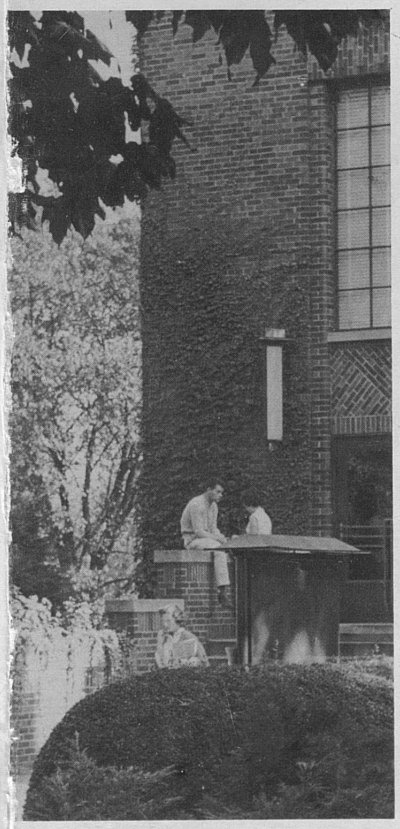
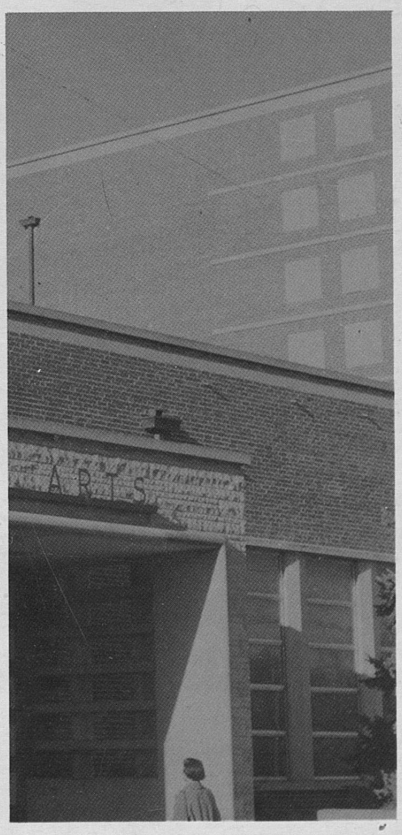
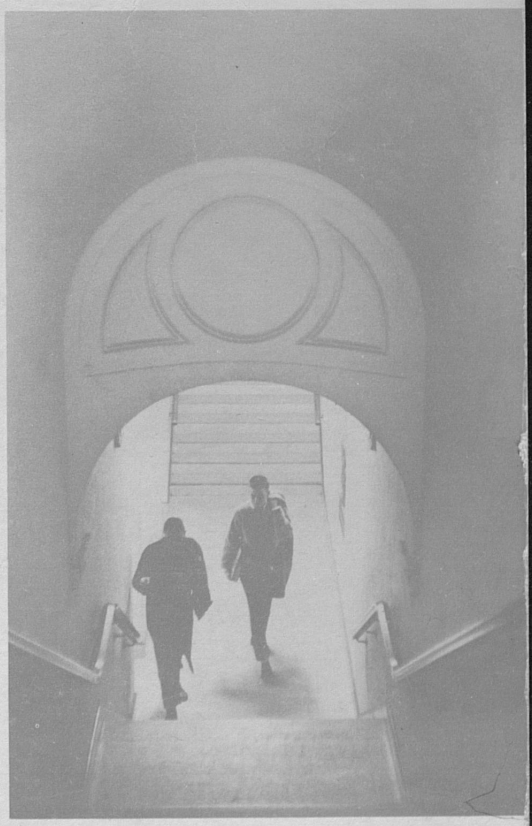
UNIVERSITY OF KENTUCKY CATALOGUE 1960-61

UNIVERSITY OF KENTUCKY CATALOGUE

1960 – 61







BULLETIN OF THE UNIVERSITY OF KENTUCKY



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BULLETIN OF THE UNIVERSITY OF KENTUCKY

UNIVERSITY OF KENTUCKY CATALOGUE

1960 – 61

& Announcements

1961 – 62

CALENDAR

1961 Summer Session

May 19—Monday—Last date for filing application for admission to the Summer Session

June 19—Monday—Orientation activities for all new students

June 20—Tuesday—Registration and classification of all new students

June 21—Wednesday—Class work begins

June 24—Saturday—Last date one may enter an organized class for the Summer Session

July 1—Saturday—Last date one may drop a course without a grade

July 4—Tuesday—Independence Day Holiday

July 5, 6—Wednesday and Thursday—Last days for filing applications for August degree in College Dean's Office

Aug. 11—Friday—End of 1961 Summer Session

Aug. 14—Monday—All grades due in Registrar's Office by 3:00 p.m.

Aug. 14—Monday—Last date to submit application and transcripts to Registrar's Office for admission to the Fall Semester, 1961-62

Sept. 10—Sunday—Opening of Fall Semester, 1961-62

Fall Semester

Aug. 14—Monday—Last date to submit application and transcripts to Registrar's Office for admission to the Fall Semester, 1961-62

Sept. 10—Sunday—President's reception for new students

Sept. 11-16—Monday, 7:45 a.m. through Saturday, 12:00 noon—Testing and advising activities for all new students

Sept. 18—Monday—Class work begins

Sept. 23—Saturday—Last date one may enter an organized class for the Fall Semester

Sept. 28—Thursday—Last date one may drop a course without a grade

Sept. 29, 30—Friday and Saturday—Last days for filing application for a January degree in College Dean's office

Oct. 7—Saturday—Last date on which photographs will be taken for ID cards

Nov. 13—Monday—Mid-term grades due in Registrar's Office by 4:00 p.m.

Nov. 22-27—Wednesday noon to Monday, 8:00 a.m.—Thanksgiving holidays

Dec. 16—Saturday noon—Christmas holidays begin

1962

Jan. 3—Wednesday, 8:00 a.m.—Christmas holidays end

Jan. 8—Monday—Last date to submit application and transcripts to Registrar's Office for admission to the Spring Semester, 1961-62

Jan. 20-25—Saturday through Thursday—Final examinations

Jan. 25—Thursday—End of Fall Semester

Jan. 29—Monday—All grades due in Registrar's Office by 4:00 p.m.

Spring Semester

Feb. 3—Saturday, 7:45 a.m.—Testing and advising activities for all new students

Feb. 5—Monday, 8:00 a.m. to 5:00 p.m.—Classification

Feb. 6—Tuesday—Class work begins

Feb. 12—Monday—Last date one may enter an organized class for the Spring Semester

Feb. 16—Friday—Last date one may drop a course without a grade

Feb. 26, 27—Monday and Tuesday—Last days for filing application for June degree in College Dean's office

Apr. 4—Wednesday—Mid-term grades due in Registrar's Office by 4:00 p.m.

Apr. 7-16—Saturday noon through Monday 8:00 a.m.—Spring vacation

Apr. 23—Monday—Correspondence and Extension grades for seniors due in Registrar's Office by 4:00 p.m.

May 28—Monday—Last date to submit application and transcripts to Registrar's Office for admission to the 1962 Summer Session

May 29-June 2—Tuesday through Saturday—Final examinations

June 2—Saturday, 12:00 noon—End of Spring Semester

June 4—Monday—All grades due by 4:00 p.m. in Registrar's Office

June 9—Saturday—Alumni Day

June 10—Sunday—Baccalaureate Services

June 11—Monday—Ninety-fifth Annual Commencement

June 12-16—Tuesday through Saturday—4-H Club Week

Summer Session

June 18—Monday—Orientation activities for all new students

June 19—Tuesday—Classification and registration

June 20—Wednesday—Class work begins

June 23—Saturday—Last date one may enter an organized class for the Summer Session

June 30—Saturday—Last date one may drop a course without a grade

July 4—Wednesday—Independence Day holiday

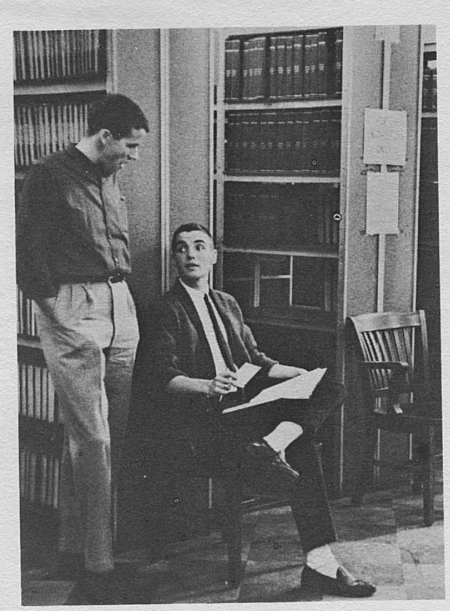
July 5, 6—Thursday and Friday—Last days for filing applications for August degree in College Dean's Office

Aug. 10—Friday—End of 1962 Summer Session

Aug. 13—Monday—All grades due in Registrar's Office by 4:00 p.m.

