena. Students will explore the nature of race, racism, and ethnocentrism, as well as their impact on political institutions and public policy. Particular attention will be given to elections, public opinion, mass media and social movements in the United States. (Same as AAS 471.)

PS 472G POLITICAL CAMPAIGNS AND ELECTIONS. (3)
An analysis of individual voting behavior and candidate strategies during presidential and congressional elections. The effect of the mass media, political action committees, and political advertising on the vote decision is examined. Attention is also devoted to candidates' campaign organizations and communication strategies. Prereq: PS 101; UN2 status.

PS 473G PUBLIC OPINION. (3)
An introduction to the nature and content of public opinion, how polls are conducted, the political effects of polling, and the role of public opinion in the policymaking process. Prereq: PS 101; UN2 status.

PS 474G POLITICAL PSYCHOLOGY. (3)
An exploration of different models of political behavior, based on concepts of psychoanalysis, behaviorism, humanism, and social psychology. Prereq: PS 101 and PSY 100 or equivalent, or consent of instructor.

PS 475G POLITICS AND THE MASS MEDIA. (3)
The ways the modern mass media affect the dynamics of politics in the United States are examined in this course. Specific topics include the impact of television on political discourse; the structure and ownership of mass media; how news is made and how it influences our political attitudes and behaviors; the role of the media in campaigns, elections and policy making. Prereq: PS 101.

PS 476G LEGISLATIVE PROCESS. (3)
A study of Congress and the state legislatures, covering the legislative power structure, legislative committees, the selection of legislators and the roles they play, decision making, and the relations of the legislative and executive branches. Prereq: PS 101; UN2 status.

PS 479 WOMEN AND POLITICS. (3)
A study of the role of women as political actors in the United States including the status of women in American society and the contribution of government policy to maintaining or changing that status. The political behavior of women at the mass and elite level will be examined.

PS 480G GOVERNMENT AND THE ECONOMY. (3)
This course analyzes the relationship between political and economic systems in the modern, democratic, capitalist state. While the focus is primarily upon the United States, other political/economic systems as well as more general theoretical statements will be considered. Prereq: PS 101 and ECO 101 or equivalent.

PS 484G THE AMERICAN PRESIDENCY. (3)
A course in the American presidency, emphasizing institutional developments and the impact of recent presidents on the office, on other governmental institutions, on domestic and foreign policies, and including an examination of the broader context of the executive branch of government. Prereq: PS 101; UN2 status.

PS 489G THE ANALYSIS OF PUBLIC POLICY. (3)
A study of the development, implementation and impacts of government policies; and the sources of variation in policies adopted by differing governmental units. Prereq: PS 101; UN2 status.

PS 490 HONORS IN POLITICAL SCIENCE. (3)
This course will provide, in a seminar setting, the opportunity for students to concentrate on developing and implementing research projects on topics of their own choice. The course will allow discussion of various perspectives in political science as well as on problems encountered in the research process. Prereq: Senior standing with 3.25 overall GPA and 3.50 GPA in major.

PS 492 SEMINAR IN POLITICAL SCIENCE (Subtitle required). (1-3)
A topical seminar primarily for majors in political science and in related fields. May be repeated to a maximum of 12 credits in seminars of differing topics. Prereq: UN2, previous PS course.

PS 538 CONFLICT AND COOPERATION IN LATIN AMERICAN RELATIONS. (3)
An examination of (1) national development strategies as determinants of Latin American foreign policies, (2) the origins and political consequences of economic nationalism, (3) historical patterns of U.S. response to reformist and/or revolutionary change, (4) the role of extra-continental contenders for influence in the Americas, and (5) at least one contemporary foreign policy issue in inter-American relations. Prereq: PS 428G or permission of instructor.

PS 545 AMERICAN POLITICAL THOUGHT. (3)
This course explores the American tradition of political thought, its formation, and the ways it is involved in major problems of culture, political economy, ideology, and identity. Alternative ideas of work, power, political obligation, science and technology, and related issues are examined. Relationships of theory and practice, public and private, and government and society are analyzed. Prereq: UN3 status.

PS 557 KENTUCKY GOVERNMENT AND POLITICS. (3)
A study of current political issues and institutions in Kentucky.

PS 566 CONSTITUTIONAL INTERPRETATION. (3)
A study of the political and the philosophical origins of the U.S. Constitution and of the competing and overlapping philosophies about how it should be interpreted in modern times. Prereq: One of the following: PS 461G, PS 465G, or HIS 573.

PS 572 INTRODUCTION TO QUANTITATIVE POLITICAL METHODOLOGY. (3)
Introduction to quantitative research methods used by political scientists. The course introduces students to data sets and statistical software commonly used in political science, and basic analysis techniques used to analyze political data. Prereq: For undergraduates, completion of PS 372.

PS 580 THE BUDGETARY PROCESS. (3)
A study of the development of budgetary techniques in the United States, the uses to which budgets are put, the roles of the budgetary process in budgetary politics and in the functioning of government, and the distribution of government resources through the budget.

PS 620 COMPARATIVE POLITICS: THEORY AND METHOD. (3)
A study of the evolution and development of comparative government and politics within the discipline with particular emphasis upon the formulation, application, and limitations of the theories, taxonomies and conceptual frameworks employed in comparative research.

PS 671 STRATEGIES OF INQUIRY IN POLITICAL SCIENCE. (3)
Analysis of research paradigms for political science, and investigation into the foundations of scientific inquiry. Emphasis on topics such as explanation, concept formation, the construction and function of theory, data, and verification.

PS 672 INTRODUCTION TO TECHNIQUES OF POLITICAL RESEARCH. (3)
Basic techniques of data collection, coding, and processing applicable to political research are introduced. Various statistical techniques of data analysis are discussed and applied to political data. Prereq: PS 671, familiarity with appropriate statistical methods and consent of instructor.

PS 674 PROSEMINAR IN THEORIES OF INTERNATIONAL POLITICS. (3)
A survey of the major theoretical approaches to the study of international systems and processes.

PS 680 PROSEMINAR IN POLITICAL INSTITUTIONS AND PROCESS. (3)
A thorough survey of recent literature on political institutions and the political process, including political parties and the legislative and executive processes, at the national and sub-national levels.

PS 681 AMERICAN POLITICAL BEHAVIOR. (3)
A proseminar providing a survey of major theoretical approaches and empirical research in the field of American political behavior. Intended to explore various individual-level models of behavior and then apply them to specific forms of political behavior.

PS 684 PROSEMINAR IN POLICY STUDIES. (3)
A survey of the various approaches to the study and analysis of public policy impacts. Special emphasis will be given to the normative and ethical implications of alternative conceptualizations of the policy process and the role of the policy analyst.

PS 685 PROSEMINAR IN PUBLIC ADMINISTRATION AND POLICY. (3)
A survey of recent literature on public administration and public policy, including organizational theory, the political environment of administration, public budgeting, public personnel administration, public policy administration, and public management.

PS 690 PROSEMINAR IN CONTEMPORARY POLITICAL THEORY. (3)
An examination of contemporary political theories, especially their relationships to theoretical issues in policy analysis. Major problems such as inquiry and change, ideology and power, and knowledge and authority will be studied, particularly in the context of public policy.

PS 711 TOPICAL SEMINAR IN POLITICAL SCIENCE (Subtitle required). (3)
Topic and instructor will vary from semester to semester. Faculty member presents seminar on topic in which he has particular research competence or special expertise. May be repeated under different subtitle to a maximum of nine hours. Prereq: Two semesters of graduate work and consent of instructor.

PS 731 INTERNATIONAL SECURITY/CONFLICT ANALYSIS. (3)
The seminar examines international security affairs, with an emphasis on the sources and nature of conflict, and methods of conflict, the patterns of conflict, and methods of conflict resolution and regulation, both within states and among them. Prereq: Consent of instructor.

PS 732 COMPARATIVE FOREIGN POLICY (Subtitle required). (3)
This seminar will emphasize comparative analysis of foreign policy. It will compare the foreign policies of a number of countries in order to develop propositions and arrive at generalizations regarding foreign policy process and behavior. The comparative focus will vary. May be repeated to a maximum of six credits under different subtitles.

PS 733 INTERNATIONAL POLITICAL ECONOMY. (3)
The course examines the contending theoretical perspectives and substantive functional issues underlying the politics of international economic relations. Special attention is paid to international trade and money, the politics of North-South relations, and comparative foreign economic policies. Prereq: Consent of instructor.

PS 734 GREAT BOOKS OF WORLD POLITICS. (3)
Overview of classic texts on war and statecraft. Prereq: Consent of instructor. (Same as DIS 710.)

PS 735 DEMOCRACY AND INTERNATIONAL AFFAIRS. (3)
Discussion of the impact of the global spread of democracy on foreign policy and war. Prereq: Graduate status and consent of instructor. (Same as DIP 715.)

PS 737 TRANSNATIONAL ORGANIZATIONS AND PROCESSES. (3)
An analysis of approaches to the study of international, transnational and regional political and economic organizations and processes within the context of world politics. An examination of the impact of these activities and processes on contemporary problems of world order. Prereq: Graduate student status.

PS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

PS 750 POLITICAL PARTIES AND ELECTIONS IN AMERICA. (3)
A study of the organization and functions of political parties, nominations and elections, and voting alignments. Prereq: An undergraduate political parties course or consent of instructor.

PS 756 REGIONAL POLITICS (Subtitle required). (3)
This seminar focuses on the domestic politics and international relations of countries within a specific geographic region (Latin America, the Commonwealth of Independent States, Western Europe, Africa, East Asia, etc.). Theoretical foci include political economy, policymaking, regional integration and national security, development, and political culture.

PS 760 SEMINAR IN JUDICIAL PROCESS. (3)
A thorough survey of literature in judicial process, focusing largely on judicial recruitment and decision-making, litigants' strategies, the implementation and impact of judicial policies and relations between the courts and other power centers. May be repeated to a maximum of six credits.

PS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

PS 772 ADVANCED PROBLEMS IN RESEARCH METHODS. (3)
A seminar in selected topics; the application of mathematical models and advanced statistical techniques to political science data. May be repeated to a maximum of six credits.

PS 775 SEMINAR IN PUBLIC POLICY. (3)
A political analysis of the domestic policy process including the formation, implementation, and impact of policy.

PS 778 RESEARCH PROBLEMS IN TRANSNATIONAL POLITICS. (3)
This seminar focuses on research strategies that can be utilized in dealing with problems in transnational politics. May be repeated to a maximum of six hours with consent of the instructor. Prereq: PS 620 or PS 674.

PS 780 LEGISLATIVE BEHAVIOR. (3)
A study of recent research in the legislative process emphasizing both the substantive and methodological aspects. Prereq: An upper division course in the legislative process or consent of instructor.

PS 795 SPECIAL PROBLEMS IN POLITICAL SCIENCE. (1-3)
Specific programs of readings are developed to meet the needs of individual students. May be repeated to a maximum of six credits for master's students and 12 credits for Ph.D. students. Prereq: Any 600 level course in political science or consent of the Director of Graduate Study.

PS 796 DIRECTED RESEARCH IN POLITICAL SCIENCE. (1-3)
Individual research in a particular field of political science under the supervision of selected faculty. Open to advanced graduate students who are prepared for intensive study and research beyond that offered in regular classes in each field. May be repeated to a maximum of six hours. Prereq: Consent of the instructor and the director of graduate studies.

PSC Psychiatry

PSC 815 FIRST-YEAR ELECTIVE, PSYCHIATRY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Psychiatry. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

PSC 825 SECOND-YEAR ELECTIVE, PSYCHIATRY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Psychiatry. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

PSC 826 MECHANISMS OF DISEASE AND TREATMENT/PSYCHIATRY. (2)
This is an introduction to psychopathology and the psychiatric nomenclature for second year medical students. It occurs during the spring and fits within the context of the larger pathology segment of MD 826. Integration with the pharmacology sequence that runs before and after is in place. Prereq: Promotion to the second year of medical school.

PSC 841 ADULT PSYCHIATRY. (4)
Adult psychiatry elective in Inpatient Psychiatry, Consultation-Liaison/Emergency Psychiatry or Outpatient Psychiatry. Prereq: Third-year Psychiatry Clerkship, MD 833.

PSC 842 CHILD AND ADOLESCENT PSYCHIATRY ELECTIVE. (4)
Psychiatry elective for fourth-year medical students offering a combined experience in inpatient, outpatient, consult/liaison child and adolescent psychiatry. Prereq: MD 833 or equivalent.

PSC 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
PSC 869 RESEARCH IN PSYCHIATRY
PSC 876 TRIPLE BOARD (PEDIATRICS, PSYCHIATRY, CHILD AND ADOLESCENT PSYCHIATRY) ELECTIVE
PSC 890 OFF-SITE CLERKSHIP IN PSYCHIATRY

PSY Psychology

PSY 100 INTRODUCTION TO PSYCHOLOGY. (4)
An introduction to the study of behavior covering theories, methods and findings of research in major areas of psychology. Topics covered will include the biological foundations of behavior; learning, perception, motivation, personality; developmental, abnormal, and social behavior; and methods of assessment. This course is a prerequisite to a significant number of courses in this and related areas of study. Lecture, three hours; laboratory/discussion, two hours.

PSY 195 ORIENTATION TO PSYCHOLOGY. (1)
An orientation to educational issues and career planning for students who have declared psychology as a major. Topics include career paths and opportunities, professional resources and issues, and educational planning. Pass/Fail only. Prereq: Declared major in Psychology, or consent of instructor.

PSY 215 EXPERIMENTAL PSYCHOLOGY. (4)
A study of the application of scientific methods to psychological research. Special emphasis is placed on the critical evaluation of contemporary research in experimental psychology. Particular attention is focused on the design, execution, and written report of laboratory research. Lecture, three hours; laboratory, two hours. Prereq: PSY 100 or equivalent and PSY major or PSY minor, or consent of instructor. Registration is open only to PSY majors during the priority registration window.

PSY 216 APPLICATIONS OF STATISTICS IN PSYCHOLOGY. (4)
An introduction to statistical procedures used in making decisions based on psychological data. May not be used to satisfy the laboratory requirement in the College of Arts and Sciences. Lecture, three hours; laboratory, two hours. Prereq: PSY 100 or equivalent and PSY major, or consent of instructor.

PSY 223 DEVELOPMENTAL PSYCHOLOGY. (3)
An introduction to the principles of developmental psychology as seen in human growth over the entire lifespan, with the primary focus on infancy through adolescence. Emphasis is placed on theory and data relating to the developmental aspects of cognition, language and personality. Prereq: PSY 100 or equivalent.

PSY 302 PSYCHOLOGY IN BUSINESS AND INDUSTRY. (3)
Survey of the many applications of psychological principles and methods to problems in business and industry. Topics include consumer research and marketing, personnel selection, performance appraisal, employee training, motivation, leadership, dynamics of work groups, job stress, and person-machine interactions. Prereq: PSY 100 or equivalent.

#PSY 305 INTRODUCTION TO NEUROSCIENCE TECHNIQUES. (4)
This introductory laboratory course will provide students with practical knowledge and hands-on experience in basic behavioral, anatomical and physiological techniques used by laboratory scientists in the investigation of the nervous system. It is designed as a gateway to independent research experiences in working neuroscience laboratories. Prereq: BIO 302 Introduction to Neuroscience or equivalent. (Same as ANA/BIO 305.)

PSY 311 LEARNING AND COGNITION. (3)
Theory and experimental techniques in the study of learning and cognition. Emphasis on research in the biological basis of learning, perceptual processing, classical conditioning, instrumental conditioning, memory, and language. Prereq: PSY 100 or equivalent and PSY 215 or 216 and PSY major or minor. Registration is open only to PSY majors during the priority registration window.

PSY 312 BRAIN AND BEHAVIOR. (3)
An introduction to structural and functional characteristics of the nervous system. The emphasis is on exploring the relationship between brain and behavior. Topics range from simple structures and behaviors to more complex functions. The biological basis of normal and abnormal behavior is explored from a multidisciplinary perspective. Prereq: PSY 100 or equivalent and PSY 215 or 216 and PSY major or minor. Registration is open only to PSY majors during the priority registration window.

PSY 313 PERSONALITY AND INDIVIDUAL DIFFERENCES. (3)
An introduction to the psychology of individual differences, theories of personality and personality development. Individual differences in cognitive ability and personality will be addressed. Differing theoretical approaches to personality will be covered. Prereq: PSY 100 or equivalent and PSY 215 or 216 and PSY major or minor. Registration is open only to PSY majors during the priority registration window.

PSY 314 SOCIAL PSYCHOLOGY AND CULTURAL PROCESSES. (3)
A selective survey of classic and contemporary theories and research in social psychology from a multicultural perspective. Topics will include social perception, the self, attitudes, aggression, prejudice, and group processes. Credit is not given to students who already have credit for PSY/SOC 344. Prereq: PSY 100 or equivalent and PSY 215 or 216 and PSY major or minor. Registration is open only to PSY majors during the priority registration window.

#PSY 320 INTRODUCTION TO FORENSICS: PSYCHOLOGY AND LEGAL ISSUES. (3)
This course examines the implications of psychological theory and methods for law and the criminal justice system. There is a concentration on psychological research on legal topics (e.g., confessions, eyewitness testimony, jury decision-making, sentencing), social issues (e.g., theories of crime, the death penalty, children and the legal system, race and legal issues, victims of crime), and on psychologists as an important component of the legal system (assessing insanity, competence to testify, criminal profiling).

PSY 331 THE PSYCHOLOGY OF ADJUSTMENT. (3)
The individual's psychological adjustment to society is analyzed from a mental health perspective. The course provides a general orientation to the normal-abnormal continuum of behavior, including individual, social, and cultural determinants of behavior. Prereq: PSY 100 or equivalent.

PSY 333 ABNORMAL PSYCHOLOGY. (3)
A study of the major mental disorders, such as anxiety, mood, substance use, personality, and psychotic disorders, and the biological, psychological, and sociological factors which contribute to their causation. Prereq: PSY 100 or equivalent and one of the following: PSY 215, 216 or 223.

PSY 344 SOCIAL PSYCHOLOGY. (3)
Theoretical and empirical analysis of individual behavior in the social setting with particular emphasis on social learning, motivation, and the measurement, formation, and changing of social attitudes. (Note: Not open for graduate credit to graduate students in Psychology and Sociology.) Credit is not given to students who already have credit for PSY 314. Prereq: PSY 100 or equivalent.

#PSY 393 RESEARCH IN NEUROSCIENCE. (1-3)
An independent research project in an area of neuroscience under the direction of a faculty mentor. A research contract must be signed by the student and the faculty research mentor. May be repeated to a maximum of 12 credits, in combination with other independent research credit hours. They should be capable of doing "independent research" in the sense that they can conduct the experiments with little direct supervision. Students are expected to become familiar with related research in the current literature by regularly reading scientific journals. Prereq: PSY 312, BIO 302 or equivalent.

***PSY 395 INDEPENDENT WORK IN PSYCHOLOGY. (1-3)**
Designed for advanced students who assist faculty members on research projects that are conducted in regular consultation with the faculty member. May be repeated to a maximum of 12 credits, in combination with other independent research credit hours. Pass-Fail only. Prereq: Major in the department with a standing of 3.0 in psychology courses. A signed contract between student and faculty member must be filed in the departmental office prior to enrollment in the course.

PSY 399 FIELD BASED/COMMUNITY BASED EDUCATION. (1-6)
A community-based or field-based experience in psychology, under the supervision of a faculty member. May be repeated to a maximum of 12 credits (if applicable). Pass-fail only. Prereq: Consent of instructor and department chairperson; filing of a learning contract with departmental office and Office for Experiential Education; completion of 12 hours in psychology with a GPA of 2.5 in psychology courses. Psychology majors, juniors and seniors only.

***PSY 427 COGNITIVE PROCESSES. (4)**
A general introduction to cognitive psychology through lecture and lab. Emphasis is placed on theory and research in information processing, memory, decision-making, language and the means by which cognitive psychology is applied to our lives. The lab is designed to provide an opportunity for individualized experience with research equipment and methodology in cognitive psychology. Lecture, three hours per week; laboratory, two hours per week. Prereq: Declared major in Psychology, PSY 195, PSY 215, 216, and 311.

***PSY 430 RESEARCH IN PERSONALITY. (4)**
A lecture-lab course intended to introduce students to the field of contemporary personality psychology. Includes a survey of the methods used and issues examined by current personality psychologists. Lectures will focus on selected current theories and issues, whereas labs will involve an in-depth examination of scale construction and the correlational approach to research. Lecture/discussion, three hours per week; laboratory, two hours per week. Prereq: Declared major, PSY 195, PSY 215, 216, and PSY 313.

***PSY 440 RESEARCH IN SOCIAL PSYCHOLOGY. (4)**
An advanced course in research methods in social psychology. Emphasis will be placed on learning and applying experimental and nonexperimental methods to social psychological issues. In the laboratory component, students will design, conduct, and write up their own social psychological study. Lecture/discussion, three hours per week; laboratory, two hours per week. Prereq: Declared major in Psychology, PSY 195, PSY 215, 216, and 314.

***PSY 450 LEARNING. (4)**
The contemporary theoretical and empirical bases of conditioning and learning in humans and nonhumans will be studied through an integration of lectures and intensive, hands-on laboratory experiences. Lecture, three hours per week; laboratory, two hours per week. Prereq: Declared major in psychology, PSY 195, PSY 215, 216, and 311.

***PSY 456 BEHAVIORAL NEUROSCIENCE. (4)**
An intensive investigation of the neural basis of behavior using an integrated lecture and laboratory format. Principles of neuroanatomy, neurophysiology and neuropharmacology are applied to behavioral processes such as perception, movement, learning, motivation and emotion. Lecture, three hours per week; laboratory, two hours per week. Prereq: Declared major in Psychology, PSY 195, PSY 215, 216, 312, BIO 103, or consent of instructor.

PSY 459 NEUROPHARMACOLOGY: DRUGS AND BEHAVIOR. (3)
Examination of the general principles of drug action, including pharmacokinetic and pharmacodynamic considerations, emphasizing the effects of recreational and psychotropic drugs (including plant-derived and synthetic drugs) on signaling in major neurotransmitter systems. Includes discussion of selected issues such as sex differences, developmental toxicity and medication development. Prereq: PSY 215 and PSY 312, or BIO 148 or equivalent.

***PSY 460 PROCESSES OF PSYCHOLOGICAL DEVELOPMENT. (4)**
A systematic examination of the major theoretical issues and the logic and methods of the scientific study of developmental psychology. The course is organized around theoretical perspectives that have directed the study of developmental processes. In the laboratory component, students will engage in demonstration exercises designed to illustrate selected topics and research techniques. Students will be required to design and implement a research project. Lecture/discussion, three hours per week; laboratory, two hours per week. Prereq: Declared major in Psychology, PSY 195, PSY 215, 216, and 223.

PSY 495 SENIOR THESIS SEMINAR. (4)
This course focus will be on the development and presentation of a research question, and the design of an experimental test of the question. The course will use a seminar format. Students will be expected to give both an oral and written presentation of their research proposal and to participate in the discussion of the proposals of other students. Prereq: Major in psychology, senior status, research sponsor, approval of instructor.

PSY 496 SENIOR THESIS RESEARCH. (4)
This course focus will be on the oral and written presentation of research results. The course will use a seminar format. Students will complete their thesis research, prepare a written report, and present it to the seminar. Prereq: PSY 495.

PSY 499 SENIOR INTERNSHIP IN PSYCHOLOGY. (3)
Designed as a senior-capstone course for psychology majors to integrate classroom learning, theory, and practice in the context of a research or field-based experience in psychology under the supervision of a psychology faculty member. Students spend nine hours weekly in the placement site and meet weekly as a group with the course instructor to discuss placements, readings, and writing assignments. Prereq: Declared major in Psychology, seniors only; consent of instructor; contract with department; faculty supervision; and completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 500 HISTORY AND SYSTEMS OF PSYCHOLOGY. (3)
The course reviews the historical context, influences, and individuals instrumental in the development of psychological research, theories, and systems. Readings and discussions of original sources and contemporary research are emphasized. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 534 CHILD PSYCHOPATHOLOGY. (3)
The course is designed to cover issues in the classification, assessment, and treatment of the major childhood behavior disorders, including attention deficit and conduct disorders, learning disabilities, depression, and child abuse. In addition, issues relating to parent-child relations, divorce, and children's attributions will be covered. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 535 PSYCHOLOGICAL TESTING. (3)
A general orientation to the field of psychological testing. Introduction to the principles and methods of psychological testing, and a survey of the various kinds of psychological tests. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

***PSY 552 EVOLUTIONARY PSYCHOLOGY. (4)**
The course deals with sociobiology, the evolutionary basis of behavior. It examines a range of behavior from responses that are genetically predisposed to the highly flexible conceptual behavior shown by humans, including the origins of belief systems. A required laboratory component consists of applications of techniques used to study flexible animal behavior. Students will learn to train an animal to perform several tasks including a stimulus discrimination. Prereq: Declared major in Psychology, PSY 195, PSY 215, 216, 311, or consent of instructor.

PSY 558 BIOLOGY OF MOTIVATION. (3)
An examination of the causes of human and nonhuman behavior from a biological perspective. Special attention is paid to the interaction between genetic inheritance, individual experience, and physiological state in the control of the appetitive and consummatory behaviors. Prereq: PSY 215 and BIO 103, or BIO 150 or equivalent.

PSY 561 ADVANCED TOPICS IN FOUNDATIONS OF CLINICAL PSYCHOLOGY (Subtitle required). (3)
Selected topics in clinical psychology such as health psychology and introduction to clinical psychology. Course topics will vary from year to year, providing students with a diversity

of material in the area of clinical psychology. May be repeated to a maximum of six credits. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 562 ADVANCED TOPICS IN COGNITIVE PSYCHOLOGY (Subtitle required). (3)
This course is designed to provide in-depth study of a specialized topic within cognitive psychology. Topics will vary from year to year and may include: theories of memory; theories of reading; cognition and emotion; connectionist modeling; engineering and environmental psychology. May be repeated to a maximum of six credits. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 563 ADVANCED TOPICS IN DEVELOPMENTAL PSYCHOLOGY (Subtitle required). (3)
This course is designed to provide in-depth study of a specialized topic in developmental psychology. Topics will vary from year to year and may include: cognitive development; development of memory and attention; development of reasoning and problem solving; and media use and children's development. May be repeated to a maximum of six credits. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 564 ADVANCED TOPICS IN LEARNING (Subtitle required). (3)
The course will provide in-depth study of specialized topics in the area of higher learning in animals. Topics will vary from year to year and may include concept learning, memory, imitation, language, and cooperation. The course will also examine these processes from the perspective of sociobiology. May be repeated to a maximum of six credits. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 565 ADVANCED TOPICS IN NEUROSCIENCE (Subtitle required). (3)
Advanced coverage of recent research within the field of behavioral neuroscience. The course will provide in-depth coverage of one topic, such as developmental psychobiology, neurobiology of learning and memory, or the biological basis of reward. May be repeated to a maximum of six credits. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 566 ADVANCED TOPICS IN SOCIAL PSYCHOLOGY (Subtitle required). (3)
Selected topics exploring aspects of social psychology. The content of the course will vary from year to year, focusing on topics such as social cognition, the self, cross-cultural psychology, personal relationships, consumer and organizational psychology, and nonverbal communication. Class format will be determined by the instructor, with some years having a small seminar structure and other years having a more traditional lecture format. May be repeated to a maximum of six credits. Prereq: Completion of one of the following: PSY 427, 430, 440, 450, 456, 460, or 552.

PSY 603 PSYCHOPATHOLOGY. (3)
An examination of the descriptive, theoretical, and research material relevant to the major classes of disturbed behavior. Special attention is devoted to the stylistic features of neurotic and psychotic communication and behavior. Prereq: Enrollment in the graduate program in clinical psychology.

PSY 610 PSYCHOMETRICS. (3)
Analysis and interpretation of human measurements. The course deals with the application of basic inferential procedures to the analysis and interpretation of psychological data. Required of all graduate students in psychology. Prereq: A course in statistics.

PSY 611 PSYCHOLOGICAL RESEARCH. (3)
The course deals with the design of psychological experiments. Emphasis is upon issues concerning choice of appropriate designs for psychological research. Both experimental and correlational research designs are studied. Required of all graduate students in psychology. Prereq: PSY 610 or permission of instructor.

PSY 616 RESEARCH DESIGN IN CLINICAL PSYCHOLOGY. (3)
Concentrates on current methodologies utilized in clinical research and on the application of sophisticated techniques to traditional research problems. Students are expected to master critical skills for the evaluation of research designs and are encouraged to explore creative approaches to research in important clinical areas. Prereq: Enrollment in the graduate program in clinical psychology.

PSY 620 PROSEMINAR IN HISTORY AND SYSTEMS OF PSYCHOLOGY. (3)
A study of the philosophical precursors and scientific traditions of psychology. The schools of 19th and 20th century psychology are surveyed as are the major theoretical positions and content areas of contemporary psychology. Prereq: Graduate standing in Department of Psychology or Department of Educational and Counseling Psychology. (Same as EDP 615.)

PSY 621 PROSEMINAR IN LEARNING. (3)
An intensive treatment of concepts, methodology, and current developments in the field of learning.

PSY 622 PROSEMINAR IN PERSONALITY. (3)
An intensive treatment of theories, methods of investigation and current developments in the area of personality. Prereq: Enrollment in graduate program in Psychology or consent of instructor.

PSY 623 PROSEMINAR IN SENSATION AND PERCEPTION. (3)
An intensive examination of the facts, methods and concepts involved in the study of sensory and perceptual processes. Prereq: Consent of instructor.

PSY 624 PROSEMINAR IN SOCIAL PSYCHOLOGY. (3)
An intensive examination of the methods and data of social psychology with emphasis on social attitudes. Prereq: PSY 344 or 314 or equivalent.

PSY 625 PROSEMINAR IN DEVELOPMENTAL PSYCHOLOGY. (3)
An intensive treatment of theoretical and experimental literature, both classical and contemporary, in developmental psychology. Prereq: Admission to the graduate program in psychology or consent of instructor.

PSY 626 SURVEY OF HEALTH PSYCHOLOGY. (3)
A survey of the field of health psychology. It will explore the ways in which social and psychological research contribute to an understanding of health and illness behavior. Prereq: Graduate or professional standing and consent of instructor. (Same as BSC 626.)

PSY 627 PROSEMINAR IN PHYSIOLOGICAL PSYCHOLOGY. (3)
An intensive examination of theories, methods of investigation, and current developments in the field of physiological psychology. Prereq: Graduate standing or permission of instructor. (Same as PGY 627.)

PSY 628 PROSEMINAR IN COGNITIVE PROCESSES. (3)
An intensive examination of theoretical and empirical evidence concerning mental processes in the adult human, including attention, memory, language, and problem-solving. Prereq: Graduate standing in psychology, or consent of instructor.

PSY 629 INTRODUCTION TO CLINICAL PSYCHOLOGY. (2)
Offered conjointly by the clinical faculty; covers the broad perspectives of clinical psychology, methods, history, ethics, and professional issues. Prereq: Enrollment in the graduate program in psychology.

PSY 630 CLINICAL METHODOLOGY I. (2)
An intensive survey and evaluation of tests of intelligence and objective methods of assessment of normal and abnormal personality. Special emphasis is given to major theoretical issues and relevant quantitative methods. Prereq: Enrollment in the graduate program in Clinical Psychology.

PSY 631 PRACTICUM IN CLINICAL METHODOLOGY I. (2)
Clinical interviewing and practice in writing reports on behavioral observations, content of verbalization, and case history data. Practice in administration, scoring and interpretation of intelligence tests and objective personality tests. Laboratory, four hours. Prereq: Enrollment in graduate program in Clinical Psychology and prior or concurrent enrollment in PSY 630.

PSY 632 CLINICAL METHODOLOGY II. (2)
Theoretical issues, quantitative methods and research findings on the projective methods of assessment of normal and abnormal personality. Prereq: PSY 630, and enrollment in graduate program in psychology.

PSY 633 PRACTICUM IN CLINICAL METHODOLOGY II. (2)
Practice in the administration and scoring of projective techniques and batteries of clinical tests. Laboratory, four hours. Prereq: PSY 630 and 631, and enrollment in graduate program in clinical psychology. Prereq or concur: PSY 632.

PSY 636 SYSTEMS OF PSYCHOTHERAPY. (3)
An intensive examination of the major theoretical and research approaches to therapeutic behavior change. Prereq: PSY 632 and 633, and enrollment in graduate program in clinical psychology.

PSY 637 PRACTICUM IN PSYCHOLOGICAL ASSESSMENT AND INTERVENTION. (1-3)
Supervised experience in the techniques of psychological assessment and intervention with adults, children, families, and groups. Laboratory, two to six hours per week. May be repeated up to sixteen hours. Prereq: PSY 636 and enrollment in graduate program in clinical psychology.

PSY 638 DEVELOPMENTAL NEUROBIOLOGY. (3)
An explanation of the processes which contribute to the development of the nervous system. Neurophysiological, cell biological and molecular approaches to cell differentiation, neuronal pathfinding and synapse formation and stabilization will be explored and discussed. Examples will be drawn from both vertebrate and invertebrate preparations. Prereq: BIO 535 or consent of instructor. (Same as ANA/BIO/PGY 638.)

PSY 639 PRACTICUM IN PSYCHOLOGICAL ASSESSMENT AND INTERVENTION SUMMER WORK. (0)
Supervised experience in the techniques of psychological assessment and intervention with adults, children, families, couples and/or groups that occurs during the summer, i.e., outside of the academic year (Fall/Spring semesters). This course does not fulfill one of the program requirements for group supervision but it does meet legal and ethical requirements for supervision during practicum training. May be repeated. Prereq: PSY 636 and enrollment in graduate program in clinical psychology.

PSY 708 INTERNSHIP IN CLINICAL PSYCHOLOGY. (0)
Full time practice in an APA-accredited internship setting, with on-site supervision provided by the internship setting and with academic supervision provided by the Director of Clinical Training at the University of Kentucky. May be repeated twice. Prereq: All course work in doctoral program in clinical psychology, approved dissertation proposal, and consent of Director of Clinical Training.

PSY 710 TOPICAL SEMINAR IN CLINICAL PSYCHOLOGY. (3)
A selected topics course designed to cover content areas which are not being met by the current faculty; may be taught by persons with special qualifications from the community or by existing faculty exploring new areas. The topics, which may be offered as the need arises, may include on a semester basis mental retardation, intensive psychoanalytic theory, psychopharmacology, etc. May be repeated to a maximum of six credits. Prereq: As specified by instructor.

PSY 766 TOPICAL SEMINAR IN BEHAVIORAL NEUROSCIENCE. (3)
A study of selected topics in behavioral neuroscience with emphasis on recent research and theory. May be repeated to a maximum of nine credits. Prereq: Consent of instructor. This course may be elected to fulfill requirements in the psychology and physiology graduate programs. (Same as PGY 767.)

PSY 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

PSY 772 TOPICAL SEMINAR IN LEARNING. (3)
The study of selected topics in the learning area with emphasis on the recent experimental and theoretical literature. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

PSY 776 SEMINAR IN DEPENDENCY BEHAVIOR. (3)
The course is designed to explore theories of dependency behavior by examining the concept of dependency as it can be applied to the study of various phenomena including alcohol use and abuse; dependence on other psychoactive substances; institutional dependency; dependency in work settings; and poverty and welfare. Prereq: Consent of instructor. (Same as ANT/SOC/BSC 776.)

PSY 778 TOPICAL SEMINAR IN DEVELOPMENTAL PSYCHOLOGY. (3)
An advanced seminar in selected topics in human development, including cognition, learning, language, personality, socialization, life span issues, and developmental aspects of psychopathology. Prereq: PSY 625 and enrollment in graduate psychology program, or consent of instructor. May be repeated a maximum of six credits.

PSY 779 TOPICAL SEMINAR IN SOCIAL PSYCHOLOGY. (3)
Each semester some topic in the field of social psychology, such as attitudes and beliefs, structures and function of social groups, social determinants of behavior, leadership, and morale will be studied intensively. May be repeated to a maximum of six credits. (Same as SOC 779.)

PSY 780 PROBLEMS IN PSYCHOLOGY. (1-3)
This number is used for topical seminars taught on an experimental basis or covering special material that may not be presented again. May be repeated to a maximum of 12 hours credit.

PSY 781 RESEARCH PARTICIPATION. (1)
Emphasis on the team approach to research. Designed primarily for first year graduate students. May be repeated to a maximum of four credits. Laboratory, two to four hours. Prereq: Enrollment in the graduate program in psychology.

PSY 790 RESEARCH IN PSYCHOLOGY. (1-12)
A minimum of three hours per credit a week is required on research conducted in consultation with the instructor. May be repeated as necessary with the approval of the Director of Graduate Studies.

PT Physical Therapy

PT 603 PHARMACOLOGY I. (1)
Fundamental concepts of pharmacology and their impact on the physical therapy management of patients. This course focuses on the integration of basic science, research, and clinical intervention. Prereq: Admission to the Physical Therapy Professional program and successful completion of the spring and summer semesters in the first year.

PT 604 PHARMACOLOGY II. (1)
This course will build on the material covered in PT 603, Pharmacology I in Physical Therapy, focusing on how drug classes influence rehabilitation treatment strategies. Prereq: Successful completion of PT 603.

PT 605 WELLNESS AND SPORTS NUTRITION. (3)
Emphasis is directed toward nutrition as applied to prevention of disease through lifestyle management and the application of nutrition in exercise and sport. Targeted focus areas are: body composition and energy expenditure, the metabolic basis of weight management, nutrient needs throughout the lifecycle, the metabolic changes associated with obesity, behavioral management of obesity, nutrient metabolism and exercise, water and electrolyte balance during exercise, nutritional ergogenic aids, nutrition-strength and performance enhancement. Prereq: PGY 412G, and BCH 401G or equivalent or consent of instructor. (Same as CNU/NS 605.)

PT 610 ETHICS IN CLINICAL SCIENCES RESEARCH. (1)
Students will examine ethical issues in biomedical research using a case-study approach. Representative issues addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, scientific misconduct, and informed consent. Prereq: Graduate student status. (Same as CD/CLS/CNU/RAS 610.)

PT 628 GERONTOLOGY FOR PHYSICAL THERAPY STUDENTS. (2)
PT 628 will utilize biological aspects of aging as the foundation, and integrate psycho-social-spiritual characteristics associated with aging, health and function through the use of lectures, discussions, case studies, service learning, panel discussions and clinical experience. Students will work closely with older adults in terms of PT management for those with functional limitations and in health care promotion and prevention. Prereq: Admission to the Physical Therapy Professional program and successful completion of the first year.

PT 645 RESEARCH AND MEASUREMENT IN PHYSICAL THERAPY. (3)
An analysis of various procedures and measuring instruments used in clinical practice and research in physical therapy. Emphasis is placed on the theory, application, and interpretation of the measurements in the evaluation of published materials. Basic statistical techniques and their appropriate use will be presented. Prereq: Admission to the Physical Therapy professional program and to the Graduate School.

PT 650 DYSFUNCTION OF PERIPHERAL JOINTS. (3)
This course is an advanced approach to assessment and therapeutic management of musculoskeletal problems involving peripheral joints. Lecture, two hours; laboratory, two hours per week. Prereq: Consent of instructor.

PT 651 DYSFUNCTION OF VERTEBRAL JOINTS. (3)
This course concentrates on advanced theories and techniques of assessment and therapeutic management of musculoskeletal problems of the back. Lecture, two hours; laboratory, two hours per week. Prereq: Consent of instructor.

PT 652 PATHOMECHANICS. (3)
An application and research oriented investigation into the science of abnormal human movement. The course involves the pathologic aspects of neural control, muscle contraction, assessment and motion analysis, joint mechanics, and noncontractile tissue as they relate to human movement and kinetics. Lecture, two hours; laboratory, two hours per week. Prereq: HPR 515 or consent of instructor.