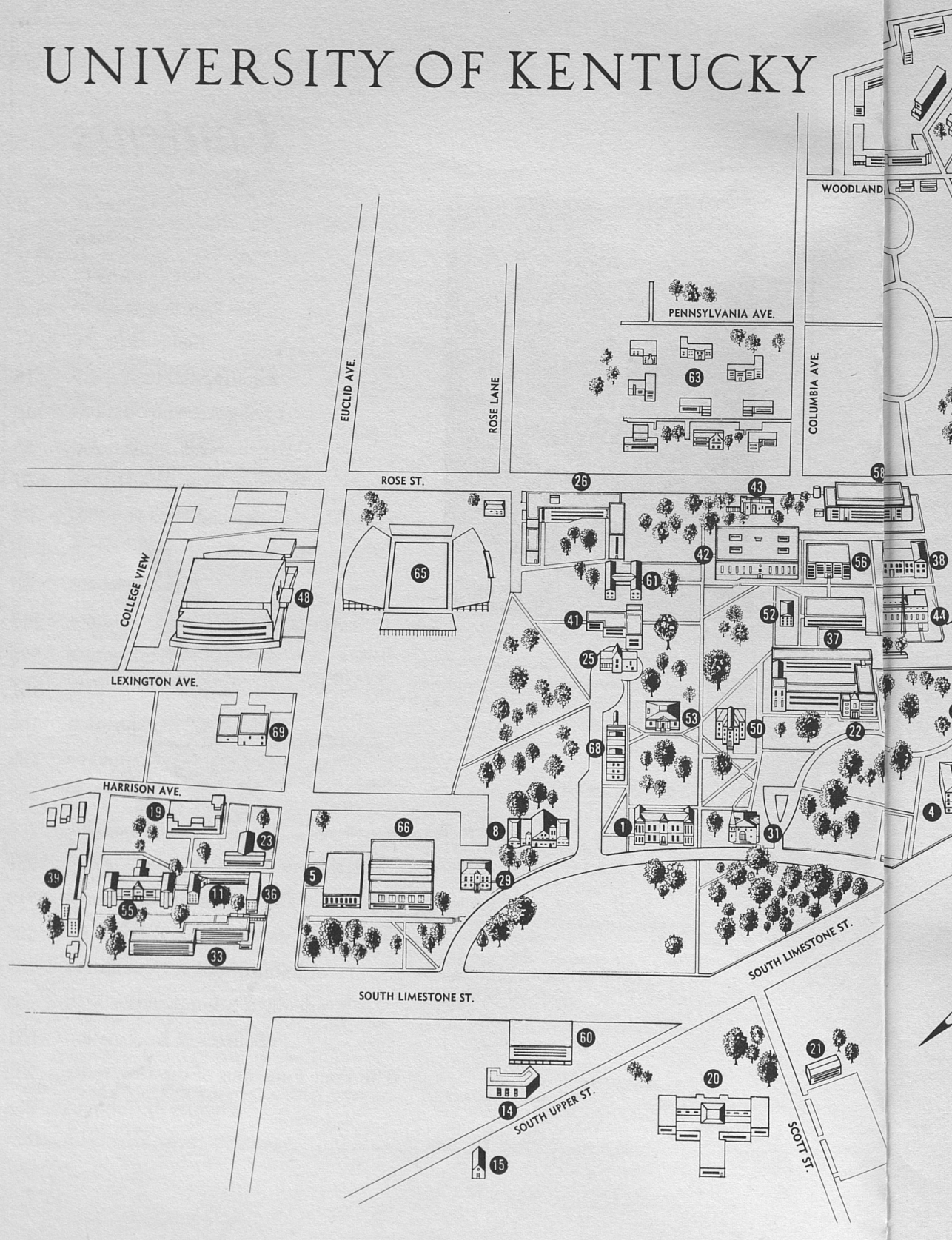
Aug. 20—Monday—Last date to submit application and transcripts to Registrar's Office for admission to the Fall Semester, 1962-63

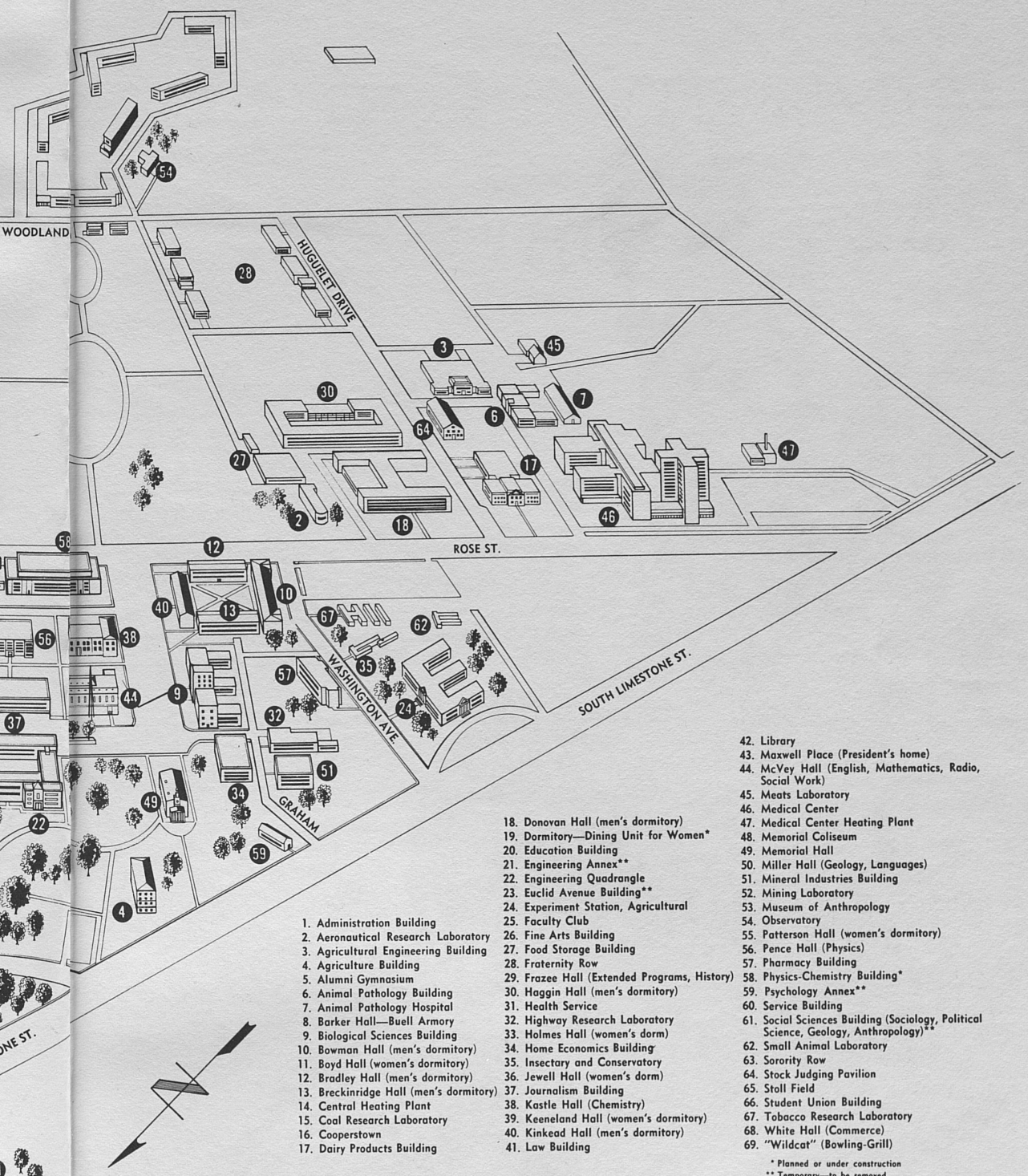
Contents



Calendar	2
Map	4
The University	7
The Entering Student	8
Fields of Study	11
Entering the University	15
Living Accommodations	19
Expenses & Financial Aid	23
Working Toward a Degree	27
Special Opportunities	33
Course Numbering System	36
Arts & Sciences	39
Agriculture & Home Economics	113
Engineering	135
Law	157
Education	165
Commerce	189
Pharmacy	199
Medicine	205
Nursing	209
Graduate School	213
Extended Programs	225
Administration & Committees	229
Academic & Administrative Staff	233
Sources of Information	251
The Four Functions of the University	252
Outline of Contents	253

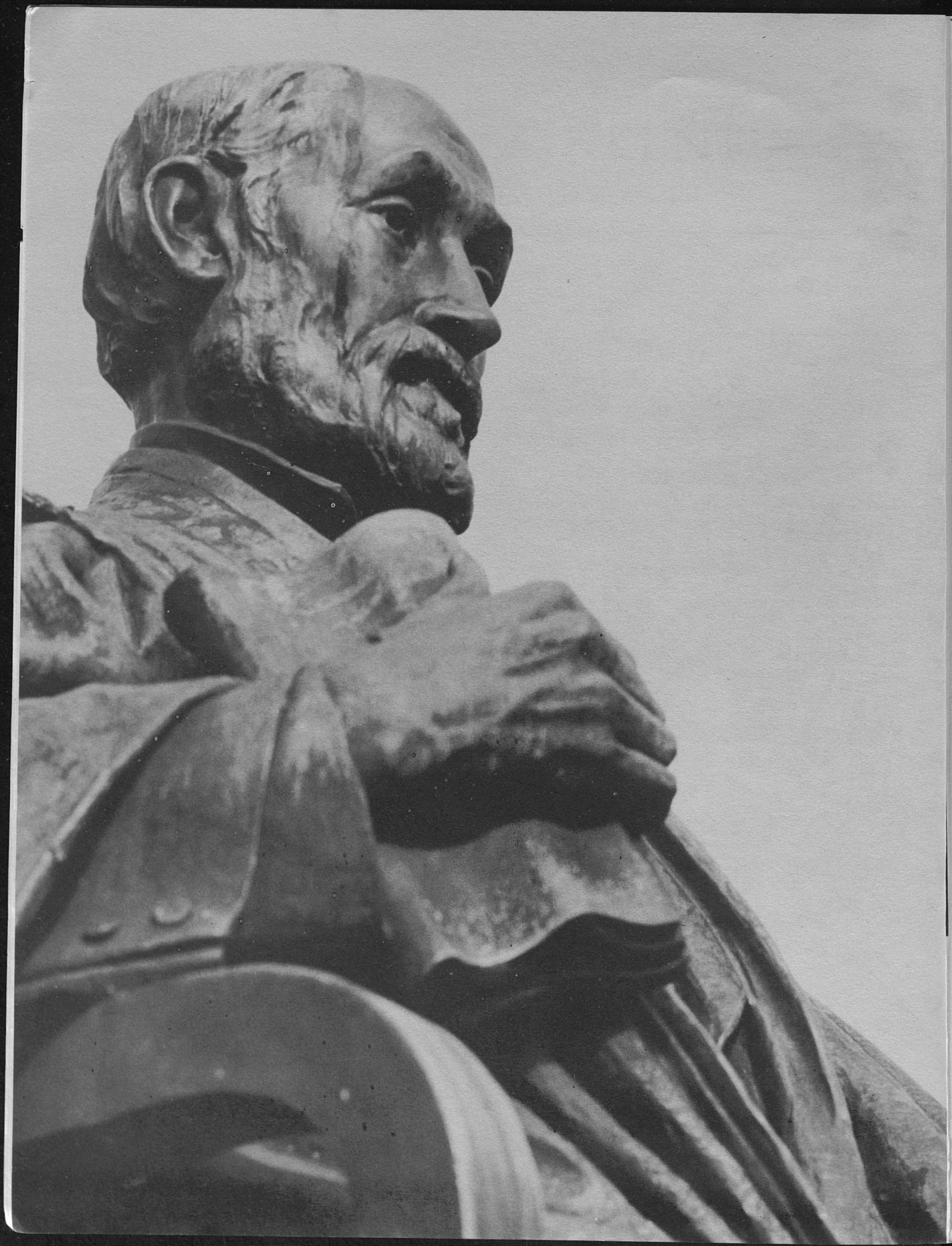
UNIVERSITY OF KENTUCKY





1. Administration Building
2. Aeronautical Research Laboratory
3. Agricultural Engineering Building
4. Agriculture Building
5. Alumni Gymnasium
6. Animal Pathology Building
7. Animal Pathology Hospital
8. Barker Hall—Buell Armory
9. Biological Sciences Building
10. Bowman Hall (men's dormitory)
11. Boyd Hall (women's dormitory)
12. Bradley Hall (men's dormitory)
13. Breckinridge Hall (men's dormitory)
14. Central Heating Plant
15. Coal Research Laboratory
16. Cooperstown
17. Dairy Products Building
18. Donovan Hall (men's dormitory)
19. Dormitory—Dining Unit for Women*
20. Education Building
21. Engineering Annex**
22. Engineering Quadrangle
23. Euclid Avenue Building**
24. Experiment Station, Agricultural
25. Faculty Club
26. Fine Arts Building
27. Food Storage Building
28. Fraternity Row
29. Frazee Hall (Extended Programs, History)
30. Haggin Hall (men's dormitory)
31. Health Service
32. Highway Research Laboratory
33. Holmes Hall (women's dorm)
34. Home Economics Building
35. Insectary and Conservatory
36. Jewell Hall (women's dorm)
37. Journalism Building
38. Kastle Hall (Chemistry)
39. Keeneland Hall (women's dormitory)
40. Kinkead Hall (men's dormitory)
41. Law Building
42. Library
43. Maxwell Place (President's home)
44. McVey Hall (English, Mathematics, Radio, Social Work)
45. Meats Laboratory
46. Medical Center
47. Medical Center Heating Plant
48. Memorial Coliseum
49. Memorial Hall
50. Miller Hall (Geology, Languages)
51. Mineral Industries Building
52. Mining Laboratory
53. Museum of Anthropology
54. Observatory
55. Patterson Hall (women's dormitory)
56. Pence Hall (Physics)
57. Pharmacy Building
58. Physics-Chemistry Building*
59. Psychology Annex**
60. Service Building
61. Social Sciences Building (Sociology, Political Science, Geology, Anthropology)**
62. Small Animal Laboratory
63. Sorority Row
64. Stock Judging Pavilion
65. Stoll Field
66. Student Union Building
67. Tobacco Research Laboratory
68. White Hall (Commerce)
69. "Wildcat" (Bowling-Grill)

* Planned or under construction
** Temporary—to be removed



THE UNIVERSITY

A UNIVERSITY IS A GATHERING-PLACE for those who wish to learn. It is a place where new ideas arise and old ones take on new shapes and colors. For a new student it may be different from anything he has ever known, because here he leaves the shelter of home and familiar ways of learning and moves toward a life where he will have the chance to be largely on his own.

It is a place of broad opportunity, where libraries, laboratories, and men of knowledge are gathered in one community to afford him the chance to learn the best that has been discovered and thought and to develop fully his abilities. It is also a place of quiet meditation and shaded walks, of cheering crowds and lively debate, of people of many interests, and, most important, a place where he can mature—mentally, physically, and emotionally.

The search for new knowledge is an unending adventure in which both the faculty and students take part. This seeking results in a continual expansion of information in every field of concern to man while providing and developing leaders. It is thus that higher education carries out its purpose as the chief instrument designed by society to provide the leadership necessary to the upward march of civilization.

On a university campus the student is still taught in the classroom but he is also made more familiar with the other places of learning, particularly the libraries and laboratories, or workshops. He may not have decided upon a field of study during his first years, but as his interests become stable and increase in depth he reaches out more and more on his own. In advanced courses, undergraduate as well as graduate, he may work with a considerable degree of independence from his professor.

Given the opportunities described above, the student at the University of Kentucky should accomplish these things:

He will widen his interests and will develop an inquiring attitude. He will be aware that "to become a man of learning is an enterprise of a lifetime."

He will gain broad knowledge and understanding as well as intensive familiarity with his main field of interest and will become well prepared for the work he has chosen. He will have an appreciation for the finer things of life and will possess a moral purpose.

He will learn to see the relationship between one idea and another and as a consequence will use logic to overcome bias and to exercise restraint.

He will recognize the importance of maintaining physical health and vigor.

He will have the desire to take a responsible part in the society in which he lives.

These are the marks of an educated man—or woman—and it is the aim of the University to assist the student in attaining them.

Functions

In the above statements, emphasis has been placed primarily on the student, because it is he and his parents who will make the greatest use of this book. However, this is only one facet of the University.

When the University of Kentucky elected to be a university as opposed to a liberal arts college or professional school, it was bound by the traditions of American higher education to function in certain ways. Thus, it established itself as a complex institution with both a liberal arts school and a number of professional schools. It committed itself to a broad program of quality research; it embarked upon an extensive program of graduate studies; and it dedicated itself to accumulating and preserving knowledge and to maintaining an atmosphere which would contribute to high intellectual endeavor.

Thus, in accomplishing its social purpose, the University functions in four principal ways. Its major function is as a teaching institution, but it also serves as a center for research, as a service agency, and as a center for the preservation of knowledge.

History

Almost a century ago the miracle of public higher education was mainly a dream. Among the eloquent spokesmen of that dream was John B. Bowman, first

regent of the Agricultural and Mechanical College of Kentucky University, who said in 1865:

> *"I want to build up a people's institution, a great free university, eventually open and accessible to the poorest boy in the land, who may come and receive an education practical and suitable for any business or profession in life. I want to cheapen this whole matter of education, so that, under the broad and expansive influences of our republican institutions, and our advancing civilization, it may run free, as our great rivers, and bless the coming millions.*
>
> *"Hitherto, our colleges and universities have been accessible only to the few, such are the expenses attending them. We therefore want a university with all the colleges attached, giving education of the highest order to all classes. We want ample grounds and buildings and libraries, and apparatus, and museums and endowments, and prize funds, and professors of great heads and hearts, men of faith and energy. Indeed we want everything which will make this institution eventually equal to any on this continent. Why should we not have them? I think we can."*

Bowman's statement was made in the year the University of Kentucky was established. Today the institution is among the ninety-three state universities and land-grant institutions in America which are the fulfillment of this dream.

The school was started as part of Kentucky University under a cooperative plan authorized by the legislature. In 1878, when the people of Kentucky decided to establish a state institution of higher learning, the College of Agriculture and Mechanic Arts was separated from Kentucky University and re-established on land given by Lexington and Fayette County. To provide a separate campus for the new institution, the city of Lexington had donated its 50-acre fairground and park which, during the Civil War, had been utilized as a bivouac area for Union troops. Lexington and Fayette County contributed $60,000 for the construction of buildings, and President James K. Patterson, whose service to the institution began in 1869, used his personal savings to supplement the building fund. Thirty years later the legislature changed the name of the institution to the State University of Kentucky and gave it additional financial support. In 1916 the name was changed to the University of Kentucky.

In the more than fourscore years that have passed since its establishment as a separate state institution, the University of Kentucky has had only five presidents. Their periods of service have been as follows:

JAMES K. PATTERSON, 1878-1910
HENRY S. BARKER, 1910-1917
FRANK L. McVEY, 1917-1940
HERMAN L. DONOVAN, 1941-1956
FRANK G. DICKEY, 1956-

Before 1878, while it was a division of Kentucky University, the institution was presided over by John A. Williams and Joseph Desha Pickett. Bowman preceded them as regent of the parent institution.

The University presently consists of ten colleges, a division of Extended Programs, and a Graduate School.