PT 654 MOTOR CONTROL THEORY AND INTERVENTION. (4)
This course explores current knowledge regarding the neurophysiological mechanisms involved in motor control from birth to adulthood. The course also explore a variety of therapeutic interventions with motor control as a foundation. Prereq: Admission to the PT professional program or consent of the instructor.

PT 655 NEUROMOTOR DEVELOPMENT. (3)
This is an advanced course on normal neuromotor development and the deviations from normal with emphasis on the infant. Prereq: Consent of instructor.

PT 668 RESEARCH TOPICS IN PHYSICAL THERAPY: ANALYSIS. (1-3)
This course is intended to introduce the student to methods of analyzing data and problems of writing a scientific paper for publication. Students will analyze data they have collected as it relates to their research problems. Their written manuscripts will be due at the end of this course. May be repeated to a maximum of three credits. Prereq: Admission to the Physical Therapy professional program and successful completion of the first year or permission of the instructor.

PT 669 RESEARCH TOPICS IN PHYSICAL THERAPY: OUTCOMES. (1-3)
This course is intended to introduce students to the process of turning a finished research manuscript into an oral research presentation. Students will be responsible for audiovisuals, handouts, and any other methods used to make their presentations. In addition to faculty advisor input and grading, students will critique their own presentations and gain experience in critique of other professional research presentations. May be repeated to a maximum of three credits. Prereq: Admission to the Physical Therapy professional program and successful completion of the second year or permission of the instructor.

PT 676 ELECTROPHYSIOLOGICAL TESTING AND THERAPEUTICS. (1-3)
The student is introduced to the principles of electricity, how it affects the muscle and nerve, its use in physical therapy for patient assessment and management, and its safety aspects. Lectures and laboratory exercises are included. Students in the professional program will enroll for at least one credit in the first year of the professional program and at least one credit in the second year of the professional program. May be repeated to a maximum of three credits. Prereq: Admission to the Physical Therapy Professional program and successful completion of the first two semesters of the program.

PT 686 SPECIALTY ELECTIVES. (1-4)
Introduction to emerging specialty areas within the physical therapy profession. Students will select multiple specialty areas under faculty direction. May be repeated to a maximum of 3 credits. Prereq: Admission to the Physical Therapy Professional program and active enrollment in the first semester of the professional curriculum or beyond or consent of the instructor.

PT 695 INDEPENDENT STUDY IN PHYSICAL THERAPY. (1-3)
Independent work devoted to specific problems or area of interest in physical therapy. Work to be supervised by a graduate faculty member proficient in the area under study. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

PT 705 SKELETAL MUSCLE PHYSIOLOGY AND ADAPTABILITY. (3)
This course is designed to present a broad series of topics central to the understanding of human skeletal muscle physiology and therapeutic interventions. Course emphases will include muscle physiology rather than anatomic factors enabling the clinical implications of the dynamic alterable nature of muscle to be central. Included in these implications are aging, disease

and injury processes, and therapeutic interventions/strategies. Prereq: Admission to the graduate program in Physical Therapy, or the Rehabilitation Sciences Ph.D. program or consent of instructor.

PT 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

PT 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

PT 770 SEMINAR IN PHYSICAL THERAPY PUBLIC HEALTH AND WELLNESS ISSUES. (2)
Each semester a contemporary topic in the field of physical therapy will be studies intensively. Lecture, two to three hours per week; laboratory, zero to two hours per week. May be repeated to a maximum of nine credits.

PT 804 BEHAVIORAL FACTORS IN HEALTH AND DISEASE ACROSS THE LIFESPAN. (3)
This course studies human behavior relating to health and disease and the organization of health care as a social system. Selected psychological and social science concepts are presented in a biobehavioral frame of reference across the lifespan and are applied to the consideration of specific problems in physical therapy. Prereq: Admission into the Professional Physical Therapy program.

PT 805 NORMAL FUNCTIONAL ANATOMY. (3)
A regional study of the normal functional aspects of the neuromusculoskeletal systems, including the basic principles of biomechanics and human locomotion. This course runs during the entire 12-week summer term. Prereq: Admission to the Physical Therapy professional program and successful completion of the spring semester (first year of the professional program).

PT 814 FOUNDATIONAL SKILLS. (2)
A course that lays the foundation for specific physical therapy procedures, basic to the delivery of care and professional development. Prereq: Admission to the Physical Therapy education program and consent of the instructor.

PT 815 BASIC CLINIC SKILLS. (3)
Theory, techniques, rationale, physiological effects, and indications of basic physical therapeutic procedures of hydrotherapy, thermal therapy, cryotherapy, muscle testing and goniometry evaluations, gait analysis, muscle function are presented in lecture. Techniques are demonstrated and practiced in laboratory. Prereq: Admission to the Physical Therapy professional program and successful completion of the spring semester (first year of the professional program).

PT 821 MANAGEMENT OF VASCULAR AND INTEGUMENTARY DISORDERS. (2)
The theoretic and clinical framework for physical therapy assessment and management of patients with disorders of the vascular and integumentary system, (i.e., open wounds, burns, etc.) are discussed. The student will utilize a problem solving approach to select, implement tests and measurements as well as therapeutic interventions. Prereq: Admission to the Physical Therapy professional program and successful completion of the first year.

PT 825 PROSTHETICS. (2)
This course will prepare the student to perform physical therapy evaluation and provide patient management as part of a prosthetic team. Lecture, 18 hours; laboratory, 34 hours. Prereq: Admission to the Physical Therapy professional program and successful completion of the first year.

PT 826 ORTHOTICS. (2)
This course will prepare the student to perform the physical therapy evaluation and provide patient management as part of a prosthetic or orthotic team. Lecture, 18 hours; laboratory, 30 hours. Prereq: Admission to the Physical Therapy professional program and successful completion of the first year.

PT 827 SPINAL CORD INJURY. (2)
This course will apply material and techniques from prior classes to the acute and chronic treatment of the spinal cord injured individual. Use of evaluation skills, body mechanics, knowledge of anatomy and physiology and program planning will play major roles in the course. In addition, you will be encouraged to view the patient as a whole. Experiences will include patient demonstrations, videotapes, and personal experiences that will help you appreciate the lifestyle change that is inevitable after a severe injury. Prereq: Admission to the Physical Therapy professional program and successful completion of the first year.

PT 830 DIAGNOSTIC IMAGING, SCREENING AND INSTRUMENTATION. (2)
This course presents diagnostic screening processes utilized in PT. Included are the applications of results from specialized imaging instrumentation. Prereq: Successful completion of the previous second year courses in physical therapy.

PT 831 CLINICAL NEUROPHYSIOLOGY. (2)
The study of the regional organization of the brain and spinal cord, the ways in which they connect and how these connectivities influence human behavior with emphasis on motor behavior. The effect of disease states on normal brain and spinal cord function will be discussed. Prereq: Admission to the Physical Therapy professional program and successful completion of the spring and summer semesters in the first year.

PT 834 INTRODUCTION TO PHYSICAL THERAPY AND BIOETHICS. (3)
An orientation to the profession of physical therapy including history, professional organization, role in health care, elementary patient care skills, use of the medical library and professional documentation. Bioethics will be introduced in relationship to moral issues in health care. Prereq: Admission to the Physical Therapy professional program.

PT 835 PHYSICAL THERAPY CLERKSHIP I. (1)
The student receives campus based clinical and classroom preparation for clinical experience. The student then observes patient treatment by experienced staff members and is supervised in the performance of elementary procedures involved in patient care. Offered on a pass/fail basis only. Prereq: Admission to the Physical Therapy professional program and successful completion of the first two semesters of the professional program.

PT 836 PHYSICAL THERAPY CLERKSHIP III. (3)
Students progress from performance of basic skills under close supervision to performance of those skills with more independence and adding more opportunities for evaluation and treatment experiences. Offered on a pass/fail basis only. Prereq: Admission to the Physical Therapy professional program and successful completion of the first three semesters of the professional program.

PT 837 PHYSICAL THERAPY INTERNSHIP I. (4)
This course is the first clinical internship. Students remain under supervision of clinical instructors but have increasing independence in evaluation, examination, treatment and discharge planning in a variety of clinical settings at selected sites. Offered on a pass/fail basis only. Prereq: Admission to the Physical Therapy professional program and successful completion of the first six semesters of the professional program.

PT 838 PHYSICAL THERAPY INTERNSHIP II. (6)
This course is the second clinical internship. Structure is similar to PT 837 but students continue to increase their repertoire of clinical skills and meet higher passing standards while receiving two additional weeks of clinical experience. Students will continue to perform physical therapy evaluation, examination, treatment and discharge. Offered on a pass/fail basis only. Prereq: Admission to the Physical Therapy professional program and successful completion of the first two years of the professional program.

PT 839 PHYSICAL THERAPY INTERNSHIP III. (6)
This course is the third of three clinical internships. Structure is similar to PT 837 and PT 838 but students continue to increase their repertoire of clinical skills. Students are expected to perform as entry level physical therapist by the end of the internship. Students are placed in appropriate sites throughout the Commonwealth and the United States. International experiences are available for selected students. Offered on a pass/fail basis only. Prereq: Admission to the Physical Therapy professional program and successful completion of the first two years of the professional program.

PT 840 ADVANCED CAPSTONE INTERNSHIP IV. (8)
This course consists of a 12 week internship in which the students are assigned to clinical facilities throughout Kentucky and beyond. Prereq: Course work preceding this in the professional program.

PT 846 MEDICAL AND PHYSICAL THERAPY MANAGEMENT OF ORTHOPEDIC PROBLEMS. (3)
An introduction to medical procedures, including history, physical exam, laboratory data, radiographic film and medical and physical therapy management of orthopedic problems, including fractures, soft tissue injuries, scoliosis, joint replacements, muscle transplants and tendon repairs, will be presented. Prereq: Admission to the Physical Therapy professional program and successful completion of the first year.

PT 847 MANAGEMENT OF NEUROLOGICAL SYSTEMS I. (3)
Medical and physical therapy management of neurological problems, including the neurological examination, seizures, degenerative and neurological diseases, will be presented. Lecture/laboratory, patient contact, and case study formats will be used. Lecture, two hours; laboratory, two hours. Prereq: Admission to the Physical Therapy professional program and successful completion of the first year.

PT 850 ADVANCED MANUAL INTERVENTIONS. (3)
A combined lecture and lab series focusing on advanced manual interventions, their indications, contraindication, anticipated goals and expected outcomes. Topics will include spinal mobilization and manipulation, manual lymph drainage, soft tissue, neural tissue and connective tissue mobilization along with current topics introduced through advancement of knowledge in the profession. Prereq: Admission to the PT program and successful completion of the second year or the consent of the instructor.

PT 854 PATHOLOGY AND CLINICAL APPLICATION. (4)
PT 854 is a medical pathology course where major diseases and conditions of the body's systems are presented in terms of definition, etiology, pathogenesis, clinical presentation, prognosis and intervention. Prereq: Admission to the Physical Therapy professional program.

PT 856 THERAPEUTIC EXERCISE I. (2)
This introductory course provides an overview of therapeutic exercise and its relation to patient management, and development of skill in basic therapeutic exercise approaches for improving muscle performance, relaxation and mobilization. Lecture and laboratory sessions are included. This course runs during the entire 12-week summer term. Prereq: Admission to the Physical Therapy professional program and successful completion of the spring semester in the first year.

PT 860 DIAGNOSIS AND MANAGEMENT OF COMPLEX PATIENTS. (3)
Lecture and case-based small group discussion of patients who have complex management needs in the biomedical, physical, psychosocial, and/or spiritual realms. Prereq: Successful completion of all prior course work in the PT program.

PT 867 RESEARCH TOPICS: DESIGN. (1)
This course will focus on designing a hypothesis-driven and/or goal oriented research project in the area of Physical Therapy. This will include determining the research area and question, choosing the correct research design for the research question, assessing the feasibility of the proposed project, gaining knowledge and experience in writing a research proposal, and estimating the potential outcomes of a project. This course will re-emphasize, build upon, and apply knowledge and skills acquired in PT 645 (Research Design and Measurement). This course will also enable the student to write a comprehensive research or project proposal for implementation. While students are given flexibility (based on advisor input) to design a project, all projects are expected to incorporate outcomes measurements. Prereq: Admission to the Physical Therapy program, successful completion of PT 645 or permission of the course instructor.

PT 877 CARDIOPULMONARY PHYSICAL THERAPY. (3)
A combined lecture, laboratory series about the theoretical and practical foundations necessary for entry-level physical therapists to conduct examinations and interventions for individuals with primary or secondary cardiac and/or pulmonary dysfunction. Case studies, demonstrations and laboratory experiences are used to help the student. Prereq: Students must have successfully completed the first year of program.

PT 887 INTRODUCTION TO PHYSICAL THERAPY MANAGEMENT. (1)
An introduction to basic management techniques including purpose, goals and objectives; contracts, task statement and analysis; position descriptions; medicaid; quality assurance; placement services. This course runs during the entire 12-week summer term. Prereq: Admission to the Physical Therapy professional program and successful completion of the first year.

PT 888 ADVANCED PHYSICAL THERAPY MANAGEMENT. (3)
Emphasis is placed on operational aspects of physical therapy department including relationship to total facility operation, designing and equipping a department, contracts, salaries, fees, personnel policies, records, data processing, budget process, medical-legal implication, continuing education, and the consultative process. Prereq: PT 887 or consent of instructor.

PT 890 PROFESSIONAL SEMINAR. (1)
This course will provide a framework for preparation and completion of the comprehensive examination upon fulfillment of all other requirements for graduation from the physical therapy doctoral program. Students will be guided toward information that will increase their effectiveness in preparing for the exam which in turn provides an effective foundation for completion of professional certification after graduation from this program. Prereq: Admission to the Physical Therapy program, completion of all course requirements in the program or permission of the course instructor.

PT 902 INTEGRATION OF EVIDENCE BASED PRACTICE. (3)
This course is designed to provide the participant with knowledge and hands-on experience in the integration of an evidence-based approach into practice. Students will learn how to critically review the literature and will acquire skills to integrate evidence into practice. Prereq: Admission to transitional DPT track and completion of a CAPTE accredited professional – entry level physical therapy program and successful achievement of licensure. Applicants will be required to have completed a minimum of 9 months of clinical activity as a professional physical therapist.

PT 904 HEALTH PROMOTION AND DISEASE PREVENTION. (2)
This 2 credit course is designed to increase the depth and breadth of the practitioner's knowledge regarding health promotion, wellness and disease prevention, particularly as it is appropriate within the scope of PT practice. Utilizing valid theoretical constructs for behavioral change, the course will focus on clinical application and program design for effective promotion of health, wellness, and disease prevention for the individual and for the community. Prereq: Admission to transitional DPT track and completion of a CAPTE accredited professional – entry level physical therapy program and successful achievement of licensure. Applicants will be required to have completed a minimum of 9 months of clinical activity as a professional physical therapist and PT 902.

PT 906 ADVANCED PHYSICAL THERAPY DIAGNOSIS AND SCREENING. (2)
This course is designed to provide the PT practitioner with increased expertise in analysis and interpretation of multidisciplinary tests, measures, and screens in order to enhance PT diagnostic and screening skills. Instrumentation related to imaging techniques such as radiology, magnetic resonance, PET scans, and ultrasound will be addressed. In addition, specific foci will include nerve conduction velocity examination, as well as the use of the computer enhanced equipment (e.g. Biodex, Cybex, BTE, Neurocom) for assessing strength, endurance, balance and function. Prereq: Admission to transitional DPT track and completion of a CAPTE accredited professional – entry level physical therapy program and successful achievement of licensure. Applicants will be required to have completed a minimum of 9 months of clinical activity as a professional physical therapist and PT 902.

PT 908 CLINICAL DECISION MAKING FOR PATIENTS WITH COMPLEX PROBLEMS I. (3)
This course is designed to enhance the diagnosis and management skills of PT practitioners in providing care to individuals with complex problems related to chronic illness and/or neuromuscular pathology. This includes deepening practitioners' knowledge base regarding pathology and clinical application, as well as enhancing their understanding regarding biopsychosocial-spiritual aspects of coping and adaptation as experienced by patients with multiple diagnoses and problems. Foundational material related to pharmacology, reimbursement, care environments, and cardiopulmonary pathology and management will be presented. Prereq: Admission to transitional DPT track and completion of a CAPTE accredited professional – entry level physical therapy program and successful achievement of licensure. Applicants will be required to have completed a minimum of 9 months of clinical activity as a professional physical therapist and PT 902.

PT 910 CLINICAL DECISION MAKING FOR PATIENTS WITH COMPLEX PROBLEMS II. (2)
This course is designed to enhance the diagnosis and management skills of PT practitioners in providing care to individuals with complex problems related to acute illness and/or musculoskeletal pathology. This includes deepening practitioners' knowledge base regarding pathology and clinical application, as well as enhancing their understanding regarding biopsychosocial-spiritual aspects of coping and adaptation as experienced by patients with multiple diagnoses and problems. Material foundational to this course is presented in PT 908. The two courses are linked, taught in modular format sequentially. Prereq: Admission to transitional DPT track and completion of a CAPTE accredited professional – entry level physical therapy program and successful achievement of licensure. Applicants will be required to have completed a minimum of 9 months of clinical activity as a professional physical therapist and PT 902 and 908.

PT 912 ADVANCED ELECTIVES. (2)
This course is designed to allow the student to select an area of special interest for focus and investigation. The course work is designed to allow acquisition of knowledge and skill at an advanced level. Students will choose one specialty area out of a selection of elective topics for their in-depth study. Topics for advanced electives may vary each year based on student interest and faculty expertise. Prereq: Admission to the transitional DPT track or permission of the instructor.

RAS Radiation Sciences

RAS 472G INTERACTION OF RADIATION WITH MATTER. (3)
Basic aspects of the interaction of ionizing radiation with matter. Bohr atom, atomic spectra, radioactivity, energetics of decay. Sources of radiation, penetration of charged particles, electromagnetic radiation, and neutrons through matter; excitation and ionization processes; selected nuclear reactions; basic radiation detection and dosimetry. Prereq: PHY 213 or 232; MA 114 (may be taken concurrently); or equivalent. (Same as PHY/RM 472G.)

RAS 545 RADIATION HAZARDS AND PROTECTION. (3)
An analysis of common radiation hazards encountered in medicine, research, industry, and the environment. Regulations and procedures for the safe use of ionizing and nonionizing radiations. Lecture, two hours; laboratory, two and one-half hours. Prereq: PHY/RM 472G or consent of instructor. (Same as PHY/RM 545.)

RAS 546 GENERAL MEDICAL RADIOLOGICAL PHYSICS. (3)
The uses and dosimetric aspects of radiation in medicine will be analyzed, including many basic applications in the fields of diagnostic radiology physics, therapy physics, and nuclear medical physics. Prereq or concur: RM/PHY 472G or consent of instructor. (Same as PHY/RM 546.)

RAS 601 ADVANCED RADIATION DOSIMETRY. (2)
Advanced aspects of the interaction of radiation with matter and specialized topics in the dosimetry of ionizing radiations. Modifications of Bragg-Gray theory for application to megavoltage sources. Beta dosimetry. Specialized calibration techniques. Relative response functions of various media. Nontraditional techniques. Dosimetry of radiation fields including complex spectra. Prereq: PHY 472G, RM 546, or equivalent. (Same as RM 601.)

RAS 610 ETHICS IN CLINICAL SCIENCES RESEARCH. (1)
Students will examine ethical issues in biomedical research using a case-study approach. Representative issues addressed may include data selection and retention, plagiarism, scientific review of grants and manuscripts, scientific misconduct, and informed consent. Prereq: Graduate student status. (Same as CD/CLS/CNU/PT 610.)

RAS 647 PHYSICS OF DIAGNOSTIC IMAGING I. (3)
Specialized and advanced topics in diagnostic imaging, including modulation transfer function analysis, image processing algorithms, acceptance testing, CT, NMR, ultrasound, etc. Prereq: PHY/RM/RAS 546 or consent of instructor. (Same as RM 647.)

RAS 648 PHYSICS OF DIAGNOSTIC IMAGING II. (3)
A continuation of RAS/RM 647. Specialized and advanced topics in nuclear medicine imaging physics, including positron emission tomographic procedures, emerging new modalities, and quality control. Prereq: RM/RAS 647 or consent of instructor. (Same as RM 648.)

RAS 649 PHYSICS OF RADIATION THERAPY. (3)
Specialized external beam and brachytherapy treatment planning; advanced Bragg-Gray cavity applications, including Ngas and TG-21; calibration, acceptance testing, and quality control of therapy physics equipment. Prereq: RAS/RM/PHY 546 and RAS/RM 601, or consent of instructor. (Same as RM 649.)

RAS 650 PHYSICS OF RADIATION THERAPY II: BRACHYTHERAPY PHYSICS. (2)
A presentation of the full scope of use of implanted radiation sources for medical purposes. The course includes consideration of all aspects of brachytherapy dosimetry and treatment planning as well as modern and cutting-edge brachytherapy clinical practice. Characteristics of interstitial, intracavitary, and intraluminal implants, as well as remote afterloaders, are considered. Prereq: RAS/RM/PHY 546; RM/PHY 472G; RAS/RM 649 (may be co-requisite). (Same as RM 650.)

RAS 651 ADVANCED LABORATORY IN DIAGNOSTIC IMAGING PHYSICS. (1-3)
Specialized experiments involving the use, calibration, and quality control of x-ray and other diagnostic imaging equipment, and the appropriate use of radiation detectors in diagnostic physics measurements. Laboratory, approximately 30 hours per credit. May be repeated to a maximum of three credits. Prereq: RM/PHY 472G, RAS/RM 546; and concurrent: RAS/RM 647, or equivalent, plus graduate standing in the radiation science program.

RAS 695 RESEARCH IN THE HEALTH-RELATED RADIATION SCIENCES. (1-4)
Independent directed research on theoretical and practical problems in the health-related radiation sciences. May be repeated to a maximum of eight credits. Prereq: Graduate standing in one of the radiation-related sciences, plus consent of instructor. (Same as RM 695.)

RAS 710 RADIATION SCIENCE SEMINAR (Subtitle required). (1)
Topics of current interest relating to radiation and its applications in the areas of radiological medical physics and health physics. May be repeated to a maximum of four credit hours with consent of instructor. Prereq: Graduate standing in a radiation-related science.

RAS 849 RADIATION SCIENCES PRACTICUM. (1-6)
Applied practicum experiences in the radiation sciences. Laboratory, 40 hours per week equals one credit hour. Prereq: Advanced graduate standing the in radiation sciences.

RBM Physical Medicine and Rehabilitation

RBM 815 FIRST-YEAR ELECTIVE, PHYSICAL MEDICINE AND REHABILITATION. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Physical Medicine and Rehabilitation. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

RBM 825 SECOND-YEAR ELECTIVE, REHABILITATION MEDICINE. (1-4)
The student will be assigned to a faculty member and will attend inpatient rounds and staff conferences on the Spinal Cord Injury, Brain Injury or Stroke units at Cardinal Hill Hospital. Student will attend OT and PT Clinics with assigned patients; a brief discussion paper will be required on an assigned topic.

RBM 850 ACTING INTERNSHIP IN REHABILITATION MEDICINE. (1-6)
Acting internship in Rehabilitation Medicine. May be repeated to a maximum of eight credits. Prereq: Medicine and/or surgery clerkship.

RBM 851 OUTPATIENT REHABILITATION (PHYSICAL MEDICINE). (4)
An introduction to outpatient physical medicine and rehabilitation that encompasses primarily musculoskeletal disorders such as low back pain, chronic pain, sports medicine and amputee clinic. In addition, the medical student will be exposed to electrodiagnostic procedures and soft-tissue injection techniques. Students will be under direct supervision of a resident and an attending during clinic hours (8 a.m. - 5 p.m.) five days per week. Laboratory, 40 hours per week.

RBM 852 PEDIATRIC ORTHOPAEDIC REHABILITATION. (4)
An introduction to pediatric rehabilitation and pediatric orthopaedics with emphasis on the total care of children with chronic neuromuscular or orthopaedic diseases, including cerebral palsy, spina bifida, and juvenile rheumatoid arthritis. Other possibilities for clinical involvement include pediatric clinics in hip disease, foot and hand problems, spine disease and pediatric prosthetics. Students will be under the direct supervision of attendings from Rehabilitation Medicine, Pediatrics, and Orthopaedic Surgery. Laboratory, 40 hours per week.

RC Rehabilitation Counseling

***RC 515 MEDICAL AND PSYCHOSOCIAL ASPECTS OF DISABILITIES I. (3)**
This course is designed to prepare rehabilitation and mental health counselors, social works and students in related fields with a working knowledge of the medical and psychosocial aspects of disability and chronic illness, and to provide students with the knowledge and understanding necessary to function and serve effectively in rehabilitation counseling and related interdisciplinary, allied health, and mental health settings. Topic areas include: human body systems, medical terminology, medical, functional, environmental and psychosocial aspects of dis abilities and chronic illness, professional ethics, assistive technology, diagnostic classification systems, psychopharmacology, functional capacity, and wellness and illness prevention concepts and strategies. Specific disabilities covered in this course include neurologic, hearing, vision, intellectual disabilities, developmental disabilities, autism and Asperger's, learning disabilities, attention deficit disorders, and substance abuse. Prereq: College level courses in biology and psychology or consent of instructor. (Same as SW 515.)

***RC 516 MEDICAL AND PSYCHOSOCIAL ASPECTS OF DISABILITIES II. (3)**
This course is designed to prepare rehabilitation and mental health counselors, social workers, and students in related fields with a working knowledge of the medical and psychosocial aspects of disability and chronic illness, and to provide students with the knowledge and understanding necessary to function and serve effectively in rehabilitation counseling and related interdisciplinary, allied health, and mental health settings. Topic areas include: human body systems, medical terminology, medical, functional, environmental and psychosocial aspects of disabilities and chronic illness, professional ethics, assistive technology, diagnostic classification systems, psychopharmacology, functional capacity, and wellness and illness prevention concepts and strategies. Specific disabilities covered during this semester include psychiatric and psychological impairments, endocrine, gastroenterology, cancer, burns and skin disorders, blood and the immune system, respiratory, kidney and renal function and musculoskeletal. Prereq: College level courses in biology and psychology or consent of instructor. (Same as SW 516.)

***RC 520 PRINCIPLES OF REHABILITATION COUNSELING. (3)**
The course provides a comprehensive introduction to rehabilitation and clinical mental health counseling as a human service system in public and private organizations. Students will examine and analyze philosophical, historical, legislative and organizational structures; rehabilitation and related clinical mental health counseling programs; referral and service delivery systems; the rehabilitation counseling process; administration of rehabilitation clinical mental health counseling programs; and professional and ethical issues. Prereq: Twelve hours of social or behavioral science, or graduate standing, or consent of instructor.

***RC 525 HUMAN GROWTH, DISABILITY, AND DEVELOPMENT ACROSS THE LIFESPAN. (3)**
This course provides a comprehensive study of human growth and development in the context of rehabilitation and clinical mental health counseling. Students will review human development theories across the life span and their implications and applications with persons with disabilities. Issues to be addressed include physical, emotional, moral, and cognitive development and the interaction of development and disability; human sexuality and disability; spirituality and religious aspects; transition issues as they relate to family, school, employment, aging, and disability; social and learning needs of individuals across the life span, and ethical and legal issues impacting individuals and families related to adjustment and transition. Prereq: Admission to the Rehabilitation Counseling Program or consent of instructor.

***RC 530 CULTURAL DIVERSITY IN REHABILITATION COUNSELING. (3)**
This course is designed to assist students to develop an understanding of the implications of cultural and individual diversity including race/ethnicity, gender, disability, age, class, spirituality and religion, geographic region, and sexual orientation. This course will provide an overview of social justice, culturally diverse counseling techniques, and identify how cultural values, beliefs, attitudes, public policies, and "isms" influence consumers and service providers. Emphasis will be placed on debunking cultural myths and stereotypes through the use of case studies, examples, and discussion to present implications and best practices for rehabilitation and mental health counselors, other human service providers, and educators in addressing the needs of culturally diverse consumers and students through direct service and referral. In addition, this course offers students an opportunity for self-exploration, growth, and expansion and sharing of diverse viewpoints. Finally, this course is designed to promote ethical and professional behavior when working with diverse populations. Prereq: Consent of instructor.

***RC 540 CHEMICAL DEPENDENCY IN REHABILITATION COUNSELING. (3)**
This course is designed to provide students with information about the disease concept and etiology of addiction and co-occurring disorders, theories and models and research of substance-related and addiction disorders, behavioral, psychosocial and physiological effects of alcohol and other drugs, screening, evaluation and assessment, diagnosis, treatment intervention, counseling strategies, and mental health counseling to address issues pertaining to multiculturalism, crises, disaster and trauma, family, prenatal exposure, co-occurring disorders, sexual orientation, and adult children of addicts. In addition, ethical and legal considerations of addiction counseling and principles of self-help programs and identification community resources are discussed. Prereq: Consent of instructor.

RC 546 TRANSDISCIPLINARY SERVICES FOR YOUNG CHILDREN. (3)
This course will focus on the philosophical issues related to teaching young children with multiple disabilities. Topics related to planning for the population of children, participants in the areas of communication, physical and motor development, health, vitality and sensory input will be presented. Strategies presented for planning will include transdisciplinary assessment persons centered planning and activity based instruction. Prereq: EDS 375 or EDS 600. (Same as EDS 546 and IEC 546.)

RC 547 COLLABORATION AND INCLUSION IN SCHOOL AND COMMUNITY SETTINGS. (3)
This course will focus on inclusion of students with moderate to severe disabilities in all aspects of school and community life, with special consideration given to the individual student planning variables that must be addressed in meeting the needs of each school-age student and for preparing students to function as fully and independently in their communities as possible. The course is designed to meet the needs of those pursuing certification in Moderate and Severe

Disabilities and pursuing degrees in Elementary and Secondary Education, Vocational Rehabilitation, School Psychology, Social Work, Physical Therapy, Communication Disorders, and related disciplines. Prereq: Consent of instructor. (Same as EDS 547.)

RC 558 SPECIAL TOPICS IN REHABILITATION COUNSELING. (1-3)
Study of a selected topic within the field of rehabilitation. Topic to be chosen annually in accordance with student needs and interests. May be repeated to a maximum of six credits.

***RC 560 SUPPORTED EMPLOYMENT, INDEPENDENT LIVING, AND TRANSITION. (3)**
This course is designed to provide a basic knowledge and understanding of the origins, development, and underpinnings of supported employment, transition, and independent living for rehabilitation and clinical mental health counselors. The contents of the course provide the student with the following information: philosophies for transition and supported employment programs; the concept of Person Centered Planning; a model for developing a transitional process in the community; vocational training and placement concepts of transition and supported employment; perspectives and roles within supported employment and transition for rehabilitation and clinical mental health counselors; and major elements of independent living rehabilitation. Prereq: Admission to the Rehabilitation Counseling Program or consent of instructor.

***RC 610 CASE MANAGEMENT IN REHABILITATION COUNSELING. (3)**
This course emphasizes the basic principles of helping persons with disabilities within the rehabilitation and clinical mental health processes. The course fosters both an appreciation and knowledge of how various theories and research findings translate into appropriate rehabilitation and clinical mental health counseling techniques. The course explores the roles or functions that rehabilitation and clinical mental health counselors play as they work in different clinical rehabilitation and counseling programs and agencies. Prereq: RC 520 or consent of instructor.

RC 613 LEGAL AND PARENTAL ISSUES SCHOOL ADMINISTRATION. (3)
This course is designed as a required course for certification in the school administration program or elective in graduate or post baccalaureate degree. Essential course questions will emphasize the delivery of a free and appropriate public education for children with disabilities within a practical application format that is accessible and useful to educational professionals. In addition, the course will consider the implications of federal requirements in state and local policy. Particular attention will be given to leadership within an educational reform environment as well as the legal and programmatic implications for children with disabilities and their families. Finally, the course will model appropriate ways in which educational professionals working with families can maximize educational results for children with and without disabilities. Prereq: Be admitted to an Administrator preparation program, or received permission of instructor. (Same as EDS 613.)

***RC 620 VOCATIONAL EVALUATION AND WORK ADJUSTMENT. (3)**
This course includes effective methods and techniques used in determining and enhancing the vocational potential of persons with disabilities. Content also includes exploring the ethical practice of assessment and evaluation, test development, reliability, validity, and psychometrics, report writing, use of commercial evaluation systems, and the role of assessment in rehabilitation and clinical mental health counseling programs and agencies. Prereq: A vocational theories course and RC 520 or consent of instructor.

***RC 630 PLACEMENT SERVICES AND TECHNIQUES IN REHABILITATION COUNSELING. (3)**
This course is designed to prepare rehabilitation and clinical mental health counselors in the development of skills for placement of persons with disabilities into a variety of settings including competitive employment, supported employment, and independent living. The course covers placement and career theory, pre-placement analysis, job readiness assessment, job development, job analysis, job engineering (work accommodations and modifications), employer attitudes, business rehabilitation, and social security disability. Occupational information and its use in the placement process including labor market analysis and procedures for analyzing client residual and transferable work skills will be addressed. Prereq: A vocational theories course, RC 520 and 620 or consent of instructor.

***RC 640 REHABILITATION IN BUSINESS AND INDUSTRY. (3)**
This course is designed to provide rehabilitation and clinical mental health counseling students with a comprehensive knowledge of rehabilitation in business environments. Skills to develop a professional working relationship between the rehabilitation and clinical mental health counseling professional, employers, the insurance industry, and other professionals will be taught. A thorough overview of worker compensation, related legislation, and other insurance will be presented. The roles and functions of the rehabilitation professional in business rehabilitation will be discussed. Prereq: Twelve hours of study in rehabilitation counseling or consent of instructor.

***RC 650 REHABILITATION AND MENTAL HEALTH COUNSELING THEORY AND PRACTICE I. (3)**
This is a two-semester sequence course. This sequence is designed to provide an overview of theories and techniques of rehabilitation mental health counseling and how they can be applied to a wide variety of circumstances within clinical mental health counseling and rehabilitation counseling context for persons with disabilities. A goal of this course is to acquire knowledge about clinical mental health theoretical orientations and to integrate theory with practice. Emphasis will be on helping students clarify concepts of mental health counseling, personal and professional ethics and values, and personal style, and connecting those concepts and values to various mental health counseling theories, as well as identifying commonalities across theories as these relate to rehabilitation counseling. Prereq: Admission to the rehabilitation counseling program or consent of instructor.

***RC 660 REHABILITATION AND MENTAL HEALTH COUNSELING THEORY AND PRACTICE II. (3)**
This course represents one course of a two-semester course sequence. Together, these courses provide an overview of the techniques and theories of counseling and how they can be applied in a Clinical Rehabilitation and Mental Health Counseling context. These courses also allow you to acquire knowledge about theoretical orientations and to develop skill in integrating theory with counseling practice. Emphasis will be on helping students clarity beliefs, values, and personal style, and connecting those to the beliefs and values of the various theories; and identifying commonalities across theories as these relate to clinical rehabilitation and mental health counseling. We will also focus on helping to recognize culture, class, and gender component. Prereq: RC 650 or consent of instructor.

***RC 670 GROUP AND FAMILY COUNSELING IN REHABILITATION COUNSELING. (3)**
This course is designed to prepare rehabilitation and clinical mental health counselors and other human service providers to become knowledgeable of counseling theory and skilled in group and family counseling techniques, with a focus on concerns related to disability and rehabilitation and clinical mental health counseling. The course will cover the history of group and family counseling, related counseling theories, elements of leadership in group counseling, family life cycle and models of healthy and unhealthy characteristics of families, culturally diverse perspectives of counseling, and ethical, legal, and professional issues. Students will gain practical experience with group counseling leadership and participation. Prereq: Admissions to the rehabilitation counseling or other human services program, and have counseling theories and techniques course, and consent of instructor.

***RC 680 MENTAL HEALTH DIAGNOSIS AND TREATMENT PLANNING FOR COUNSELORS. (3)**
This course is designed to provide students with a broad spectrum of psychological disorders that are encountered by rehabilitation clinical mental health counselors, and other mental health professionals in various treatment settings. Specific attention is given to the etiology, prevalence, symptoms, and treatment of these disorders. Students will develop a better understanding of the DSM and the International Classification of Diseases. This course incorporates both national and global perspectives of psychological disorders. Prereq: A knowledge-base of theories and techniques of counseling is preferred by not required.

***RC 701 SEMINAR FOR EDSRC LEADERSHIP PERSONNEL. (1)**
Study of issues and topics affecting the preparation of Rehabilitation Counseling, Special Education, and Early Childhood personnel and of research issues involving persons with disabilities and educational and rehabilitation programs. May be repeated to a maximum of six credits. Lecture, two hours per week. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/IEC 701.)

***RC 710 CLINICAL PRACTICUM IN REHABILITATION MENTAL HEALTH COUNSELING. (3)**
The course is designed to provide the student with clinical learning experiences under faculty supervision in a community-based or state rehabilitation mental health agency. The student is expected to demonstrate knowledge and skills in the application of rehabilitation and mental health counseling methods, techniques, and vocational knowledge in working with persons with disabilities. In addition, the student is required to perform all tasks in accordance to ethical and legal standards in clinical rehabilitation mental health counseling. Prereq: A minimum of 12 graduate hours in rehabilitation counseling and consent of instructor.

RC 711 SEMINAR IN ADVANCED REHABILITATION PRACTICES AND PROCEDURES. (3)
Advanced study of issues related to rehabilitation counseling, theory, research and practice including problem identification and assessment, program alternatives, services delivery models, theoretical and conceptual frameworks, the translation of theory and research into practice. Prereq: Admission to the doctoral program in Special Education and Rehabilitation Counseling.

***RC 712 SEMINAR IN EDSRC PROFESSIONAL SERVICES. (3)**
Education and Rehabilitation professional services including consultation, technical assistance, continuing education programs, professional organization development, committee and advisory board involvement, professional writing and editing, leadership training, and funding proposal development. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/IEC 712.)

RC 715 ADVANCED SEMINAR IN PSYCHOSOCIAL ASPECTS OF CHRONIC ILLNESS AND DISABILITY. (3)
This course is a doctoral seminar designed to provide advanced knowledge and understanding of psychosocial aspects of chronic illness and disability (CID), including theoretical, practice, and research approaches to the processes of adaptation to CID, coping, self-management and health decision making, historical and sociological perspectives on disability and cultural and global perspectives, responses, and attitudes about disability, developmental and lifespan issues, and evidence-based practice and interventions in professional rehabilitation counseling practice, policy, and education. Students will engage in advanced analysis and synthesis of relevant theories and their application, and develop knowledge, skill, and experience in the application and teaching of related content in rehabilitation counseling education, research, policy, and practice. Prereq: Admission to the Ph.D. program in Special Education and Rehabilitation Counseling or permission of instructor.

#RC 720 SEMINAR IN EDSRC TEACHER PREPARATION. (3)
Rehabilitation Counseling and Special Education college/university professor preparation, including syllabus development, organization of class presentations, instructional alternatives, scheduling, student assessment, professor-student interactions, student advising, resource identification and utilization and program evaluation. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/IEC 720.)

***RC 721 PRACTICUM IN EDSRC PERSONNEL PREPARATION. (1-9)**
Professional preparation of Rehabilitation Counselors or Special Education Teachers, including practice in delivering lectures, conducting class discussions, leading seminars, directing independent studies, guiding student research projects, demonstrating instructional methods and materials, supervising rehabilitation counselors or special education student teachers, and advising. Laboratory, three-nine hours. May be repeated to a maximum of nine credits. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/IEC 721.)

***RC 730 CLINICAL INTERNSHIP IN REHABILITATION MENTAL HEALTH COUNSELING. (3,6,9)**
This course is designed to provide the student with clinical professional advanced learning experiences under faculty supervision in a community-based or state rehabilitation mental health agency. The student is expected to demonstrate knowledge and skills in the application of rehabilitation counseling and mental health methods, techniques, and vocational knowledge in working with persons with disabilities. In addition, the student is required to perform all tasks in accordance to ethical and legal standards in clinical rehabilitation mental health. Prereq: A minimum of successful completion of one year in the Rehabilitation Counseling Program and RC 710 and consent of instructor.

RC 735 ADVANCED METHODS FOR TEACHING AND CONDUCTING RESEARCH IN REHABILITATION COUNSELING: FROM THEORY TO PRACTICE. (3)
Advanced study of issues related to developing a theoretical framework for conducting and teaching rehabilitation counseling research. The course will incorporate rehabilitation counseling theory into researchable paradigms. The focus will be on understanding issues related to disability, developing a theoretical framework for rehabilitation research, and applying research findings to teaching, practice, policy, and program evaluation. Prereq: Admission to the Ph.D. program in special education and rehabilitation counseling.

RC 740 ADMINISTRATION, SUPERVISION AND PROGRAM EVALUATION IN REHABILITATION COUNSELING. (3)
Administrative and supervisory aspects of rehabilitation service delivery. Administration, clinical and technical supervision, staffing, and organizational structure(s) of the rehabilitation service delivery system (state, local, and federal). Research, program evaluation, political and ethical aspects of rehabilitation administration and supervision are overviewed. Prereq: Admission to Ph.D. program in Special Education or Rehabilitation Counseling or consent of instructor.

***RC 750 REHABILITATION AND MENTAL HEALTH COUNSELING RESEARCH AND PROGRAM EVALUATION. (3)**
The purpose of this course is to introduce students to rehabilitation and mental health counseling research, program evaluation, and research methodology and so that they can become informed, critical, and reflective consumers and producers of quality research. This course provides a comprehensive introduction to research, statistics and research design, hypothesis testing, program evaluation, and research utilization. This is not a statistics course; however, students will be introduced to basic statistical procedures, concepts, and terms. Prereq: A basic research course and RC 520 or consent of instructor.

RC 760 CONTEMPORARY PRACTICES IN REHABILITATION. (1-3)
Contemporary practices including supported employment, independent living, engineering and technology, family matters, client rights, ethical practices, cultural diversity, aging, and present and future trends in the field of rehabilitation. Analysis of legislation, value systems, political and economic fluctuations and research. Prereq: A minimum of 12 graduate hours in rehabilitation counseling or consent of instructor.

RC 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended. Prereq: Admission to Ed.S., EDS, RC, or IEC Ph.D. Programs. (Same as EDS/IEC 767.)

RC 770 ADVANCED SEMINAR IN REHABILITATION COUNSELING THEORY, PRACTICE, AND EDUCATION. (3)
This course is a doctoral seminar designed to provide advanced knowledge and understanding of personality and counseling theories and techniques and their application in professional rehabilitation counseling practice and education, rehabilitation counseling process and outcome research, and the application of counseling theory across diverse populations and settings. Students will engage in advanced analysis and synthesis of counseling theories and their application, and develop knowledge, skill, and experience in the application and teaching of related content in rehabilitation counseling education, research, and practice. Prereq: Admission to the Ph.D. program in Special Education and Rehabilitation Counseling.

RC 782 DIRECTED INDEPENDENT STUDY. (3)
Study of an individually selected topic relevant to a student's academic development. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

RHB Rehabilitation Sciences

RHB 625 MUSCLE FORUM. (1)
Muscle Forum is a course that will allow students to develop critical evaluatory skills for seminars and grant writing in the field of Muscle Biology. Prereq: Students need to be enrolled in the Rehabilitation Sciences doctoral program, one of the graduate programs of the Integrative Biomedical Sciences, or with permission of the course director. (Same as PGY 625.)

RHB 701 REHABILITATION THEORIES AND APPLICATION THROUGH THE LIFE SPAN. (3)
Explores the theories common to all the rehabilitation therapies (PT, CD, OT) and that form a foundation for the rehabilitation sciences. Included are theories specific to rehabilitation, attachment, adaptation and resilience, cognition, motor learning, empowerment, loss and grief, psycho-immunology, and the societal responses to stigmatized groups. Theories are applied to rehabilitation practice and research design across the life span. Prereq: Admission to the Rehabilitation Sciences Ph.D. program or consent of the instructor.

RHB 710 NEUROPLASTICITY IN REHABILITATION. (3)
This course will examine the neurological principles utilized by each of the rehabilitation disciplines (PT, OT, SLP) in the context of current research data and determine whether these principles hold up to scientific examination. The format of this course will utilize formal lectures on current theories of neuroplasticity and class discussion on current literature in each of these areas. Case studies will be utilized to apply current theories to practical application within each of the listed disciplines. Prereq: Course in Neuroanatomy, Admission to the Rehabilitation Sciences Doctoral Program or by consent of the instructor.

RHB 712 PHARMACOLOGY IN REHABILITATION. (2-3)
This course will provide the basic science background necessary to understand the effects of medications on patients treated in the rehabilitation setting and the their influence on treatment. Topics will include mechanisms of drug action, side effects, and how age and disease alter those mechanisms. The course will also address newly developing drug treatment strategies, including those in clinical trials. Students may either take the course for two credits or complete an additional advanced project for 3 credits, as outlined in the syllabus. The advanced project will enable the more interested student to pursue a topic in greater depth. Prereq: Admission to the Rehabilitation Sciences Doctoral Program or consent of instructor.

RHB 714 CRITICAL APPRAISAL OF RESEARCH IN REHABILITATION SCIENCES. (3)
This course will introduce the student to critical appraisal of all forms of research in the Rehabilitation Sciences. The purpose of this course is to further develop the student's competence in carrying out and evaluating research. The student will develop the skills necessary to find, critically evaluate, and synthesize the available research.

RHB 720 RESEARCH IN THE REHABILITATION SCIENCES. (3)
The purpose of this course is to provide a critical review of the current practices in research methodologies in rehabilitation and investigate the consequences of selecting various research methodologies and analytic strategies.

RHB 744 ADVANCED TOPICS IN MOTOR DEVELOPMENT. (3)
Investigation of motor development, control, and learning and teaching strategies in pediatrics. In depth analysis of movement for specific function tasks and motor dysfunction with identification of both primary and secondary designated problem areas in children with neuro-developmental concerns. Prereq: Admission to the Rehabilitation Sciences Ph.D. program or consent of the instructor.

RHB 749 DISSERTATION RESEARCH IN REHABILITATION SCIENCES. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Admission to the Rehabilitation Sciences Ph.D. program.

RHB 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

RHB 769 RESIDENCE CREDIT FOR THE DOCTORAL DEGREE. (0-9)
May be repeated to a maximum of 18 credits. Prereq: Admission to the Rehabilitation Sciences Ph.D. program.

RHB 770 PROFESSIONAL SEMINAR IN REHABILITATION SCIENCES. (0-3)
A study of selected topics related to leadership issues in the Rehabilitation Sciences with emphasis on recent research and theory related to higher education and to the communication disorders, occupational therapy, physical therapy, and athletic training disciplines. Sample topics include research methods and current topics, interdisciplinary issues, health systems, grant writing, teaching and learning in higher education, and the culture of colleges and universities. Prereq: Admission to the Rehabilitation Sciences Ph.D. program or consent of the instructor.

RHB 787 TEACHING APPRENTICESHIP IN REHABILITATION SCIENCES. (1-4)
Study of instructional methods in higher education including development of syllabi, class presentations, and examinations. Emphasis on classroom dynamics and innovative techniques for instruction. May be repeated to a maximum of four credits. Prereq: Admission to the

Rehabilitation Sciences Ph.D. program in communication disorders or physical therapy or consent of the instructor.

RHB 788 INDEPENDENT STUDY IN REHABILITATION SCIENCES. (1-3)
Independent study for graduate students interested in specific interdisciplinary topics in Rehabilitation Sciences. May be repeated to a maximum of six credits. Prereq: Admission to the Rehabilitation Sciences Ph.D. program or consent of the instructor.

RHB 789 RESEARCH APPRENTICESHIP IN REHABILITATION SCIENCES. (1-9)
In-depth study of a discipline specific topic under the direction of a member of the graduate faculty. Emphasis on scientific method including development of a research question, methodology, data collection and analysis. Students will complete a supervised research project during the course. Variable credit hours repeatable to a maximum of 21 credit hours. Prereq: Admission to the Rehabilitation Sciences Ph.D. program or consent of the instructor.

RM Radiation Medicine

RM 472G INTERACTION OF RADIATION WITH MATTER. (3)
Basic aspects of the interaction of ionizing radiation with matter. Bohr atom, atomic spectra, radioactivity, energetics of decay. Sources of radiation, penetration of charged particles, electromagnetic radiation, and neutrons through matter; excitation and ionization processes; selected nuclear reactions; basic radiation detection and dosimetry. Prereq: PHY 213 or 232; MA 114 (may be taken concurrently); or equivalent. (Same as PHY/RAS 472G.)

RM 545 RADIATION HAZARDS AND PROTECTION. (3)
An analysis of common radiation hazards encountered in medicine, research, industry, and the environment. Regulations and procedures for the safe use of ionizing and non-ionizing radiations. Lecture, two hours; laboratory, two and one-half hours. Prereq: PHY/RM 472G or consent of instructor. (Same as PHY/RAS 545.)

RM 546 GENERAL MEDICAL RADIOLOGICAL PHYSICS. (3)
The uses and dosimetric aspects of radiation in medicine will be analyzed, including many basic applications in the fields of diagnostic radiology physics, therapy physics, and nuclear medical physics. Prereq or concur: RM/PHY 472G or consent of instructor. (Same as PHY/RAS 546.)

RM 601 ADVANCED RADIATION DOSIMETRY. (2)
Advanced aspects of the interaction of radiation with matter and specialized topics in the dosimetry of ionizing radiations. Modifications of Bragg-Gray theory for application to megavoltage sources. Beta dosimetry. Specialized calibration techniques. Relative response functions of various media. Nontraditional techniques. Dosimetry of radiation fields including complex spectra. Prereq: PHY 472G, RM 546, or equivalent. (Same as RAS 601.)

RM 647 PHYSICS OF DIAGNOSTIC IMAGING I. (3)
Specialized and advanced topics in diagnostic imaging, including modulation transfer function analysis, image processing algorithms, acceptance testing, CT, NMR, ultrasound, etc. Prereq: PHY/RM/RAS 546 or consent of instructor. (Same as RAS 647.)

RM 648 PHYSICS OF DIAGNOSTIC IMAGING II. (3)
A continuation of RAS/RM 647. Specialized and advanced topics in nuclear medicine imaging physics, including positron emission tomographic procedures, emerging new modalities, and quality control. Prereq: RM/RAS 647 or consent of instructor. (Same as RAS 648.)

RM 649 PHYSICS OF RADIATION THERAPY. (3)
Specialized external beam and brachytherapy treatment planning; advanced Bragg-Gray cavity applications, including Ngas and TG-21; calibration, acceptance testing, and quality control of therapy physics equipment. Prereq: RAS/RM/PHY 546 and RAS/RM 601, or consent of instructor. (Same as RAS 649.)

RM 650 PHYSICS OF RADIATION THERAPY II: BRACHYTHERAPY PHYSICS. (2)
A presentation of the full scope of use of implanted radiation sources for medical purposes. The course includes consideration of all aspects of brachytherapy dosimetry and treatment planning as well as modern and cutting-edge brachytherapy clinical practice. Characteristics of interstitial, intracavitary, and intraluminal implants, as well as remote afterloaders, are considered. Prereq: RAS/RM/PHY 546; RM/PHY 472G; RAS/RM 649 (may be co-requisite). (Same as RAS 650.)

RM 660 GRADUATE PRACTICUM IN RADIATION MEDICINE. (1-6)
Applied field work at the graduate level in the sciences relating to radiation medicine. May be repeated to a maximum of six credits. Prereq: Graduate standing in the bioradiation or medical sciences, plus consent of instructor.

RM 695 RESEARCH IN THE HEALTH-RELATED RADIATION SCIENCES. (1-4)
Independent directed research on theoretical and practical problems in the health-related radiation sciences. May be repeated to a maximum of eight credits. Prereq: Graduate standing in one of the radiation-related sciences, plus consent of instructor. (Same as RAS 695.)

RM 740 MAMMALIAN RADIATION BIOLOGY. (2)
The physical and biological sequelae of radiation effects will be discussed emphasizing human and mammalian responses and radiation health. Emphasis will be for health and medical workers. Prereq: Consent of instructor; BIO/RM 540 or RM 546 or equivalent background. (Same as BIO 740.)

RM 815 FIRST-YEAR ELECTIVE, RADIATION MEDICINE. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Radiation Medicine. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

RM 825 SECOND-YEAR ELECTIVE, RADIATION MEDICINE. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Radiation Medicine. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

RM 842 RADIATION ONCOLOGY. (1)
Use of radiation therapy in clinical treatment of malignancy. Staging, histology, spread, treatment techniques, acute and late effects of radiation therapy. Prereq: RM 740 and an introductory anatomy course, or equivalent, and consent of instructor.

RM 848 PRACTICUM IN BRACHYTHERAPY PHYSICS. (1-3)
This course offers practicum training in the clinical use of therapy physics and health physics in brachytherapy. May be repeated to a maximum of three credits. Laboratory: 40 hours per week. Prereq: RM/HRS 649, or equivalent, and consent of instructional staff.

RM 849 PRACTICUM IN EXTERNAL BEAM THERAPY PHYSICS. (1-6)
This course offers practicum training in the professional use of therapy physics in external beam radiation therapy. May be repeated to a maximum of six credits. Laboratory: 40 hours per week. Prereq: RM/HRS 649, or equivalent, and consent of instructor.

RM 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
RM 850 RADIATION ONCOLOGY.
RM 852 RESEARCH IN RADIATION MEDICINE.

RS Religious Studies

RS 130 INTRODUCTION TO COMPARATIVE RELIGION. (3)
Comparative study of major world and selected regional religions with emphasis on analysis of belief, ritual, artistic expression and social organization. Eastern and Western religions are considered. (Same as ANT 130.)

RSC Reproductive Sciences

RSC 700 MAMMALIAN REPRODUCTION. (3)
The course will introduce students to the mammalian reproductive system and its function. The objective is to provide students with knowledge on the anatomy, endocrine regulation and physiology of reproduction. Comparison of reproductive function will be made among species and the scientific research methods used to investigate these systems will be introduced. Prereq: BIO 150 and BIO 152 or consent of the Course Director.

RSC 701 ADVANCED REPRODUCTIVE IMMUNOLOGY. (3)
Immune mechanisms involved during pregnancy will be covered with a focus on the interactions between the placenta and the material immune system. The role of the immune system on defects during pregnancy will be discussed, including the role in pre-term labor, implantation, and preeclampsia. The response of the normal immune system on the developing fetus will be covered. Prereq: Admission into the Ph.D. in Reproductive Sciences program or consent of instructor.

RSC 702 MOLECULAR REPRODUCTION. (3)
The in-depth structure and function of the mammalian reproductive system will be studied as it relates to the understanding of human reproduction at the molecular level. Both male and female reproductive organs and associated hormones and behaviors will be studied. Experts in relevant fields will give lectures and students will be involved in discussions with the lecturers. Prereq: Admission into the Reproductive Sciences Ph.D. program or permission of the course director and/or IBS 601.

RSC 703 BIOLOGY AND THERAPY OF REPRODUCTIVE CANCERS. (3)
The course will introduce students to the fundamentals of biological and molecular events related to disease progression, and to current therapeutic modalities for the treatment of reproductive cancers. The course will include lectures for each topic area. In addition, there will be discussions and student presentations on related topics. Prereq: Admission to the Ph.D. program in Reproductive Sciences, or consent of the instructor. Courses in cell biology, molecular biology and cancer therapy are helpful prerequisites.

RSC 767 REPRODUCTIVE SCIENCES POST-QUALIFYING RESEARCH. (2)
Research in Reproductive Sciences following successful completion of the qualifying exami-

nation. Research initiated in RSC 790 will be expanded to answer a proposed research question or questions. Following acceptable collection of data the student will write a dissertation and defend the dissertation at an oral defense. In addition the student must submit his/her findings to a peer-reviewed scientific publication journal. Prereq: Successful completion of the qualifying examination.

RSC 790 REPRODUCTIVE SCIENCES PRE-QUALIFYING RESEARCH. (1-5)
Research in Reproduction Sciences prior to the pre-qualifying examination. Students will identify a research problem, develop research skills, apply research methods and write a research proposal. Prereq: Successful completion of years 1 and 2 of the RSC Ph.D. curriculum, including rotations in a minimum of 3 different research laboratories.

RSD Restorative Dentistry

***RSD 810 FUNDAMENTALS OF OPERATIVE DENTISTRY I. (3)**
This lecture course in operative dentistry is designed to provide a beginning student with basic knowledge about cavity preparation and restorative techniques for composite, amalgam, and other direct restorative materials. This course, together with a complementary laboratory course, RSD 814, is directed at preparing the student with knowledge and skills in the diagnosis and treatment of carious lesions necessary for patient care in operative dentistry. Coreq: RSD 814.

RSD 811 PRINCIPLES OF DENTAL ANATOMY, MORPHOLOGY AND OCCLUSION. (3)
This introductory lecture course is designed to provide the dental student with necessary knowledge of dental anatomy, dental morphology and basic dental occlusion for all succeeding courses in preclinical and clinical dentistry. This includes a detailed description and study of individual teeth, relationship of dentoform and function, mandibular movement and introduction to muscles of mastication. Lectures related to biomaterials are added as needed. Prereq: Admission to the college or consent of the course director. Coreq: RSD 812.

RSD 812 PRINCIPLES OF DENTAL ANATOMY, MORPHOLOGY AND OCCLUSION (LABORATORY). (3)
This introductory laboratory course is designed to provide the beginning dental student with skills manipulating wax to successfully replicate the dental anatomy of individual teeth as well as learning the relationships of form and function within the context of mandibular movement. These skills are learned by use of the dentoform as well as dental articulator. Laboratory experiences relating to dental biomaterials are introduced as needed. Prereq: Admission to the college or consent of course director. Coreq: RSD 811.

#RSD 813 DENTAL CARIOLOGY. (1)
This course is designed to review the biological basis for the concepts and treatment procedures of dental caries as an infectious disease and will provide didactic foundational knowledge for the clinical management of dental caries.

***RSD 814 PRECLINICAL OPERATIVE DENTISTRY I. (3)**
This first-year preclinical laboratory course in operative dentistry is designed to provide a beginning student with basic skills for cavity preparation and restorative techniques for amalgam and resin composite. This course, together with the complementary lecture series course, RSD 810, is directed at preparing the student with the knowledge and skill necessary for patient care in operative dentistry. Coreq: With RSD 810 (Lecture component).

RSD 816 ESTHETIC DENTISTRY I. (1)
This lecture course is designed to provide a beginning student the basic principles of cavity preparation and restoration with esthetic dental materials. Materials include resin composite, resin ionomer and glass ionomer. This course, together with the complementary laboratory course, RSD 818, is directed at preparing the student with knowledge and skills in the diagnosis and treatment of defective tooth structure associated with anterior teeth. Prereq: RSD 812, RSD 810, RSD 814 or the consent of the course director.

RSD 818 PRECLINICAL ESTHETIC DENTISTRY I. (1)
This first-year preclinical course in esthetic dentistry is designed to provide a beginning student with the basic skills for cavity preparation and restorative techniques for using tooth-colored restorative materials. This course, together with the complementary lecture series course, RSD 816, is directed at preparing the student for patient care in esthetic dentistry. Prereq: RSD 812, RSD 810, RSD 814 or consent of the course director.

RSD 821 CLINICAL RESTORATIVE DENTISTRY I. (3)
This course emphasizes clinical application of the principles taught in preclinical courses. Concepts of diagnostic and therapeutic procedures as well as preventive measures are applied in the clinic with emphasis on the demonstration of competency in rendering primary care type treatment procedures. Prereq: RSD 814; coreq: RSD 824.

RSD 822 PRINCIPLES OF DENTAL OCCLUSION AND ARTICULATION. (3)
This course is directed toward the examination, diagnosis, treatment planning, and treatment of various occlusal problems. The student will learn the skills needed to analyze the dental occlusion of patients and to plan successful occlusal therapy including restorative procedures and fixed prosthodontic treatment. The course will concentrate on developing technical skills and learning assessment criteria related to mounted study casts, occlusal examination and analysis, selective occlusal adjustment, diagnostic pre-waxing and planning, and the fabrication of a muscle relaxation occlusal splint. Lecture, 23 hours; laboratory, 27 hours; clinic, 27 hours. Prereq: CDS 815, RSD 812, or with approval of the course director.

RSD 823 PRECLINICAL RESTORATIVE DENTISTRY II. (1)
This is a didactic course with emphasis on the basic knowledge required for tooth preparation and indirect single tooth dental restoration. The materials science and correct manipulation of dental stones, alloys and luting agents are emphasized. Prereq: RSD 812, RSD 810, RSD 814, RSD 816, or consent of instructor.

RSD 824 PRECLINICAL RESTORATIVE DENTISTRY II. (2)
This preclinical course places emphasis on dental hard tissue surgery and on their restoration to meet the biological needs of the patient. Tooth preparation and extracoronal restorations are performed on manikins and extracted teeth. The materials science and correct manipulation of investments, alloys and cements used to make case restorations are emphasized. Knowledge gained in dental morphology and occlusion is applied in the course. Laboratory: 54 hours. Prereq: RSD 812, RSD 814, RSD 818; concur: RSD 823, or consent of instructor.

RSD 825 PRECLINICAL RESTORATIVE DENTISTRY II. (1)
This course is a continuation of RSD 823 with emphasis on single tooth indirect intracoronal restorations and restorations of the endontically treated tooth. Prereq: RSD 823.

RSD 826 PRECLINICAL DENTISTRY II LABORATORY. (2)
This is a preclinical course with emphasis on dental hard tissue surgery and restorative procedures for single tooth indirect restorations. Clinical simulation procedures are performed on manikins and extracted teeth. Prereq: RSD 823, RSD 824, or consent of course instructor. Coreq: RSD 825.

RSD 827 DENTAL BIOMATERIALS. (2)
In this course, the materials science, proper manipulation and biocompatibility of a wide variety of dental biomaterials are examined. The durability and biocompatibility of similarly utilized materials are compared. Diagnosis of the causes of clinical materials-related failures is emphasized. Lecture, 40 hours. Prereq: PRO 820 and RSD 824 or consent of course director.

RSD 831 CLINICAL RESTORATIVE DENTISTRY II. (4)
A continuation of RSD 821 as well as some clinical application of principles taught in RSD 824. The emphasis continues to be on the delivery of primary care type treatment with increasing competency and proficiency. Some emphasis is directed toward elementary experiences in rehabilitative type treatment procedures and occlusal dysfunctions. Clinic, 120 hours. Prereq: RSD 821 and RSD 824; coreq: RSD 830 and RSD 834.

RSD 835 ADVANCED ESTHETICS IN RESTORATIVE DENTISTRY. (2)
This course is designed to introduce current concepts in esthetic restorative dentistry to undergraduate dental students in their third year. The techniques presented will build upon previously developed restorative didactic and clinical knowledge, but incorporate additional dental techniques and materials developed specifically for esthetic dentistry. Current dental materials being used by this discipline will be discussed as they apply to specific topics. Lecture, 16 hours; laboratory, 27 hours. Prereq: RSD 810, 812, 814, 816, 818, 821, 822, 823/825, 824, 826, and 827.

RSD 840 RESTORATIVE DENTISTRY UPDATE. (1)
Students are provided current information on advanced restorative dentistry clinical procedures and materials. Emphasis will be given to diagnosis, treatment planning and treatment of the complex restorative dentistry patient. The format of the course will be "clinical case presentation." Prereq: RSD 830 and RSD 834.

RSD 841 CLINICAL RESTORATIVE DENTISTRY III. (3)
As the final phase in the undergraduate clinical continuum, this course continues to emphasize primary care concepts and proficiency. In addition, more complicated rehabilitative type care and occlusal dysfunction problems are encountered by the student under faculty supervision. Clinic, 145 hours. Prereq: RSD 830, RSD 831 and RSD 834.

RSD 880 COMPACTED GOLD RESTORATIONS. (1)
This course introduces the student to the use of compacted gold as a restorative material. The restoration of Class III and Class V lesions is performed in the laboratory. Students are required to purchase gold they use in the course. Note: scheduling for this course will be outside of regularly scheduled class/clinic time. Prereq: RSD 824, third year standing.

RSD 882 ESTHETIC DENTISTRY ELECTIVE. (1)
This course is designed to introduce current concepts in esthetic restorative dentistry to undergraduate dental students in their 4th academic year. The techniques presented will build upon previously developed restorative didactic and clinical knowledge, but incorporate additional dental techniques and materials developed specifically for esthetic dentistry. Current dental materials being used by this discipline will be discussed as they apply to specific topics. Lecture, nine hours. Note: scheduling for this course will be outside of regularly scheduled clinic/class time. Prereq: RSD 810, 814, 816, 818, 821, 822, 823/824, 825/826, 827 or consent of course director.

RSD 883 INTRODUCTION TO SPORTS DENTISTRY. (1)
Introduction to Sports Dentistry is an elective course designed to educate about the opportunities available to become involved with sports teams in your community. The course topics will include: Types of dental injuries related to athletics, prevention of injuries, role of team dentist, types of sports guards and methods of fabrication of sports guards. Lecture: 10 hours; laboratory 6 hours, per course. Prereq: 4th year dental student in good standing; consent of course director. Note: Scheduling of this course will be outside the regularly scheduled clinic/class time.

RTM Retailing and Tourism Management

RTM 345 SERVICE MANAGEMENT. (3)
A survey of the special characteristics, problems, and methods for managing service-oriented organizations. Students will learn principles of services and guest services management in order to see how they can be used in managing any service organization. The course also introduces quantitative techniques associated with managing organizations in the service sector. Upon completion of the course, the students will be able to apply the concepts to their work experiences.

#RTM 425 HUMAN RESOURCE MANAGEMENT. (3)
Demonstrate knowledge of human resource management and its role in retail business including: employment, training, performance management, compensation, and providing a safe, ethical and fair environment.

***RTM 499 RETAILING AND TOURISM MANAGEMENT INTERNSHIP. (6)**
Provides prospective HMT and MAT professionals a 320-hour, 8 week learning experience in a selected agency or organization, under the joint supervision of a qualified manager and a university internship supervisor. More specific details are available in the RTM Internship Manual. Prereq: "C" or better in HMT 120 or MAT 114, HMT 210 or MAT 120, HMT 270 or MAT 237, HMT 350 or MAT 315, RTM 340 and RTM 345 plus 100 approved hours of pre-internship experience.

RTM 600 RESEARCH METHODOLOGY IN HUMAN ENVIRONMENTAL SCIENCES. (3)
Students will study scientific techniques and accepted research methodologies in human environmental science research. Emphasis is placed on understanding the research process and developing the skills necessary to evaluate and implement research methods and design procedures. Prereq: Graduate standing. (Same as HES 600.)

RTM 650 SURVEY OF CURRENT THEORIES AND LITERATURE. (3)
An intensive survey of the theoretical and empirical literature related to areas of merchandising, apparel, and textiles and to hospitality management and tourism. Emphasis will be placed on research literature and theory building. Prereq: Graduate standing.

RTM 690 INDUSTRY EXPERIENCE IN RETAILING AND TOURISM MANAGEMENT. (6)
Supervised industry experience with a cooperative establishment in the student's formal option of study. Students will complete a 400-hour, 10 week learning experience under the joint supervision of a faculty member supervisor and a qualified industry professional. Prereq: Graduate student standing. Approval of department and student's plan of work committee.

RTM 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters.

RTM 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 credit hours. Prereq: All course work must be completed before registration for the course.

RTM 772 SEMINAR IN RETAILING AND TOURISM MANAGEMENT. (3)
Current investigation of topics relevant to both retailing and tourism management. May be repeated to a maximum of six credit hours.

RUS Russian

RUS 101 ELEMENTARY RUSSIAN. (4)
The students are introduced to the language through grammatical explanations, recitation practice, and oral as well as written exercises. The emphasis is on the spoken language of everyday use, reading of graded Russian texts, vocabulary building and accurate pronunciation. Extensive work with tape recordings. Lecture, three hours; supervised recitation, one hour per week. Prereq: Russian Placement Exam. All students who have had two or more years of high school Russian or are native speakers of Russian and are enrolling in college-level Russian for the first time must take the Russian Placement Exam.

RUS 102 ELEMENTARY RUSSIAN. (4)
A continuation of RUS 101. Lecture, three hours; supervised recitation, one hour per week. Prereq: RUS 101 or RAE 101, Russian Placement Exam or equivalent.

RUS 125 MAPPING RUSSIA (Subtitle required) (3)
This course examines how the sense of place can define socio-cultural identity. It studies how places become living, breathing entities that take on a life of their own. They shape the people who live within them and the history of their nation. Places resonate in the art and literature produced in them and play a profound role in the nature of the artistic expressions themselves. Possible topics include: Saint Petersburg, Siberia, Moscow, Vladimir/Suzdal, Vladivostock.

RUS 201 INTERMEDIATE RUSSIAN. (4)
Systematic study of grammar. Introduction through simplified texts to the life and culture of Tsarist and Soviet Russia. Dictation, composition, conversation, and extensive oral practice. Lecture, three hours; recitation, one hour per week. Prereq: RUS 102 or RAE 102, Russian Placement Exam or the equivalent. (Required.)

RUS 202 INTERMEDIATE RUSSIAN. (4)
A continuation of RUS 201. Lecture, three hours; recitation, one hour per week. Prereq: RUS 201 or RAE 201, Russian Placement Exam or equivalent. (Required.)

RUS 261 INTRODUCTION TO RUSSIAN STUDIES. (3)
A study of Russian literature from its beginning to the present using selected major works of prose, poetry and drama. No knowledge of Russian is required.

***RUS 275 RUSSIAN FILM. (3)**
This course will introduce students to the major films and film makers of the Soviet Union and Russia. It will trace the major artistic, political, cultural, and social influences and movements that shaped Russian and Soviet film. Students will view not only Russian feature films, but also documentary films and animation. Students will explore how the history and products of Russian and Soviet film are woven into the larger context of world cinema and into (Soviet) Russian history and society. Students will consider how the components of the films themselves contribute to their notoriety and lasting appeal. Taught in English.

RUS 301 CONVERSATION AND COMPOSITION I. (3)
A course designed to increase students' skills in the areas of listening, speaking, writing, reading and culture. More complex grammatical forms introduced; focus on control of basic grammar. Development of students' lexicon through more advanced reading and writing, conversation, watching films, listening to audio materials, etc. Prereq: RUS 202 or equivalent.

RUS 302 ADVANCED INTERMEDIATE RUSSIAN II. (3)
A course designed to increase students' skills in the areas of listening, speaking, writing, reading and culture. More complex grammatical forms introduced; focus on control of basic grammar. Development of students' lexicon through more advanced reading, conversation, watching films, listening to tapes, etc. Prereq: RUS 301 or equivalent.

RUS 370 RUSSIAN FOLKLORE (in English). (3)
Central issues of Russian folk culture, particularly related to ritual, material culture, and oral lore; patterns and functions of folk architecture, clothing, and crafts in 19th C. peasant life.

***RUS 371 RUSSIAN CULTURE 900-1900. (3)**
An introduction to and survey of Russian culture from its origins until the 20th century that acquaints students with the roots of Russian religion, the arts, architecture, music, folklore, and everyday life. Taught in English.

***RUS 372 RUSSIAN CULTURE 1900-PRESENT. (3)**
An introduction to and survey of Russian culture since 1900 that acquaints students with the development of Russian and Soviet culture as manifested in the arts, architecture, music, folklore, religion, and everyday life. Taught in English.

RUS 380 NINETEENTH CENTURY RUSSIAN LITERATURE (in English). (3)
A survey of Russian literature of the 19th Century. Emphasis is on the development of romanticism, the rise of realism, and end-of-century decadence. All readings, lectures, and discussions are in English. Students taking the course for Russian major credit are expected to do outside work in Russian.

RUS 381 RUSSIAN LITERATURE 1900-PRESENT (in English). (3)
An in-depth examination of Russian literature since 1900, with special attention given to modernist trends, Socialist Realism, non-conformism, Russian literature abroad. Students taking the course for Russian major credit will be assigned readings in Russian.

RUS 395 INDEPENDENT WORK IN RUSSIAN. (1-3)
Students who have the proper qualifications may undertake a special problem in reading and research. May be repeated to a maximum of six credits. (Recommended.)

RUS 400G RUSSIAN CULTURAL STUDIES (Subtitle required). (3)
An in-depth exploration of a particular literary, cultural, cinematic topic in Russian cultural history. There will be a session for Russian speakers who will be expected to conduct part of their research using Russian materials. May be repeated to a maximum of six credits under a different subtitle.

RUS 401 ADVANCED RUSSIAN I. (3)
Detailed study of complex grammatical forms. Continued emphasis on speaking, reading, listening, and writing on the advanced level. Prereq: RUS 302 or equivalent, consent of instructor.

RUS 404 ADVANCED RUSSIAN II. (3)
Detailed study of complex grammatical forms. Continued emphasis on speaking, reading, listening, and writing on the advanced level. Prereq: RUS 403 or consent of instructor.

#RUS 410G RUSSIAN FOR SPECIAL PURPOSES (Subtitle required). (3)
This course focuses on specialized aspects of Russian, including, but not limited to, translation and interpretation, business Russian, stylistics, structure of Russian, etc. May be repeated under different subtitles for up to 9 hours. Prereq: Completion of RUS 302 or equivalent or by permission of the instructor.

RUS 460G MAJOR RUSSIAN WRITERS: (Subtitle required). (3)
The study of Tolstoy, his art and life. All readings, lectures, and discussions are in English. Students taking the course for Russian major credit are expected to do outside work in Russian. May be repeated under different subtitles to a maximum of six credits.

RUS 463 RUSSIAN FILM AND THEATER: (Subtitle required). (3)
Reading of selected major Russian plays as a basis for perfection of language skills, involving

class discussions, compositions and translation practice. May be repeated under different subtitles to a maximum of six credits. Prereq: Third year knowledge of Russian or consent of instructor.

RUS 495G ADVANCED INDEPENDENT WORK IN RUSSIAN STUDIES. (1-3)
Independent research in Russian Studies on an advanced level for undergraduates and for graduate students outside the discipline. Students will be required to establish a written contract with the relevant faculty member describing the tasks to be completed in the course. May be repeated to a maximum of six credits, or a total of six credits of RUS 395 and 495G. Prereq: Consent of instructor.

RUS 499 RUSSIAN STUDIES CAPSTONE SEMINAR (Subtitle required). (3)
This interdisciplinary seminar on a topic in Russian Studies serves as a capstone course for Russian Studies majors. As such majors are required to write a substantive research paper in which they demonstrate their command of the depth and breadth of Russian studies across disciplines, as well as their ability to interpret and use sources in Russian. Prereq: Junior standing.

RUS 501 STRUCTURE OF RUSSIAN. (3)
An in-depth study of the history and structure of Russian in a variety of textual contexts. Historical changes that have led to significant contemporary features will be emphasized. Taught in Russian. Prereq: RUS 404 or consent of instructor.

RUS 502 STRUCTURE OF RUSSIAN. (3)
An overview of the sound system, morphological system and syntax of contemporary Russian. Prereq: RUS 501 or permission of instructor.

RUS 520 RUSSIAN TRANSLATION. (3)
Translation of un-adapted texts from Russian to English, theory of translation, practice translation of various Russian texts, both technical and literary, focus on specific stylistic requirements, translation of short texts from English to Russian, introduction to oral interpretation. Prereq: RUS 302 or consent of instructor.

#RUS 525 RUSSIAN LITERARY STUDIES (Subtitle required). (3)
An in-depth study of some aspect of Russian or Soviet literature, e.g., works of a single author or of several authors, a particular time period, a specific genre or theme, etc. Students taking the course for Russian credit will be expected to do readings and research in Russian. May be repeated for up to 6 credits with different subtitles.

RUS 530 BUSINESS RUSSIAN. (3)
Development of written and oral skills in Russian needed to conduct business activities in Russian-speaking areas of the former Soviet Union using various materials from banking, advertising, law, economics, and industry. Prereq: Third-year knowledge of Russian or consent of instructor.

#RUS 535 RUSSIAN VISUAL STUDIES (Subtitle required). (3)
This course is designed to introduce a variety of critical approaches used in the study of visual culture in Russian culture. The course may focus on various visual media such as film, image (in media, photography and propaganda), architecture and art. The course may focus on one particular aspect of visual culture or may compare visual genres or may compare visual media to other aspects of culture. Students taking the course for Russian credit will be required to read and do research in Russian. May be repeated for up to 6 credits with different subtitles.

#RUS 545 RUSSIAN CULTURAL STUDIES (Subtitle required). (3)
An in-depth investigation of a particular facet of Russian culture. Topics may include aspects of folk or artistic culture, including visual arts, architectural, literary, theatrical, musical and/or social movements. Students taking the course for Russian credit will be required to read and research in Russian. May be repeated for up to 6 credits with different subtitles.

#RUS 555 TOPICAL SEMINAR ON RUSSIAN STUDIES (Subtitle required). (3)
An interdisciplinary seminar in Russian Studies. Content may include comparative study of cultural phenomena or products or cross-disciplinary approaches to one topic. MCL/Russian major/minors taking the course for Russian credit will be required to read and research in Russian. May be repeated for up to 6 credits with different subtitles.

RUS 670 TOPICS IN RUSSIAN CULTURE AND FOLKLORE (Subtitle required). (3)
An investigation of Russian culture from the 1800's to the present, with emphasis on specific topics. May be repeated up to nine credits under different subtitles.

RUS 680 TOPICS IN RUSSIAN/SOVIET LITERATURE (Subtitle required). (3)
An in-depth examination of the classics of Russian and/or Soviet literature using original texts. Conducted in Russian. MATWL students will learn how to present Russian literary works in their language curriculum. May be repeated to a maximum of nine credits under different subtitles.

RUS 690 SPECIAL TOPICS IN RUSSIAN STUDIES (Subtitle required). (3)
An in-depth exploration of a particular literary, cultural, cinematic topic in Russian cultural history. Students will be expected to conduct part of their research using Russian materials. MAT students will learn how to synthesize content-based material into their language curriculum. Taught in Russian. May be repeated to a maximum of six credits under a different subtitle.

RUS 695 INDEPENDENT STUDY IN RUSSIAN STUDIES. (1-3)
Independent work devoted to specific problems or areas of interest in Russian language, literature, culture, or pedagogy. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

SAG Sustainable Agriculture

SAG 101 INTRODUCTION TO SUSTAINABLE AGRICULTURE. (3)
Broad introduction to the environmental, economic and cultural components of sustainable food production and marketing. The definition, emergence, and growth of sustainable agriculture are discussed along with pertinent soil, crop and livestock management practices. Relationships between environmental stewardship, producer profitability, and community-based food systems are emphasized.

SAG 201 CULTURAL PERSPECTIVES ON SUSTAINABILITY. (3)
Examines cultural dimensions within the concept of sustainability through a close reading of texts addressing the relationship between people and nature. The application of cultural constructs used by individuals and societies in experiencing, interpreting and impacting the natural world are studied. Insights and observations of noted writers on environmental issues are discussed in relation to the interdependence between individuals, civilizations, and nature. Prereq: SAG 101.

SAG 386 PLANT PRODUCTION SYSTEMS. (4)
In-depth analysis of the underlying principles of plant production systems. Successful strategies, based on application of the principles developed by lecture and laboratory activities, will be discussed in either agronomic or horticultural contexts. Special attention will be given to minimizing the environmental impact of the plant production techniques employed. Prereq: PLS 210 and PLS 366 or concurrently or consent of instructor. (Same as PLS 386.)