The Entering Student

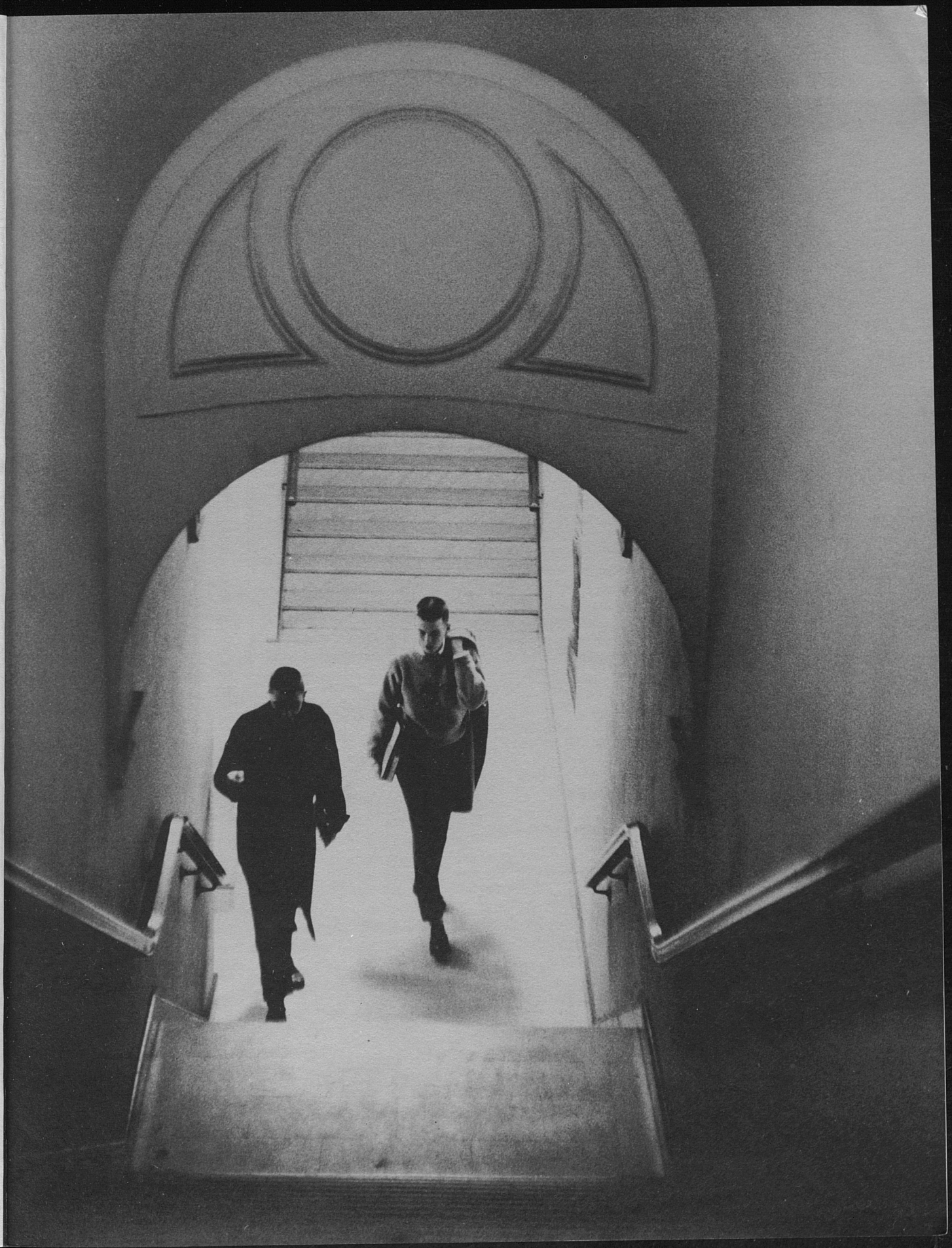
A university brings together students with greatly varying geographic, economic, social, political and educational backgrounds. Partly as a result of this, these students have considerably different interests and aims. Some have already decided upon a field of study. Many others have not.

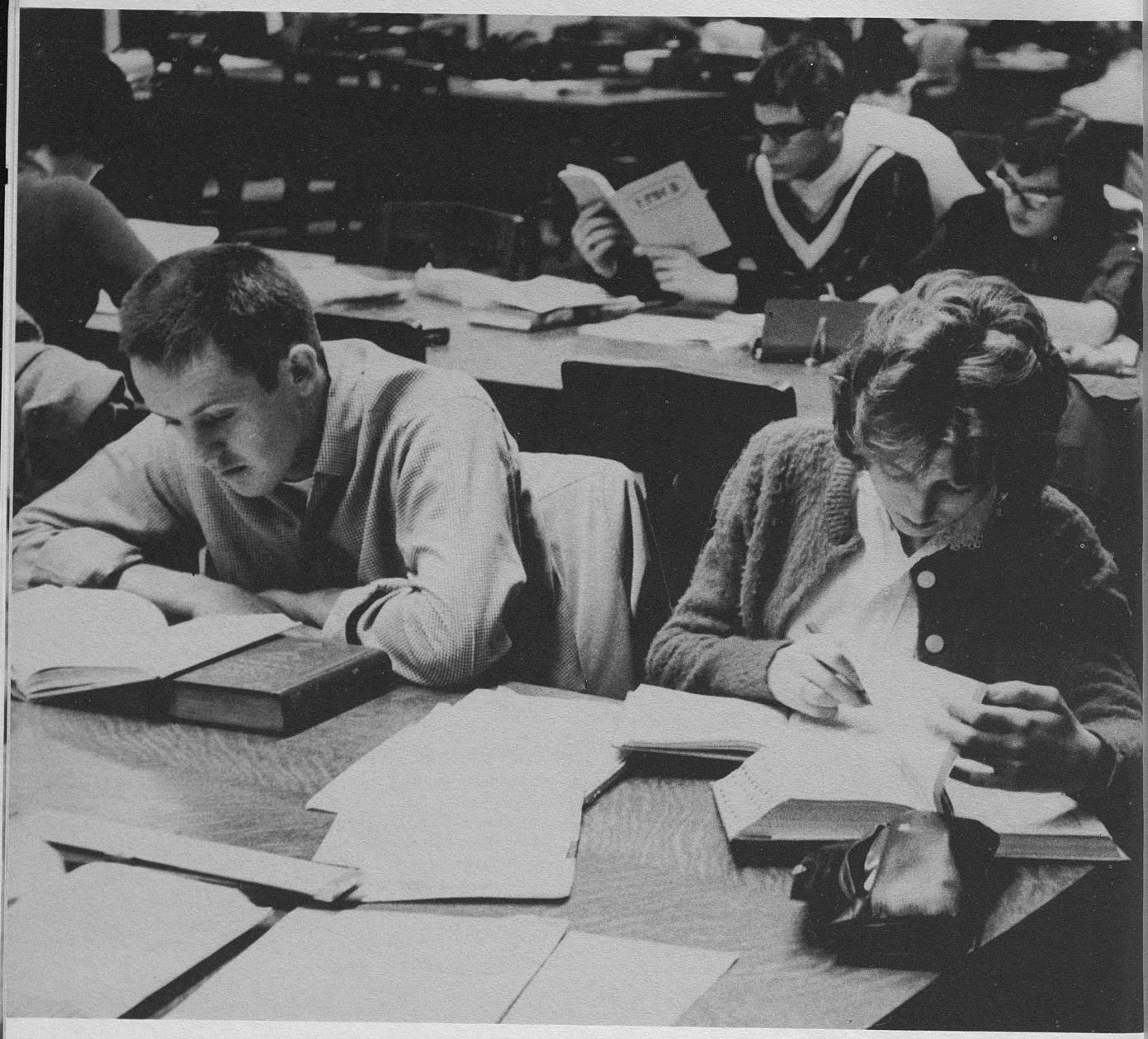
At the University of Kentucky, each student is assigned a faculty member as an advisor. The student's advisor will help him decide upon a program of studies and will explore with him an over-all plan for his work at the University, the choice of a vocation, and graduation requirements. The advisor will be able to provide the student with accurate information concerning the University. He will help the student decide how many courses he should attempt to carry, arrange the hours the classes meet, and approve the schedule.

During the first two years of college, students generally are required to take courses which lead to the understanding of certain fundamental principles, as well as courses in their special areas of interest.

The student who is undecided upon an area of study usually is advised to enroll in classes meeting the lower division requirements of the College of Arts and Sciences, where he will explore several fields. During two years of work in which he comes into contact with a number of specialities he will gain a background that should help him to choose intelligently the field in which he will concentrate.

The student planning to do his college work at the University—whether he is an entering student or one seeking a master's degree or a doctorate—has a large number of areas from which to choose. These are outlined in the following section.





FIELDS OF STUDY

The University offers work in many fields. The student has an opportunity for specialization and the pursuit of particular interests in 10 colleges, a Graduate School, and a division of Extended Programs.

For instructional purposes, the University is organized into the College of Arts and Sciences, College of Agriculture and Home Economics, College of Engineering, College of Law, College of Education, College of Commerce, College of Pharmacy, College of Medicine, College of Nursing, College of Dentistry, Graduate School, and Extended Programs. Instruction is given in each college or school through two semesters of approximately eighteen weeks each except in the College of Medicine, which has somewhat longer terms. A summer session of about eight weeks is offered in most colleges. The colleges are:

Arts & Sciences

Within this college it is possible to major in any one of 27 departments and two schools or in a topical field covering more than one department.

The fields are: aerospace science; ancient languages and literatures, (Hebrew, Greek, Latin, Arabic); anthropology; art; botany; chemistry; economics; English, speech, and dramatic arts; geography; geology; history; hygiene and public health; library science; mathematics and astronomy; microbiology; military science and tactics; modern foreign languages and literatures (French, German, Itallian, Russian, Spanish, Japanese); music; philosophy; physical education; physics; political science; psychology; radio, television, and films; School of Diplomacy and International Commerce; School of Journalism; social work; sociology; and zoology. Rather than one of the above, a student may have a topical major or a major in another college. The areas of study listed above have been grouped into four divisions: humanities; social studies; physical sciences; and biological sciences.

Agriculture & Home Economics

Students in agriculture may select any one of the following curricula: agricultural economics, agricultural engineering, agricultural extension, vocational agriculture, agronomy, animal husbandry, dairy science, dairy manufacturing, poultry science, horticulture, ornamental horticulture and rural sociology. There are pre-professional programs for students who plan to study forestry, veterinary medicine, or theology. All students, other than those in the pre-professional programs, will follow a basic curriculum for the first two years. By the end of this sophomore year a student is expected to choose between the program in agricultural technology, agricultural science, and agricultural business.

Students in the School of Home Economics may select any one of the following curricula: general home economics, child development and family living, food and equipment demonstration, clothing, costume design, textiles and interior decoration, home economics extension, institution management, or vocational home economics.