SAG 390 AGROECOLOGY. (3)
A general introduction to ecological principles and processes applied to agricultural ecosystems, including interactions between plants, soils, and animals on population, community and ecosystems scales. Course concepts will be applied to agricultural ecosystems that are of economic importance and ecological significance to the state of Kentucky. Emphasis will be placed on understanding how an ecological perspective can inform sustainable land management, the ecological basis for best management practices, and the interdisciplinary nature of agroecosystem management. (Same as PLS 390.)

SAG 395 RESEARCH IN SUSTAINABLE AGRICULTURE. (1-6)
Independent research related to some aspect of sustainable agriculture under the direction of a research mentor. The research may be conducted in the College of Agriculture, some other unit on campus, or at an approved off-campus entity. Projects can include, but are not limited to, laboratory experiments, field-based research, and studies involving sociology, economics, anthropology, or related disciplines. There is a clear expectation that quantitative data collection and analysis will be an integral part of the research project. Prereq: Consent of instructor and approval of Learning Contract.

SAG 397 APPRENTICESHIP IN SUSTAINABLE AGRICULTURE. (3)
Provides students with hands-on experience operating an organic community supported agriculture produce farm and marketing its harvest in the local community. Students receive training across the full range of production and marketing activities under the guidance of the Course Coordinator and the professional staff of the farm management team. Prereq: SAG 101 and SAG 201, or consent of instructor.

SAG 490 INTEGRATION OF SUSTAINABLE AGRICULTURE PRINCIPLES. (3)
Examination of the complex scientific and social issues involving sustainable agriculture systems. Intensive experience in critical analysis of both quantitative and qualitative data will be provided, and students will consider substantive ethical issues and global themes. Students will evaluate the sustainability of different world agricultural systems and consider the potential implications. Prereq: Senior standing in College of Agriculture, SAG 201, 397.

SCI Science

SCI 101 SCIENTIFIC REASONING.
A lecture/recitation course that stresses quantitative and logical reasoning skills that form the basis of science courses. The course will emphasize how to take verbally presented problems, recognize the mathematical patterns within them, and solve them. Lecture, one hour; recitation, four hours per week. Prereq: Math ACT greater than or equal to 18, or MA 108R, or Math Placement Test.

SEM Science, Technology, Engineering, and Mathematics

SEM 110 INTRODUCTION TO STEM EDUCATION. (2)
Through campus and school-based experiences, students will learn how to engage adolescents in learning mathematics, science, computer science, and engineering. This course will introduce the foundations of STEM Education, learning environments, curriculum and instruction, standards and assessment, as well as contemporary issues related to the field. The roles, responsibilities and daily life of teachers, schools and students will be examined. This course includes 30 hours of experience in the field.

SEM 328 TEACHING SCIENCE IN THE ELEMENTARY SCHOOL. (3)
A critical analysis of a variety of objectives, instructional materials and evaluation techniques for teaching elementary school science, with a special emphasis on grades K-4. Consideration will be given to addressing the individual needs of a diverse student population. Twenty hours of field experience are required in conjunction with EDC 322. Prereq: Admission to TEP and 12 hours of science. Coreq: EDC 322.

SEM 337 TEACHING MATHEMATICS IN ELEMENTARY SCHOOLS. (3)
Fundamental concepts of numbers, their relationships, geometry and other mathematics topics for children of grades K-4. Emphasis on use of concrete materials and the development of language, appropriate learning experiences, computational skills, and problem-solving abilities. Prereq: Admission to TEP and MA 202. Coreq: EDC 322.

SEM 345 METHODS OF TEACHING MIDDLE LEVEL MATHEMATICS. (3)
A study of theoretical models and methodological strategies for teaching arithmetic, informal geometry, and introductory algebra at the middle school level. The course will include a critical analysis of a variety of objectives, instructional materials and strategies, and evaluation techniques. Consideration will be given to addressing the individual needs of a diverse student population. This course is in conjunction with a four-week field experience, consisting of 2 two-week placements in the candidate's areas of content concentration. Prereq: Admission to Teacher Education, 12 hours in Mathematics, or permission of instructor.

SEM 348 METHODS OF TEACHING MIDDLE LEVEL SCIENCE. (3)
A study of theoretical models and methodological strategies for teaching science at the middle school level. This course will include a critical analysis of a variety of objectives, instructional materials and strategies, and evaluation techniques for middle school science. Special needs of individuals in a diverse middle school population are emphasized. This course is in conjunction with a four-week field experience, consisting of 2 two-week placements in the candidate's areas of content concentration. Prereq: Admission to Teacher Education, 12 hours in science, or permission of instructor.

SEM 421 STEM EDUCATION METHODS I. (3)
This course is intended to help future STEM Education teachers build a theoretical background and develop the practical skills needed to begin to develop themselves as effective teachers in the secondary classroom. Students will be introduced to, and gain hands-on experience with a variety of instructional materials appropriate for teaching STEM Education at the secondary level. Students are encouraged to be creative and reflective in developing, implementing, and evaluating practices associated with teaching STEM concepts and skills. A strong emphasis is placed upon helping students to develop an understanding of the processes of inquiry teaching, the processes of science and mathematics, as well as a deep conceptual understanding of their respective content area(s). This is part I of a two course sequence. This course requires a minimum of 100 hours of observation. Prereq: EDP 202, SEM 110, Admission into STEM PLUS Program.

SEM 422 STEM EDUCATION METHODS II. (3)
This course, the second in a two course series, is intended to further develop the practical skills needed to develop effective STEM Education teachers in the secondary classroom. Students will build upon the knowledge and experience they gained in SEM 421 by delving deeper into students' content area(s) through field experiences, implementation of a variety of instructional materials, and development of curricula appropriate for teaching STEM Education at the secondary level. Students are encouraged to be creative and reflective in developing, implementing, and evaluating practices associated with teaching STEM concepts and skills. A strong emphasis is placed upon helping students to develop an understanding of the processes of inquiry teaching, the processes of science and mathematics, as well as a deep conceptual understanding of their respective content area(s). This is part II of a two course sequence. This course requires a minimum of 100 hours of observation. Prereq: SEM 421 and admission into the STEM PLUS Program.

SEM 423 ASSESSMENT IN STEM EDUCATION. (2)
The work in this course will help prepare future STEM teachers to create, examine, analyze, and critically utilize a variety of assessments found in K12 education. Specific focus will be given to present day assessment issues and will also include the following interconnected components in relation to assessment: equity (high expectations and strong support for all students); curriculum (coherent, focused, comprehensive, and culturally inclusive); teaching (focus on understanding what students know and need to learn); learning (active construction of new knowledge) and technology (incorporation of technological influences in the teaching-learning process). Prereq: Admission into STEM PLUS Program. Taken concurrently with SEM 435.

SEM 435 STEM STUDENT TEACHING IN THE SECONDARY SCHOOL. (10)
SEM 435 is a ten credit hour course taken concurrently with student teaching. The purpose of student teaching is to help student teachers continue to develop their knowledge, strategies, and the skills necessary in order to become successful and productive secondary teachers capable of being a leader in the profession. With the support of cooperating teachers in area schools, the course instructor, and university field supervisors, student teachers will apply the theories, methods, and techniques they have learned in the past in addition to what they will learn during their concurrent student teaching experiences. Prereq: Consent of Program Advisor and admission into STEM PLUS Program.

SEM 445 APPLICATIONS OF TEACHING MIDDLE LEVEL MATH. (3)
A study of theoretical models and methodological strategies for teaching mathematics at the middle school level. The course will include a critical analysis of equity issues in middle school mathematics, using manipulatives across the curriculum, and strategies for promoting adolescents' curiosity in mathematics. This course is in conjunction with an eight-week field experience. Prereq: SEM 345 or permission of instructor.

SEM 448 APPLICATIONS OF TEACHING MIDDLE LEVEL SCIENCE. (3)
A study of applied models and methodological strategies for teaching science at the middle school level. This course will include applications such as project based learning, engineering design-based science, interdisciplinary science, and other innovative methods for applying national and state science standards to real-world contexts. Special emphasis will be given to lesson study and peer teaching and evaluation. This course is in conjunction with an eight-week field experience. Prereq: SEM 348 or permission of instructor.

SEM 575 SEE BLUE MATHEMATICS CLINIC. (3)
This course focuses on clinical techniques for working with K-12 students who are struggling and/or have disabilities in learning mathematics. It is a course designed to develop both theoretical understandings and operational skills in working with students who struggle in mathematics. Classroom applications of the techniques are discussed. This course is a combination of lecture and application with a student client.

SEM 603 CURRICULUM AND INSTRUCTION IN STEM EDUCATION. (3)
This course introduces the fundamental issues related to curriculum and instruction in STEM programs. Major topics addressed will include (but will not be limited to), defining STEM education, its curricula, purposes, and past and present social and political influences affecting the development and focus of STEM education. Additional discussion will address the stakeholders of STEM education that participate in the development, testing, implementation, and assessment of STEM curricula. A major focus of the course will be on the review of selected STEM curricular programs that reflect research-based "best practices" in STEM education.

SEM 604 HISTORY OF STEM EDUCATION. (3)
The History of STEM Education course will begin with researching the background and development of each individual component of STEM (i.e., Science, Technology, Engineering, and Mathematics) Education. This will follow with a historical comparison of these components highlighting their similarities as well as their differences. The course will conclude with a study of the entity, STEM Education, from the early 19th century America to the present focusing on reports and documents that have connected the Science, Technology, Engineering, and Mathematics disciplines and shaped current research and reform efforts.

SEM 610 TEACHER LEADERSHIP IN STEM EDUCATION. (3)
This course introduces fundamental issues related to classroom research, especially through the lens of action research, and what it means to be a teacher leader in the areas of STEM. Practical application will be the primary focus simultaneously with learning and learning to lead. Collaboration and group work is a hallmark of action research; students in this course will demonstrate their abilities to design, diagnose, plan, implement, observe, and reflect in cooperation with classmates. The various roles and skills necessary to be an effective researcher will be discussed, as well as important issues related to empowerment, contextualization, ethical considerations, and validity. In addition, students will examine action research through the lens of innovation and their role as a future teacher leader.

SEM 613 EFFECTIVE USE OF TECHNOLOGY FOR MODELING-BASED INQUIRY IN STEM EDUCATION. (3)
This course is designed to teach effective uses of educational technologies towards engagement in modeling-based inquiry in STEM Education. Students will learn the key components of facilitating modeling-based inquiry through their own building of accurate conceptual models of explanations of key STEM theories and underlying concepts. Utilizing technologies implemented in authentic STEM practice, students will learn how to facilitate pupils' use of technologies to allow them to make controlled observations, analyze data, recognize patterns, propose and revise their models of explanation, and communicate their models to their peers. Prereq: EDC 317 and/or EDC 607 or its equivalent or permission of instructor.

SEM 620 EQUITY IN STEM EDUCATION. (3)
This course is a seminar designed to study equity issues in the teaching and learning of STEM disciplines in P-20 education. A primary focus will be on enhancing teachers' ability to use research and reflection for learning and leading. Throughout the course the relationship between theory and practice will be emphasized in an attempt to understand some of the complexities and challenges in addressing issues of equity in mathematics learning and teaching. Prereq: Graduate standing.

SEM 631 MATHEMATICS PEDAGOGY IN THE SECONDARY SCHOOL. (0-3)
Through campus and school-based experiences, students will learn how to engage young people in learning mathematics and how to make decisions about planning instruction and develop assessment based on a sound knowledge base for applying content, materials, and methods (including educational technology) appropriate for high school students. May be repeated to

a maximum of three credits. Lecture, 1-3 hours; laboratory, 3-6 hours per week. Prereq: Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education).

SEM 634 SCIENCE PEDAGOGY IN THE SECONDARY SCHOOL. (0-3)
Through campus and school-based experiences, students will learn how to engage young people in learning science and how to make decisions about planning instruction and develop assessment based on a sound knowledge base for applying content, materials, and methods (including educational technology) appropriate for high school students. May be repeated to a maximum of three credits. Lecture, 1-3 hours; laboratory, 3-6 hours per week. Prereq: Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education).

SEM 670 ADVANCED STUDY IN THE TEACHING OF ELEMENTARY SCHOOL MATHEMATICS. (3)
New developments in modern elementary mathematics for teachers in the elementary schools will be reviewed. Special emphasis will be given to a study of new teaching methods, application of published research, techniques and trends in mathematics in the elementary school. Prereq: Graduate standing.

SEM 674 ADVANCED STUDIES IN TEACHING ELEMENTARY SCHOOL SCIENCE. (3)
An advanced course for classroom teachers that focuses on implementation of instructional strategies and assessments for teaching elementary science. A review of contemporary research in teaching and learning science will be closely related to classroom instruction. Specific focus will be given to technology integration, assessment, and addressing the needs of diverse student populations. Prereq: Graduate standing.

SEM 701 HISTORY OF MATHEMATICS EDUCATION. (3)
A study of mathematics education from early 19th century America to the present focusing on forces that connected mathematics, psychology, psychometrics, sociology, and technology. Prereq: EPE 651 or permission of the instructor.

SEM 702 THEORETICAL FOUNDATIONS OF MATHEMATICS EDUCATION. (3)
A survey of constructivism, cognitive science, and sociological and anthropological perspectives as fundamental theories for mathematical learning, and an overview of research context where these theories guide inquiries. Prereq: EDP 610 (Theories of Learning) or consent of instructor. Many concepts and theories in SEM 702 are related to learning theories. Past students felt better prepared for SEM 702 after taking EDP 610.

SEM 703 ADVANCED RESEARCH IN MATHEMATICS EDUCATION. (3)
An advanced seminar focusing on current critical research issues in mathematics education, the way research impacts education policies and practices, various methodological pursuits of researchers, and theory building.

SEM 704 DESIGNING PROJECT-BASED ENVIRONMENTS IN STEM EDUCATION. (3)
SEM 704 will give students the opportunity to explore STEM contents, technologies, instructional strategies, and assessments necessary in designing and developing a research-based, interdisciplinary, project-enhanced environment. In SEM 704 students will experience, evaluate, and design interdisciplinary, project-enhanced environments within STEM classrooms. Prereq: SEM 603 or permission of instructor.

SEM 706 RESEARCH IN STEM EDUCATION. (3)
Students will have the opportunity to learn about the research paradigms guiding STEM education research throughout history with critical analysis of those most utilized across the modern STEM education research communities. Students will acquire knowledge and skills that allow them to develop a research proposal with explicit discussion of their research assumptions and that targets meaningful and timely research questions in STEM education. Prereq: EDL 651, or EDP/EPE 557 and EPE 570, or EDP/EPE 660 or permission of instructor.

SEM 708 ENGINEERING IN STEM EDUCATION. (3)
SEM 708 will introduce students to the field of engineering and give them the opportunity to explore engineering concepts, engineering design, different fields of engineering, engineering curricular materials for K-12 students, research on including engineering in K-12 education, and assessments necessary in designing and developing research-based, interdisciplinary, engineering-design curricula for K-12 students and teachers. In SEM 708 students will experience, evaluate, and design interdisciplinary, engineering design-based curricula to be used within STEM classrooms. Prereq: EDC 707 or permission of instructor.

SEM 746 SUBJECT AREA INSTRUCTION IN THE SECONDARY SCHOOL. (0-9)
Students will teach in their subject areas in the schools full-time, meet regularly to discuss teaching effectiveness and strategies for improvement and develop their professional portfolios. May be repeated to a maximum of nine credits. Lecture, 3-9 hours; laboratory, 6-18 hours per week. Prereq: The appropriate methods course in the subject area (SEM 631, EDC 632, EDC 633, SEM 634 or EDC 635). Admission to the M.A./M.S. in Education (Initial Certification Option-Secondary Education). (Same as EDC 746.)

SEM 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

SEM 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

SEM 770 SPECIAL TOPICS IN STEM EDUCATION (Subtitle required). (1-4)
This course is a seminar of topical offerings with variable topics in the study of philosophy, principles, trends and research associate with STEM Education. This seminar is designed to cover topical issues around current research and strategies in STEM Education as they relate to P-20 implementation. STEM Education is transdisciplinary and constantly changing. This course will address content specific and transdisciplinary issues within the context of new directives and initiatives. May be repeated to a maximum of twelve credits. Prereq: SEM 603 and/or SEM 706 or permission of instructor.

SEM 781 INDEPENDENT STUDY IN STEM EDUCATION. (1-3)
An independent study course for graduate students. May be repeated to a maximum of nine credits. Prereq: Consent of the Director of Graduate Studies and Program Advisor.

SOC Sociology

SOC 101 INTRODUCTION TO SOCIOLOGY. (3)
Introduction to the concepts and methods of sociology. Topics shall include socialization; group processes, social inequalities; social institutions; and social change. This course or its equivalent (RSO 102) serves as a prerequisite to all other Sociology courses. Students may not receive credit for both this course and RSO 102.

SOC 180 GLOBAL SOCIETIES IN COMPARATIVE PERSPECTIVE. (3)
A sociological study of the effects of globalization processes on contemporary societies. Particular emphasis is given to economic, political, and cultural globalization in relationship to two non-US societies (to be identified each semester by the instructor) as well as the Appalachian region of the United States.

SOC 235 INEQUALITIES IN SOCIETY. (3)
This course seeks to promote an understanding of inequalities in American society by considering them in the context of the social origins, development, and persistence of inequalities in the United States and other societies. Bases of inequality that may be considered include race/ethnicity, class/status, gender/sexuality, age, political and regional differences as these relate to politics, social justice, community engagement, and/or public policy. Prereq: SOC 101 or CLD 102. (Same as AAS 235.)

SOC 255 MEDICINE, HEALTH, AND SOCIETY. (3)
SOC 255 is an introduction to foundational social theories and concepts through the lens of health, healing, and medicine. Social science perspectives on health disparities across populations, how health and disease are defined and managed, and cultural experiences of illness provide a window into a broader understanding of social life. The course will focus on four major social theories – social constructionism, symbolic interactionism, conflict theory, and functionalism. We will use these theoretical foundations and related core concepts to explore topics like physician-patient interaction and the social organization and distribution of health care. SOC 255 will also provide an introduction to social science research through critical analysis of original scholarly work and exposure to conducting, analyzing, and presenting one's own empirical findings. SOC 255 is ideal for those with career aspirations in medicine, nursing, or other health professions, and covers the sociology content included on the MCAT exam for pre-med students. This course also provides a critical foundation for those interested in learning about population health from the point of view of social science. Throughout the course, we will explicitly address the unique contributions of social science to a broader understanding of the etiology, treatment, experience, and consequences of illness and disease. (Same as HSP 255.)

SOC 299 INTRODUCTORY TOPICS IN SOCIOLOGY (Subtitle required). (3)
An introductory study of a selected topic in sociology.

SOC 302 SOCIOLOGICAL RESEARCH METHODS. (3)
A focus on issues of social and behavioral research design, covering such topics as the relationship between theory and research, the ethics of social science research, units of analysis, identification of variables and statement of hypotheses, sampling, measurement, and modes of social observation. Required for majors. Prereq: Sociology majors and minors only; SOC 101 or CLD 102 or consent of instructor.

SOC 303 QUANTITATIVE SOCIOLOGICAL ANALYSIS. (3)
This course focuses on the use of quantitative analysis techniques and software in social and behavioral research, covering such topics as univariate and bivariate analysis, parameter estimation, and hypothesis testing. Required for majors. Prereq: SOC 302 or PSY 215.

SOC 304 CLASSICAL SOCIOLOGICAL THEORY. (3)
A survey and analysis of theories of human social interaction and society from the nineteenth and early twentieth centuries. Works of theorists, such as Marx, Weber, Durkheim, Simmel, and Mead will be considered. Emphasis is on the development of sociology as a discipline. Required for majors.

SOC 305 CONTEMPORARY SOCIOLOGICAL THEORY. (3)
A survey and analysis of the major schools of contemporary sociological theory. Works of major theorists are included. Emphasis is on the conceptual structure of the different theories and the way in which they are applied in contemporary sociological analysis. Prereq: SOC 304.

SOC 334 SOCIOLOGY OF FAMILIES. (3)
A sociological study of the concepts, theories, issues, and research findings on families and the dynamics of family life, with an emphasis on the social context and diversity of families. Prereq: SOC 101 or CLD 102.

SOC 335 SOCIOLOGY OF GENDER. (3)
A sociological study of gender as a socially and culturally constructed phenomenon. Topics shall include the intersection of gender and race/ethnicity and class; sexualities; gender and social movements; sociological theories concerning gender; feminist theory; and research on the relevance of gender to various subfields of sociology. Prereq: SOC 101 or CLD 102.

***SOC 339 INTRODUCTION TO CRIMINOLOGY. (3)**
A sociological study of the extent and nature of crime, delinquency, and more general deviant behavior. Topics may include the relationship between crime, deviance and law; measurement of crime and deviance; sociological theories of crime and deviance; and crime/deviance typologies. Prereq: SOC 101 or CLD 102.

SOC 340 COMMUNITY INTERACTION. (3)
Examines community effects on group and individual behavior from the perspective of sociological social psychology. By focusing on individuals, individuals in groups, and groups, special emphasis is given to how community context shapes the attitudes, beliefs, and actions of individuals as well as their interactions with others. Prereq: CLD 102 or SOC 101 or consent of instructor. Primary registration access limited to SOC and CLD majors and remaining seats open during secondary registration. (Same as CLD 340.)

SOC 342 ORGANIZATIONS AND WORK IN SOCIETY. (3)
A sociological study of the roles of formal organizations and workplaces in society, including consideration of their structures and processes. Topics may include contemporary issues in the sociology of organizations and work, including bureaucratic and alternative structures; opportunities for worker participation; the role of leadership and decision making; and the exercise of power in organizations. Prereq: SOC 101 or CLD 102.

SOC 343 POLITICAL SOCIOLOGY. (3)
A sociological study of the causes and consequences of the distribution of power in society. Topics may include the means by which social movements challenge power; the political institutions in which power is exercised; and the relationship of the political arena to other social institutions and policies. Prereq: SOC 101 or CLD 102.

SOC 345 GLOBAL DIVISIONS OF LABOR: WORK AND ORGANIZATIONS IN THE WORLD ECONOMY. (3)
This course examines employment processes, unemployment in the global economy, and theories of the division of labor beginning with Marx, Durkheim, and Weber. This is followed by an analysis of jobs in the current global economy. First, it examines the processes by which jobs are created and destroyed through investment and various processes such as outsourcing and offshoring. Second, it looks at lean production and evidence-based medicine as forms of rationalization that emerged from scientific management and other processes. Third, it looks at how the Internet and robotics are transforming work. Prereq: SOC 101 or CLD 102 or consent of instructor.

SOC 347 INTERNATIONAL MIGRATION IN GLOBAL PERSPECTIVE. (3)
This course examines migration in a global perspective. It looks at immigration, emigration, and naturalization. It includes both legal and illegal immigration. All the major regions of the world are considered in a broad perspective, and then more specific forms of migration in specific countries are considered. Integration and naturalization processes are an important part of the mix. Both qualitative and quantitative evidence will be considered.

SOC 349 ECONOMIC SOCIOLOGY: CONSUMPTION, PRODUCTION AND THE SOCIAL CONSTRUCTION OF MARKETS. (3)
This course examines the field of economic sociology. It looks at consumption and production behavior in a variety of industries. It examines the labor market and how people are trained and find jobs. It looks at how people establish businesses and use investment to socially construct production. It looks at how markets are socially constructed and how market failures occur. Finally, it looks at the constructive role that government can play in controlling and promoting markets. Prereq: SOC 101 or CLD 102 or consent of instructor.

SOC 350 TOPICS IN SOCIOLOGY (Subtitle required). (3)
Current research and conceptual developments in a selected topic or subfield of sociology. May be repeated to a maximum of six credits under different subtitles.

SOC 351 GLOBAL SOCIOLOGICAL TOPICS (Subtitle required). (3)
Current research and conceptual developments in a selected topic or subfield of sociology related to international issues or globalization. Topics will facilitate an understanding of the relationship between local and global processes. May be repeated to a maximum of six credits under different subtitles. Prereq: SOC 101 or CLD 102 or consent of instructor.

SOC 355 SOCIOLOGY OF HEALTH AND ILLNESS. (3)
Who defines health and illness? Why is disease and premature death unequally distributed in society? What social forces cause individuals to get sick or stay healthy? How have changes in the medical profession, the health care system, and health policy affected treatment outcomes and illness experiences? This course addresses these questions through a presentation of important concepts and substantive issues the sociology of health and illness (or medical sociology), and an introduction to major classic and contemporary research in this area. We will compare and contrast sociological perspectives on health with the perspectives offered by biomedicine, psychiatry and allied disciplines. The course has two major sections: The first covers the social origins of illness – the social construction of illness and biomedical knowledge, social epidemiology, and social influences on personal experiences of illness. The second section covers social and institutional responses to illness and the impact of these on physician-patient interactions, health outcomes, and the distribution of disease. In this section we will examine the medical profession, the health care system, health policy, and the changing nature of these. Class sessions will emphasize group discussions and exercises based on original scholarly writings. Discussions and exercises are designed to encourage the development of analytic skills, recognition of the benefits of collaborative approaches to complex problems, and independent exploration of course material. (Same as HSP 355.)

SOC 360 ENVIRONMENTAL SOCIOLOGY. (3)
A sociological study of the inter-relationship between human societies and the natural environment. Topics may include population growth; food systems; energy; climate change; risk perception; disasters; sustainability; social movements; and environmental justice. Prereq: SOC 101 or CLD 102. (Same as CLD 360.)

SOC 363 ENVIRONMENTAL JUSTICE. (3)
This course focuses on environmental injustices and movements for social justice both within the United States and abroad. It examines the extent to which disadvantaged groups, including people of color, low-income communities, and people of the Global South, bear a disproportionate share of environmental toxins and hazards in the world. It also examines the emergence and characteristics of environmental justice movements grassroots and community-based efforts to deal with environmental threats. Prereq: SOC 101 or CLD 102 or consent of instructor.

SOC 380 GLOBALIZATION: A CROSS-CULTURAL PERSPECTIVE. (3)
A sociological study of how globalization processes affect development in various countries and world regions. Topics shall include development theory; comparative development processes and outcomes; and development policy options. (Same as CLD 380.)

SOC 395 INDEPENDENT WORK. (1-3)
Independent study of special topic under the supervision of faculty. Students must identify both a project topic and a sociology faculty mentor who has agreed to supervise this project. Students taking this course must be Sociology majors or minors and must have a 3.0 GPA in the department. A learning contract must be filed in the department in order to receive a grade for this course. May be repeated to a maximum of six credits. Prereq: SOC 101 or CLD 102, SOC major or minor, GPA of 3.0 or above in the department, consent of faculty mentor and learning contract.

SOC 399 PRACTICUM IN SOCIOLOGY. (1-12)
A service learning or internship experience in sociology under the supervision of a faculty member or instructor. May be repeated to a maximum of 12 credits. Maximum of six hours of SOC 399 will count toward Sociology Major requirements; maximum of 3 hours of SOC 399 will count toward Sociology Minor requirements. Pass/fail only. Prereq: SOC 101 or CLD 102, SOC major or minor, consent of instructor and learning contract.

SOC 420 SOCIOLOGY OF COMMUNITIES. (3)
A sociological study of issues relevant to communities. Topics may include: conceptual approaches to community; organizational and institutional linkages within and beyond the community; social inequality and social processes within communities such as social networks, social capital, power and decision-making, and social change. Prereq: SOC 101 or RSO 102 or CLD 102; and one of the following: SOC 302 or 304 or CLD 405; or consent of instructor. (Same as CLD 420.)

SOC 432 RACE AND ETHNIC RELATIONS. (3)
Analysis of relationships between racial and ethnic groups and the behavioral products thereof. Sources and consequences of prejudice and discrimination. Situation and prospects of minorities. Strategies of change and tension reduction. Prereq: Six hours of social science or consent of instructor. (Same as AAS 432.)

***SOC 435 TOPICS IN SOCIAL INEQUALITIES (Subtitle required). (3)**
A sociological study of topics relevant to social inequalities and stratification. May be repeated under different subtitles to a maximum of six credits. Prereq: Six hours of social science or consent of instructor. (Same as AAS 433.)

#SOC 437 SOCIOLOGY OF LAW. (3)
This class explores the fundamental roles that law plays in organizing contemporary social life. It considers various ways of understanding law's complex presence in society: how law shapes and enables social interaction, how law constructs differences among people and their actions, how law mediates and enforces power relationships, and how law matters for the kind of society we have. Official legal institutions (courts) and actors (judges, police, lawyers, etc.) will be examined, as well as how law works as a complex array of norms, symbols, discourses, and practices. Prereq: SOC 339 or six hours of social science or consent of instructor.

SOC 438 CROSS-NATIONAL CRIME. (3)
The purpose of this course is to teach students how to describe and explain geographic and historical variations in the amounts and types of crime across countries and to understand contemporary transnational crime problems. Students will critically examine the data, methods, and theories used to measure and explain crime across nations and over time. They will learn how to make informed comparisons across a broad range of countries and world regions. Additionally, students will be introduced to the complexities of studying large-scale international and transnational crimes, like genocide. Prereq: SOC 101 or CLD 102 or consent of instructor.

***SOC 439 TOPICS IN CRIME, LAW AND DEVIANCE (Subtitle required). (3)**
A sociological study of a special topic central to the scientific study of crime, law, or deviance. May include such topics as deviant subcultures; substance use; social control of crime; sociology of law; and philosophies of punishment. May be repeated to a maximum of six credits under different subtitles. Prereq: Six hours of social science or consent of instructor.

SOC 440 COMMUNITY PROCESSES AND COMMUNICATION. (3)
This course examines the relationship between community organization and change and the media. Special emphasis is given to the place of media organizations in community structure, the effects of media on community processes, and how community members use the media. Prereq: CLD 102 or SOC 101 and CLD/SOC 340 or consent of instructor. Primary registration access limited to majors and remaining seats open during secondary registration. (Same as CLD 440.)

***SOC 442 TOPICS IN WORK, ORGANIZATIONS AND ECONOMY (Subtitle required). (3)**
A sociological study of selected topics related to organizations and work. Topics may include decision-making and leadership in organizations; environmental impacts of organizations; the future of unions and workplace democracy; and changes in labor markets. May be repeated to a maximum of six credits under different subtitles. Prereq: Six hours of social science or consent of instructor.

***SOC 444 TOPICS IN POLITICAL SOCIOLOGY (Subtitle required). (3)**
A sociological study of topics related to politics and government. Topics may include national and supra national government; citizenship; political parties; interest groups; social movements; and globalization. May be repeated to a maximum of six credits under different subtitles. Prereq: Six hours of social science or consent of instructor.

SOC 445 PUBLIC SOCIOLOGY. (3)
This course explores strategies for using sociological research tools to make a tangible impact on real-world social problems. It focuses on "Public Sociology" as a "brand" of sociology in which scholars seek to engage with the wider public by addressing social issues and seeking to share the results of their research with individuals and organizations who can utilize it for the solution of social problems. Students will be involved in a public sociology project as they fulfill course requirements. Prereq: SOC 302 or consent of instructor.

SOC 506 SOCIOLINGUISTICS. (3)
This course is an advanced survey of current areas of research in sociolinguistics. Topics include dialectology, language variation and change, interactional sociolinguistics, language and gender, bilingualism, and language contact. Prereq LIN/ENG 211, ANT 220, SOC 101 or graduate standing. (Same as ANT/LIN 506.)

SOC 508 DISCOURSE ANALYSIS. (3)
This course is an introduction to the methods used in various approaches to discourse and textual analysis. The approaches examined include Speech Act Theory, Conversation Analysis, Ethnographic Discourse Analysis, Discourse Pragmatics, Interactional Sociolinguistics, Variation Analysis, and Critical Discourse Analysis. Special attention is giving to practical experience analyzing both spoken and written discourse. Prereq: LIN/ENG 211 or consent of instructor. (Same as LIN 508.)

SOC 517 RURAL SOCIOLOGY. (3)
A sociological study of the issues relevant to rural communities. Topics may include transformations in rural communities; the agrifood system; and the natural environment in the U.S. and the world. Prereq: Graduate student status; undergraduates with consent of instructor only. (Same as CLD 517.)

SOC 534 SOCIOLOGY OF APPALACHIA. (3)
A sociological study of selected social issues facing Appalachian communities, with an emphasis on placing regional political economy, society and culture in a global context. Prereq: Sociology, Anthropology or CLD senior major or minor; Appalachian Studies minor; graduate student status; or consent of instructor. (Same as ANT/CLD 534.)

SOC 535 ADVANCED TOPICS IN SOCIAL INEQUALITIES (Subtitle required). (3)
A sociological study of topics relevant to social inequalities and stratification. May be repeated to a maximum of six credits under different subtitles. Prereq: Graduate student status; undergraduates with consent of instructor only. (Same as AAS 535.)

SOC 539 ADVANCED TOPICS IN CRIME, LAW AND DEVIANCE (Subtitle required). (3)
A sociological study of a special topic central to the scientific study of crime, law or deviance. Topics may include deviant subcultures; substance use; social control of crime; sociology of law; and philosophies of punishment. May be repeated to a maximum of six credits under different subtitles. Prereq: Graduate student status; undergraduates with consent of instructor only.

SOC 541 ADVANCED TOPICS IN WORK, ORGANIZATIONS, AND ECONOMY (Subtitle required). (3)
A sociological study of selected topics related to work, organizations, and the economy. Topics may include economic sociology; sociology of occupations and professions; and sociology of organizational administration. Prereq: Graduate student status; undergraduates with consent of instructor only.

SOC 543 ADVANCED TOPICS IN POLITICAL SOCIOLOGY (Subtitle required). (3)
A sociological study of selected topics related to politics and government. Topics may include national and supra national government; citizenship; contestation; political parties, social movements; strategic protests; ideology; identity; and globalization. Prereq: Graduate student status; undergraduates with consent of instructor only.

SOC 550 ADVANCED TOPICS IN SOCIOLOGY (Subtitle required). (3)
A sociological study of topics, theories, or research findings from selected sociological subfield. May be repeated to a maximum of six credits under different subtopics. Prereq: Graduate student status; undergraduates with consent of instructor only.

SOC 565 INDEPENDENT WORK. (1-3)
Independent sociological study of a topic under the supervision of faculty. Students must identify both a project topic and a sociology faculty mentor who has agreed to supervise this project. A learning contract must be filed in the department in order to receive a grade for this course. May be repeated to a maximum of six credits. Prereq: Graduate student status; undergraduates with consent of instructor only.

***SOC 603 SEMINAR IN TEACHING SOCIOLOGY. (1-3)**
A pedagogical and professional development seminar to prepare skillful, effective sociology instructors. Prereq: Graduate standing in sociology or consent of instructor.

SOC 610 PROSEMINAR IN COMPLEX ORGANIZATION. (3)
A systematic examination of the sociological concepts, literature and current developments in the field of complex organizations. Prereq: Consent of instructor.

SOC 622 TOPICS AND METHODS OF EVALUATION. (3)
An examination of a subset of evaluation methods, topics, and problems. An introductory course in the area with minimal emphasis on quantitative methods. The course is designed to: provide a perspective from which evaluation studies may be viewed; and, to provide experiences for those who will learn from or conduct evaluations. Prereq: Consent of instructor, and a basic course in statistics or research. (Same as ANT/EDP/EPE 620.)

SOC 630 PROSEMINAR IN DEVIANT BEHAVIOR. (3)
A systematic examination of the sociological concepts, literature, and current developments in the field of deviant behavior. Prereq: Graduate standing; SOC 436 or equivalent.

SOC 635 SEMINAR IN SOCIAL INEQUALITIES. (3)
This course provides a graduate-level introduction to sociological theory and research on social inequalities and stratification. It includes both classic and contemporary works on topics such as political economy, the state, domination, democracy, work, poverty, welfare, resistance, class, race, ethnicities, and gender. The course serves as a foundational course for graduate students with interests in social inequalities, and is required for Sociology graduate students seeking a specialization in this area. Prereq: SOC 650 or SOC 651 or consent of instructor. (Same as AAS 635.)

SOC 636 STRATIFICATION AND MOBILITY. (3)
Examination of the main areas of research in social stratification and mobility. The course is centered primarily around the core readings, both classical and contemporary, of stratification and mobility research. Topics include educational and occupational attainment, occupational status and prestige, inter- and intra-generational occupational mobility, classes, the consequences of stratification, and the role of labor markets, gender, ethnicity, and race in stratification and mobility. A familiarity with statistics or survey research is strongly recommended. Prereq: SOC 635 or consent of instructor.

SOC 637 SOCIOCULTURAL DIMENSIONS OF ECONOMIC DEVELOPMENT. (3)
Examination of social, cultural and economic conditions in lesser developed countries. Discussion of the various socioeconomic and cultural theories of change and developments, and of alternative policies for the world of the future. Considers the possible roles for social scientists in policy formulation and application. Prereq: Six graduate credits in social sciences or consent of instructor. (Same as ANT 637.)

SOC 640 SCIENCE, AGRICULTURE, AND DEVELOPMENT. (3)
An in-depth examination of the interrelations between science, agriculture, and development. Both domestic and international issues are explored. Prereq: Graduate standing in the social or agricultural sciences. (Same as ANT/CLD 640.)

SOC 641 GENDER ISSUES IN DEVELOPMENT. (3)
An examination of gender issues in domestic and international development. Prereq: Graduate standing in the social or agricultural sciences or permission of the instructor. (Same as ANT 641.)

SOC 642 THE SOCIOLOGY OF WORK, OCCUPATIONS AND LABOR MARKETS. (3)
This course examines the theories of work and occupations; the industrial structure of the labor force, the nature of mental and manual labor; the structure of labor markets including underemployment, unemployment, and segmentation; occupational mobility and status attainment; worker resistance and informal groups; worker participation and teamwork; labor and management relations; and state and national legislation regarding work, conflict, safety, and discrimination. Prereq: Graduate standing in sociology or other graduate department.

SOC 645 TOPICS IN POLITICAL SOCIOLOGY. (3)
This course examines how states, capital, and other relevant social groups interact to produce new or stabilize old frameworks for work or other aspects of society. Its topics may include many different areas including: employee representation; health and safety issues; race and gender discrimination; corporate relocation and the international division of labor. No matter what topic chosen for the course, the basic aspects of political sociology including pluralist, elite, neo-corporatist, and citizenship theories will be covered. Prereq: Graduate standing in sociology or other graduate department.

SOC 646 SOCIAL MOVEMENTS AND SOCIAL CHANGE. (3)
This seminar focuses on literature pertaining to collective, extra-institutional efforts to form new or maintain old forms of social order in the United States and other countries. While specific content might vary in response to instructors' interests and department demands, attention will be given to such issues as movement emergence, maintenance, and transformation, labor and resource mobilization, social networks, organization cultures, movement identities and ideologies, social problems construction, strategies and tactics development, as well as the relative success of social movement activities. The seminar can include illustrative material from a variety of social movements and counter-movements (e.g., political, lifestyle, religious, etc.) Prereq: Graduate standing in sociology or other graduate department.

SOC 650 CONCEPTS AND THEORIES IN SOCIOLOGY. (3)
Consideration of central conceptual issues underlying the construction of various sociological theories and their explanatory frameworks. A systematic exploration of the development and application of central conceptual frameworks of the discipline. Prereq: Consent of instructor.

***SOC 651 CLASSICAL SOCIOLOGICAL THEORY. (3)**
Intensive examination of the ideas and continuing significance of leading nineteenth century sociological theorists. The work of Marx, Weber, Durkheim, and Simmel or Mead is given particular attention. Discussion concerns the contents of their writings, the sociohistorical context in which they were developed, and their applicability to contemporary society. Prereq: Consent of instructor.

SOC 653 FAMILY THEORY. (3)
A survey and critical evaluation of family macro and micro theories. The course will include (a) a historical perspective on the development of family theory; (b) the prevalent macro theories/conceptual frameworks in use in the field; and (c) current trends in the development of micro, or middle-range, family theories. Prereq: FAM 652. (Same as FAM 653.)

SOC 661 SOCIOLOGY OF EDUCATION. (3)
A study of schooling and education using basic analytic paradigms of sociology. Emphasis on schools as formal organizations and education in a changing, technologically oriented and stratified society. Prereq: SOC 101 or equivalent. (Same as EPE 661.)

SOC 665 PROGRAM DEVELOPMENT AND EVALUATION. (3)
Course is designed to help students design, implement, and evaluate educational and social programs using a logic-based framework. (Same as CLD 665.)

SOC 675 THEORETICAL FOUNDATIONS OF COMMUNICATION AND COMMUNITY. (3)
This course is designed to explore the dynamics of community development and leadership communication within both geographic-bounded communities and communities of taste. (Same as CLD 675.)

***SOC 680 SOCIAL INVESTIGATION. (2)**
This course is a core research design course in the Sociology graduate program. The primary objectives are to: (a) help you understand the process of social science research and (b) build your skills to develop an original research project in sociology or related social science disciplines. The course is organized around "sociology in action", covering such topics as developing effective research questions, selecting appropriate research methods and theoretical framing, writing and revising a proposal, acquiring an IRB approval for your research, and developing and managing your research budget and time. Prereq: Graduate student standing, or consent of instructor.

SOC 681 RESEARCH DESIGN AND ANALYSIS. (3)
Problem definition and delimitation, design appropriate to problem and data, and selection of appropriate analysis techniques; critical examination of representative research studies. Prereq: Elementary statistics.

SOC 682 SPECIAL TOPICS IN ADVANCED SOCIOLOGICAL METHODS. (1-3)
A focused treatment of one or more issues, topics, or problems in sociological methods such as time-series analysis, causal analysis, participant observation, conduct of experiments, sociohistorical methods, scale construction, etc. May be repeated to a maximum of nine credits. Prereq: SOC 681 or equivalent.

SOC 684 FARMING SYSTEMS RESEARCH METHODS. (3)
A critical analysis of the concepts, methods, and practices of farming systems research. Design and carry out an FSR project. Prereq: Graduate standing in the social or agricultural sciences. (Same as ANT 684.)

SOC 685 COMMUNITY DEVELOPMENT THEORY AND PRACTICE. (3)
This course examines the application of our conceptual understanding of community and organizational dynamics to community development that builds upon assets and encourages local involvement. (Same as CLD 685.)

***SOC 691 SOCIOLOGY OF FOOD AND AGRICULTURE. (3)**
This seminar will analyze the transformation of agriculture and the food system in the historical context of increased globalization. Emphasis is given to key historical transitions, changing social relations surrounding production and consumption of food, and shifts in regulations and policy at the local, national, and/or international levels. Such emphases provide a framework for understanding the historical roots and future prospects for the socioeconomic problems confronting contemporary U.S. and global agriculture and food economies. Prereq: Graduate standing, or consent of instructor. (Same as AEC/CLD 691.)

SOC 730 SPECIAL TOPICS IN DEVIANT BEHAVIOR. (1-3)
A focused treatment of one or more issues, topics, or problems in the field of deviant behavior such as delinquency, sociology of law, criminal justice and corrections, radical criminology, or methodological issues in deviance research. May be repeated to a maximum of nine credits. Prereq: SOC 630 or equivalent or consent of instructor.

SOC 735 TOPICAL SEMINAR IN SOCIAL INEQUALITIES. (3)
Advanced study of topics of current importance in the study of social inequalities and stratification. May be repeated under different subtitles to a maximum of 12 credits. Prereq: SOC 635 or consent of instructor.

SOC 737 CULTURE, ENVIRONMENT AND DEVELOPMENT. (3)
This seminar explores the interrelationships between social processes, development and the environment. It provides the graduate student with the necessary theoretical and analytical tools to examine the social and cultural processes of environmental degradation and change. Topics include political ecology, health impacts of development, deforestation, resource tenure systems, environmental grassroots movements and large-scale development organizations. Prereq: Consent of instructor. (Same as ANT 736.)

SOC 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

SOC 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

***SOC 751 CONTEMPORARY SOCIOLOGICAL THEORY. (3)**
A survey of major theoretical perspectives in modern sociology, focusing on twentieth century developments in European and American sociological theory. The principal contributions of selected theorists are considered and their role in the establishment of contemporary sociology is assessed. Prereq: SOC 651 or consent of instructor.

SOC 752 SEMINAR IN FAMILY THEORY CONSTRUCTION. (3)
An advanced seminar focusing on the definition, evaluation and construction of family theory. Inductive and deductive theory construction strategies are surveyed, evaluated and applied. Prereq: FAM 652.

SOC 766 CONCEPTS IN MEDICAL SOCIOLOGY. (3)
A review of sociological concepts and methods which have been applied to the study of health and medicine; the contributions of medical sociology to general sociological theory and to concepts and research on health-related problems of society. Prereq: Consent of instructor. (Same as BSC 766.)

SOC 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

SOC 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

SOC 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

SOC 772 TOPICAL SEMINAR IN SOCIOLOGY. (1-3)
Advanced study of topics of current importance in sociology, such as structural strain and social change, game theory, decision processes, communication and power structure. May be repeated under different subtitles to a maximum of 12 credits. Prereq: At least nine hours in the social sciences, preferably in sociology.

SOC 773 TOPICAL SEMINAR. (3)
Analysis of topics of scientific interest in rural sociology, selected from such fields as the following: criticism of research; sociological factors in land use; migration; rural social ecology of the South; highland societies. May be repeated to a maximum of six credits.

SOC 776 SEMINAR IN DEPENDENCY BEHAVIOR. (3)
The course is designed to explore theories of dependency behavior by examining the concept of dependency as it can be applied to the study of various phenomena including alcohol use and abuse; dependence on other psychoactive substances; institutional dependency; dependency in work settings; and poverty and welfare. Prereq: Consent of instructor. (Same as ANT/PSY/BSC 776.)

SOC 777 SEMINAR IN MENTAL ILLNESS CONCEPTS, RESEARCH AND POLICY. (3)
Advanced study of contemporary concepts of mental health and mental illness, and their historical development; major forms of response to mental illness. Prereq: Consent of instructor. (Same as BSC 777.)

SOC 779 TOPICAL SEMINAR IN SOCIAL PSYCHOLOGY. (3)
Each semester some topic in the field of social psychology such as attitudes and beliefs, structure and function of social groups, social determinants of behavior, leadership, and morale will be studied intensively. May be repeated to a maximum of six credits. (Same as PSY 779.)

SOC 780 SPECIAL PROBLEMS IN SOCIOLOGY. (1-6)
May be repeated to a maximum of 10 credits.

#SOC 781 QUANTITATIVE DATA ANALYSIS II. (3)
This intermediate statistics course emphasizes the fundamentals of multivariate regression. The goal is to develop a foundational toolkit to model a variety of dependent variables. The course will teach students how to make decisions about how to model data, how to estimate equations, and how to solve common problems with multivariate regressions. This is an applied course that will utilize Stata to analyze quantitative social science data. Prereq: SOC 681, PS 572 or consent of the instructor.

SOC 785 COMPARATIVE HEALTH CARE SYSTEMS. (3)
This seminar will focus on concepts, issues, and research pertaining to health care systems in comparative perspective. It will deal with the following questions. (1) What are the core analytical dimensions of a health care system? (2) How do health care systems connect with the other institutional domains of a society, with its value-system, and with its major cultural and historical trends? and (3) Within the health care system, how are the main constituents of modern medicine related to each other? Prereq: Consent of instructor. (Same as BSC 785.)

SOC 790 RESEARCH IN RURAL SOCIOLOGY. (1-3)
Individual graduate research with correlated study of rural social research types and methods. May be repeated for a maximum of six credits.

SOC 792 RESEARCH IN SOCIOLOGY. (1-6)
Individual research and reading in particular fields of sociology, under staff supervision. Open to advanced students who are prepared for intensive study beyond that offered in regular classes in each field. May be repeated to a maximum of 10 hours.

SOC 797 COMMUNITY DEVELOPMENT PRACTICUM. (1-9)
Supervised experiences in the application of sociological concepts and techniques to problems of program development in a community or state agency, organization, or department. Learning contract required. May be repeated to a maximum of 9 credits. Prereq: Approval of the Director of the Community Development Program.

SPA Hispanic Studies

SPA 011 SPANISH READING FOR GRADUATE STUDENTS. (3)
Designed for those graduate students who wish to acquire a rapid reading knowledge of Spanish. Emphasis on rapid vocabulary building, the Spanish idiom, and the verb systems. Lecture, three hours.

SPA 101 ELEMENTARY SPANISH I (spoken approach). (4)
This course is designed to introduce basic modes of communication in Spanish. The emphasis is on everyday language which the students will learn by applying essential grammatical structures to vocabulary. Both listening and reading comprehension are stressed. The textbook provides instructional assignments and self-correctional exercises. Not open to students who have credit for SPA 141.

SPA 102 ELEMENTARY SPANISH II (spoken approach). (4)
A continuation of SPA 101. Not open to students who have credit for SPA 142. Prereq: SPA 101 or consent of the department and placement test.

SPA 103 HIGH BEGINNER SPANISH. (3)
This course is designed to expand upon the students' already existing knowledge of Spanish in order to prepare them for intermediate level courses. The textbook and supplementary material will develop students' abilities in the four basic skills of language learning (speaking, listening, reading and writing). Prereq: Placement exam. Contact department office at (859) 257-1565 to make appointment for placement test.

#SPA 111 THE HISPANIC CARIBBEAN. (3)
This course will examine the culture, literature, arts and historical issues of the Hispanic Caribbean – Cuba, Puerto Rico and the Dominican Republic – from Columbus' arrival to the contemporary period. The students will gain understanding of the convergence of the three ethnic groups that make up this region – the indigenous population, the European colonizers and the enslaved Africans – frameworks that help us understand the Hispanic Caribbean and its place in a global society and the unique identity of the Hispanic Caribbean in the context of Latin America; music, emigration and the U.S. Caribbean Hispanic communities. This UK Core course will be taught in English and will consist of readings, lectures, multi-media resources, writing assignments, student presentations and small discussion groups.

†SPA 141 ELEMENTARY SPANISH I (reading approach).

†SPA 142 ELEMENTARY SPANISH II (reading approach).

SPA 151 SPANISH FOR HEALTH PROFESSIONALS. (3)
The course will teach Spanish terminology and basic grammar related to medical patients, including vocabulary for diagnosis and treatment. Prereq: Prior college or high school Spanish or other experience with the Spanish language roughly equivalent to one semester of college study.

SPA 201 INTERMEDIATE SPANISH III (spoken approach). (3)
Review and reinforcement of grammatical and phonological patterns. Emphasis will be given to developing reading, listening and speaking skills based on contemporary texts. Not open to students who have credit for SPA 241. Prereq: SPA 102 or consent of department and placement test.

SPA 202 INTERMEDIATE SPANISH IV (spoken approach). (3)
Continuation of SPA 201. Not open to students who have credit for SPA 242. Prereq: SPA 201 or consent of department and placement test.

SPA 203 HIGH INTERMEDIATE SPANISH. (3)
This course is designed to advance students' knowledge of Spanish at the intermediate level by fine-tuning the skills of reading, speaking, listening, and writing. The goal of the course will be to focus on useful vocabulary, to practice functional grammar, to further explore cross-cultural analysis and to develop students' communicative competence in Spanish. Not open to Students from SPA 102 or 103. This course is designed for students' transition directly from high school Spanish to second-year college Spanish. Prereq: Placement exam. Contact department office at (859) 257-1565 to make appointment for placement test.

SPA 205 SPANISH FOR BILINGUAL STUDENTS. (3)
This course is the entry level for the 'Spanish for Bilingual Students' track. It will cater to the specific academic and communicative needs of two types of students: those described as 'heritage speakers/learners' and those who are 'advanced non-native speaker of Spanish'. This course is exclusively designed for these students and its purpose is to build on the students' existence competence of the native language and to further develop oral, written, reading, and cultural competence for use in different communicative situations. Prereq: Placement exam and oral interview.

SPA 208 U.S. LATINO CULTURE AND POLITICS. (3)
This course studies U.S. Latino history and culture, with an emphasis on the evolution of the politics of immigration and the use of Spanish in the U.S. These broader issues will be studied with the express intent of determining what they mean for central Kentucky.

SPA 210 SPANISH GRAMMAR AND SYNTAX. (3)
Introduction to advanced Spanish grammar and syntax and development of Spanish vocabulary and writing skills. Concurrent enrollment in SPA 211 is encouraged. Prereq: SPA 202, SPA 203 or equivalent.

SPA 211 INTERMEDIATE SPANISH CONVERSATION. (3)
Oral-aural practice in the spoken language. Special emphasis placed on the acquisition of idioms and vocabulary. Prereq: SPA 202, 203 or equivalent or consent of chair.

SPA 215 WRITTEN SPANISH FOR BILINGUAL STUDENTS. (3)
This course builds upon the pedagogical basis of SPA 205. It is exclusively designed for bilingual speakers and its purpose is to further refine reading, lexical, and grammatical skills through intensive writing practice in contexts that are meaningful to these speakers. This course will be taught entirely in Spanish. SPA 215 is the equivalent of 210 and 211 and fulfills the pre-major course requirements. Students taking 203 should refrain from taking this course. Prereq: Approve SPA 205 with a grade of **B** or higher (or placement exam and oral interview).

†SPA 241 INTERMEDIATE SPANISH III (reading approach).

†SPA 242 INTERMEDIATE SPANISH IV (reading approach).

SPA 262 HISPANIC LITERATURES IN TRANSITION (Subtitle required). (3)
This course examines particular authors, periods, regions, cultural events, or movements from Spain and Latin America. Special attention will be paid to links between literature and culture, politics and society through reading, discussion, and writing assignments to be conducted in English. Course may be repeated under different titles for a maximum of six credits. Prereq: WRD 110 and WRD 111 or CIS 110 and CIS 111.

SPA 300 CONTACT ZONES: CULTIVATING INTERCULTURAL COMPETENCE. (3)
This course aims to help students acquire skills and knowledge needed to promote understanding of individuals/groups from diverse backgrounds, without reinforcing stereotypes in the name of "cultural difference." Toward this end, this course will (1) utilize, as a guide/lead, the concept of "contact zones," zones of exchange that divide but simultaneously connect "us" and "them"; and (2) have each student conduct a semester-long ethnographic project concerning the contact zone. (Same as MCL 300.)

SPA 302 SPANISH FOR BUSINESS PROFESSIONALS. (3)
This course prepares business and Spanish minors/majors for successful communication in the Hispanic commercial world by building up on their existing knowledge and emphasizing practical, real-life use of oral and written Spanish. This course is designed to introduce students to essential business terminology and language situations in common business contexts, reinforcing strategies for understanding, interpreting, and responding to new information. This course also helps the student to be alert to the importance of cultural awareness in doing business in Spanish-speaking countries or with Hispanics in the United States. Prereq: SPA 210 and 211, or 215.

SPA 310 SPANISH COMPOSITION THROUGH TEXTUAL ANALYSIS. (3)
Critical readings and interpretation of texts in Spanish. Text may include literary, political, sociological, and cultural documents. Emphasis on mastery of written Spanish. This course is required of all majors. Prereq: SPA 210 and 211, or 215 with a B or better or consent of the instructor.

SPA 312 CIVILIZATION OF SPAIN. (3)
This course is designed to acquaint students with Spain's intellectual, cultural and historical development. Conducted primarily in Spanish. Prereq: SPA 210 and 211, or 215, or consent of instructor.

SPA 313 ADVANCED SPANISH LANGUAGE. (3)
A course designed to practice language skills at an advanced level. Preparation of oral and written presentations in Spanish. Selected readings will be treated for their language content. Conducted primarily in Spanish. Prereq: SPA 210 and 211, or 215, and a 300-level Spanish course.

SPA 314 CIVILIZATION OF SPANISH AMERICA. (3)
This course is designed to acquaint students with Spanish America's intellectual, cultural and historical development. Conducted primarily in Spanish. Prereq: SPA 210 and 211, or 215, or consent of the instructor.

SPA 315 INTRODUCTION TO HISPANIC LITERATURE. (3)
This course provides students with a basic background for reading Hispanic literature and focuses on the development of a method for reading critically. Students will identify and discuss themes, plots and structure and poetic tropes such as symbols, metaphors, and allegory. Lecture and discussion in Spanish. Prereq: SPA 210 and 211, or 215, or consent of the instructor.

SPA 320 LITERATURE, LIFE AND THOUGHT OF SPAIN. (3)
A study of the literature that reflects the life and thought of Spain from the Middle Ages to the present. Lecture and discussion in Spanish. Prereq: SPA 210 and 211, or 215, or consent of the instructor.

SPA 322 LITERATURE, LIFE AND THOUGHT OF SPANISH AMERICA. (3)
A study of the literature that reflects the life and thought of Spanish America from the Colonial period to the present. Lecture and discussion in Spanish. Prereq: SPA 210 and 211, or 215, or consent of the instructor.

SPA 323 INTRODUCTION TO SPANISH TRANSLATION. (3)
Allows students to deepen their understanding of Spanish and English as they consider how best to translate structures, words, text, and discourse styles unique to each respective language while simultaneously acquiring a valuable and highly marketable skill. Translation tasks will be primarily from Spanish to English. Prereq: SPA 310 completed (no concurrent enrollment).

SPA 324 THE THEATRE IN SPAIN AND SPANISH AMERICA. (3)
A study of the theatre in Spain and Spanish America, stressing developments in the dramatic arts as seen in the works of major dramatists of the Golden Age, Modern Period, and twentieth century Spanish America. Conducted primarily in Spanish. Prereq: SPA 210 and 211, or 215.

#SPA 330 SPANISH AND GLOBALIZATION. (3)
This course examines "globalization" and its effect on a world language like Spanish. We will trace some of the debates and discussions surrounding language issues in a global era, attempting to identify those aspects of globalization of particular interest when it comes to explaining language behavior. We will seek to identify some of the key agents acting as the forces of globalization on language processes and will discuss the nature of this relationship. We will explore how far any discussion and analysis of globalization and world languages are of any particular and specific relevance to an understanding of the case of Spanish and the languages of what is commonly referred to as the Spanish-speaking world.

***SPA 332 SPANISH AND LATIN AMERICAN BUSINESS ENVIRONMENTS. (3)**
This course presents a balanced analysis of the economic, social, and political events in the past years that have shaped the business and investment climate in Spain and Latin America. The goal is to increase student awareness of and familiarity with the role played by the incorporation of Spain in the European Union, and the implementation of Free Trade in current Latin American economies. The student who successfully completes this course will not only better understand these socio-economic phenomena but will also hone their communicative and argumentative skills in Spanish. Prereq: SPA 310 and 302.

SPA 350 HISPANIC CITIES (Subtitle required). (3)
This course is designed to provide students with a basic knowledge of the historical, cultural, and social development of modern Hispanic cities. Contemporary aspects of cities such as their rise to prominence, their role in nation formation, and their representation in a variety of cultural forms are some of the topics to be explored. Prereq: SPA 210 and SPA 211, or consent of instructor.

SPA 361 LATIN AMERICAN LITERATURE IN TRANSLATION (Subtitle required). (3)
This course examines particular authors, periods, regions, cultural events, or movements from Latin America. Special attention will be paid to links between literature and culture, politics and society through reading, discussion, and writing assignments to be conducted in English. Course may be repeated under different titles to a maximum of six credits. (Same as LAS 361.)

SPA 371 LATIN AMERICAN CINEMA: (Subtitle required). (3)
An introduction to the analysis and interpretation of cinema in general and Latin American cinema in particular. Open to majors and non-majors. The course will focus on films from the Latin American schools of cinema which will be studied in their social, political, and cultural context and introduce students to basic critical vocabulary. Viewing of films (with English subtitles) outside of class is required. Class lectures in English; sections in English or Spanish depending on the language ability of student. Course cannot be repeated.

SPA 372 SPANISH CINEMA: (Subtitle required). (3)
An introduction to the analysis and interpretation of cinema in general and Spanish cinema in particular. Open to majors and non-majors. The course will focus on films from the Spanish schools of cinema which will be studied in their social, political and cultural context and introduce students to basic critical vocabulary. Viewing of films (with English subtitles) outside of class is required. Class lectures in English; sections in English or Spanish depending on the language ability of student. Course cannot be repeated.

SPA 397 INDEPENDENT WORK IN SPANISH. (3)
May be repeated once. Prereq: Major and standing of 3.0 in the department.

SPA 399 FIELD BASED/COMMUNITY BASED EDUCATION. (1-15)
A community- or field-based experience in Spanish under the supervision of a faculty member. Approval of the Arts and Sciences dean required for credits above six per semester. May be repeated to a maximum of 15 credits. Pass-fail only. Prereq: Permission of the instructor and departmental chairperson; completion of departmental learning agreement.

SPA 400 SPECIAL TOPICS IN HISPANIC LITERATURES AND LANGUAGES (Subtitle required). (3)
Detailed investigation of a given topic, author, or theme. Topics announced the preceding semester. Conducted in Spanish. May be repeated to a maximum of six credits when identified by different subtitles. Prereq: One 300-level Spanish literature course.

SPA 410 ADVANCED SPANISH GRAMMAR. (3)
The purpose of this course is to discuss from a theoretical and practical perspective the most relevant grammatical aspects of contemporary Spanish, such as: sentence structure, most frequently used verbal tenses and aspects, syllable structure, agreement (subject-verb; noun and noun modifiers), etc. This course is aimed to develop in the students interest and skills for research in Spanish grammar through searching and compiling digital linguistic corpora. Prereq: SPA 310 and other 300 level course.

SPA 413 SPANISH PHONETICS. (3)
This course is designed to emphasize early attention to pronunciation and oral fluency by introducing students to Spanish phonetics. It provides intensive practice in oral Spanish so that students increase and maintain oral fluency in Spanish by emphasizing refinement of intonation and pronunciation. The class will be conducted entirely in Spanish. Prereq: SPA 310 and other 300 level course.

SPA 420 SPANISH IN THE WORLD. (3)
Offers a diachronical overview of the importance of the Spanish language. Connects historical facts to the development of Spanish to a world language. Investigates the role of Spanish in the international organizations and in media. Prereq: SPA 310 and one more 300 level course.

SPA 423 ADVANCED SPANISH TRANSLATION. (3)
As a follow-up to SPA 323, students will perform translations from English to Spanish and will also engage in interpretation. Students will deepen their understanding of basic translation theory and will receive orientation as to professional certifications and employment opportunities. Prereq: SPA 323; no concurrent enrollment.

SPA 424 MEDIEVAL AND EARLY MODERN SPANISH STUDIES (Subtitle required). (3)
Readings and analysis of texts from and about Medieval and Early Modern Spain, with emphasis on cultural production within social and historical contexts. May be repeated to a maximum of 6 credits with topic change. Prereq: SPA 310. Permission of instructor for students who did not receive B or better in SPA 310.

SPA 430 INTRODUCTION TO SPANISH LINGUISTICS. (3)
Offers an introduction to Spanish linguistics; establishes the basis for future application of linguistic principles. Provides students with a level of knowledge that enables them to make connections between the structure of Spanish and relevant issues in contemporary Hispanic linguistics. Prereq: SPA 310 or one more 300 level course.

SPA 432 18TH AND 19TH CENTURY SPANISH STUDIES (Subtitle required). (3)
Reading and analysis of Spanish literary and cultural works from the 18th and 19th century. The course may cover multiple genres, authors, periods, regions, or topics. Course may be repeated under different titles to a maximum of six credits. Prereq: SPA 310. Permission of instructor for students who did not receive a B or better in SPA 310.

SPA 434 SPANISH LITERATURE OF THE 20TH CENTURY. (3)
A study of the works of the Generation of 1898 and representative works of recent writers. Conducted in Spanish. Prereq: One 300-level Spanish literature course.

SPA 438G LITERATURE OF SOCIAL PROTEST IN SPANISH AMERICA. (3)
Analysis and study of the use of sociopolitical elements in selected works by Spanish-American poets, novelists and dramatists. Conducted in Spanish. Prereq: One 300-level Spanish literature course.

SPA 444 20TH AND 21ST CENTURY SPANISH STUDIES (Subtitle required). (3)
Reading and analysis of Spanish literary and cultural works from the 20th and 21st century.

The course may cover multiple genres, authors, periods, regions, or topics. Course may be repeated under different titles to a maximum of six credits. Prereq: SPA 310. Permission of instructor for students who did not receive a B or better in SPA 310.

SPA 454 COLONIALISM AND 19TH CENTURY SPANISH-AMERICAN STUDIES (Subtitle required). (3)
A topics course in Latin American literature and culture from the colonial period through the 19th century. Special emphasis on the interaction between literature, historical and social developments. Taught in Spanish. May be repeated to a maximum of 6 credits with topic change. Prereq: SPA 310. Permission of instructor for students who did not receive a B or better in SPA 310.

SPA 464 CONTEMPORARY SPANISH-AMERICAN STUDIES (Subtitle required). (3)
A topics course in 20th century Latin American literature and culture. Special emphasis on the interaction between literature, historical and social developments and popular culture. Taught in Spanish. May be repeated to a maximum of 6 credits with topic change. Prereq: SPA 310. Permission of instructor for students who did not receive a B or better in SPA 310.

SPA 474 TOPICS IN HISPANIC STUDIES (Subtitle required). (3)
Reading and analysis of Hispanic literature and culture organized by topics. May cover multiple genres, authors, periods, regions or topics. May be repeated to a maximum of 6 credits with topic change. Prereq: SPA 310. Permission of instructor for students who did not receive a B or better in SPA 310.

SPA 480 HISPANIC KENTUCKY. (3)
The study of U.S. Latino history, with primary emphasis on the evolution of the politics of immigration and Spanish in the U.S. These issues will be studied with the primary intent of determining what they mean to Central Kentucky. This course is conducted in Spanish and incorporates a service learning component which is finalized the first week of the semester. Prereq: SPA 310 or consent of instructor.

SPA 497 HISPANIC STUDIES HONORS THESIS. (3)
An independent research course leading to an undergraduate thesis in Hispanic Studies (research thesis, technology-based project, translation project) for majors in the Department of Hispanic Studies to be supervised by one/two faculty member(s) on topics dealing with Spanish and/or Latin American studies (literature, culture, civilization, visual studies), Hispanic Linguistics, or the teaching of Spanish. Prereq: 15/18 hours of Spanish courses at the 300+ level.

SPA 501 SPANISH PHONETICS, PRONUNCIATION AND PHONEMICS. (3)
Introduction to Spanish descriptive linguistics with intensive study of variant speech sounds and established norms in the major cultural areas of the Hispanic world with discussions of the theory and isolation of phonemes. Prereq: SPA 210 and SPA 211, and a 300-500 level Spanish course.

SPA 506 INTRODUCTION TO COMPARATIVE SPANISH, PORTUGUESE, AND ITALIAN LINGUISTICS. (3)
An introduction to the historical development of Spanish, Portuguese and Italian from a common source, with an emphasis on the comparison of related lexical, phonological and morphological items. Prereq: Reading knowledge of Spanish or Italian (fourth semester of course work).

SPA 519 THEMES IN MEDIEVAL AND EARLY MODERN SPANISH LITERATURE AND CULTURE (Subtitle required). (3)
This course is a topics course in Medieval and Early Modern Spanish Literature and Culture. Appropriate for advanced undergraduates and MA level graduate students. May be repeated to a maximum of six credits under different subtitles. Prereq: For undergraduates: SPA 400 or permission of instructor.

SPA 529 THEMES IN MODERN AND CONTEMPORARY SPANISH LITERATURE, CULTURE AND FILM (Subtitle required). (3)
This course is a topics course in Modern and Contemporary Spanish Literature, Film and Culture. Appropriate for advanced undergraduates and MA level graduate students. May be repeated to a maximum of six credits under different topic. Prereq: For undergraduates: SPA 400 or permission of instructor.

SPA 539 THEMES IN LATIN AMERICAN LITERATURE, CULTURE AND FILM (Subtitle required). (3)
This course is a topics course in Modern and Contemporary Latin American Literature, Film and Culture. Appropriate for advanced undergraduates and MA level graduate students. May be repeated to a maximum of six credits under different subtopic. Prereq: For undergraduates: SPA 400 or permission of instructor.

SPA 553 TEACHING OF SPANISH. (3)
The course is designed for teachers and prospective teachers of modern foreign languages, with emphasis on Spanish. Modern methodology, theory and practice of language pedagogy. Prereq: Permission of instructor required.

SPA 600 HISTORY OF THE SPANISH LANGUAGE. (3)
Introduction to the historical development of the Spanish language. The central focus of this course will be the dialogic and dialectic processes that gave rise the historical, cultural, phonological, morphological and lexical transformations of the Castilian languages, with particular emphasis on the changes that Castilian underwent as it evolved from Latin into modern Castilian.

SPA 601 STUDIES IN SPANISH PEDAGOGY: (Subtitle required). (1)
A one credit course that may or may not run concurrently with the 553 course on Spanish Pedagogy. Seminar topics may include an overview of second language acquisition theories as applicable to English learners of Spanish: contemporary teaching methodologies for instructors of Spanish language, integration of technology into curriculum; issues in testing and assessment. May be repeated to a maximum of 3 credits when taught under different subtitles.

SPA 602 STUDIES IN SPANISH LINGUISTICS: (Subtitle required). (3)
Readings and discussion of issues in Spanish linguistics and the teaching of Spanish. May be repeated to a maximum of 9 credits taught under different subtitles.

SPA 603 SPANISH APPLIED LINGUISTICS. (3)
A survey of the many sub-disciplines that constitute Applied Linguistics, a field dedicated to the study of language-based problems. This class will expose students to issues in the Spanish-language context and will equip them with the tools necessary to critically analyze these "problems". Prereq: Introduction to Hispanic Linguistics.

SPA 604 SOCIOLINGUISTICS OF THE SPANISH-SPEAKING WORLD. (3)
An introduction to sociolinguistic theory and its application to issues related to Spanish in Spain, Latin America, and the United States. It will focus on both quantitative and qualitative research on language variation and language contact in the Spanish-speaking world. Prereq: Introduction to Hispanic Linguistics.

SPA 605 HISTORY OF THE SPANISH LANGUAGE. (3)
Offers an overview of the diachronic evolution of Spanish from spoken Latin. Topics covered include the following: Vulgar Latin and Proto-Romance, the Old Spanish phonological system, morpho-syntactic changes from Latin to Spanish. Prereq: Introduction to Hispanic Linguistics.

SPA 606 INTRODUCTION TO CRITICAL THEORY AND CULTURAL STUDIES. (3)
Survey of major trends in critical and cultural theory since the early 20th century, from Formalism and New Criticism through Cultural Studies. Required of all new graduate students.

SPA 607 SPECIAL TOPICS IN CRITICAL THEORY AND CULTURAL STUDIES: (Subtitle required). (1)
Readings and discussion of special topics in critical theory and cultural studies. May be taught in English or Spanish. May be repeated to a maximum of 3 credits when taught under different subtitles.

SPA 608 SPECIAL TOPICS IN SPANISH LITERATURE AND CULTURE: (Subtitle required). (3)
Readings and discussion in essay, film and cultural production of Spain and Spanish America. May be taught in English or Spanish. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 609 SPECIAL TOPICS IN LATIN AMERICAN AND U.S. HISPANIC LITERATURE AND CULTURE: (Subtitle required). (3)
Intensive study of an author, genre, period, or movement of Latin American or U.S. Hispanic literature, or an aspect of Latin American or U.S. Hispanic linguistics or culture. Taught in English or Spanish. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 610 STUDIES IN MEDIEVAL SPANISH LITERATURE: (Subtitle required). (3)
Readings and discussion of Spanish literature from the 13th century through the 15th century. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 620 STUDIES IN EARLY MODERN AND BAROQUE SPANISH LITERATURE (Subtitle required). (3)
Readings and discussion of Spanish literature and culture from the 16th and 17th centuries. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 630 STUDIES IN 18TH AND 19TH CENTURY SPANISH LITERATURE: (Subtitle required). (3)
Readings and discussion of Spanish literature and culture from the 18th and 19th century. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 640 STUDIES IN 20TH AND 21ST CENTURY SPANISH LITERATURE: (Subtitle required). (3)
Readings and discussion of contemporary Spanish literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 650 STUDIES IN COLONIAL LATIN AMERICAN LITERATURE: (Subtitle required). (3)
Readings and discussion of Colonial Latin American literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 653 STUDIES IN SPANISH PEDAGOGY (Subtitle required). (3)
Offers students a theoretical and practical overview of L2 Spanish pedagogy as a means to empower them as language instructors who can intelligently select and evaluate pedagogical theories and practices. Students will have the opportunity for hands-on implementation of theory in their own classroom practice. Prereq: SPA 603.

SPA 654 SPANISH DIALECTOLOGY. (3)
Explore current linguistic research on Spanish dialects through the discussion and the analysis of their theoretical and empirical frameworks. Prereq: SPA 604.

SPA 655 COMPARATIVE-HISTORICAL ROMANCE LINGUISTICS. (3)
Analyzes the complex interaction of structural, social, and cultural factors in the evolution of the Romance Languages. Provides insights into which language features can be considered typically Romance, and how far languages can diverge from these typical patterns and still be considered of the same language type. Prereq: SPA 605.

SPA 660 STUDIES IN 19TH CENTURY LATIN AMERICAN LITERATURE: (Subtitle required). (3)
Readings and discussion of 19th century Latin American literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 680 STUDIES IN 20TH CENTURY LATIN AMERICAN LITERATURE 1900-1950'S: (Subtitle required). (3)
Readings and discussion of Latin American literature and culture through the first half of the 20th century. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 681 STUDIES IN CONTEMPORARY LATIN AMERICAN LITERATURE 1960'S TO PRESENT: (Subtitle required). (3)
Readings and discussion of contemporary Latin American literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 685 STUDIES IN U.S. HISPANIC LITERATURE AND CULTURE: (Subtitle required). (3)
Readings and discussion of U.S. Latino literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 690 STUDIES IN SPANISH AND/OR LATIN AMERICAN FILM: (Subtitle required). (3)
Viewings and discussion of Spanish or Latin American film, emphasizing its political, social, economics, and cultural contexts of the Hispanic world. Viewing of films (in Spanish) outside class is required. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 703 SEMINAR IN SLA THEORY IN SPANISH L2 LEARNING. (3)
Offers a closer look at the primary concepts of Second Language Acquisition (interlanguage, learner variables, SLA theory, input, output, etc.) with a particular focus on the Spanish language. The acquisition of specific Spanish L2 structures and phenomena will be directly addressed, e.g., tense/aspect, mood, clitics, etc. Prereq: SPA 603.

SPA 704 SEMINAR IN LINGUISTIC ANALYSIS OF SPANISH DISCOURSE (Subtitle required). (3)
Analysis from a sociolinguistic and discourse analysis perspective of the relationship between language and power in the Spanish-speaking world. It would imply the discussion of a theoretical framework and its application to non-canonical texts produced in Spanish. Prereq: SPA 604.

SPA 705 SEMINAR IN HISTORICAL LANGUAGE CONTACT IN THE SPANISH SPEAKING WORLD. (3)
Offers a study of language contact in the Spanish-speaking world including not only the study of bilingualism, but also explorations into subfields like geolinguistics and language planning. Prereq: SPA 605.

SPA 706 ADVANCED READINGS IN CRITICAL THEORY AND CULTURAL STUDIES: (Subtitle required). (3)
Advanced readings and discussion of contemporary issues in critical theory and cultural studies. Taught in Spanish or English. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 708 CRITICAL PERSPECTIVES ON SPANISH LITERATURE AND CULTURE: (Subtitle required). (3)
Advanced readings and discussion of Spanish literature and culture: open topic with preference for cross-disciplinary or trans-historical subjects. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 709 CRITICAL PERSPECTIVES ON LATIN AMERICAN AND U.S. HISPANIC LITERATURE AND CULTURE (Subtitle required). (3)
Advanced readings and discussion of Latin American and U.S. Hispanic literature or culture. May deal with a single author's work, a genre or a cultural phenomenon: open topic with preference for cross-disciplinary or trans-historical subjects. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 710 SEMINAR IN MEDIEVAL SPANISH LITERATURE AND CULTURE: (Subtitle required). (3)
Special and intensive study of selected topics in Spanish literature and culture from the 13th through the 15th century. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 720 SEMINAR IN EARLY MODERN AND BAROQUE SPANISH LITERATURE AND CULTURE: (Subtitle required). (3)
Special and intensive study of selected topics in Spanish literature and culture of the 15th and 16th centuries. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 730 SEMINAR IN 18TH AND 19TH CENTURY SPANISH LITERATURE AND CULTURE: (Subtitle required). (3)
Special and intensive study of selected topics in 18th and 19th century Spanish literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 740 SEMINAR 20-21ST CENTURY SPANISH LITERATURE AND CULTURE: (Subtitle required). (3)
Special and intensive study of selected topics in contemporary Spanish literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

SPA 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

SPA 750 SEMINAR IN COLONIAL LATIN AMERICAN LITERATURE AND CULTURE: (Subtitle required). (3)
Special and intensive study of selected topics in Colonial Latin American literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 760 SEMINAR IN 19TH CENTURY LATIN AMERICAN LITERATURE AND CULTURE: (Subtitle required). (3)
Special and intensive study of selected topics in 19th century Latin American literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

SPA 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

SPA 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

SPA 770 INTRODUCTION TO HISPANIC STUDIES. (3)
This course is designed to give new and continuing M.A. and Ph.D. students an overview of and introduction to graduate studies and the profession of Hispanism.

SPA 780 SEMINAR IN 20TH CENTURY LATIN AMERICAN LITERATURE AND CULTURE 1900-1950'S: (Subtitle required). (3)
Special and intensive study of selected topics in Latin American literature and culture of the first half of the 20th century. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 781 SEMINAR IN CONTEMPORARY LATIN AMERICAN LITERATURE AND CULTURE 1960'S TO PRESENT: (Subtitle required). (3)
Special and intensive study of selected topics in contemporary 20th and 21st century Latin American literature and culture. May be repeated to a maximum of 9 credits when taught under different subtitles.

SPA 782 SPECIAL STUDIES IN SPANISH. (1-3)
Selected studies and investigations in the Spanish language and Hispanic literature, permitting the student to work in areas of special interest and providing opportunity for original endeavor. May be repeated to a maximum of six credits. Prereq: Graduate standing.

SPA 785 SEMINAR IN U.S. HISPANIC AND BORDER LITERATURE AND CULTURE: (Subtitle required). (3)
Special and intensive study of related topics in U.S. Hispanic and Border literature and culture. May be taught in Spanish or English. May be repeated to a maximum of 9 credits when taught under different subtitles.

ST Social Theory

ST 500 INTRODUCTION TO SOCIAL THEORY. (3)
Multidisciplinary introduction to social theory for advanced undergraduate and graduate students. Overall goal is to substantiate the idea that social theory comprises a set of ontological and epistemological issues about human coexistence which are nondisciplinary-specific. The course will (1) examine what different social fields take as their central theoretical issues and concerns, and (2) conduct multidisciplinary explorations of key problem areas in contemporary social thought such as the nature of objectivity, the construction of gender, the role of space and time in social life, and modernity and postmodernity. Prereq: Either a prior theory course in any social discipline or a prior course in such a discipline that discussed theoretical issues. Exceptions will be permitted only after consultation with the instructor.

ST 600 MULTIDISCIPLINARY PERSPECTIVES IN SOCIAL THEORY (Subtitle required). (3)
An advanced multidisciplinary seminar in social theory for graduate students taught by a team of faculty members. Topics change from year to year; examples include: individual and society, the social construction of gender, modernity and postmodernity, space and time in social life, objectivity and its other, etc. Focus is on the cross-disciplinary investigation of such issues in the social sciences and humanities. May be repeated to a maximum of nine credits under different subtitles. Prereq: ST 500 or permission of instructors.

ST 610 disCLOSURE EDITORIAL COLLECTIVE. (1)
Course provides editorial experience in the production of disClosure, a multidisciplinary social theory journal operated by students. Activities include: soliciting manuscripts, overseeing the external review process, communicating with authors, accepting and rejecting manuscripts, producing and distributing a single issue. May be repeated to a maximum of three credits. Lecture, two hours per week. Prereq: ST 500 or permission of instructor.