College of Engineering

In the College of Engineering the student may pursue any one of the following curricula: a general curriculum in agricultural engineering, a general curriculum in architecture, a general curriculum in chemical engineering, a general curriculum in civil engineering, a general curriculum in electrical engineering, a general curriculum with emphasis on aeronautical engineering, a mechanical engineering curriculum with emphasis on industrial engineering, a curriculum in metallurgical engineering, and a curriculum in mining engineering.

College of Law

In the College of Law the student may complete a six-year program leading to the degree of Bachelor of Laws or he may complete a six-year program leading to the degrees of Bachelor of Arts and Bachelor of Laws.

College of Education

The College of Education grants the Bachelor of Arts in Education degree to students who major in education and select their group work from art, biological

sciences, business education, chemistry, English, foreign languages, library science, mathematics, music, physical education, physics, social sciences, or education for teaching exceptional children. Students who complete the curriculum for elementary teachers are also eligible for the degree of Bachelor of Arts in Education.

College of Commerce

The programs of study in the College of Commerce include a general-business curriculum, an economics curriculum, a business-management curriculum, an industrial-administration curriculum, a marketing and advertising curriculum, a commerce-law curriculum, a secretarial curriculum, accounting curriculum, banking and finance curriculum, and personnel management curriculum. The large amount of elective work allowed in some of the curricula makes it possible to combine a business program with other professional fields or with groups of liberal arts courses.

College of Pharmacy

In the College of Pharmacy a five-year curriculum is offered, leading to the degree of Bachelor of Science in Pharmacy.

College of Medicine

The College of Medicine will offer a four year curriculum leading to the degree of Doctor of Medicine. Post doctoral training at the intern and residency level will also be provided.

College of Nursing

The College of Nursing will grant the degree of Bachelor of Science in Nursing to students who successfully complete the prescribed program provided by this College. Graduates of approved hospital schools of nursing may qualify for this degree by successfully completing the requirements not fulfilled by previous education.

Extended Programs

Through Extended Programs, the University makes its instructional and research facilities available to the citizens of the state. These programs include University Centers at Covington, Ashland, Fort Knox, Cumberland, and Henderson, extension classes in many communities, adult evening classes, home study courses by correspondence, and workshops and conferences for business and professional groups. Graduate classes taught by University faculty members are offered at the Centers by extension. Extended Programs also provides music services for schools and communities, and an annual program of high school drama, speech, and music festivals.

Graduate School

Graduate courses are available in all colleges and departments. The degree of Doctor of Philosophy is offered with major work in the following departments: agricultural economics, animal industry, bacteriology, chemistry, education, economics, English, history, mathmatics, physics, psychology, political science, guidance and counseling and in the combined fields of sociology and rural sociology. Minor work may be carried in any department offering graduate courses. The Doctor of Education and Doctor of Engineering degrees are also offered.

Degrees

The University offers the following degrees:

BACHELOR OF ARCHITECTURE
BACHELOR OF ARTS
BACHELOR OF ARTS IN EDUCATION
BACHELOR OF ARTS IN JOURNALISM
BACHELOR OF LAWS
BACHELOR OF MUSIC
BACHELOR OF SCIENCE
BACHELOR OF SCIENCE IN AGRICULTURE
BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING
BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING
BACHELOR OF SCIENCE IN CIVIL ENGINEERING
BACHELOR OF SCIENCE IN COMMERCE
BACHELOR OF SCIENCE IN ELECTRIAL ENGINEERING
BACHELOR OF SCIENCE IN HOME ECONOMICS
BACHELOR OF SCIENCE IN MECHANICAL ENGINEERING
BACHELOR OF SCIENCE IN MEDICAL TECHNOLOGY
BACHELOR OF SCIENCE IN METALLURGICAL ENGINEERING
BACHELOR OF SCIENCE IN MINING ENGINEERING
BACHELOR OF SCIENCE IN NURSING
BACHELOR OF SCIENCE IN PHARMACY
MASTER OF ARTS
MASTER OF ARTS IN EDUCATION
MASTER OF BUSINESS ADMINISTRATION
MASTER OF MUSIC
MASTER OF SCIENCE
MASTER OF SCIENCE IN AGRICULTURE
MASTER OF SCIENCE IN AGRICULTURAL ENGINEERING
MASTER OF SCIENCE IN CIVIL ENGINEERING
MASTER OF SCIENCE IN EDUCATION
MASTER OF SCIENCE IN ELECTRICAL ENGINEERING
MASTER OF SCIENCE IN HOME ECONOMICS
MASTER OF SCIENCE IN LIBRARY SCIENCE
MASTER OF SCIENCE IN MECHANICAL ENGINEERING
MASTER OF SCIENCE IN METALLURGICAL ENGINEERING
MASTER OF SCIENCE IN MINING ENGINEERING
MASTER OF SCIENCE IN NUCLEAR ENGINEERING
MASTER OF SCIENCE IN PUBLIC HEALTH
CHEMICAL ENGINEER
CIVIL ENGINEER
ELECTRICAL ENGINEER
MECHANICAL ENGINEER
METALLURGICAL ENGINEER
MINING ENGINEER
SPECIALIST IN EDUCATION
DOCTOR OF EDUCATION
DOCTOR OF ENGINEERING
DOCTOR OF MEDICINE
DOCTOR OF PHILOSOPHY

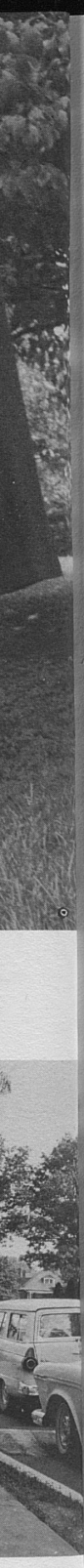



CAMPUS BOOK STORE




FRESHMEN
WHO HAVE
NOT
BEEN TESTED
ENTER
HERE





ENTERING THE UNIVERSITY

A STUDENT INTERESTED IN ATTENDING the University of Kentucky may wish to visit the campus before he begins college work. Such visits are encouraged, and each student is invited to bring his parents. Arrangements may be made for the student to talk with a faculty advisor, his college dean, the admissions officer, and a housing representative. Many times, student frustrations and academic discouragement are avoided by the more careful planning resulting from consultations with University officials. While a careful study of the University catalogue is beneficial, the spirit of the University may be more advantageously gathered from discussions with the faculty, students already in residence, and various administrative officials.

The Office of the Dean of Admissions is located in the Administration Building, and the dean is available to meet personally with prospective students and their parents. In order to avoid unnecessary waiting it is suggested that the student write requesting an interview on a specific date. Arrangements will be made ahead of time for conferences with appropriate faculty members and college deans if requested. In his letter the student should indicate his broad areas of academic interest.

Upon arriving on the campus for a visit, the student may come to Room 104 in the Administration Building for information and directions. High school groups may arrange for guided tours of the campus by contacting the University's Department of Public Relations, Room 205, Administration Building.

For many persons, a visit is not practical or possible. To help acquaint them with the University a number of printed materials have been prepared, including bulletins on each college. The bulletins describe the aims of each college and the fields of study it offers. A list of publications and sources of information appears in the back of this catalogue.

Requirements for Admission

All students should make application to the University at the earliest possible date. All applications, including those for readmission, must be received in the Office of the Dean of Admissions 30 days prior to the opening of the term in which the student desires to enroll. There is no fee required for the submission of an application for admission. If the student decides not to enroll in the University after making application he is requested to notify the admissions office of the fact. Because the University does not require an application fee, applications submitted after the 30-day deadline cannot be considered until the following semester. In addition to the preceding requirement there are certain specific requirements.

FRESHMEN

Kentucky residents seeking to enter the University as freshmen must have graduated from an accredited high school with a minimum of 15 units of acceptable high school work and must have the recommendation of their high school principal. They must also submit the results of a scholastic aptitude test at the time of application. Examples of tests which may be used for this purpose are College Qualification Test, American College Test, Scholastic Aptitude Test of the College Entrance Examination Board, or a similar type of national standardized test. The family physician of a student seeking to enter the University must complete and return a physical examination report on a form which the University will furnish the student after he makes application for admission.

Out-of-state residents seeking to enter the University as freshmen must meet the same requirements as Kentucky residents and also must have graduated in the upper half of their class.

ADVANCED STANDING

Students with previous college work must have a cumulative grade point average of 2.0 (C) or better, and be eligible to return to the last college attended. Previous college work cannot be ignored regardless of the circumstances. Their family physician must complete and return a physical examination report like the one described above for freshmen.

Graduate, professional. Graduate students and students entering the professional colleges should consult the section of this catalogue describing the college they plan to enter.

Admission from high school with advanced standing. A number of high schools give the College Entrance Board Advanced Placement Examinations. Students who take these should have them forwarded to the admissions office. Advanced credit is awarded on the basis of the student's performance on each examination he takes.

EXCEPTIONS

In some cases, persons may be admitted to the University without meeting all the general requirements. The cases are presented below:

Unusual ability. Students with unusual ability may be admitted before graduation from high school in certain instances. These students must pass a special examination and be recommended by their high school teachers as having ability to start carrying college work immediately. Persons seeking detailed information on the program should write to the Dean of Admissions.

Special student. A person may be admitted as a special student if he does not have a high school diploma, is at least 21 years old, and is fully prepared to do the work required.

Non-degree students. Persons who desire University instruction without wishing to become degree candidates may be admitted as non-degree students.

Admission Procedure

The following steps are involved in admission to the University:

1. The student should write to the Dean of Admissions for an application blank, stating whether he is entering from high school, another college, or applying for readmission. The proper admission forms will be sent to him.

2. The high school principal must complete the Secondary School Record form and return it to the admissions office. In the case of students entering with advanced standing an official transcript from each college attended must be forwarded to the admissions office. Courses in progress should be listed even though grades are not available.