ST 690 TRANSDISCIPLINARY PERSPECTIVES IN SOCIAL THEORY. (3)
An advanced seminar in transdisciplinary social theory, taught jointly by a faculty member representing the humanities and the social sciences, respectively. Social Theory encompasses the theoretical study of social life and the substantive knowledge informed by such theory. Transdisciplinary Social Theory seminars may focus on such topics as Space and Representation, Frankfurt School and Contemporary Critical Theory, or The University in Theory and in a Global Context. In each case, the seminar substantially and theoretically links the articulation of that particular topic as has occurred within both the social sciences and humanities. Prereq: Successful completion of ST 500 or ST 600 or permission of the instructors.

STA Statistics

STA 200 STATISTICS: A FORCE IN HUMAN JUDGMENT. (3)
This course is concerned with the interaction of the science and art of statistics with our everyday lives emphasizing examples from the social and behavioral sciences. The student will not be required to learn mathematical formulas. Topics include the nature of statistics, uses and misuses of statistics, the scope and limitations of statistics, criteria by which published statistics may be judged, interpretation of probability and the art of decision making. Prereq: Completion of the mathematics basic skills requirement.

STA 210 MAKING SENSE OF UNCERTAINTY: AN INTRODUCTION TO STATISTICAL REASONING. (3)
The goal of this course is to help students develop or refine their statistical literacy skills. Both the informal activity of human inference arising from statistical constructs, as well as the more formal perspectives on statistical inference found in confidence intervals and hypothesis tests are studied. Throughout, the emphasis is on understanding what distinguishes good and bad inferential reasoning in the practical world around us.

STA 281 PROBABILITY AND STATISTICS USING INTERACTIVE COMPUTER TECHNIQUES. (3)
The role of chance in experimental outcomes. Simple discrete and continuous probability distributions; combinatorics; moments and expectations; normal and binomial distributions; computer simulation and simple Monte Carlo methods. Descriptive statistics, charts, and graphs, and elements of statistical inference using interactive statistical packages (e.g., SCSS and/or MINITAB). Prereq: CS 150, CS 102, or CS 221; coreq: MA 114 or 132.

STA 291 STATISTICAL METHODS. (3)
Theoretical distributions, statistical estimation, and hypothesis testing. Introduction to simple linear regression and correlation. Introduction to categorical data analysis and ANOVA. Prereq: MA 113, MA 123, MA 137 or equivalent.

STA 292 DESCRIPTIVE STATISTICS. (1)
Graphical and tabular description of data; measures of central tendency and variation, scattergrams, correlation and best-fitting lines; index numbers. Prereq: MA 113, MA 123, or equivalent.

STA 293 PROBABILITY. (1)
Experiments and sample spaces; elementary and conditional probability; counting principles; random variables; distribution and expectation; normal and binomial distributions. Prereq: STA 292.

STA 294 SAMPLING AND INFERENCE. (1)
Sampling; sampling behavior of $\bar{X}$ and S^2; confidence intervals and tests of hypotheses about the mean and variance of a normal population: the X^2 and t- distributions. Prereq: STA 292 and 293.

STA 295 THE ART AND PRACTICE OF PROBABILITY. (3)
Introduction to the structure and techniques that are the foundations of probability. Emphasis on applications to real world problems and case studies, possibly involving DNA matching, sports statistics, forecasting, lotteries and epidemics. Interface of probability and inference. Prereq: MA 113 or MA 123.

STA 296 STATISTICAL METHODS AND MOTIVATIONS. (3)
Introduction to principles of statistics with emphasis on conceptual understanding. Students will articulate results of statistical description of sample data (including bivariate), application of probability distributions, confidence interval estimation and hypothesis testing to demonstrate properly contextualized analysis of real-world data. Prereq: MA 113, MA 123, MA 137, or equivalent.

STA 320 INTRODUCTORY PROBABILITY. (3)
Set theory; fundamental concepts of probability, including conditional and marginal probability; random variables and probability distributions (discrete and continuous); expected values and moments; moment-generating and characteristic functions; random experiments; distributions of random variables and functions of random variables; limit theorems. Prereq: MA 213 or equivalent. (Same as MA 320.)

STA 321 BASIC STATISTICAL THEORY I. (3)
Simple random sampling; point and interval estimation; hypothesis testing. Prereq: STA/MA 320.

STA 322 STATISTICAL METHODS IN NONPARAMETRIC INFERENCE AND SURVEY SAMPLING. (4)
Introduction to statistical methodology appropriate for data that fail to meet the assumptions of parametric inference. Familiarity with classical sampling techniques as well as modern sampling practice. Emphasis on applications to real-world problems and case studies, possibly involving questionnaire construction, random digit dialing, response bias, use of modern sampling software, categorical regression, and skewed data. Prereq: STA 291 and STA 295; or STA 321.

***STA 335 DATA ANALYSIS FOR PHYSICISTS. (1)**
A computational methods course in the theory and techniques of data analysis and error propagation, with emphasis on applications common to the physical sciences: the treatment of statistical errors, the maximum-likelihood method, the chi-square distribution, and curve fitting. Students will learn computer programming, and they will prepare a set of analysis programs for use in subsequent lab courses. Concur: MA 213, PHY 242. (Same as PHY 335.)

STA 381 ENGINEERING STATISTICS – A CONCEPTUAL APPROACH. (3)
Data collection, description, and factor "association" versus causal relationship; "Confidence" – statistical versus practical; and Hypothesis testing – All of these covered in a conceptual approach while relying heavily on the mathematical language of probability (e.g., population and sample distributions; sampling; regression on one variable) and use of simulated and real data. Prereq: MA 213.

***STA 417G DECISION MAKING UNDER UNCERTAINTY. (3)**
A continuation of MA 416 with topics selected from stochastic models, decision making under uncertainty, inventory models with random demand, waiting time models and decision problems. Prereq: CS/MA 416G and MA/STA 320, or consent of instructor. (Same as MA 417G.)

STA 422G BASIC STATISTICAL THEORY II. (4)
Theory of least squares; regression; analysis of variance and covariance; experimental design models; factorial experiments; variance component models. Lecture, three hours; laboratory, two hours per week. Prereq: STA 291 and STA 295; or STA 321.

STA 515 LINEAR AND COMBINATORIAL OPTIMIZATION. (3)
Mathematical and computational aspects of linear programming and combinatorial optimization. Linear optimization is introduced by presenting solution techniques (primal and dual simplex) and studying geometric properties and duality for linear systems of inequalities. Asics of combinatorial optimization, including trees, paths, flows, matchings, and matroids, and the corresponding algorithms are presented. Prereq: A course in linear algebra or consent of instructor. (Same as MA 515.)

STA 524 PROBABILITY. (3)
Sample space, random variables, distribution functions, conditional probability and independence, expectation, combinatorial analysis, generating functions, convergence of random variables, characteristic functions, laws of large numbers, central limit theorem and its applications. Prereq: MA 213 and MA 322. (Same as OR 524.)

STA 525 INTRODUCTORY STATISTICAL INFERENCE. (3)
Simple random sampling, statistics and their sampling distributions, sampling distributions for normal populations; concepts of loss and risk functions; Bayes and minimax inference procedures; point and interval estimation; hypothesis testing; introduction to nonparametric tests; regression and correlation. Prereq: STA 320 or STA 524 or consent of instructor. (Same as OR 525.)

STA 569 APPLIED STATISTICAL METHODS. (4)
This course is an introduction to research statistics. Topics include exploratory data analysis, random variables (binomial and normal distributions), estimation of proportions and means, correlation, regression, chi-squared tests, and ANOVA. Examples will be consistently drawn from biomedical or professional applications with analysis illustrated in software common to data analysis (SPSS and Excel). Prereq: MA 109.

STA 570 BASIC STATISTICAL ANALYSIS. (4)
Primarily in biological, behavioral and social sciences. Introduction to methods of analyzing data from experiments and surveys; the role of statistics in research, statistical concepts and models; probability and distribution functions; estimation; hypothesis testing; regression and correlation; analysis of single and multiple classification models; analysis of categorical data. Lecture, three hours; laboratory, two hours. Prereq: MA 109 or equivalent. For graduate students; undergraduates must have consent of instructor.

STA 580 BIOSTATISTICS I. (2)
STA 580 covers univariate statistical methods commonly encountered in public health studies. This includes descriptive statistics, hypothesis testing, paired and unpaired t tests, ANOVA, contingency tables, log rank test, regression and correlation. Prereq: MA 109 or higher. (Same as CPH 580.)

STA 600 COMMUNICATING IN STATISTICS. (0)
Pedagogical skills for teaching assistants in undergraduate statistics courses and effective communication skills for professional statisticians. Topics include: basic teaching techniques, use of writing assignments to increase understanding of statistical concepts, writing and grading effective exams, and recording and analyzing grades with the aid of software. Videotaped sessions will be conducted and critiqued. May be repeated a maximum of three times. Prereq: STAT major.

STA 602 INTRODUCTION TO STATISTICAL METHODS. (4)
Sampling distributions, statistical models, point estimates and conference intervals, significance testing. Experimental Design (randomized blocks, nested/hierarchical models, Latin Squares), ANOVA (one, two, and multiway factorials, fixed and random effects), multiple comparison procedures, rank-based analyses, linear and nonlinear regression, power and sample size calculations, professional presentation of results. Lecture, three hours; laboratory, two hours per week. Prereq: Graduate Standing in Statistics.

STA 603 INTRODUCTION TO LINEAR MODELS AND EXPERIMENTAL DESIGN. (4)
Multivariate normal distribution, linear models in matrix notation, multiple linear regression (distributional results, categorical predictors, interactions, connection to ANOVA, sums of squares, diagnostics, ridge and nonparametric regression). Generalized linear models (binomial, poisson, and gamma regression), overdispersion, mixed models, diagnostics, professional presentation of results. Prereq: STA 602; coreq: STA 606.

STA 605 COMPUTATIONAL INFERENCE. (3)
Statistical Packages, numerical methods in maximization and integration, bootstrapping, simulation methods, multivariate normal distribution. Prereq: Graduate Standing in Statistics.

STA 606 THEORY OF STATISTICAL INFERENCE I. (3)
Convergence concepts (Central Limit Theorem), Sampling from a Normal Distribution, Order Statistics, Methods for finding point and interval estimates, methods for finding hypothesis tests, sufficiency principle, methods for evaluating point estimators (mean square error, unbiasedness, Cramer-Rao lower bound), Asymptotics of point estimates, interval estimates, and hypothesis testing procedures. Prereq: STA 623

STA 607 THEORY OF STATISTICAL INFERENCE II. (3)
Minimal sufficiency and completeness, Lehmann-Scheffe Theorem and basic decision theory, methods for evaluating interval estimators. Methods for evaluating hypothesis testing procedures, robustness and M-estimation, sequential analysis, censored data, model selection techniques. Prereq: STA 606.

STA 612 SEQUENTIAL ANALYSIS. (3)
Survey and application of sequential sampling. Sufficiency and estimation. Two Stage sampling. The SPRT and its properties, both exact and approximate. Truncated and grouped SPRT's. Decision Theoretic approach. Sequential Estimation. Fixed width confidence intervals. Composite hypotheses and nuisance parameters. Generalized SPRT's. K hypothesis problems. Optimal Stopping. Prereq: STA 606.

STA 616 DESIGN AND ANALYSIS OF SAMPLE SURVEYS. (3)
Sampling from finite populations; estimation of sample size; stratification; ratio and regression estimators; systematic sampling; cluster sampling; multistage sampling (selection of sampling units with probability proportional to size); double sampling; response errors. Prereq: STA 606.

STA 621 NONPARAMETRIC INFERENCE. (3)
Estimation and testing when the functional form of the population distribution is unknown; rank and sign tests; tests based on permutations of observations; power of nonparametric tests; optimum nonparametric tests and estimators. Prereq: STA 606.

STA 623 THEORY OF PROBABILITY. (3)
Axioms of Probability, conditional probability, distribution functions, density and moment generating functions, expected values, discrete and continuous distributions, joint, marginal, and conditional distributions, transformations, covariance and correlation, inequalities, properties of sums from a random sample. Prereq: Graduate Standing in Statistics.

STA 624 APPLIED STOCHASTIC PROCESSES. (3)
Definition and classification of stochastic processes, renewal theory and applications, Markov chains, continuous time Markov chains, queueing theory, epidemic processes, Gaussian processes. Prereq: STA 524 or STA 623 or consent of instructor. (Same as OR 624.)

STA 626 TIME SERIES ANALYSIS. (3)
Time series and stochastic processes, auto-correlation functions and spectral properties of stationary processes; linear models for stationary processes, moving average, auto-regressive and mixed autoregressive-moving average processes; linear nonstationary models, minimum mean square error forecasts and their properties; model identification, estimation and diagnostic checking. Prereq: STA 422G or equivalent. (Same as ECO 790.)

STA 630 BAYESIAN INFERENCE. (3)
Likelihood principles, sufficiency, natural conjugate and hierarchical priors, empirical Baysian analysis for estimation and testing. Prereq: STA 606.

STA 632 LONGITUDINAL DATA ANALYSIS. (3)
This course presents statistical techniques for analyzing longitudinal studies and repeated measures experiments that occur frequently in public health, clinical trials, and outcomes research. This course will cover linear mixed models, generalized linear mixed models and an introduction to nonlinear models as they apply to the analysis of correlated data. Prereq: BST 682 and BST 676 or equivalent. (Same as BST 762.)

STA 635 SURVIVABILITY AND LIFE TESTING. (3)
Life Table Analysis. Estimation of survival rates with censored data. Competing Risk Theory. Parameter estimation for commonly encountered reliability distribution with complete censored and truncated data. Maximum likelihood and order statistics techniques. Survivability growth models, comparison of survival distribution, and sample size determination in clinical trials. Extreme value theory. Prereq: STA 606.

STA 643 ADVANCED EXPERIMENTAL DESIGN. (3)
Linear Model interpretation in vector spaces and projections, use of generalized inverses, identifiability and estimability of contrasts, normal equations, Gauss-Markov Theorem, MVUE, distribution theory for quadratic forms, complex designs such as crossover, split-plot and repeated measures, asymptotics for general linear models, familiarity with nonparametric regression models. Prereq: STA 603.

STA 644 ADVANCED LINEAR AND NONLINEAR MODELS. (3)
Review of the general linear model. Regression methodology using Ridge, Bayes, and Stein estimaters. The use of PRESS, C_p, and R^2 statistics as selection criteria. Modern computational methods. Nonlinear models and their methodology. Robust Regression. Prereq: STA 603.

STA 653 CLINICAL TRIALS. (3)
Design and analysis of Phase I-III clinical trials, interim monitoring of trials, sample size, power, crossover trials, bioequivalency, mixed models, and meta analysis. Coreq: STA 603. (Same as BST 713.)

STA 655 INTRODUCTION TO STATISTICAL GENETICS. (3)
BST 655 presents an introduction to the statistical methodologies used today to investigate genetic susceptibility to complex diseases. The course focuses on linkage and association analysis with applications to real-world data. Commonly used (and freely available) software will be presented and used throughout. Because the field is constantly evolving, a focus of the material for this course will be recent statistical human genetics literature. Prereq: STA 580 or equivalent. (Same as BST 655.)

STA 661 MULTIVARIATE ANALYSIS I. (3)
Characterization and properties of the multivariate normal distribution, random samples from this distribution; multivariate analysis of variance, related distribution theory; factor analysis. Prereq: STA 603.

STA 662 RESAMPLING AND RELATED METHODS. (3)
Theory and application of the bootstrap, jackknife and other resampling methods. Prereq: STA 605 and STA 606.

STA 665 ANALYSIS OF CATEGORICAL DATA. (3)
Multinomial and product-multinomial models; large-sample theory of estimation and testing, Pearson chi-square and modified chi-square statistics, Pearson-Fisher Theorem, Wald Statistics and generalized least squares technique; applications to problems of symmetry, association and hypotheses of no interaction in multi-dimensional contingency tables. Prereq: STA 603 and STA 606. (Same as BST 763.)

STA 671 REGRESSION AND CORRELATION. (2)
Simple linear regression, elementary matrix algebra and its application to simple linear regression; general linear model, multiple regression, analysis of variance tables, testing of subhypotheses, nonlinear regression, step-wise regression; partial and multiple correlation. Emphasis upon use of computer library routines; other special topics according to the interests of the class. Lecture, three hours per week; laboratory, two hours per week for seven and one half weeks. Offered the first or second half of each semester. Prereq: STA 570 or STA 580.

STA 672 DESIGN AND ANALYSIS OF EXPERIMENTS. (2)
Review of one-way analysis of variance; planned and unplanned individual comparisons, including contrasts and orthogonal polynomials; factorial experiments; completely randomized, randomized block, Latin square, and split-plot designs: relative efficiency, expected mean squares; multiple regression analysis for balanced and unbalanced experiments, analysis of covariance. Lecture, three hours per week; laboratory, two hours per week for seven and a half weeks. Offered the first or second half of each semester. Prereq: STA 671.

STA 673 DISTRIBUTION-FREE STATISTICAL INFERENCE AND ANALYSIS OF CATEGORICAL DATA. (2)
Inference for population quantiles, sign tests, Wilcoxon tests, Kruskal-Wallis and Friedman tests, Kendall and Spearman rank correlation. Goodness-of-fit tests for completely and partially specified distributions, rxc contingency tables, McNemar and Cochran's Q tests for matched proportions; three dimensional tables and tests of partial and multiple associations. Lecture, three hours per week; laboratory, two hours per week for seven and a half weeks. Offered the first or second half of each semester. Prereq: STA 570 or STA 580.

STA 675 SURVEY SAMPLING. (2)
Simple random sampling and stratified random sampling, ratio and regression estimators, cluster sampling, systemic sampling, and multi-stage sampling. Specific problems associated with running a survey: non-response, call-backs, questionnaire construction, mail questionnaires, and area sampling. Lecture, three hours per week; laboratory, two hours per week for

seven and a half weeks. Offered the first or second half of each semester. Prereq: STA 570 or STA 580.

STA 676 QUANTITATIVE INHERITANCE IN PLANT POPULATIONS. (3)
After a brief review of population genetics theory, the course is divided into two sections which cover methods of estimating genetic variances and selection methods in population improvement. The course will focus on handling and interpretation of actual data sets through data analysis and discussion of current literature. Prereq: STA 570, STA 671, and STA 672. (Same as PLS 676.)

STA 677 APPLIED MULTIVARIATE METHODS. (3)
Survey of multivariate statistical techniques. The multivariate normal distribution; the general linear model; general procedures for parameter estimation and hypothesis testing in the multivariate case; Hotelling's T^2, multivariate analysis of variance and covariance; structural models for the covariance matrix; utilization of existing computer programs. Prereq: STA 671 and 672.

STA 679 DESIGN AND ANALYSIS OF EXPERIMENTS II. (3)
A continuation of STA 672. Multiplicative models in two-factor experiments. Partial factorials. Extensions and modifications of split plots and Latin squares. Confounding in factorial experiments. Response surface methods. Estimation of variance components. One restrictional and two restrictional lattice and incomplete block designs. Combining analyses of similar experiments. Prereq: STA 671 and 672 or equivalent.

STA 681 BIOSTATISTICS II. (3)
Students will learn statistical methods used in public health studies. This includes receiver operator curves, multiple regression logistic regression, confounding and stratification, the Mantel-Haenzel procedure, and the Cox proportional hazardous model. Lecture, two hours; laboratory, two hours per week. Prereq: STA 580 or equivalent. (Same as SPH 630.)

STA 690 SEMINAR IN STATISTICS. (1)
May be repeated to a maximum of three credits.

STA 692 STATISTICAL CONSULTING. (3)
Basic principles of statistical consulting including how to manage a consulting session, how to formulate and solve problems and how to express results both orally and in writing. Students will be expected to analyze data from a current consulting project. Lecture, two hours; laboratory, two hours per week. Coreq: STA 643 or 644 or consent of instructor.

STA 693 BIOSTATISTICAL PRACTICUM. (1-2)
This course will involve students in small consulting projects intended to illustrate practical biostatistical problems. Prereq: STA 603.

STA 695 SPECIAL TOPICS IN STATISTICAL THEORY (Subtitle required). (1-3)
To be selected by staff. May be repeated to a maximum of nine credits. Prereq: STA 601.

STA 700 FOUNDATIONS OF PROBABILITY AND INFERENCE. (3)
Measures on the real line and probability spaces, Lebesque measure, properties of distribution functions and random variables, integrals and expectations. Prereq: MA 471G.

STA 701 ADVANCED STATISTICAL INFERENCE I. (3)
Basic concepts of decision theory, sufficiency and completeness; completeness of multiparametric exponential family; unbiasedness and invariance of decision rules; Bayes, minimax and invariant estimators; testing of hypotheses and optimality properties. Prereq: STA 607 and STA 700.

STA 702 ADVANCED STATISTICAL INFERENCE II. (3)
UMP and UMP unbiased tests for multiparametric exponential families; locally best tests; invariance and permutation tests, UMP invariant tests for linear hypotheses; asymptotic aspects of classical statistics, ML estimation and concepts of efficiency; sequential probability ratio test; confidence set, UMA unbiased and invariance confidence sets. Prereq: STA 701.

STA 703 ADVANCED PROBABILITY. (3)
Probability spaces, extension theorem, random variables; independence, conditional probability, conditional expectation; laws of large numbers, law of the iterated logarithm; convergence in distribution; characteristic functions; central limit theorems; martingales. Prereq: STA 700 and STA 532.

STA 704 ADVANCED PROBABILITY - STOCHASTIC PROCESSES. (3)
Random functions; jump Markov processes; processes with independent increments; stationary stochastic processes; diffusion processes; limit theorems; applications of stochastic processes. Prereq: STA 703.

STA 705 ADVANCED COMPUTATIONAL INFERENCE. (3)
Numerical maximization and integration, resampling methods, EM algorithm, Markov Chain Monte Carlo methods. Prereq: STA 605 and STA 701.

STA 707 ADVANCED DATA ANALYSIS. (3)
Theory and data analysis involving likelihood functions, mixed models, missing responses. Prereq: STA 643.

STA 709 ADVANCED SURVIVAL ANALYSIS. (3)
Lindberg CLT, Kaplan-Meier and related estimators, Cox proportional hazards and related methods, approximations of type I and II error. Prereq: STA 635, 701.

STA 715 READINGS IN STATISTICS AND PROBABILITY (Subtitle required). (1-6)
Supervised reading and discussion of a selected research topic. May be repeated to a maximum of nine credits. Prereq: STA 701 and STA 703 and consent of instructor.

STA 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

STA 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

STA 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

STA 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

STA 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

SUR Surgery

SUR 815 FIRST-YEAR ELECTIVE, SURGERY. (1-3)
With the advice and approval of his or her faculty adviser, the first-year student may choose approved electives offered by the Department of Surgery. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the first-year curriculum. Pass-fail only. Prereq: Admission to first year, College of Medicine.

SUR 825 SECOND-YEAR ELECTIVE, SURGERY. (1-4)
With the advice and approval of his or her faculty adviser, the second-year student may choose approved electives offered by the Department of Surgery. The intent is to provide the student an opportunity for exploration and study in an area which supplements and/or complements required course work in the second-year curriculum. Pass-fail only. Prereq: Admission to second-year medical curriculum and approval of adviser.

SUR 850-899 FOURTH-YEAR ELECTIVE FOR MEDICAL STUDENTS. (1-6)
With the advice and approval of the faculty adviser and the Student Progress and Promotions Committee, the fourth-year student may choose approved electives offered by the various departments in the College of Medicine. The intent is to provide the student an opportunity to develop his fund of knowledge and clinical competence. Prereq: Admission to the fourth year, College of Medicine and/or permission of the Student Progress and Promotions Committee.

Approved electives:
SUR 851 ACTING INTERNSHIP IN ORTHOPEDIC SURGERY
SUR 852 ACTING INTERNSHIP IN PEDIATRIC SURGERY
SUR 853 ACTING INTERNSHIP IN OTOLARYNGOLOGY-HEAD AND NECK SURGERY
SUR 854 ACTING INTERNSHIP IN UROLOGY
SUR 855 ACTING INTERNSHIP IN PLASTIC SURGERY
SUR 857 ACTING INTERNSHIP IN TRANSPLANTATION SURGERY
SUR 862 ACTING INTERNSHIP IN GENERAL SURGERY
SUR 863 ACTING INTERNSHIP IN CARDIOTHORACIC SURGERY
SUR 865 ACTING INTERNSHIP IN SURGICAL INTENSIVE CARE
SUR 866 RESEARCH IN SURGERY
SUR 869 ACTING INTERNSHIP IN TRAUMA SURGERY
SUR 870 ELECTIVE IN HEARING, SPEECH AND LANGUAGE
SUR 871 FOURTH YEAR CLERKSHIP IN SURGERY
SUR 872 OUTPATIENT MANAGEMENT IN SURGICAL SPECIALTIES
SUR 873 HAND/UPPER EXTREMITY SURGERY
SUR 875 MAXILLOFACIAL DISEASE FOR THE HEALTH CARE PROFESSIONAL
SUR 876 ACTING INTERNSHIP IN ORAL AND MAXILLOFACIAL SURGERY
SUR 890 SURGERY OFF-SITE

SW Social Work

SW 124 INTRODUCTION TO SOCIAL SERVICES. (3)
Introduction to social welfare concepts and philosophies. Examination of the profession of social work and its philosophy and value commitments within social welfare. Public and private service delivery systems will be studied. Required of social work majors and recommended it be taken the first year.

SW 222 DEVELOPMENT OF SOCIAL WELFARE. (3)
Study of the cultural traditions, value orientations, and political and economic forces which have contributed to the emergence of present social welfare policies and systems in the United States. Required of social work majors and open to all others.

SW 300 SOCIAL WORK PRACTICE I. (4)
An introduction to generalist social work practice theory, a study of skills in professional practice with individuals and families, and an examination of social work functions in the direct delivery of social services. Special attention is paid to the NASW Code of Ethics and to the social worker's obligations towards populations-at-risk. Class includes four hours per week of laboratory in health or welfare settings, and three lecture hours. Prereq: SW 124. Open only to social work majors.

SW 320 GLOBAL POVERTY: RESPONSES ACROSS CULTURES. (3)
An examination of poverty in various non-Western cultures. The course will cover the nature, scope, and distribution of poverty, definitions of poverty, common characteristics of the poor, as well as cultural traditions and folkways which contribute to the problem. Social welfare responses and humanitarian efforts which address the problem are examined.

SW 322 SOCIAL WORK AND SOCIAL WELFARE. (4)
Designed for transfer students of junior rank. Study of social welfare development, social work philosophy and value commitment and with an examination of social service agencies and programs. Option of agency visitation, group experiences, social service. Not open to those having SW 124 or 222.

SW 350 SOCIAL WORK PRACTICE II: SURVEY OF GROUPS. (3)
This course introduces students to the place of group work in professional social work practice. Examined are the basic knowledge, specific roles, strategies, and skills when working with groups of vulnerable populations. This course assists students in recognizing the efficacy of practice with groups of different types that fulfill diverse populations are conducted in a variety of community and organizational settings. It introduces students to group dynamics, development, and techniques needed to be a successful group leader. Prereq: Open to Social Work Majors, SW 300, SW 421.

SW 354 THE FAMILY IN CROSS-CULTURAL PERSPECTIVE. (3)
Approaches the study of the family from a comparative perspective, emphasizing cross-cultural variability in the structure and function of family. Kinship, household formation, sex roles, and socialization are examined in the context of the family, as well as patterns of interaction, personality formation, and family pathology. Prereq: Declared majors or minors in Dept. of Family Sciences or SW. (Same as FAM 354.)

#SW 370 FINANCIAL SOCIAL WORK. (3)
Personal finance terminology, ratios, financial statements, individual and family finance problems, decision options, decision consequences, and decision-making skills are studied to understand their influence on clients' underlying financial problems in social work practice. Included is an examination of the material from a strengths based behavioral perspective including understanding the role of diversity factors.

SW 395 INDEPENDENT WORK. (1-4)
Organized study research and/or tutorial work focused on special issues or problems. May be repeated to a maximum of four credits. Prereq: Major, standing of 3.0 overall GPA, or consent of dean, and consent of adviser and instructor.

SW 400 SOCIAL WORK PRACTICE III. (4)
Emphasizing an ecological and systems framework, the course explores theories and practice approaches appropriate for work with groups, organizations, and community systems. The impact of discrimination and oppression on populations-at-risk is discussed, along with problem-solving and interventive strategies. The ethical and legal strategies of the generalist practitioner are studied. Prereq: Open only to social work majors, SW 300, SW 444, SW 435.

SW 401 PRACTICE WITH CHILDREN AND FAMILIES. (3)
The critical examination of social work practice with children and families with emphasis on social service interventions to strengthen family life. Prereq: SW 354.

SW 421 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT I. (3)
This foundation course is the first of a two part social work major course sequence that utilizes life course perspective and other theories as tools for understanding human behavior and its development across the lifespan. A "person in the environment" focus is utilized as students explore the interrelatedness of biological, social, cultural, psychological, and environmental factors in human behavior and its ongoing development. Particular attention will be given to exploring the impact of racism, sexism, ethnocentrism, classism, and homophobia on human behavior across the life journey. Prereq: Open to Social Work Majors; SW 124 and SW 222 or SW 322.

SW 422 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT II. (3)
This foundation course is the second in the sequence of two social work courses that focuses on theory as a tool for understanding human behavior on multiple interacting levels, including: individual, family, small group, organization, community and society. The course will explore the interrelatedness of biological, social, cultural, psychological and environmental factors in human behavior and development. Particular attention will be given to exploring the impact of racism, sexism, ethnocentrism, classism and homophobia on human behavior at each level. Prereq: Open to Social Work Majors; completion of SW 300, SW 421.

SW 430 SOCIAL WELFARE POLICY: THEORY AND IMPLEMENTATION. (3)
The study and demonstration of different analytic models utilized in analysis of social welfare policy. The course also introduces content in the areas of organizational theory, management tools necessary to the understanding of implementation and evaluation of social welfare policy. Prereq: Open only to social work majors, SW 222 or SW 322, PS 101 or equivalent PS course.

SW 435 FOUNDATIONS OF PROFESSIONAL ETHICS IN SOCIAL WORK. (3)
This course introduces students to the fundamentals of ethical decision making in generalist professional social work practice. The major philosophical formulations that underlie ethics and relevant concepts derived from these formulations are highlighted as is the development of ethical reasoning and decision-making skills in dealing with moral problems and dilemmas that arise in entry-level social work practice. Prereq: Open to social work majors, SW 300, SW 421.

SW 444 EDUCATIONAL PRACTICUM I. (5)
This course is an introduction to social work field education under faculty direction in the Teaching-Learning Center. Students will begin to apply knowledge from prerequisite courses in experiences which utilize social work practice skills with emphasis on individuals, families and small groups, toward goals of prevention, restoration and enhancement of social functioning. This course includes 18 hours per week of seminar and experiential learning. Prereq: Open only to social work majors, SW 300, SW 420, SW 430.

SW 445 EDUCATIONAL PRACTICUM II. (8)
This course continues the process of social work practicum under faculty direction in a Teaching-Learning Center. Students will continue to apply knowledge from prerequisite and concurrent courses in experiences which utilize social work practice skills with individuals, families, and small groups as well as with organizations and communities toward the goals of prevention, restoration, and enhancement of social functioning. Includes 24 hours per week of seminar and experiential learning. Prereq: Open only to social work majors, SW 400, SW 444, SW 450.

SW 450 SOCIAL WORK RESEARCH. (4)
An introductory study and application of the processes of research in building social work knowledge and developing effective social work practice. Prereq: Open only to social work majors, basic statistics course, SW 444, SW 435.

SW 460 UNDERSTANDING BEHAVIOR FROM A SOCIO-CULTURAL PERSPECTIVE: THEORIES OF PSYCHOPATHOLOGY. (4)
Problematic behavior is discussed employing a social work perspective. Students are introduced to a bio-psycho-socio-cultural assessment model and the DSM IV-TR criteria for mental health disorders. Students learn to respect the person in his or her environment and not to categorize them by their problems or diagnosis. Risk/resiliency and strengths perspectives are utilized to understand mental disorders within a socio-cultural context. Emphasis is placed on understanding how theoretical models explain psychopathology and inform interventions in social work practice. Prereq: Open to Social Work Majors; SW 350, SW 422, SW 444.

SW 470 SENIOR SEMINAR. (3)
An integrative professional seminar for senior majors in social work, usually taken in the last semester of course work. Social work issues of an educational, professional and practice nature are examined. Prereq: Open only to social work majors, completion of all core social work courses, but SW 445 prerequisite or concurrent.

SW 505 CHILD WELFARE SERVICES. (2-3)
This course provides a comprehensive introduction to child abuse and neglect, including historical perspectives, indicators of maltreatment, theories about its etiology, and effective interventions on the micro and macro levels. Students will learn about child protective policies and services, and the social worker's roles and responsibilities.

SW 510 MENTAL HEALTH KNOWLEDGE FOR THE SOCIAL PROFESSIONS. (2-3)
An analysis of personality development, behavior patterns, and social structural factors with special reference to mental health, its service delivery system, and implications for practice in the social professions.

SW 511 GENOCIDE: INTERVENTION WITH SURVIVORS AND GLOBAL PREVENTION. (3)
This course will examine the psychological, cultural, and societal roots of human cruelty, mass violence, and genocide. It explores what enables individuals collectively, and individually to perpetrate mass cruelty/genocide or to stand by and watch such horrors. The course will cover key concepts, perpetrator psychology, biopsychosocial effects on and intervention with survivors. Prereq: Open to students with a minimum of sophomore status and an introductory social science course, or consent of instructor.

SW 512 SOCIAL WORK IN THE CRIMINAL JUSTICE SYSTEM. (3)
Criminal justice processes are studied and evaluated. Factors influencing criminality are examined, as well as consequences and costs to offenders and to society of current policies to control and prevent crime. Traditional and innovative community and institutional programs for adult and juvenile offenders are emphasized to prepare those wanting to work with this population. Prereq: Junior standing or consent of instructor.

SW 514 ALCOHOLISM AND PROBLEM DRINKING. (2-3)
This course will examine traditional and emerging concepts of alcoholism and problem drinking with special attention to problems in definition. The contributions of recent research to our understanding of risk factors associated with various populations will be reviewed. Selected strategies for identification of and intervention into alcoholism and problem drinking will be discussed with particular attention to the unique problems and needs of racial minorities, youth, female, and other populations.

***SW 515 MEDICAL AND PSYCHOSOCIAL ASPECTS OF DISABILITIES I. (3)**
This course is designed to prepare rehabilitation and mental health counselors, social works and students in related fields with a working knowledge of the medical and psychosocial aspects of disability and chronic illness, and to provide students with the knowledge and understanding necessary to function and serve effectively in rehabilitation counseling and related interdisciplinary, allied health, and mental health settings. Topic areas include: human body systems, medical terminology, medical, functional, environmental and psychosocial aspects of dis abilities and chronic illness, professional ethics, assistive technology, diagnostic classification systems, psychopharmacology, functional capacity, and wellness and illness prevention concepts and strategies. Specific disabilities covered in this course include neurologic, hearing, vision, intellectual disabilities, developmental disabilities, autism and Asperger's, learning disabilities, attention deficit disorders, and substance abuse. Prereq: College level courses in biology and psychology or consent of instructor. (Same as RC 515.)

***SW 516 MEDICAL AND PSYCHOSOCIAL ASPECTS OF DISABILITIES II. (3)**
This course is designed to prepare rehabilitation and mental health counselors, social workers, and students in related fields with a working knowledge of the medical and psychosocial aspects of disability and chronic illness, and to provide students with the knowledge and understanding necessary to function and serve effectively in rehabilitation counseling and related interdisciplinary, allied health, and mental health settings. Topic areas include: human body systems, medical terminology, medical, functional, environmental and psychosocial aspects of disabilities and chronic illness, professional ethics, assistive technology, diagnostic classification systems, psychopharmacology, functional capacity, and wellness and illness prevention concepts and strategies. Specific disabilities covered during this semester include psychiatric and psychological impairments, endocrine, gastroenterology, cancer, burns and skin disorders, blood and the immune system, respiratory, kidney and renal function and musculoskeletal. Prereq: College level courses in biology and psychology or consent of instructor. (Same as RC 516.)

SW 523 SOCIAL PERSPECTIVES ON RACISM AND ETHNIC PREJUDICES IN AMERICA. (2-3)
The course is designed to provide the knowledge needed in understanding the dynamics of institutional racism from a broader perspective of five specific ethnic minorities in rural and urban America. Particular emphasis is placed upon planned community change and strategies pertinent to minority group communities. Students who wish to make a special, in-depth study of one of the specified content areas may take this course for one additional credit. Prereq: Consent of instructor. (Same as AAS 523.)

SW 571 SOCIAL WORK AND THE LAW. (3)
The course examines the lawyer's method and the legal system; the organization and ethics of the practicing bar; the impact of legal decision-making and lawyers on society in such selected situations as civil rights, juvenile and criminal justice and consumer debtor-creditor relationships; and working relationships between social workers and lawyers.

SW 580 TOPICAL SEMINAR IN SOCIAL WORK. (1-4)
Study of issues of current and special significance for social work practice. Issues selected in accordance with the needs and interests of students enrolled. May be repeated to a maximum of eight credits. Prereq: Open to the student of social work or consent of instructor.

SW 595 COOPERATIVE SOCIAL WORK EDUCATION. (0)
A course designed for social work students who, through the cooperative education office, secure full-time, salaried, career-related positions under the supervision of a sponsoring employer. Enrollment in the course constitutes full-time status. Course may be taken on a pass-fail basis only and repeated with the permission of the cooperation education office. Prereq: Approval of the Cooperative Education Coordinator.

SW 600 THEORY-INFORMED PRACTICE WITH INDIVIDUALS. (3)
This course introduces students to the history and philosophy of the social work profession and social work practice theory. It enhances analytical thinking that underlies engagement, assessment, intervention, and evaluation with individuals, and focuses on mastering social work skills for professional practice with individuals. Special attention is paid to the NASW Code of Ethics and to the social worker's obligations toward populations-at-risk. Prereq: Acceptance into the MSW program.

SW 601 THEORY-INFORMED PRACTICE WITH FAMILIES. (3)
This course introduces students to family social work and the theoretical perspectives and concepts that underlie social work with families. The course emphasizes the development and application of skills and techniques for conducting family assessments and for conceptualizing theory-based and research-informed intervention plans for families in need. The course addresses diverse family forms, cultural competence, and multi-problem families within the contexts of neighborhoods, schools, and communities. Prereq: SW 600 or concurrent.

SW 602 THEORY-INFORMED PRACTICE WITH GROUPS. (3)
This course introduces students to the place of group work in professional social work practice, the theoretical and philosophical formulations that underlie group work and the concepts and techniques derived from these formulations. The course emphasizes group dynamics, development, and techniques needed to be a successful group leader. Prereq: Admission into the MSW program, SW 600, SW 601, SW 635.

SW 603 SOCIAL WORK PRACTICE WITH CHILDREN AND YOUTH. (2)
Study and analysis of developmental crises and problems of children and youth. Emphasis upon social work strategies of intervention for prevention, amelioration or resolution. Prereq: SW 600 or 601 or consent of instructor.

SW 606 SEMINAR IN CRIMINAL JUSTICE PROCESSES. (2)
Criminal justice processes are studied and evaluated emphasizing system aims, theories of criminality and societal reaction, the consequences and costs to offenders and to society of current policies to control and prevent crime. Traditional and innovative community and institutional programs for adult and juvenile offenders will be examined.

SW 611 SOCIAL WORK PRACTICE IN MENTAL HEALTH. (2-3)
Description, analysis, and examination of social work practice in the mental health service delivery system, with particular emphasis on social work interventions and roles.

SW 612 SEMINAR ON SOCIAL WORK PRACTICE WITH WOMEN. (2-3)
This seminar focuses on the special problems and practice strategies relevant to selected groups of women served by social work.

SW 613 URBAN ECOLOGY AND AGING. (2 or 3)
Effects of an urban environment upon the aging population, including community design, city planning, housing, transportation, relocation, and mobility. The impact of technological advances will be examined from the point of view of theory, current research, and the process of man-environmental relationships.

SW 616 SOCIAL WORK PRACTICE IN SCHOOL SETTINGS. (2-3)
A presentation and examination of school social work practice. Emphasis will be placed on roles, competencies and skills necessary for effective service provision. The differences in services to children in schools will be contrasted with those in primary social service settings. Focus will also be given to the impact of school legislation and regulations on the choice of populations served and programs provided.

SW 617 FAMILY VIOLENCE: SOCIAL WORK INTERVENTIONS. (2-3)
The development of a knowledge based framework for understanding, preventing and intervening in family violence as seen in child, spouse and elder abuse.

SW 618 SOCIAL WORK PRACTICE WITH GAY AND LESBIAN PEOPLE. (2-3)
This course is designed to expand the knowledge and understanding of students about the theory and dynamics of homophobia, heterosexism, and homonegativity. The effects of living with prejudice and discrimination among the gay and lesbian support systems available. Micro and macro social work intervention strategies will be studied as they relate to overall themes. Prereq: SW 600 or 601 or consent of instructor.

SW 623 SOCIAL WORK PRACTICE WITH GROUPS. (2-3)
This course critically analyzes approaches to group practice in social work emphasizing socialization and resocialization purposes and leader activities. Research and practice issues are examined. Prereq: SW 600 or 601 or consent of instructor.

SW 624 PERSPECTIVES ON HUMAN SEXUALITY. (3)
An examination and study of historical and current perspectives of sexuality as it relates to behavioral patterns, cultural attitudes, social policy and practice. Prereq: Knowledge of human behavior and personality theory highly recommended. (Same as FAM 624.)

SW 626 FORENSIC MENTAL HEALTH: EVALUATION AND TREATMENT. (2-3)
An intensive analysis and study of forensic mental health including court evaluation, courtroom testimony and treatment of the victim. Students who wish to take this course for three credits will be expected to make an in-depth study of a specific content area. Lecture, two hours; laboratory (only for those taking the course for three hours), two hours per week. Prereq: Knowledge of behavior and personality theory is highly recommended.

SW 627 COLLABORATIVE PRACTICE: SUBSTANCE ABUSE, MENTAL HEALTH AND SOCIAL SERVICE. (3)
This course provides students with critical knowledge about substance abuse and mental health problems experienced by families. A variety of subjects related to substance use disorders and mental health problems will be discussed such as screening, assessment, case management, and referral services. Collaborative practice with substance abuse, mental health service providers, social services, and other providers is addressed. Prereq: Completion of a baccalaureate degree.

SW 630 INTRODUCTION TO SOCIAL WELFARE POLICY AND SERVICES. (3)
This course reviews the history of the social welfare system and emphasizes the analysis of social programs and policies and of the policy-making process. An important focus of the course is to identify and understand the impact of a wide range of social policies on social work clients and the human service delivery system within a social justice framework. The course content reflects the interdisciplinary efforts of the social, political, legal, economic, and administrative processes which are vital to policy making at all levels. Prereq: Acceptance into the MSW program.

SW 635 INTRODUCTION TO PROFESSIONAL ETHICS IN SOCIAL WORK. (3)
This course introduces students to the place of ethics in professional social work practice, the philosophical formulations that underlie ethics and relevant concepts derived from these formulations. The course emphasizes the development of ethical reasoning and decision-making. Prereq: SW 600 or concurrent.

SW 640 FOUNDATION PRACTICUM. (3)
Students in this course engage in a generalist social work field placement under the direction of a faculty field professor and an agency field instructor. Through field education seminars

students integrate knowledge, skills, and behaviors from prerequisite and concurrent courses, to demonstrate foundation social work practice with individuals, families, small groups, organizations and communities. The focus includes attention to context, policy, ethical considerations, the application of theory, and the use of research-informed interventions. Includes 300 hours per semester of seminar and experiential learning. Prereq: SW 600, 601, 602, 630, 635, 650 or concurrent.

SW 642 PSYCHOLOGICAL ASPECTS OF HUMAN AGING. (3)
Description and explanation of behavior, socialization and personality differentiation during the post-maturation developmental period: emotional aspects of aging; perception; intelligence; learning; motivation; normal and abnormal behavior; sexuality; life style. Prereq: SW 620 or equivalent, or consent of instructor.

SW 650 RESEARCH METHODS IN SOCIAL WORK. (3)
Introduction to systematic approaches to scientific thinking necessary for building knowledge and evaluating one's own practice. Includes ethical use of scientific inquiry, critical appreciation of quantitative and qualitative methodologies, and use of research for program evaluation. Prereq: Open only to students admitted to the graduate Social Work program.

SW 680 SPECIAL PROBLEMS IN SOCIAL WORK PRACTICE. (2-6)
Current issues that have special significance for social work practice. Selected problems in accordance with the needs and interests of the students registered for the course. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

SW 701 ASSET-BASED AND SUSTAINABLE COMMUNITY ASSESSMENT AND DEVELOPMENT. (3)
This course is a practice course focusing on assessment and intervention in the Social and Community Development Concentration. The course examines the community context of social work practice with an emphasis on neighborhoods, communities, and larger social systems that influence the quality of life. Models of community practice are presented to assess and intervene in social problems and social injustice that constrain opportunities and limit access to resources for individuals and families. Particular attention is given to the concept of asset-based development for building community capacity and empowering individuals and groups. Prereq: SW 721.

SW 702 SUBSTANCE MISUSE, VIOLENCE AND RISK MANAGEMENT. (3)
This course is designed to enhance students' clinical judgment and decision making with populations at high risk for victimization or perpetration of violence and substance misuse. It provides contemporary scientific and clinical knowledge and explores the associations of violence, child abuse, and mental disorders with substance misuse. Theories of addiction are explored with attention to genetic, familial, gender, geographical, and cultural contributions. Neurochemical and neuroanatomical correlates of addiction are explored. Assessment approaches and major interventions are analyzed and applied in practice sessions. Prereq: Completion of SW 600, SW 601, and SW 635, or admission to the MSW program with advanced standing, or permission of instructor.

SW 711 ADVANCED LEADERSHIP ROLES IN SOCIAL WORK. (3)
Advanced study and analysis of leadership roles in social work practice with emphasis upon administration and supervision. Some attention is given to consultation, staff development and teaching, and review of theories of adult learning. Prereq: SW 701 or consent of instructor.

SW 718 CLINICAL DECISION MAKING AND JUDGMENT FOR SOCIAL WORK. (3)
This course provides the foundation for decision and judgment processes necessary for effective clinical social work practice, and is usually taken concurrently with the Psychopathology II course. Prereq: Admission to the Clinical Social Work concentration.

SW 720 SOCIAL WORK PERSPECTIVES ON HUMAN AND CULTURAL DIVERSITY. (2)
This second required course in the human behavior and social environment sequence builds upon the foundation course. The focus of this course is upon the effects of discrimination and oppression experienced by diverse population groups with special attention to the effects of racism, sexism, ageism, classism and geography upon vulnerable groups; and upon institutionalized societal and cultural themes in diversity; with implications for social work practice. Prereq: SW 620 or advanced standing in the MSW program. (Same as AAS 720.)

SW 721 POVERTY AND INEQUALITY. (3)
Poverty and inequality are among the most pervasive social problems of our time. According to the NASW code of ethics, tackling poverty is a primary goal for social workers. The course aims to unmask the complexities of poverty and inequality by introducing students to the nature and characteristics of poverty, examining the predominant explanations of poverty and inequality, exploring the consequences of poverty and inequality, and surveying historical and contemporary approaches to poverty reduction. Diverse perspectives will be presented through the course. Special attention will be given to issues related to values and ethics including social justice, human rights and well-being. Prereq: Admission to the Community and Social Development Concentration.

SW 722 PSYCHOPATHOLOGY FOR SOCIAL WORK PRACTICE. (3)
This course offers a survey of the major mental disorders typically encountered by social workers in clinical practice, protective services, family services, and other practice areas. It is designed to increase the social worker's working familiarity with diagnostic classifications, criteria, etiologies, and natural histories of disorders and social work treatments of disorders. Prereq: Admission into the MSW program with advanced standing or completion of SW 600, SW 601, and SW 635.

SW 724 ASSESSMENT AND TREATMENT PLANNING IN SOCIAL WORK. (3)
This course is designed to prepare the social worker to conduct structured, semi-structured and observational clinical assessments of adults, children, families and groups. Special attention will be paid to diagnostic assessments, substance use evaluations, lethality assessments, motivational interviewing, and other evidence-based and evidence-informed approaches. This course is designed to be taken after or concurrently with the clinical decision making course. Prereq: Admission to the clinical social work concentration; SW 718, SW 726 or concurrent.

SW 726 PSYCHOPATHOLOGY FOR CLINICAL SOCIAL WORK. (3)
This course provides the Master's level social work student an opportunity for advanced study of differential diagnostic assessment using the current edition of the Diagnostic and Statistical Manual of Mental Disorders. The course also provides an opportunity for more detailed study of the more common mental disorders seen in social work practice. In conjunction with the Decision Making course it provides an opportunity for advanced study of clinical decision making as it pertains to current mental health assessment. Prereq: SW 722, SW 702, admission to the Clinical Social Work concentration, SW 718 or concurrent.

SW 728 COMPARATIVE TREATMENT MODALITIES. (3)
This course builds on previous content related to clinical decision- making, psychopathology and clinical assessment, and is designed to 1) apply a range of intervention theories to children, adults, families and groups, 2) facilitate the student's capacity to conduct a comparative analysis of the approaches across common, conceptual, clinical, cultural and ethical domains, and to provide the forum for a critique of each approach using the latest empirical evidence on efficacy and effectiveness. Prereq: SW 718, SW 724, SW 726.

SW 730 EVIDENCE-BASED PRACTICE FOR SOCIAL WORKERS. (3)
This course offers an intensive study of three evidence based practices one for adult, one for children and one group intervention. It is designed to increase the social worker's familiarity with evidence based practices for social work treatment of mental health disorders. Prereq: SW 718, SW 724, and Pyschopathology II.

SW 731 ADVANCED SOCIAL WELFARE POLICY AND ANALYSIS. (3)
This course builds on the social justice tradition and the policy analysis framework provided in SW 630 to prepare students to engage in the policy-making processes that impact and are impacted by the family and community service delivery system. Controversial issues within the child welfare, school social work, aging, and community development policy arenas are examined. Prereq: SW 721, SW 737.

SW 733 COMMUNITY-INFORMED ORGANIZATIONAL INTERVENTIONS. (3)
This course is an advanced Master's level class designed to explore the organizational context for creating change in communities. Students will be introduced to practice behaviors related to designing programs that respond to changing community demographics and needs and that promote inclusion of diverse community constituencies. The course emphasizes using community-based data and assessments and reflective learning models to evaluate programming and design program modifications and innovations that will benefit the community. Prereq: SW 721, SW 737, SW 701 or concurrent.

SW 734 CLINICAL SOCIAL WORK INTEGRATIVE SEMINAR. (3)
This seminar is taken by MSW students in their last semester to prepare for the comprehensive examination. Foundation level and concentration course content and practice behaviors will be reviewed to assist students to integrate their course of study. Prereq: SW 724 or concurrent.

SW 735 COMMUNITY AND SOCIAL DEVELOPMENT INTEGRATIVE SEMINAR. (3)
This seminar is taken by MSW students in their last semester to prepare for the comprehensive examination. Foundation level and concentration course content and practice behaviors will be reviewed to assist students to integrate their course of study. Prereq: SW 743 or concurrent.

SW 737 NON-PROFIT MANAGEMENT IN HUMAN SERVICE ORGANIZATIONS. (3)
This course focuses on social work management practices and leadership skills required in the development and management of non-profit organizations. With a particular focus on the human services delivery system, this course emphasizes achievement of human service goals and objectives through management control processes such as strategic planning, human resource management, program development and evaluation, finance, and advisory board governance. Prereq: SW 721 or concurrent.

SW 740 CLINICAL SOCIAL WORK PRACTICUM. (3)
Students in this course engage in learning that prepares them to practice as clinical social workers at the advanced level. Students work in public and private agencies that provide services to a wide range of individuals (e.g., children, the elderly, persons with disabilities, etc.), families, and groups. Students will integrate knowledge, skills and behaviors from prerequisite and concurrent CSW concentration courses in field settings that provide opportunities to practice advanced clinical social work. Students will perform a variety of tasks including clinical decision-making, assessment and treatment planning. Includes 300 hours per semester of seminar and experiential learning. Prereq: SW 718, 724, 726, or concurrent. This class is to be taken concurrently with the SW 750 research course.

SW 740A CLINICAL SOCIAL WORK PRACTICUM I. (4)
This field-based course prepares students to practice as social workers at the advanced level in an area of concentration. Students perform a variety of tasks including assessment, case management, psycho-education, as well as individual, family, and/or community-based interventions. Placement in a human service agency and experiential learning of 300 hours including weekly seminars. Prereq: SW 640 or advanced standing.

SW 741 CSD PRACTICUM I. (3)
Students in this course engage in learning that prepares them to practice as social workers at the advanced level in public and private settings. Students work in government and non-profit community based agencies that provide services to a wide range of individuals (e.g., children, the elderly, persons with disabilities, etc.), families, and communities. Students will integrate knowledge, skills and behaviors from prerequisite and concurrent CSD concentration courses and will be engaged in work that provides opportunities to become competent social work practitioners at the organizational and macro levels. Students will perform a variety of tasks including in-depth agency/organizational assessment, policy analysis, and review of contexts that shape practice at the organizational level. Includes 300 hours per semester of seminar and experiential learning. Prereq: SW 721, 737 or concurrent. This class is to be taken concurrently with the SW 751 research course.

SW 741A FAMILY AND COMMUNITY CONCENTRATION PRACTICUM I. (4)
This field-based course prepares students to practice as social workers at the advanced level in an area of concentration. Students perform a variety of tasks including assessment at the individual and community level, case-management, and individual, family, and community-based interventions. Placement in a human service agency and experiential learning of 300 hours including weekly seminars. Prereq: SW 721, 737 or concurrent. This class is to be taken concurrently with the SW 751 research course.

SW 742 CLINICAL SOCIAL WORK PRACTICUM II. (3)
This course builds on the experiences and activities of SW 740. Students in this course engage in learning that prepares them to practice as clinical social workers at the advanced level. Students work in public and private agencies that provide services to a wide range of individuals (e.g. children, the elderly, persons with disabilities, etc.), families, and groups. Students will integrate knowledge, skills and behaviors from prerequisite and concurrent CSW concentration courses in field settings that provide opportunities to practice advanced clinical social work. Students will perform a variety of tasks including clinical decision-making, assessment, treatment planning, evidence-based clinical intervention and research-informed evaluation of practice. Includes 300 hours per semester of seminar and experiential learning. Prereq: SW 740, SW 750, SW 728, SW 730 or concurrent.

SW 743 COMMUNITY AND SOCIAL DEVELOPMENT PRACTICUM II. (3)
This course builds on the experiences and activities of SW 741. Students in this course engage in learning that prepares them to practice as social workers at the advanced level in public and private settings. Students work in government and non-profit community based agencies that provide services to a wide range of individuals (e.g. children, the elderly, persons with disabilities, etc.), families, and communities. Students will integrate knowledge, skills and behaviors from prerequisite and concurrent CSD concentration courses and will be engaged in work that provides opportunities to become competent social work practitioners at the organizational and macro levels. Students will perform a variety of tasks including organizational and community assessment, advocacy, development and promotion of policy, research and evaluation, and development of community based interventions. Includes 300 hours per semester of seminar and experiential learning. Prereq: SW 741, SW 751; SW 701, SW 731, and SW 733 or concurrent.

SW 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

SW 750 CLINICAL SOCIAL WORK RESEARCH. (3)
This course builds on the introductory research class designed to study the processes of research in enhancing social work knowledge and developing effective social work practice. This course helps students develop the skills necessary to become sophisticated consumers of clinical research; execute single subject designs in clinical practice to assess and monitor progress, and participate in clinical intervention studies to test the efficacy and effectiveness of interventions. Prereq: SW 650 or advanced standing. This course is designed to be taken concurrently with SW 740.

SW 751 RESEARCH SKILLS FOR COMMUNITY AND SOCIAL DEVELOPMENT. (3)
This is an intermediate research course with an emphasis on program evaluation. The course will provide instruction in research methodology as well as research design. In addition, there is an emphasis on developing competencies and skills that will allow students to work with multifaceted research teams in diverse settings. Prereq: SW 650 or advanced standing. This course is designed to be taken concurrently with SW 741.

SW 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

SW 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely. Prereq: Successful completion of qualifying exam.

SW 770 DOCTORAL RESEARCH I. (3)
This course focuses on the role of research in the profession, the logic of research, the major strategies and techniques for conducting research in social work settings, and preparation of a research proposal. This is the first of a two-course sequence with a primary focus on quantitative methods. Prereq: Admission into the Social Work doctoral program.

SW 771 DOCTORAL RESEARCH II. (3)
In this second of two required research methods courses, students will conduct and report on the quantitative research project proposed in the first semester. They will also conduct a meta-analysis, test a research instrument's reliability and validity, conduct an exercise using qualitative methodology, and explore large public databases. Prereq: SW 770.

SW 773 DOCTORAL STATISTICS II. (3)
This social work course aims to help students understand and apply multivariate techniques in the fields of social welfare and social work research. Topics covered will include multivariate regression, factor analysis, path analysis, event history analysis, as well as logit and probit analysis. Prereq: STA 570 or other graduate level statistics course.

SW 774 MENTAL HEALTH RESEARCH METHODS. (3)
This course will explore the principles and procedures that govern mental health research by examining the different ways researchers study mental health phenomenon. In this course, students will learn the skills to engage in the scientific investigation of significant mental health problems, and dissemination strategies utilized to transfer empirical findings into mental health practice and policy development. This course emphasizes aspects of methodological design essential for conducting meta-analysis, treatment, prevention and epidemiological research that may be outside the scope of a general research course. Prereq: SW 770 and SW 771 (SW 771 may be taken concurrently).

SW 780 INDEPENDENT WORK. (1-6)
Organized study, research and/or tutorial focused on special issues or problems. May be repeated to a maximum of six credits. Prereq: Major, graduate standing of 3.0 overall GPA, or consent of dean, and consent of adviser and instructor.

SW 781 THEORY DEVELOPMENT IN THE SOCIAL WORK PROFESSION. (3)
Explores the nature of knowledge, how it is generated and acquired. Students will distinguish explanatory from practice theory, understand paradigms as bases for ideas, recognize and formulate concepts, understand relational statements, theoretical statements, and how these relate to theory and data. Strategies for building knowledge will be discussed. Students will analyze theories into their components, construct mini-theories, and propose how they can be tested in social work practice. Prereq: Admission into the doctoral program or consent of the program director.

SW 782 ADVANCED ANALYSIS OF SOCIAL PROBLEMS, POLICY AND PRACTICE. (3)
This course provides students with a theoretical and conceptual framework for understanding social problems and their implications for macro social work practice. Critical perspectives related to social science theory will be identified, assumptions assessed, values examined, and empirical evidence analyzed. Theories covered will be drawn from sociological, socio-cultural, political, economic, historical and other perspectives. Students will be expected to develop their abilities to analyze and critique social problems and macro social work practice. Prereq: Admission into the doctoral program.

SW 783 HUMAN BEHAVIOR AND CHANGE THEORIES IN SOCIAL WORK PRACTICE. (3)
A critical analysis of theories which seek to explain human behavior and serve as foundations for current clinical change interventions; includes an examination of the empirical support for and efficacy of major treatment modalities used in social work practice. Prereq: Admission to the doctoral program.

SW 784 ETHICS, SOCIAL WORK AND SOCIETY. (3)
This course will identify and articulate the philosophical formulations of relevant ethical traditions and their implications for social work. Students will examine approaches to ethical analysis as well as major ethical problems facing contemporary social work. The course will emphasize the development of advanced ethical reasoning and decision-making skills. Prereq: Admission to the doctoral program and SW 781.

SW 785 PROSEMINAR IN SOCIAL WORK RESEARCH. (1)
This seminar introduces beginning doctoral students to the research activities of social work faculty and advanced students. Presentations will familiarize students with practical issues in the conceptual development and conduct of current research. May be repeated to a maximum of two credits. Prereq: Admission into the doctoral program.

SW 786 DOCTORAL RESEARCH PRACTICUM. (3-6)
Provides the doctoral student opportunity to conduct social work research under the supervision of a chosen faculty member. This experience is expected to result in one or more reports suitable for submission to a scholarly journal at conclusion of the practicum. Prereq: Completion of first year of doctoral study.

SW 787 DOCTORAL TEACHING PRACTICUM. (3-6)
Supervised teaching and other classroom experiences designed to prepare doctoral students to be social work educators. Prereq: Completion of first year of doctoral study.

SW 788 RESEARCH IN SOCIAL WORK SEMINAR. (3)
This course is designed to facilitate the student's completion of the dissertation prospectus and the dissertation itself. Students will make formal presentations on their research plans and will address available literature, measurement and methodological issues, analysis of data, limitations, and importance of the investigation. Prereq: Six hours doctoral level research.

SW 790 SEMINAR IN TEACHING AND LEARNING. (3)
Students will facilitate seminar sessions drawing upon educational theory and relevant literature, create syllabi, observe each other teaching, and develop papers elucidating their grading practices and philosophy of teaching. Prereq: Admission into the doctoral program or consent of instructor.

SW 795 ADVANCED DOCTORAL SEMINAR IN SOCIAL WORK (Subtitle required). (3)
Topics of current importance in Social Work research and practice, including philosophical, theoretical, ethical, and technical considerations. May be repeated to a maximum of twelve credits under different subtitles. Prereq: Admission to the joint Ph.D. program.

TA Theatre

***TA 110 THEATRE: AN INTRODUCTION. (3)**
This course provides an introduction and investigation in the analysis, research, production, and creative techniques central to the art of theatre. Student will read performance texts, attend live performances, and create a public performance. This online hybrid course will meet face-to-face one session per week.

†TA 115 THEATRE STUDIO I.

TA 120 CREATIVITY AND THE ART OF ACTING. (3)
This course provides students with the tools to create their own, short, original works of theatre. Students will explore recent and current trends in theatre that allow performers to become creators of their own works. Students will examine the ways they can interpret language, literature, poetry, and dramatic texts to develop new ways to communicate their ideas in performance through the idiom of an ensemble.

TA 126 ACTING I: FUNDAMENTALS OF ACTING. (3)
A broad spectrum of skills will be explored in the creative process of acting ensemble. These skills include improvisation, movement disciplines (including theatre games, modern dance, and characterization), emotional and sensory awareness, and the process of integrating these into a clearly defined stage technique. Lecture, three hours; laboratory, two hours per week.

TA 150 CREATIVITY AND THE ART OF DESIGN AND PRODUCTION. (3)
A comprehensive study of the basic organizational structure, processes and techniques involved in theatre design, technology and management with particular reference to the UK Theatre.

†TA 190 PRODUCTION PRACTICUM.

†TA 191 PERFORMANCE PRACTICUM.

†TA 215 THEATRE STUDIO II.

TA 220 SHAKESPEARE PAGE TO STAGE. (3)
Shakespeare's plays were written to be performed, not read, and this course explores how to direct, act, and design his plays. The course explores techniques in directing, acting, and design, and examines famous stage and film productions of the last hundred years. The class culminates in design projects and student performances.

TA 225 VOCAL PRODUCTION FOR THE STAGE I. (3)
The theory and practice of stage diction. Mastery of these vocal techniques will lead the student to the eradication of regional speech patterns, an appreciation of vocal craft and discipline and an awareness of the diversity of vocal expression.

TA 236 ACTING: COMEDY STYLES. (3)
This course introduces student actors to a variety of comedy acting styles and techniques. Prereq: TA 126 or TA 120 or permission of instructor.

TA 237 ACTING: SCENE STUDY. (3)
An advanced lecture/laboratory course concentrating on acting techniques integral to the successful execution of scene work, including text analysis, character construction, improvisation, and stage behavior. Prereq: TA 120 or TA 126.

TA 260 STAGECRAFT. (3)
Study of theory, principles and techniques of stage construction. Assignments in laboratory and backstage during rehearsals and performances. Lecture, two hours; laboratory, five hours.

TA 265 COSTUME CONSTRUCTION. (3)
A study of the principles and techniques of costume construction. Lecture, one hour; laboratory, three hours per week.

TA 267 LIGHTING AND SOUND TECHNOLOGY. (3)
An introduction to lighting and sound practice in today's theatre. Lighting topics include use and maintenance of lighting equipment, photometrics, basic theatrical wiring and modern theatre systems. Sound topics include use of sound equipment for enhancement and reinforcement of theatrical productions and basic sound editing. Lecture, three hours; laboratory, two hours per week.

TA 275 STAGE MANAGEMENT. (3)
This lecture-studio course explores the role and responsibilities of the stage manager in academic, community, regional, and professional theatre settings.

TA 286 SOCIAL ACTION THEATRE. (3)
This course will explore applications of theatre practice and performance as they contribute to various cultures and/or community groups.

TA 300 SPECIAL PROJECTS IN THEATRE (Subtitle required). (1-3)
Reading, research, lecture and experimentation in a particular area of theatre history, theory, design and/or performance. This course will enable the student to link theory and practice to develop a role, or performances study for the stage. May be repeated to a maximum of twelve credits. Prereq: By audition or permission of instructor.

***TA 311 AUDITION TECHNIQUES. (3)**
This course is an introduction to basic theatre audition techniques. Prereq: TA 126 or TA 120 or equivalent.

†TA 315 THEATRE STUDIO III.

†TA 316 JUNIOR STUDIO: DESIGN INTENSIVE.

***TA 326 ADVANCED ACTING (Subtitle required). (3)**
A course of advanced study focused on a significant acting style or performance tradition. Repeatable up to six credit hours. Prereq: TA 126 and TA 237 or permission of instructor.

TA 330 THEATRE DIRECTING I. (3)
Discussion and practice of the director's basic techniques, methods and responsibilities. Study of movement, interpretation of line, use of stage areas, use of levels, script analysis, and understanding dramatic action. Lecture, two hours; laboratory, two hours per week. Prereq: Major or consent of instructor.

***TA 336 ADVANCED ACTING: CLASSICAL STYLES. (3)**
A course of advanced study focused on three classical western acting styles from ancient Greece, Elizabethan England, Restoration England, or Neo-classic France. Prereq: TA 126 or TA 120; and TA 237.

TA 348 MUSICAL THEATRE TECHNIQUE. (3)
Musical Theatre Technique will provide students with a basic understanding of the specialized acting technique required to perform in the genre of musical theatre. Utilizing the literature of Musical Theatre, students will learn to coordinate dialogue, melody, lyrics, and staging for performance. Students will be exposed to a basic framework of musical theatre history, including notable directors, innovations, styles, and productions.

TA 350-352 TOPICS IN THEATRE. (3)
Reading, research, lecture and/or discussion in various areas of theatre history, technology and practice. May be repeated three times for a maximum of 12 hours when identified by different course subtitles. Prereq: Major or consent of instructor.

TA 361 GRAPHICS FOR THEATRE. (3)
A studio course to develop the graphic skills in relation to theatrical design and technology. Sketching, rendering, mechanical drafting, pattern drafting, CAD, and relative computer programs are explored. May be repeated to a maximum of six hours. Prereq: TA 115 or TA 150 or consent of instructor.

#TA 364 STAGE MAKEUP. (3)
Studio course in the application and design of makeup for the stage.

TA 365 COSTUME DESIGN. (3)
A lecture/studio course to teach basic skills in costume design through analysis, collaboration, research, and rendering. Lecture, one hour; studio, four hours per week. Prereq: TA 115 or TA 150 or consent of instructor.

TA 367 LIGHTING DESIGN. (3)
Theory, practice and design of lighting for the theatre. Examination of the practical and aesthetic requirements of lighting through research and analysis. Application of theory to light in a variety of contexts including theatre, opera, musicals and concerts. Lecture, three hours; laboratory, three hours per week. Prereq: TA 115 or TA 150 or TA 267 or consent of instructor.

TA 368 VISUAL STORYTELLING. (3)
Explore communicating a story through non-text based means using the visual medium of puppet and mask theatre and its associated techniques. May be repeated to a maximum of six hours.

TA 370 STAGING HISTORY. (3)
A one-semester course dedicated to the research, development and creation of a "Docu-Drama" or Documentary Play based on a local, regional or national historic event, era or site.

TA 374 SCENE DESIGN. (3)
Process of evolving a scenic design through play analysis, research, metaphysical association and the assimilation of theatrical art forms against practical prescribed limitations. Practice in developing floor plans, elevations and simple sketching techniques. Lecture, two hours; laboratory, two hours. Prereq: TA 115 or TA 150 or consent of instructor.

TA 383 PLAY ANALYSIS. (3)
Student actors, designers, directors, playwrights and dramaturgs will be introduced to critical methodologies that can be applied to in-depth analysis of a variety of styles and genres of dramatic literature and performance.

TA 384 BLACK THEATRE WORKSHOP. (3)
A workshop that explores the history, literature and performance of theater artists of the African diaspora. (Same as AAS 384.)

TA 385 WORLD THEATRE I. (3)
A multicultural and intercontinental exploration of the history, theory, dramatic literature, and practices of theatre from its earliest origins to 1800 c.e.

TA 386 WORLD THEATRE II. (3)
A multicultural and transnational examination of the history, theory, dramatic literature, and practices of theatre from 1800 to the present day. The second of two courses in a two semester sequence of World Theatre.

TA 387 SEMINAR IN DRAMATIC LITERATURE (Subtitle required). (3)
Advanced reading and discussion in theatre literature, theory and criticism. May be repeated to a maximum of 12 credits when identified by different course subtitles. Prereq: Major or permission of instructor.

TA 388 HISTORY OF THE AMERICAN MUSICAL. (3)
Beginning with the 1866 production of The Black Crook, the American Musical has appealed to audiences of every type. This course examines the history and development of the musical and analyzes the various types and styles of musical productions, including musicals that have been made into films. Particular attention is paid to investigating the musical as a manifestation of social, political, cultural values and norms.

TA 390 THEATRE PRACTICUM. (1)
The study and practice of production, performance, or directing techniques through rehearsal and performance. May be repeated to a maximum of eight credit hours. At least four hours production related activities per week. Pass/fail only. Prereq: Consent of instructor and filing of prospectus.

TA 395 INDEPENDENT WORK. (1-3)
For undergraduate majors in theatre arts. Pursue independent work under the guidance of a staff member. Write a paper embodying the results of his research study and take an examination. May be repeated to a maximum of 12 credits. Prereq: Major, filing of prospectus at time of registration, and consent of chairperson.

†TA 396 SUMMER THEATRE.

TA 399 FIELD BASED/COMMUNITY BASED EDUCATION. (1-15)
A community-based or field-based experience in theatre, under the supervision of a faculty member. May be repeated to a maximum of 15 credits. Prereq: Consent of instructor and department chairperson; completion of departmental learning agreement. (Approval of Dean of Fine Arts required for more than six credits per semester.)

TA 470 ADVANCED PROJECT IN DESIGN. (3)
A continuation of course work in a student's chosen area of design and production (scenery, costumes, or lighting). The first half of the course will focus on the design, and the second half on the production of design. Lecture, one hour; studio, four hours per week. May be repeated to a maximum of six credits. Prereq: TA 260, TA 265, TA 267, and one of the following: TA 365, TA 367, TA 374; and consent of the instructor.

TA 485 FRENCH THEATRE: CULTURE, TEXT AND PERFORMANCE. (3)
This course will focus on a particular period or playwright's work from the cannon of French Dramatic Literature, and explore the social and cultural world of the period and playwright. Course work will include a public performance, using both English and French languages. May be repeated to a maximum of six hours. Prereq: Premajor requirements must be completed, or consent of instructor. Some knowledge of French is helpful.

TA 490 SENIOR CAPSTONE. (1)
A capstone course in theatre. This course measures, through a comprehensive examination and rigorous exercises, the theatre student's retention of knowledge from the undergraduate experience and their preparedness for further education or the profession. Prereq: Senior standing, completion of core curriculum.

TA 499 PROFESSIONAL THEATRE INTERNSHIP. (1-12)
A professional theatre internship, which provides students with experiential learning in the area of theatre arts. The internship is identified and conducted under supervision of a Theatre Department faculty member. Students must file a learning contract with the College of Fine Arts. May be repeated to a maximum of 12 credits. Prereq: Overall GPA 2.5, upper division standing in major, or consent of instructor.

TA 516 PLAYWRITING. (3)
A course designed for students interested in creative drama. The completion of at least one play is required. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

TA 526 PLAYWRITING II. (3)
An advanced workshop in the art and craft of playwriting. Prereq: TA 516.

TA 530 EXPERIMENT IN DIRECTING. (3)
This course exposes students to the directing styles of leading avant-garde 20th and 21st century stage directors from around the world. Each student will select a particular director to research, to document in writing, and to recreate the selected individual's directing style as an applied exercise. A student may repeat this three credit course selecting both a different time period and director to study; therefore, this course may be taken for up to six credit hours. Prereq: TA 330.

TA 584 ASIAN THEATRE. (3)
An in-depth study of the major forms and styles of traditional and contemporary theatre and dance performances in India, China, Japan, and southeast Asia. Prereq: Junior, senior, or graduate standing, or permission of instructor.

TA 587 GENDER AND PERFORMANCE (Subtitle required). (3)
An examination of the ways in which gender is performed, according to various theoretical constructs. Topics may include feminist performance of gender, queer theories of gender, and masculinist theory in relationship to performance. Prereq: Junior status.

TA 600 ADVANCED STUDIES IN SCRIPT ANALYSIS. (3)
An advanced study of dramatic literature in its context as a basis for theatrical production. Textual interpretation is considered from the viewpoint of all members of the artistic team. The course requires practical application of analytical theories. Prereq: Graduate standing.

TA 610 CRITICAL THEORIES AND PERFORMANCE. (3)
This class introduces students to critical theories of performance and production and to the various issues raised by the professional production of selected plays. May be repeated to a maximum of six credits.

TA 620 APPLIED RESEARCH IN THEATRE (Subtitle required). (3)
This course focuses on the application of performance/production research to the actual production of a dramatic text. Students will investigate the work of a selected writer, examine critical and historical materials relative to that writer, and then apply this research to the production of one play. The play will be produced as a part of the department's Studio Season. May be repeated to a maximum of six credits.

TA 625 ADVANCED STYLES OF ACTING. (3)
The rehearsal and performance of scenes and class exercises in improvisation to develop creative imagination as a basis for acting. Lecture, three hours; laboratory, two hours. May be repeated to a maximum of six credits. Prereq: Consent of instructor.

TA 630 DRAMATURGY. (3)
Study of conceptual collaboration while working within the production environment. Prereq: TA 600.

TA 650 TOPICS IN AMERICAN THEATRE (Subtitle required). (3)
Selected topics in contemporary and historical American Theatre. May be repeated to a maximum of six credits.

TA 660 ADVANCED STUDIES IN DESIGN/TECHNOLOGY: (Subtitle required). (3)
Advanced problems in design and technology. Subtitle required. Course may be repeated to a maximum of twelve hours when identified under different subtitles. Prereq: Graduate standing in Theatre.

TA 690 PRODUCTION PRACTICUM. (1)
The study and practice of production techniques through rehearsal and performance. May be repeated to a maximum of two credits. Prereq: Consent of instructor and filing of prospectus.

TA 691 PERFORMANCE PRACTICUM. (1)
The study and practice of acting and directing through rehearsal and performance. May be repeated to a maximum of two credits. Prereq: Consent of instructor and filing of prospectus.

TA 692 DIRECTING/DRAMATURGY PRACTICUM. (1-3)
The practice of directing or acting as dramaturg for a selected play script through rehearsal and performance phases. May repeat once to a maximum of six credits. Prereq: TA 730, consent of instructor and filing of prospectus.

TA 725 SPECIAL PROBLEMS IN ACTING: (Subtitle required). (3)
Advanced practice and research in acting theory and technique for the director or dramaturg. May be repeated to a maximum of 6 credits when identified by a different subtitle. Lecture: 3 hours; laboratory: 2 hours per week. Prereq: Graduate Standing in Theatre.

TA 730 ADVANCED STUDIES IN DIRECTING: (Subtitle required). (3)
Seminar and research in the aesthetics, history, style, and directional techniques required for theatrical production. May be repeated to a maximum of 6 credits when identified by a different subtitle. Lecture: 3 hours; laboratory: 2 hours per week. Prereq: TA 600.

TA 739 INTERNSHIP IN THEATRE. (3-6)
A field based learning experience in the student's area of expertise conducted at a nationally recognized theatre venue. The internship appointment is secured by the student with the consent and supervision of a faculty advisor. May be repeated to a maximum of 12 hours. Prereq: Completion of course requirements in Ph.D. program, consent of instructor, and filing of prospectus.

TA 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

TA 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of 6 semesters. Prereq: Registration for 2 full-time semesters of TA 769 following successful completion of qualifying examination.

TA 760 THEATRE PRACTICE: EFFECTIVE ARTISTIC COMMUNICATION. (3)
This course is designed to foster collaboration among members of the artistic team, examine each member's role, and develop communication skills through practical application. Prereq: Graduate standing in Theatre.

TA 768 RESIDENCE CREDIT FOR MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 credits.

TA 769 RESIDENCE CREDIT. (0-12)
Residence Credit for the Doctoral Degree. May be repeated indefinitely.

TA 770 SEMINAR IN THEATRE: (Subtitle required). (3)
Intensive study in a designated area of theatre. Subtitle required. May be repeated to a maximum of nine hours when identified under different subtitles. Prereq: Graduate standing in Theatre.

TA 771 ADVANCED STUDIES IN THEATRE HISTORY: (Subtitle required). (3)
Seminar designed to provide extensive reading and research over historical issues relating to dramatic literature and theatre practices of a designated period. May be repeated to a maximum of six credits when identified by different subtitles. Prereq: Graduate Standing in Theatre.

TA 780 INDEPENDENT STUDY IN THEATRE. (1-3)
Study and research on specific topics and problems according to the interests and needs of individual students. Normally offered as an independent work course. May be repeated to a maximum of six credits.

TA 790 RESEARCH SYMPOSIUM. (0-1)
This course is a forum for doctoral students to present current research projects. Students in the M.A. program may register for 0 credit. May be repeated to a maximum of three credits. Prereq: Graduate Standing in Theatre.

TAD Dance

TAD 140 INTRODUCTION TO DANCE. (3)
This course will provide students with an introduction to the history, theory and principles of dance as a cultural and aesthetic form of expression. The class will provide students with fundamentals of movement while providing an opportunity to express themselves creatively through the use of improvisation, composition, and choreography. Creative results of these explorations will be shown as part of a public performance at the end of the semester.

TAD 141 MODERN DANCE I. (2)
Foundations course in basic movement concepts of time, space, and energy, emphasizing technical development and creative exploration.

TAD 142 BALLET I. (2)
Fundamentals of ballet technique designed to acquaint students with the dance form's basic principles, through exercises at the barre, center work, and movement combinations. Students will learn to observe, analyze, and perform classical ballet movements and acquire fundamental understanding of vocabulary, theory, and aesthetics of the art form.

TAD 143 JAZZ DANCE I. (2)
Study of the technique and choreography of jazz dance genre from the early 20th century to present.