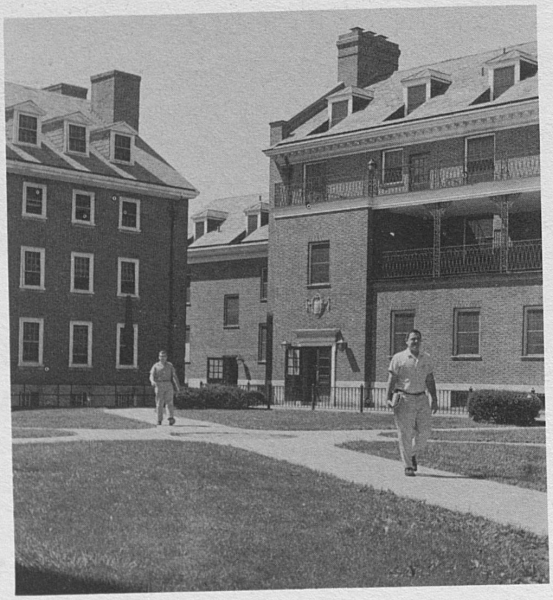
3. After receiving the application blank and other forms, the admissions office will notify the student about his admission status. He will be sent an enrollment permit when his admission is approved.

4. All students entering the University in the Fall Semester are requested to visit the campus during the summer preceding it to register for their Fall classes. Students who have applied for admission will be notified when to report to the campus. Fees may be paid during the summer visit if convenient to the student.











LIVING ACCOMMODATIONS

A RESIDENCE HALL contributes to a student's development in personal and social growth by providing satisfactory living conditions. Scholarship is emphasized in the University's residence units, and the student also learns the give-and-take pattern of group living.

Meals or snacks are available to the students at a number of cafeterias and grills on the campus. In most cases students pay for their meals along with their rooms.

The general health of the students is also a matter of concern to the University and it provides a health service facility, operated by a professional staff. The dormitory, dining, and health service accommodations are described below.

Residence Halls for Men

The University operates six residence halls for men. All male freshmen, sophomores, and juniors are required to reside in the residence halls when accommodations are available. Students in these classes desiring to live outside the residence halls must have special permission of the Dean of Men unless they are married, permanent residents of Lexington, or commuting from their permanent residence outside the city.

All students living in men's residence halls are provided breakfast and dinner in Donovan Hall cafeteria Monday through Saturday. The cost is included in the fees for room and board at the time of registration. These students may take their noonday and Sunday meals where they wish.

APPLICATIONS AND PAYMENTS

Applications for housing are attached to the forms for admission which are obtained from the Dean of Admissions. Information on housing may be obtained from the office of the Dean of Men.

Students may choose to live in the Men's Quadrangle, Donovan Hall, or Haggin Hall. They must pay the first installment on their room and meals at the time they make application for housing. The balance for the semester is due on the date of registration unless the students elect to use the partial payment plan described on their application forms. The plan permits them to pay the balance in three equal installments. Following is the schedule of charges:

Dormitory	*First Installment*	*Balance*
Men's Quadrangle	$65	$195
Donovan or Haggin Hall	70	210

FRATERNITY HOUSES

Nineteen national fraternities, accommodating 672 students in residence, have chapter houses on or near the University campus.

Residence Halls for Women

The University maintains five large residence halls and three small residence units for women. All undergraduate women are required to live in the residence halls unless they live in town with relatives or in a sorority house. Only upperclasswomen are given the latter privilege.

Cooperative houses, in which students may reduce expenses by working, are assigned by special application. The students are assigned to residence units according to classification and date of application. Patterson, Boyd, and Jewell Halls are freshman residence halls. Sophomores, juniors, and seniors are assigned to Keeneland and Holmes Halls. Holmes Hall also accommodates some freshman students. Dillard House is a semi-cooperative house in which girls assume some of the housekeeping responsibilities. All girls assigned to Patterson, Boyd, and Jewell Halls and Dillard House have three meals a day, except on Sunday evenings, in the Boyd-Jewell Hall dining rooms. Girls living in Keeneland and Holmes Halls are served morning and evening meals in the Student Union Cafeteria. Room and board exceptions are the academic holidays.

APPLICATIONS AND PAYMENTS

Applications for housing are attached to the forms for admission which are obtained from the Dean of Admissions. Information on the women's residence halls may be obtained from the office of the Dean of Women. The students must pay the first installment on their room and meals at the time they return the

application. The balance is due on the date of registration unless the students elect to use a partial payment plan described on their application forms. The plan permits them to pay the balance in three equal installments. Following is the schedule of charges:

Dormitory	*First Installment*	*Balance*
Patterson, Boyd, Jewell Keeneland, and Holmes Halls	$75	$225
Dillard House	60	180

COOPERATIVE HOUSES

The University maintains two cooperative houses accommodating 34 women. Applications for these houses should be made to the Dean of Women. Applicants are selected by the Cooperative House Committee on the basis of scholastic records and recommendations. Students living in these houses must maintain a high scholastic average. Each student who will live in a cooperative house must make an advance $50 down payment, which covers rent for the semester. Cost of board varies with the price of food, but the approximate cost to each student is $27 per month. The cooperative houses are managed, operated, and maintained by the students who live there.

SORORITY HOUSES

Ten national sororities, accommodating approximately 375 students in residence, have chapter houses on the University campus.

CANCELLATIONS

A room reservation for either the men's or women's dormitories may be cancelled and the first installment refunded if notification of the cancellation is received by the Dean of Men or the Dean of Women one calendar month before the first day of the opening of the freshman residence halls. After that date the amount forfeited is determined by the date of cancellation.

Housing for Married Students

The University operates two new housing projects for married students to accommodate 450 families in 237 efficiency and 213 one-bedroom apartments. The efficiency apartments rent for $69 and $73 per month, the one-bedroom apartments for $82 and $86 per month. Rentals include furnishings adequate to basic living, utilities and maintenance.

To apply for a housing unit, communicate with the Office of the Dean of Men for general information and an application blank. A $25 deposit is required with the application in order to establish priority. Generally, although the University may make exceptions in emergency cases, full-time, married male students of the University and their immediate families have first priority for the apartments. The University may change rental rates at any time it is deemed necessary to the welfare of the projects.

Dining Facilities

The Student Union Commons, Men's Dormitory Cafeteria, Student Union Grill, Wildcat Lanes Grill, Dormitory Grill, Women's Dormitory Dining Room, and the new grill near Haggin Hall on Hilltop Avenue are operated as service enterprises by the University and provide dining facilities for students, faculty, staff members and guests. A new central dining unit for women is now under construction.

The Student Union Commons is open seven days a week except during vacations and holidays, and serves three meals daily except Sunday, when only breakfast and noon meals are served. The cafeteria is equipped to provide special services for students, faculty and staff members, and educational and religious groups for teas, receptions, parties, luncheons, banquets, and dinners.

The Men's Dormitory Cafeteria, located in Donovan Hall, serves the students living in all men's residence halls.

The new grill on Hilltop Avenue near Haggin Hall is available to all students and faculty all days of the week.

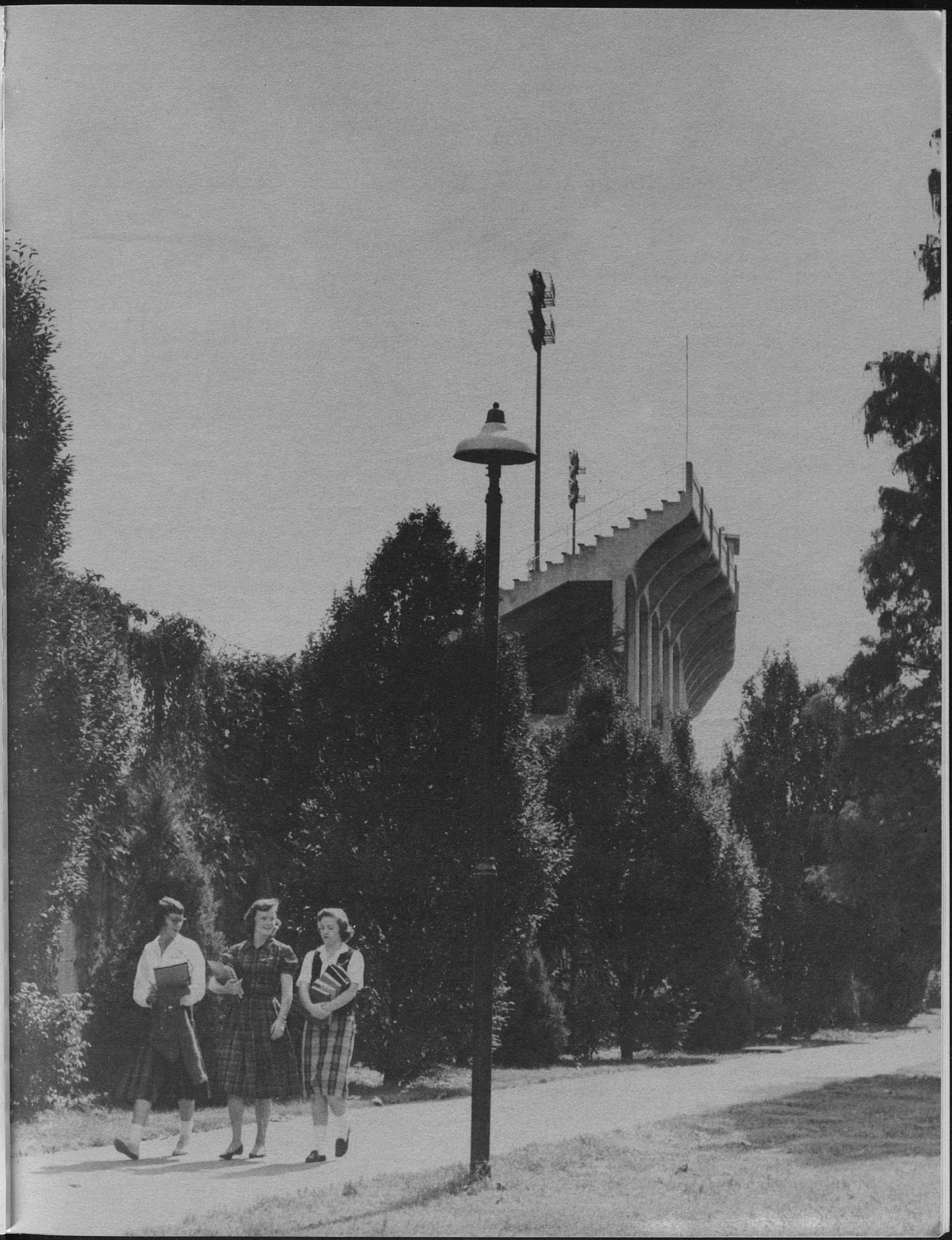
The University School Cafeteria serves the training school students of the College of Education. Lunch only is served.

Meals are also served at fraternity and sorority houses.

University Health Service

The University recognizes a special obligation in the health of students. It maintains the University Health Service, which has a staff that includes physicians nurses, technicians and clerical workers. Facilities include an out-patient department, or dispensary, and an infirmary. Various clinical laboratory and x-ray services are available. The Health Service will have facilities in the new University Medical Center sometime in 1961.

In serious illnesses or if major surgery is necessary, consultation is held with the student's parents or his home physician. The student is then transferred to a local hospital or returned home when his condition is too involved for care in the Health Service.



EXPENSES

Registration and Special Fees

Fall and Spring Semesters

	Kentucky Residents	*Non-Residents*
	Per Semester	
Full-time Students:		
All colleges except Law and Medicine	$81*	$181*
College of Law	$86*	$191*
College of Medicine	$500 (per full year)**	$950 (per full year)**
Summer Session		
Full-time Students		
All colleges except Law and Medicine	$40.50	$90.50
College of Law	$43.00	$95.50

Part-time Students, Regular or Summer Terms

	Per Semester Hour	
All undergraduate colleges except Law	$ 7	$15
College of Law	$11	$24
Graduate School	$ 9	$20

* The figure for each College listed above includes everything except additional fees for certain courses in Applied Music, Chemistry, Engineering, English, Geology, and Physical Education. These fees are outlined on page 24 under the heading "Additional Fees and Deposits."

** These are yearly fees, payable in advance or by installments. After making the $50 advance payment, students may make payments on the first day of September, November, February, and April.

Housing Costs

Men:	Per Semester
Haggin Hall	$280*
Donovan	$280*
Men's Quadrangle	$260*
Women:	
Patterson, Boyd, and Jewell Halls	$300**
Keeneland, and Holmes Halls	$300***
Dillard House (semi-cooperative)	$240**

Married Students:	Per Month	
	Cooperstown	Shawneetown
Efficiency Apartments	$69****	$73****
One Bedroom Apartments	$82****	$86****

Men:	*****Summer Term
All halls except Haggin	$50
Haggin Hall	$57.50
Women:	
Single Rooms	$80
Double Rooms	$62.50

* Includes room, breakfast, and dinner Monday through Saturday.

** Includes room and three meals daily except Sunday night supper.

*** Includes room and two meals a day.

**** Includes adequate basic furnishings, utilities, and maintenance.

***** Meals are not included in the housing costs for summer students.

Personal Expenses

(Not payable to the University)

Books and Supplies. Range from $20 up, depending on the student's schedule of classes for the semester.

Dry Cleaning. Both men and women students make their own arrangements for dry cleaning. The cost is comparable to that in any city.

Laundry. Laundry facilities for personal items are provided in the residence halls. Information concerning bed linen and towel service is provided upon request by the Office of Dean of Women. Subscription to this service is voluntary.

Personal Living Expenses other than the above vary according to the habits of the individual student.

EXPENSES & FINANCIAL AID

FEES AT THE UNIVERSITY vary according to the privileges granted and the place of home residence of the student—whether a resident of Kentucky or of another state or country. For the fees indicated the full-time student receives class instruction, health and infirmary service, admission to athletics contests and to Central Kentucky Concert-Lecture programs, use of the Library and Student Union Building, a discount on admissions to the Guignol Theatre, and a subscription to *The Kentucky Kernel*, the student newspaper. Fees may change from time to time.

DEFINITION OF RESIDENT STUDENT FOR FEE ASSESSMENT

The following rules, adopted by the Board of Trustees, are applied to determine a student's eligibility for the fees assessed Kentucky residents. This determination is made at the time of initial enrollment at the University and shall not thereafter be changed except as provided below.

A student under twenty-one years of age is eligible to register at the University as a resident of Kentucky if his parent or legal guardian has maintained continuous residence in the Commonwealth for twelve months immediately preceding his original enrollment in the University. No person shall be considered to have gained residence in the Commonwealth while a student unless or until his parent or legal guardian moves into the Commonwealth and acquires residence. If a student is registered as a resident of the Commonwealth and his parent or legal guardian thereafter moves out of the Commonwealth, the student will become a non-resident at the beginning of his next enrollment. If the parents have different domiciles, the domicile of the parent who has legal custody of the student's person shall be considered the domicile of the student.

A student twenty-one years of age or older is eligible to register at the University as a resident if he has maintained continuous residence in the Commonwealth for twelve months immediately preceding the date of his original enrollment, exclusive of any time spent in attendance at any institution of higher learning. An adult student registered as a non-resident upon his original entrance to the University cannot generally thereafter acquire resident status.

An adult student from out of state who seeks residence status must assume the burden of proving conclusively that he has been a resident of the Commonwealth the requisite time with the present intention of making his permanent home in this state. In general, it is assumed that the intent to remain indefinitely in the Commonwealth is evidenced not only by what a person states but what a person has actually done. Normally, persons with intent to establish residence will be expected to have done all those things which a person customarily does when establishing a permanent residence, some of which are: obtaining full time employment, establishing a home, buying property, filing tax returns, transferring or establishing church membership, affiliating with local organizations, and the various other things which give evidence of intent to remain indefinitely within the Commonwealth.

The Non-resident Fees Committee has been authorized by the Board of Trustees to consider changes in resident status based on the above criteria. Application for change of residence classification should be made to the Dean of Admissions, who, as Chairman of the Non-resident Fees Committee, will present each case to the Committee.

IDENTIFICATION CARDS

A personal identification card is issued to each student who has paid the full fee for a semester. It includes his photograph and personal description and certifies that he has enrolled and paid his fees. It entitles the student to admission to all athletic contests on the campus and to the concert-lecture series. It must be kept throughout the semester. If a card is lost through no fault of the student it may be replaced, but a fee of $5.00 will be charged. Application for replacement of an ID card should be made at the Registrar's Office.

Scholarships & Fellowships

To the greatest extent possible, financial assistance is rendered worthy students through scholarships and fellowships. In some cases aid in the form of scholarships or fellowships is limited to students enrolled in a particular college or department. In other cases it is avail-

Additional Fees & Deposits

FEES

Additional fees for certain courses and activities will be charged, as follows:

Applied Music:

$25.00 per semester for one course for 1 credit (or non-credit)
50.00 per semester for one course for 2 credits (or non-credit)
50.00 for 2 or more courses (credit or non-credit)
5.25 per semester for each half-hour lesson per week for each student in Applied Music who is not regularly enrolled in the University. This is in addition to the usual charge for individual lessons.

Engineering Activities:

$1.50 per semester and $1.00 per summer session, charged all students enrolling in the College of Engineering

Engineering Co-operative Fee:

5.00 per semester registration fee, applicable to students working off campus.

English:

.15 per week for books obtained from English rental library for English 101 (1a), 102 (1b), 105 and 106 (1br)
$2.50 voice recording fee for students in English 181 (6) or English 288 (38)

Geology:

$50.00 per course for summer field work in Geology 120, 121 (23a,b), and 524, 525 (118a,b)
5.00 per course for field work in Geology 220 (10a), 112, 113 (14a,b), and 520-523 (108a-d)
2.50 for field work in Geology 221 (10b)
.75 per course for field work in Geology 104, 105 (50a,b), 100 (3), and 200 (12a)

Physical Education:

$ 2.00 per semester for locker fee for Activity Course
28.00 per semester for horseback riding
4.00 per semester for locker fee for swimming
35.00 per inter-session for P.E. 281. (Includes room and board at Camp Robinson.)

Correspondence and Extension Courses

$7.00 per semester hour for correspondence courses.
7.00 per semester hour for Kentucky students and $15.00 per semester for out-of-state students for undergraduate extension classes.
9.00 per semester hour for Kentucky students and $20.00 per semester hour for out-of-state students for graduate extension classes.

Auditors

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

Graduation and Special Privileges

Candidates for the bachelor's degree will be charged a graduation fee of $9.00. This will cover the rental of cap and gown, the cost of *The Kentuckian*, diploma fee, and other necessary expenses. Candidates for Masters' degree will be charged a fee of $20.00, and for the doctorate $25.00. This is in addition to a deposit of $50.00 for dissertation publication. These fees will cover the items listed above, with the exception of *The Kentuckian*, and in addition the candidate will be presented with the hood. Graduation fees are payable not later than the fourth day preceding the commencement.

Late Registrations

Students entering the University after the regular registration periods will be charged an additional fee of $3 for the first day, $4 for the second day, and $5 for any day thereafter.

DEPOSITS

Chemistry:

A breakage deposit of $8.00 is charged students enrolling in any course in Chemistry.

Deposit for Military Uniform

Each student taking military science or air science makes a deposit of $10.00. This deposit is retained by the University from year to year until the student finishes his military or air science requirement or the student permanently leaves the University. This deposit is then returned after clothing and equipment account has been verified for any loss or damage.