TAD 147 BEGINNING MUSICAL THEATRE DANCE. (2)
Beginning Musical Theatre Dance will provide students with a basic understanding of theatre dance fundamentals, styles and history. Students will gain a basic knowledge of fundamental dance technique. Utilizing vocabulary from ballet to jazz styles, students will hone basic dance skills and be exposed to a variety of theatre dance styles and "period" dances (relating to specific eras in dance history), and gain understanding of the basic framework of theatre dance history, including notable choreographers, innovations, styles and shows.

TAD 241 MODERN DANCE II. (2)
A continuation of Modern Dance I. Expands technique and theory through increasingly complex combinations and movement analysis, and introduces new technical vocabulary, style, and presentation. Prereq: TAD 141.

TAD 242 BALLET II. (2)
A continuation of Ballet I, with extended technical and artistic ballet skills and the use of increasingly complex combinations, technical vocabulary, and emphasis on style and presentation. Prereq: TAD 142.

TAD 243 JAZZ DANCE II. (2)
Intermediate jazz dance emphasizing contemporary techniques and styles. Prereq: TAD 143 and permission of instructor.

TAD 244 DANCE IMPROVISATION. (1)
This course will investigate essential elements of dance composition (time, space and energy) to create dances in, and of, the moment. Students will cultivate individual and ensemble awareness, and enhance their performance skills at the introductory level. Prereq: TAD 141 and permission of instructor.

TAD 245 CHOREOGRAPHY. (2)
This course explores the process of making dances, and studies the elements of dance composition, including the development of solo and group studies for class presentation. Prereq: TAD 141 or permission of instructor.

TAD 345 CHOREOGRAPHY II. (2)
Choreography II is a course designed to continue to develop choreographic tools in duets and small groups in various dance genres. Focus is on structuring sophisticated choreographic works. Emphasis is placed on different kinds of creative processes and relationships between dancers. Prereq: TAD 245.

TAD 347 ADVANCED MUSICAL THEATRE DANCE. (2)
An in-depth approach to Musical Theatre Dance, this course emphasizes technical and artistic skills based on a foundation of correct body alignment, movement isolation, rhythmic awareness, musicality, intermediate to advanced vocabulary, auditioning and performance focus, strength, stamina, and flexibility at the intermediate/advanced level. Dynamic range of Musical Theatre influences ranging from 19th century to present will be explored. Prereq: TAD 147.

TAD 370 DANCE HISTORY. (3)
The study of the evolution of dance through the cultural periods of history and the interrelation of the arts of social structure and dance forms.

TAD 392 DANCE ENSEMBLE PRACTICUM. (1)
The study and practice of dance production and performance through rehearsal and performance of Dance Ensemble concerts and workshops. May be repeated up to 8 credit hours.

TAD 447 STUDIES IN DANCE: (Subtitle required). (2)
Exploration and study of a particular style and/or genre of dance technique. Prereq: Permission of instructor.

TOX Toxicology

#TOX 350 INTERDISCIPLINARY FORENSIC SCIENCES. (3)
This course broadly introduces the interdisciplinary field of Forensic Science. The class will survey the areas of (i) legal/scientific considerations in evidence collection, (ii) physico-chemical, biological-medical, computational, and sociological methods in evidence analysis and (iii) the professional and social implications of the application of these methods. Students will research, evaluate, and present information on, and lead discussion about, how the proper exercise of Forensic Science relates to representations of this discipline in popular media. Prereq: BIO 148 (lecture) + BIO 155 (lab) and CHE 105 (or by permission of the instructor).

#TOX 409G TOXICOLOGY AND HUMAN HEALTH. (3)
Principles of Toxicology is a course for students in the biological and health sciences and others interested in understanding the major principles of toxicology and the consequences of toxins on human health and the environment. The course describes how different organs in the body respond to and biochemically metabolize toxins, the wide range of toxic agents present in the environment from pesticides to radiation, how the genome is effected by exposures, and special problems in toxicology that effect the world. Prereq: CHE 105 and 107 or equivalent general chemistry, BIO 148 and 152 or equivalent introductory biology, CHE 230 and 232 or equivalent organic chemistry.

TOX 508 RESEARCH METHODS IN TOXICOLOGY. (1-3)
The course provides students with 'hands on' experience in research methods used to solve toxicological problems. Students will be under the direction of a GCT faculty member, who will supervise the student's efforts on a research project. The student will be trained not only in the 'hands on' techniques but also in how to independently design and interpret research experiments. Students will prepare a final report on their research project, which will be designed to provide instruction and training in preparing 'publication-style' research reports. This course is distinct from 'topical seminar' or 'library survey' courses, since such courses are not 'hands on' in experimental methods. May be repeated to a maximum of six credits. Laboratory, two-six hours per week. Prereq: Status as upperclass undergraduate, post bac, or graduate student.

***TOX 509 ENVIRONMENTAL AND REGULATORY TOXICOLOGY. (2)**
Presentation of basic and advanced concepts to provide an integrated description of toxicology, its scope, the unique application of principles that characterize it as a science, and its professional practice. Emphases will include an extensive treatment of relationships between toxicology and environmental exposures and the influence of federal regulations on the practice of toxicology. Prereq: BCH 501 or BCH 401G or other equivalent or consent of instructor.

TOX 560 ENVIRONMENTAL PHYSIOLOGY AND TOXICOLOGY. (4)
Emphasis will be placed on the physiological and toxicological effects of chemicals on natural biota, including considerations at cellular, organismal, population, and community levels. This will include assimilation and metabolism of pollutants by animal species, with emphasis upon biochemical and physiological mechanisms involved in stress-induced responses and stress reduction. Additional areas of concern will include the transport, fate, and effects of chemical stressors on structure and function of biotic communities and will include introductions to ecotoxicology and environmental regulatory strategies. Prereq: CHE 105, CHE 107, BIO 150, BIO 153 and BIO 315 or BIO 350 or PGY 502 or equivalents or consent of instructor. (Same as PLS 560.)

TOX 600 ETHICS IN SCIENTIFIC RESEARCH. (1-2)
The course will commence with an overview of good laboratory practices and present them as the basis of good scientific research, along with an overview of quality assurance and appropriate practices in data analysis and data interpretation. The course will then move to the ethics of human and animal experimentation and discuss the concepts of data and intellectual property, their ownership and access to them. The problems of reviewing other workers' intellectual property such as grant applications, research papers and other intellectual property will be addressed. Prereq: Research experiences; consent of instructor. (Same as VS 600.)

TOX 649 ADVANCED MOLECULAR PHARMACOLOGY. (2)
This course will provide in-depth coverage of the molecular pharmacology of growth factors, transcription factors, receptors, and ion channels. Emphasis will be placed on both the normal functions of these cell-signaling molecules and perturbations that result in several prevalent human diseases, including cancer, Alzheimer's, diabetes, osteoporosis, and inherited human illnesses. Students will be introduced to experimental approaches to diagnosing and treating these illnesses in the light of our evolving knowledge of molecular pharmacology. Prereq: IBS 601-606 or consent of instructor. (Same as PHA/PHR 649.)

TOX 670 CHEMICAL CARCINOGENESIS. (3)
Lectures and discussion of the chemical and biochemical reactions of chemical carcinogens and their metabolites. Prereq: CHE 232; PHR 400; or BCH 501, 502. (Same as PHA 670.)

***TOX 680 MOLECULAR TOXICOLOGY AND CARCINOGENESIS. (3)**
An intensive examination of 1) the key molecular and cellular mechanisms related to toxicity and carcinogenesis, and 2) the established relationships between exposures to toxicants and development of cancer and other human diseases. Prereq: TOX 509, TOX 663 or consent of Director of Graduate Studies.

TOX 690 PRACTICAL ANALYTICAL TOXICOLOGY. (3)
An evaluation of techniques for the isolation, identification, and quantitation of drugs, pesticides and other toxicants in biological samples. Concepts and theory will be presented in the lecture portion, while the laboratory will be devoted to actual sample analysis by the students. Lecture, 1 hour; laboratory, six hours. Prereq: Consent of the instructor and graduate standing in toxicology. (Same as VS 690.)

TOX 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

TOX 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

TOX 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

TOX 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
May be repeated to a maximum of 12 hours.

TOX 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

TOX 770 TOXICOLOGY SEMINAR. (0-2)
A specialized seminar focusing on current topics of toxicological significance. Registration each fall and spring semester required of all toxicology majors until residency requirements for the degree have been completed. May be repeated to a maximum of three times during a semester and for a maximum number of two credits during entire graduate course work.

TOX 780 SPECIAL PROBLEMS IN TOXICOLOGY. (2)
Exposure to and actual research experience in an area of toxicology other than that encountered by students in their thesis and dissertation research. May be repeated to a maximum of six credits. Prereq: Consent of graduate adviser.

***TOX 790 RESEARCH IN TOXICOLOGY. (1-4)**

TSL Teaching English as a Second Language

TSL 560 LITERACY DEVELOPMENT IN THE ESL CLASSROOM. (3)
This course is designed to introduce students to theory, research and teaching applications of second language literacy development in the ESL classroom. This is a field-based course and students will study current teaching methods of literacy instruction and apply those ideas in a practicum ESL classroom.

TSL 597 ESL TEACHING PRACTICUM. (3)
This course provides students with a supervised ESL teaching experience of 45 hours, and an additional 15 hours of course meetings with the supervisor to explore instructional strategies, classroom management issues and reflect upon their own development as teachers. The course is designed as the culmination of the TESL Graduate Certificate, and can be taken in the fall, spring or summer terms. ESL teaching placements must be approved by the course instructor. Prereq: Students must be enrolled in the TESL Graduate Certificate course of study.

TSL 675 ENGLISH GRAMMAR: ANALYSIS AND PEDAGOGY. (3)
This course is designed to deepen students' explicit understanding of English grammar, with particular attention paid to grammatical structures most challenging for English language learners. The course explores the development of learner language, with a primary focus on the development of English grammatical competence. Issues in the teaching of English grammar are studied and applied to ESL teaching techniques and curriculum.

TSL 697 ESL INTERNSHIP. (3-9)
This course provides TESL MA students with a supervised ESL teaching experience of 90 hours, and an additional 15 hours of course meetings with the supervisor to explore instructional strategies, classroom management issues and reflection upon their development as ESL teachers. The course is designed as the culmination of the TESL MA program, and can be taken as a variable credit course (3 – 9 credits) in the fall, spring or summer terms. In order to fulfill the program internship requirements, a total of 9 credits must be completed. Prereq: Student must be in good standing in the TESL MA program.

TSM Technical Systems Management

#TSM 220 PRINCIPLES OF INTERNAL COMBUSTION ENGINES. (3)
Principles of selection of internal combustion engines. Operating principles of internal combustion engines including fuel injection, ignition, lubrication and maintenance. Power transmission application and efficiency are considered. Lecture, two hours per week; lab, two hours per week. (Same as AEN 220.)

#TSM 252 FABRICATION AND CONSTRUCTION FOR TECHNICAL SYSTEMS. (3)
Lecture, 1 hour; laboratory 4 hours. Wood and metal work, including reading engineering drawings, welding, power woodworking tools, soldering and pipe work. Prereq: Major in agricultural education, or Individualized Agriculture Curriculum (TSM), or a minor in TSM, or consent of instructor. (Same as AEN 252.)

#TSM 340 PRINCIPLES OF FOOD ENGINEERING. (4)
The functional requirements and principles of operation of systems for the handling and processing of food and agricultural products are studied. The areas covered are mass and energy balances, fluid mechanics, heat transfer, refrigeration, food freezing, evaporation, drying and special topics such as extrusion and microwave heating. Prereq: Junior standing and completion of PHY 211 and MA 123 or MA 113 or MA 137 in Food Science curriculum. (Same as AEN 340.)

#TSM 461G BIOMETEOROLOGY. (3)
An introduction to the impact and relationship of the atmosphere on living organisms. Emphasis on the practical application of meteorology to everyday problems within the biosphere. Weather analysis, interpretation, psychometrics of the atmosphere, and the impact of weather and climate on animals, plants and man are discussed. Lecture, two hours; laboratory, two hours per week. Prereq: Junior, Senior, or Graduate standing. (Same as AEN 461G.)

UK University Wide

UK 090 DEVELOPMENTAL UNIVERSITY COURSE (Title to be assigned). (1-3)
This course allows offering of developmental topics to assist students to reach proficiency in an academic area prior to taking credit-bearing courses. This course is not available for degree credit towards a bachelor's degree. Each proposal must be approved by the Associate Provost for Undergraduate Education. A particular title may be offered no more than twice, after which a permanent course should be developed. Prereq: To be determined by the instructor.

UK 100 UNIVERSITY COURSE (Title to be assigned). (1-3)
This course permits the offering at the introductory level of special courses of an interdisciplinary, topical, or experimental nature. Each proposal must be approved by the Associate Provost for Undergraduate Education. A particular title may be offered at most twice under the UK 100 number. Students may not repeat under the same title. Prereq: Will be set by instructor.

UK 101 ACADEMIC ORIENTATION. (1-2)
This course is designed to assist undergraduates in adjusting to the academic life of the University. Through lectures, discussions, exercises, and out-of-class assignments, UK 101 helps first-year students: articulate the purpose and nature of a college education at a research university; articulate UK's expectations of its students; gain an appreciation of the University's mission, history, and traditions; develop skills for achieving academic success such as study strategies and library research skills; increase awareness and use of campus resources; reflect on personal and social issues that first-year students often face in a college environment; become involved in the total life of the University; and form beneficial relationships with students, faculty, and staff.

UK 110 PASS/FAIL UNIVERSITY COURSE (Title to be assigned). (1-3)
This course permits the offering at the introductory level of special courses of an interdisciplinary, topical, or experimental nature. Each proposal must be approved by the Associate

KEY: # = new course * = course changed † = course dropped

Provost for Undergraduate Education. A particular title may be offered at most twice under the UK 100 number. Students may not repeat under the same title. Prereq: Will be set by instructor.

#UK 150 CAREER AND MAJOR EXPLORATION (Subtitle required). (1)
This course is designed to provide a basic structure for first- or second-year undergraduate students to discover career options based on interests and skills. Students will use self-exploration tools, speak with professionals in various industries, develop a resume, conduct informational interviews and produce a personal career action plan. Knowledge gained in this course will provide the structure to modify the plan as the student's interests may change over time.

UK 201 ACADEMIC ORIENTATION FOR TRANSFERS. (1)
This course is designed to assist transfer students in adjusting to the academic life at the University of Kentucky. Through lectures, discussions, exercises and out-of-class assignments, transfers will gain a better understanding of the challenges which they will encounter and, thus, will learn how to make effective use of the University's resources. Considerable attention will be directed to career planning and to the choice of a major. Offered on a pass/fail basis only. Lecture, two hours per week for seven weeks.

UK 300 UNIVERSITY COURSE (Title to be assigned). (1-3)
This course permits the offering of special courses of an interdisciplinary, topical, or experimental nature. Each proposal must be approved by the Associate Provost for Undergraduate Education. A particular title may be offered at most twice under the UK 300 number. Students may not repeat under the same title. Prereq: Will be set by instructor.

UK 301 CROSS-CULTURAL STUDIES (Subtitle required). (3)
A study of a non-Western or Third World culture (or cultures) through an examination of its cultural, artistic, social, political, economic or religious traditions. The particular culture(s) to be studied and the approach to be adopted will be determined by the instructor. Each course proposal must be approved by the Associate Provost for Undergraduate Education and students may not repeat the course under the same subtitle. May be repeated to a maximum of nine credits.

UKC UK Core Curriculum

UKC 100-109 INQUIRY IN ARTS AND CREATIVITY (Subtitle required). (3)
An inquiry-based, experimental course which may be used toward fulfillment of the arts and creativity requirement in the UK Core curriculum. All proposals must demonstrate that the course provides an environment for substantive, meaningful inquiry and must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 110-119 INQUIRY IN HUMANITIES (Subtitle required). (3)
An inquiry-based, experimental course which may be used toward fulfillment of the humanities requirement in the UK Core curriculum. All proposals must demonstrate that the course provides an environment for substantive, meaningful inquiry and must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 120-129 INQUIRY IN NATURAL/ PHYSICAL/MATHEMATICAL SCIENCES (Subtitle required). (3)
An inquiry-based, experimental course which may be used toward fulfillment of the natural/physical/mathematical science requirement in the UK Core curriculum. All proposals must demonstrate that the course provides an environment for substantive, meaningful inquiry and must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 130-139 INQUIRY IN SOCIAL SCIENCES (Subtitle required). (3)
An inquiry-based, experimental course which may be used toward fulfillment of the social science requirement in the UK Core curriculum. All proposals must demonstrate that the course provides an environment for substantive, meaningful inquiry and must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 140-149 COMPOSITION AND COMMUNICATION I: (Subtitle required). (3)
An experimental course which may be used toward fulfillment of the composition and communication I requirement in the UK Core curriculum. All proposals must demonstrate that the course engages students in composing and communicating ideas using speech, writing, and visuals in an active learning environment. Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 150-159 COMPOSITION AND COMMUNICATION II (Subtitle required). (3)
An experimental course which may be used toward fulfillment of the composition and communication II requirement in the UK Core curriculum. All proposals must demonstrate that the course engages students in composing and communicating ideas using speech, writing, and visuals in an active learning environment. Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 160-169 QUANTITATIVE FOUNDATIONS (Subtitle required). (3)
An experimental course which may be used toward fulfillment of the quantitative foundations requirement in the UK Core curriculum. All proposals must demonstrate that the course has an applications-driven, problem-solving focus, with particular attention to problems of potential real-life relevance. Students should be actively engaged in modeling and problem-solving. Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 170-179 STATISTICAL INFERENTIAL REASONING (Subtitle required). (3)
An experimental course which may be used toward fulfillment of the statistical inferential reasoning requirement in the UK Core curriculum. All proposals must demonstrate that the course is focused on the student's ability to evaluate the efficacy of claims based on statistical constructs and to understand and articulate important risks that these claims often address, using statistical reasoning and human inference. Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 180-189 U.S. CITIZENSHIP, DIVERSITY, COMMUNITY (Subtitle required). (3)
An experimental course which may be used toward fulfillment of the US citizenship, diversity and community requirement in the UK Core curriculum. Proposals must show the course provides a foundation for effective and responsible participation in a diverse society by preparing students to make informed choices in the complex or unpredictable cultural contexts that can arise in U.S. communities. Proposal must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 190-199 GLOBAL DYNAMICS (Subtitle required). (3)
An experimental course which may be used toward fulfillment of the global dynamics requirement in the UK Core curriculum. Proposals must show how the course focuses on the student's civic role and place in the world and the dynamic interaction between locale (place and people) and global processes (international and transnational). Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 300-309 INQUIRY IN ARTS AND CREATIVITY UPPER DIVISION (Subtitle required). (3)
An upper-division, inquiry-based, experimental course which may be used toward fulfillment of the arts and creativity requirement in the UK Core curriculum. All proposals must demonstrate that the course provides an environment for substantive, meaningful inquiry and must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 310-319 INQUIRY IN HUMANITIES UPPER DIVISION (Subtitle required). (3)
An upper division, inquiry-based, experimental course which may be used toward fulfillment of the humanities requirement in the UK Core curriculum. All proposals must demonstrate that the course provides an environment for substantive, meaningful inquiry and must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 320-329 INQUIRY IN NATURAL/PHYSICAL/ MATHEMATICAL SCIENCES UPPER DIVSION (Subtitle required). (3)
An upper division, inquiry-based, experimental course which may be used toward fulfillment of the natural/physical/mathematical science requirement in the UK Core curriculum. All proposals must demonstrate that the course provides an environment for substantive, meaningful inquiry and must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 330-339 INQUIRY IN SOCIAL SCIENCES UPPER DIVISION (Subtitle required). (3)
An upper-division, inquiry-based, experimental course which may be used toward fulfillment of the social science requirement in the UK Core curriculum. All proposals must demonstrate that the course provides an environment for substantive, meaningful inquiry and must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 340-349 COMPOSITION AND COMMUNICATION I UPPER DIVISION (Subtitle required). (3)
An upper-division, experimental course which may be used toward fulfillment of the composition and communication I requirement in the UK Core curriculum. All proposals must demonstrate that the course engages students in composing and communicating ideas using speech, writing, and visuals in an active learning environment. Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 350-359 COMPOSITION AND COMMUNICATION II UPPER DIVISION (Subtitle required). (3)
An upper-division, experimental course which may be used toward fulfillment of the composition and communication II requirement in the UK Core curriculum. All proposals must

demonstrate that the course engages students in composing and communicating ideas using speech, writing, and visuals in an active learning environment. Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 360-369 QUANTITATIVE FOUNDATIONS (Subtitle required). (3)
An upper-division experimental course which may be used toward fulfillment of the quantitative foundations requirement in the UK Core curriculum. All proposals must demonstrate that the course has an applications-driven, problem solving focus, with particular attention to problems of potential 'real-life' relevance. Students should be actively engaged in modeling and problem-solving. Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 370-379 STATISTICAL INFERENTIAL REASONING UPPER DIVISION (Subtitle required). (3)
An upper-division experimental course which may be used toward fulfillment of the statistical inferential reasoning requirement in the UK Core curriculum. All proposals must demonstrate that the course is focused on the student's ability to evaluate the efficacy of claims based on statistical constructs and to understand and articulate important risks that these claims often address, using statistical reasoning and human inference. Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 380-389 U.S. CITIZENSHIP, DIVERSITY, COMMUNITY UPPER DIVISION (Subtitle required). (3)
An upper-division experimental course which may be used toward fulfillment of the US citizenship, diversity and community requirement in the UK Core curriculum. Proposals must show the course provides a foundation for effective and responsible participation in a diverse society by preparing students to make informed choices in the complex or unpredictable cultural contexts that can arise in U.S. communities. Proposal must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

UKC 390-399 GLOBAL DYNAMICS UPPER DIVISION (Subtitle required). (3)
An upper-division experimental course which may be used toward fulfillment of the global dynamics requirement in the UK Core curriculum. Proposals must show how the course focuses on the student's civic role and place in the world and the dynamic interaction between locale (place and people) and global processes (international and transnational). Proposals must be approved by the Associate Provost for Undergraduate Education. Students may not repeat under the same subtitle. May be repeated up to a maximum of 6 credits under a different subtitle.

USP University Studies Program

USP 100-109 NATURAL SCIENCES (Subtitle required). (3)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the natural science requirement in the University Studies Program. Each proposal must include the discipline in which the course is being offered and the options available to the student to complete the USP natural science requirement. Each proposal must be approved by the Associate Provost for Undergraduate Education.

USP 110-119 SOCIAL SCIENCES (Subtitle required). (3)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the social science requirement in the University Studies Program. Each proposal must include the discipline in which the course is being offered and the options available to the student to complete the USP social science requirement. Each proposal must be approved by the Associate Provost for Undergraduate Education.

USP 120-149 HUMANITIES (Subtitle required). (3)
An introductory course of an interdisciplinary, topical, or experimental nature which may be used toward partial fulfillment of the humanities requirement in the University Studies Program. Each proposal must include the discipline in which the course is being offered and the options available to the student to complete the USP humanities requirement. Each proposal must be approved by the Associate Provost for Undergraduate Education.

VS Veterinary Science

VS 307 GENETICS OF HORSES. (3)
This course covers the basic principles of genetics and genomics with specific applications to the horse including evolution, coat color genetics, hereditary diseases, cytogenetics, genetics of performance, pedigree studies, population genetics of horse breeds and the genetic relationship among members of the order Perissodactyla. Prereq: BIO 148, BIO 152, CHE 107, CHE 113 or consent of instructor.

VS 350 INTRODUCTORY ANATOMY, PHYSIOLOGY, AND ANIMAL HYGIENE. (3)
A study of anatomy and physiology as related to courses in livestock production, judging, nutrition, meats and diseases, and introduction to the basic mechanism of animal disease and the relationship of animal hygiene.

VS 351 PRINCIPLES OF ANIMAL HYGIENE AND DISEASE CONTROL. (3)
A study of animal sanitation and disease control management. The course will acquaint students with the more important infectious, toxic, metabolic and parasitic diseases of domestic animals and will emphasize preventive concepts.

VS 395 SPECIAL PROBLEMS IN VETERINARY SCIENCE. (1-4)
Prereq: VS 350, 351, and consent of instructor. May be repeated to a maximum of six credits.

VS 500 ADVANCED EQUINE REPRODUCTION. (3)
A study of reproductive anatomy and physiology of the horse with emphasis on normal and abnormal reproductive function in this species. Normal reproductive management and diseases affecting the reproductive system will be considered in detail. Prereq: ASC 364.

#VS 597 SPECIAL TOPICS IN VETERINARY SCIENCE. (1-3)
Special topical or experimental courses in Veterinary Science for graduate and advanced undergraduate students. Special subtitle required and must be approved by the chair of Veterinary Science. Students may not repeat under the same subtitle. Prereq: Determined by instructor.

VS 600 ETHICS IN SCIENTIFIC RESEARCH. (1-2)
The course will commence with an overview of good laboratory practices and present them as the basis of good scientific research, along with an overview of quality assurance and appropriate practices in data analysis and data interpretation. The course will then move to the ethics of human and animal experimentation and discuss the concepts of data and intellectual property, their ownership and access to them. The problems of reviewing other workers' intellectual property such as grant applications, research papers and other intellectual property will be addressed. Prereq: Research experiences; consent of instructor. (Same as TOX 600.)

VS 690 PRACTICAL ANALYTICAL TOXICOLOGY. (3)
An evaluation of techniques for the isolation, identification, and quantitation of drugs, pesticides and other toxicants in biological samples. Concepts and theory will be presented in the lecture portion, while the laboratory will be devoted to actual sample analysis by the students. Lecture, 1 hour; laboratory, six hours. Prereq: Consent of the instructor and graduate standing in toxicology. (Same as TOX 690.)

VS 748 MASTER'S THESIS RESEARCH. (0)
Half-time to full-time work on thesis. May be repeated to a maximum of six semesters. Prereq: All course work toward the degree must be completed.

VS 749 DISSERTATION RESEARCH. (0)
Half-time to full-time work on dissertation. May be repeated to a maximum of six semesters. Prereq: Registration for two full-time semesters of 769 residence credit following the successful completion of the qualifying exams.

VS 767 DISSERTATION RESIDENCY CREDIT. (2)
Residency credit for dissertation research after the qualifying examination. Students may register for this course in the semester of the qualifying examination. A minimum of two semesters are required as well as continuous enrollment (Fall and Spring) until the dissertation is completed and defended.

VS 768 RESIDENCE CREDIT FOR THE MASTER'S DEGREE. (1-6)
Residence credit while completing research and writing thesis. Prereq: Completion of course requirements for the MS. May be repeated to a maximum of 12 hours.

VS 769 RESIDENCE CREDIT FOR THE DOCTOR'S DEGREE. (0-12)
May be repeated indefinitely.

VS 770 VETERINARY SCIENCE SEMINAR. (1)
Required of graduate students in veterinary science. May be repeated to a maximum of six credits. Prereq: Consent of staff.

VS 777 CURRENT LITERATURE IN EQUINE REPRODUCTION. (1)
Advanced study of current topics in equine reproduction. The course is comprised of student-led discussions based upon readings taken from current and classic literature in the discipline. Emphasis will be placed on the critical analysis and understanding of the experimental basis for current concepts in equine reproduction.

VS 781 CORRELATIVE PATHOLOGY. (1-3)
Supervised experience in the use of clinical, gross and histopathological technics in the differential and definitive diagnosis of diseases. May be repeated to a maximum of nine credits. Prereq: Pathology in D.V.M. curriculum or equivalent and consent of staff.

VS 782 ADVANCED VIROLOGY. (3)
Current trends in virology. Typical topics include DNA tumor viruses, RNA tumor viruses, persistent virus infections, and interference. Emphases of molecular mechanisms. Prereq: BIO 582. Adequate biochemistry and genetics strongly recommended, or consent of instructor. (Same as BIO 782.)

VS 785 ADVANCED VETERINARY PARASITOLOGY. (3)
Experimental methodology and host-parasite relationships of the protozoan and helminth parasites of domestic animals. Prereq: Parasitology in D.V.M. curriculum or equivalent and approval of staff.

VS 786 ADVANCED VETERINARY PATHOLOGY. (3)
Specialized instruction in techniques and interpretations of pathology and pathologic anatomy. Emphasis will be upon evaluation of lesions for understanding the pathogenesis of disease

processes in the living animal. Prereq: Pathology in D.V.M. curriculum or equivalent and approval of staff.

VS 791 TECHNIQUES IN VETERINARY MICROBIOLOGY. (1-9)
Independent research in veterinary microbiology. May be repeated to a maximum of 24 credits. Prereq: Consent of staff.

VS 792 TECHNIQUES IN GENERAL VETERINARY PATHOLOGY. (1-9)
Independent research in veterinary pathology. May be repeated to a maximum of 24 credits. Prereq: Consent of staff.

WRD Writing, Rhetoric and Digital Media

WRD 110 COMPOSITION AND COMMUNICATION I. (3)
Composition and Communication I is the introductory course in a two-course sequence designed to engage students in composing and communicating ideas using speech, writing, and visuals. Students will develop interpersonal communication, critical thinking, and information literacy skills by exploring what it means to be engaged, twenty-first century citizens. Students will practice composing, critiquing, and revising ideas based on personal experience, observation, and fieldwork in the community, culminating in several discrete projects using oral, written, and visual modalities.

WRD 111 COMPOSITION AND COMMUNICATION II. (3)
Composition and Communication II is the second of two general education courses focused on integrated oral, written, and visual communication skill development emphasizing critical inquiry and research. In this course, students will explore issues of public concern using rhetorical analysis, engage in deliberation over those issues, and ultimately propose solutions based on well-developed arguments. Students will sharpen their ability to conduct research; compose and communicate in written, oral, and visual modalities; and work effectively in groups (dyads and small groups). A significant component of the class will consist of learning to use visual and digital resources, first to enhance written and oral presentations and later to communicate mass mediated messages to various public audiences. Over the course of the semester, class members can expect to work independently, with a partner, and in a small group (team) to investigate, share findings, and compose and deliver presentations, as well as to practice and evaluate interpersonal and team dynamics in action. Prereq: CIS 110 or WRD 110.

WRD 112 ACCELERATED COMPOSITION AND COMMUNICATION II (WRD). (3)
WRD 112 is an accelerated version of the Composition & Communication II UK Core requirement. WRD 112 focuses on integrated oral, written, and visual communication skill development and emphasizes critical inquiry and research. Students will sharpen their ability to conduct research; compose and communicate in written, oral, and visual modalities; and use interpersonal skills to work effectively in groups. Prereq: AP English Composition score of 4 or 5, an ACT English score of 32 or higher, an SAT verbal score of 720 or higher, or acceptance into the University's Honors Program.

WRD 130 INTRODUCTORY WORKSHOP (Subtitle required). (1-3)
Flexible course hours that supplement an existing course or provide introductory training in a particular area of writing, rhetoric, or digital studies. This workshop class focuses on the visual aspect of digital communication skills. Students will create visuals to explore identities, tell stories, and interpret information. May be taken a maximum of 6 credit hours under different subtitles.

WRD 203 BUSINESS WRITING. (3)
Instruction and experience in writing for business, industry, and government. Emphasis on clarity, conciseness, and effectiveness in preparing letters, memos, and reports for specific audiences. Prereq: Completion of University Writing requirement or new general education Communications (6 hour) sequence.

WRD 204 TECHNICAL WRITING. (3)
Instruction and experience in writing for science and technology. Emphasis on clarity, conciseness, and effectiveness in preparing letters, memos, and reports for specific audiences. Prereq: Completion of University Writing requirement.

WRD 205 WRITING AND RHETORIC (Subtitle required). (3)
An open topics writing course focused on rhetorical analysis of issues of academic, political, social, or cultural significance. Students will interpret, analyze, and evaluate rhetorical strategies employed in print and digital texts. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 208 MULTIMEDIA WRITING. (3)
This course develops a practical understanding of writing and rhetoric through multimedia platforms and artifacts. Students will produce and publish to the web in a range of media such as digital video and photography, blogs, wikis, podcasts, and comics. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 210 SOCIAL MEDIA: THEORY, CULTURE, POLITICS, PRACTICE. (3)
The course examines how social media and the writing practices we employ influence notions of what it means to participate in community, society, and public discourse. Students will compose across different social media platforms and explore theoretical literature to examine the ways these tools are evolving. Prereq: Completion of Composition and Communication requirement or consent of instructor.

#WRD 225 CRAFT WRITING. (3)
Instruction and practice in writing for the food and beverage industry. Emphasis on the history and culture of the craft beer industry and common practices in written and digital communication, argumentation and persuasion, narrative, and engagement with social media. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 300 INTRODUCTION TO WRITING, RHETORIC, AND DIGITAL STUDIES. (3)
This course introduces students to the theory of rhetoric and composition. Students may examine the theoretical, ethical, and stylistic issues connected to writing in various rhetorical situations, including digital environments. The course forms a theoretical foundation for all other WRD courses and is required for all WRD majors. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 301 STYLE FOR WRITERS. (3)
This course is designed for those who wish to improve their own writing style or the style of others. While the course may include some account of historical changes in prose style and require some stylistic analysis of literary texts, the emphasis is on editing contemporary prose, both in exercises and in the students' own writing. Students will learn and practice principles such as economy, coordination, subordination, precision, parallelism, balance, coherence, rhythm, clarity, and grace. Provides ENG Major Elective credit and ENG minor credit. Prereq: Completion of UK Core Composition and Communication I-II requirement or equivalent. (Same as ENG 301.)

WRD 302 THE ESSAY. (3)
Intensive writing and reading in the genre of the essay. The course will explore the conventions of the essay and may analyze historical changes in the genre or survey well-known essayists such as Montaigne and Woolf. Students will write essays and analyze the stylistic choices of professional essayists in order to inform their own writing in the genre. Prereq: Completion of Composition and Communication requirement and consent of instructor.

#WRD 304 WRITING IN THE SOCIAL SCIENCES. (3)
Instruction and practice with the major genres and argumentative structures of writing in the social sciences. Special emphasis on – and practice with – the written norms that shape disciplinary knowledge in social scientific fields. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 306 INTRODUCTION TO PROFESSIONS IN WRITING. (3)
This course offers an introduction to and preparation for careers in the teaching of writing, professional writing, publishing, and editing. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 308 VISUAL RHETORIC. (3)
This course introduces visual rhetoric, covering its history, current practice, and possible futures. Utilizing the disciplinary tools of rhetoric, students will compose in textual and visual modes, learning a variety of methods with which to create and critique visuals. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 311 HISTORY OF THE DOCUMENTARY. (3)
This course is designed to trace the evolution of the documentary film. Although the emphasis will be on the development of the American documentary, students will also be looking into contributions from across the world. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 312 INTRODUCTION TO DOCUMENTARY. (3)
This course is dedicated to critical examination of approaches to the documentary, and the construction of a documentary of one's own. Students will examine different strategies, structures, and topics, with an eye to production. Prereq: Completion of Composition and Communication requirement and consent of instructor.

WRD 320 RHETORICAL THEORY AND HISTORY. (3)
This course introduces students to the scholarly study of rhetoric by exploring the interrelationship of theory, criticism, and practice within a particular historical context. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 322 RHETORIC AND ARGUMENT. (3)
This course examines theories of rhetorical argument. Students read rhetorical theorists who speculate about what makes certain speech persuasive, as well as contemporary rhetoricians who are actually creating persuasive written and oral texts. Students use these theories to analyze and construct original arguments. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 324 WRITING CENTER PEER TUTORING. (3)
An undergraduate seminar that prepares qualified undergraduate students to become engaged and effective peer consultants in the UK Writing Center. Students in the course are actively involved in reading, writing, listening, observing, speaking, researching, and presenting as they become immersed in the theory and practice of Writing Center consulting. Prereq: Completion of Composition and Communication requirement and consent of instructor.

WRD 395 INDEPENDENT STUDY. (1-3)
For undergraduate majors in WRD with a standing of 3.0 in the major and permission of the Director of Undergraduate Studies. Each student pursues a course independently under the

guidance of a faculty member and produces at least one major project. Prereq: Standing of 3.0 in the major and permission of the Director of Undergraduate Studies.

WRD 399 INTERNSHIP. (1-6)
Internship in the community that brings together the student's critical and practical knowledge of writing, rhetoric, or digital media. In addition to evaluation by the internship supervisor for the course grade, the students will produce a reflective research project that may be presented in an annual public research forum. Repeatable up to 6 hours. Prereq: Completion of Composition and Communication requirement and consent of Internship Supervisor.

WRD 401 SPECIAL TOPICS IN WRITING (Subtitle required). (3)
Studies of special topics in writing, in areas such as literary nonfiction (essays), responding to literature, cultural critique, and composing law and justice. Topics announced the preceding semester. May be repeated under different subtitles to a maximum of six credits. Prereq: Completion of UK Core Composition and Communication I-II requirement and consent of instructor. (Same as ENG 401.)

WRD 402 AUTOBIOGRAPHICAL COMPOSITION (Subtitle required). (3)
A special topics course which examines a particular medium of autobiographical composition (textual, digital, or performative) and/or the ways autobiographical composing is used in particular contexts or communities. Students study and produce autobiographical composition. Mode of composing (print, digital, performance, or a combination) is at the discretion of the instructor. Repeatable up to 6 hours under different subtitles. Prereq: Completion of Composition and Communication requirement or consent of instructor.

***WRD 405 EDITING ENGLISH PROSE. (3)**
This course is designed for students interested in the basics of editing and publishing and offers instruction and extensive practice in editing and revising both the student's own writing and the prose works of others. In addition to learning techniques of revision, verification of sources, and preparation of manuscripts, students will be expected to learn about the editing profession generally and to follow trends in editing and publishing. Not for students with writing deficiencies. Does not fulfill ENG Major 400-level course requirement. Provides ENG Major Elective credit and ENG Minor credit. Prereq: WRD 301, or WRD 306, or consent of instructor. (Same as ENG 405.)

WRD 406 TOPICS IN PROFESSIONAL WRITING (Subtitle required). (3)
This course addresses contemporary genres of professional writing, including professional correspondence, reports, and social media most often found in business, technical, and scientific communities. The course also addresses the common tools and technologies of professional writing production and practice. Prereq: WRD 204 or WRD 306 or consent of instructor.

WRD 408 DIGITAL COMPOSING. (3)
This course provides grounding in the analysis and theory of digital composition, which will inform personal, professional, or community-based projects. Projects will encourage students to work flexibly across various digital platforms. Prereq: WRD 308 or consent of instructor.

WRD 412 INTERMEDIATE DOCUMENTARY PRODUCTION. (3)
This course explores a range of documentary approaches and styles, after which workshop and production of students' own documentaries will be emphasized. Students will focus on particular approaches and subjects to develop their individual signatures and styles. Prereq: Completion of WRD 312 or consent of the instructor.

***WRD 420 RHETORICAL TRADITIONS (Subtitle required). (3)**
This course offers a detailed examination of the history and theory of a specific rhetorical tradition or group of traditions. Students will gain familiarity with key concepts and terms in a rhetorical tradition, compare and contrast culturally situated definitions of rhetoric, and better understand the way rhetorical historiography influences how rhetorical traditions are defined and taught. Repeatable up to 6 hours under different subtitles. Prereq: Completion of WRD 320 or consent of instructor.

WRD 422 PUBLIC ADVOCACY (Subtitle required). (3)
This course examines the work that writing does in the world by connecting the study of persuasion in specific social movements, campaigns, and genres with opportunities for students to create texts and campaigns. This course may offer a historical or contemporary focus, and may examine local, regional, national, or transnational movements. Prereq: Completion of WRD 320 or WRD 322 or consent of the instructor.

WRD 425 ENVIRONMENTAL WRITING. (3)
Students will consider the ways writers address environmental issues by exploring various forms of environmental writing, from personal narrative to literary nonfiction to advocacy. Prereq: Completion of Composition and Communication requirement or consent of instructor.

WRD 430 ADVANCED WORKSHOP (Subtitle required). (1-3)
Flexible course hours that supplement an existing course or provide advanced training in a particular area of writing, rhetoric, or digital studies. Prereq: Completion of Composition and Communication requirement or consent of instructor.