Deposit for University Band

Each member of the University Band is required to make a deposit of $10.00. The deposit is returned after all equipment has been checked in at the close of the school year.

able to any qualified student. A number of prizes and awards are offered to students who do exceptional work, usually in a particular department or college.

Inquiries concerning scholarships and other awards should be addressed to the Vice President's office.

Loans

The University of Kentucky participates in the National Defense Education Act Loan Program. Allotments are received periodically and are usually sufficient to satisfy the request for loans. The fund is administered by a committee of the University.

A student desiring a loan must demonstrate to the satisfaction of the committee the need for a loan and the ability to do college work. The amount of the loan is determined primarily by the needs and the resources of the student. However, by the terms of the Act, the loan for one year must not exceed $1,000 and the aggregate over a number of years must not exceed $5,000.

Repayment of the loan must begin one year after the student ceases to pursue a full-time course of study. The interest rate is 3 per cent per year, but does not begin until the first payment is made. Repayment may be spread out over a ten-year period.

Students who enter public school teaching may have 10 per cent of the loan plus the interest cancelled

for each year of full-time teaching up to the amount of 50 per cent of the loan total.

Students who wish to pursue a college education, but who are hesitant because of financial difficulties, are encouraged to inquire into the availability of a loan. No collateral is required. It should be repeated that only the student's need and ability are considered.

Further information on student loans is available from high school principals or the Chairman, Student Loan Fund, University of Kentucky.

Part-Time Work

Through the University YMCA, the Dean of Women and the Dean of Men, the University attempts to find part-time work for students who need to support themselves partially. But in most cases students earn only enough for incidentals. The bulk of the student's expenses usually must come from some other source.

Students work as newspaper carriers, drive delivery trucks, clerk in stores, work in offices, and hold various other jobs. On the campus, a number of departments use students as part-time secretaries and hire students for other types of work. The pay scale varies from job to job but ranges upward from 65 cents an hour on campus to considerably more than that for students with special skills.

There is very keen competition for jobs and the student who has had no experience must show considerable industry to find employment. In any case, he should not attempt to support himself completely. Since there is a necessary period of adjustment for the new student, he should come prepared to meet his expenses in full for at least his first semester. The student who is to be partly self-supporting may seek help from his advisor in adjusting his study load so that his employment will not prevent him from obtaining the greatest benefit from his courses.

Veterans' Benefits

The University Counseling Service coordinates veteran affairs between the University and the Veterans Administration. The veteran should report to the University Counseling Office, Room 204, Administration Building, which has been designated as the receiving center for veterans wishing to enter or re-enter the University of Kentucky. Here the applicant will be given information about applying for federal benefits, and general guidance with respect to vocational opportunities, courses of study, etc. From this office he will be referred for further assistance to other persons as the individual case requires.

WHAT TO BRING

1. The credentials necessary for admission to the University as described in the section on Admission to the University in this Bulletin.

2. A Certificate for Education and Training, Public Law 550, or a letter indicating eligibility under Public Laws 610 or 894. (No payment for subsistence may be made until a certificate has been filed with the University.) The veteran should obtain his certificate from the Veterans' Administration as soon as possible after he decides to enter the University of Kentucky. Transfer students should request a change of place of training prior to registration.

3. Sufficient funds to provide subsistence for two months.

PUBLIC LAWS 610, 894, AND 550

Under Public Laws 610 and 894 provision has been made for vocational education or training to overcome handicaps suffered as a result of service-connected disabilities. In order to qualify for such rehabilitation aid, the veteran must have sustained an injury or other disability which will qualify him for a pension or disability compensation. A veteran who is interested in applying for educational benefits under Public Law 610 or 894 should seek information from the nearest office of the Veterans' Administration prior to the date for enrollment at the University.

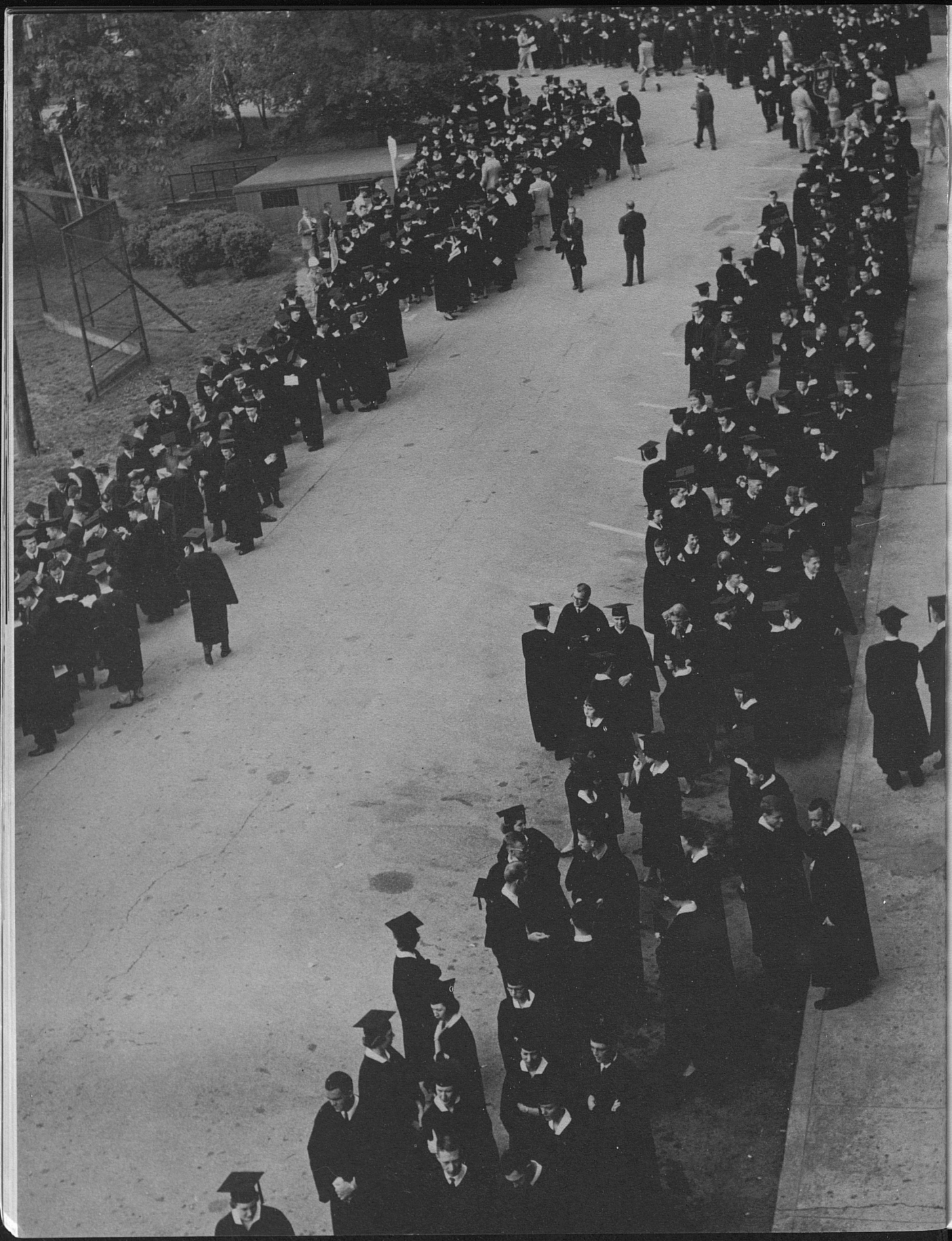
Public Law 550 (Korean GI BILL) provides educational benefits for honorably discharged veterans who have served a minimum of 90 days in the armed forces after June 27, 1950. Veterans who entered the Armed Forces after January 31, 1955, are not eligible.

Veterans who plan to enter the University of Kentucky under Public Law 550 (Korean GI Bill) should apply to their nearest V.A. Office for a Certificate of Education and Training. This should be done prior to registration date at the University of Kentucky. The Certificate of Education and Training is evidence of entitlement to educational benefits under Public Law 550. It should be presented to the University Counseling Office at the time of enrollment . Since Public Law 550 provides that all benefits be paid directly to the veteran, the veteran must arrange for payment of his own fees just as any non-veteran would do.

KENTUCKY WAR VETERANS AND CHILDREN OF KENTUCKY WAR VETERANS EDUCATIONAL PROGRAM

Under the provisions of KRS 164.480, 164.505 and 164.515 certain persons are eligible for assistance from the State of Kentucky. All persons eligible under this program should, in addition to meeting the requirements for admission, submit with the application for admission the necessary documents establishing their eligibility under this program.

Generally, children of Kentuckians who were killed in military action or permanently and totally disabled in wartime military service are eligible for exemption from the payment of the registration fee. This does not include exemption from payment of special fees or from additional fees in certain courses. The special fee for all students is approximately $14.25 a semester and $5.50 for a summer term, for full time students. This special fee covers such activities as admission to athletic and cultural events, student newspaper subscription and Student Congress.



WORKING TOWARD A DEGREE

THE STUDENT PURSUING A COLLEGE DEGREE must fulfill a number of requirements specified by the University. These concern such things as the number of courses he will take and the pattern they should follow, the amount of time he must spend in full-time work, his grades, and his conduct. Explanations of these requirements are presented in the following paragraphs.

Student Load

The normal maximum load to be carried during any semester by a student in an undergraduate college (including residence, correspondence, and extension courses) is 19 credit hours or the amount specified in the curriculum for the particular semester, whichever is larger.

The normal maximum load for the summer session is nine credit hours. Two short courses of four weeks or less in length, or one short course of four weeks or less in length and two full term courses (except when the two full term courses do not exceed a total of three credit hours) shall not be carried concurrently.

The minimum load for a full-time student in an undergraduate college is 12 credit hours in a semester and six credit hours in the summer session.

A student who has attained a grade point average of 3.0 on a load of at least 15 credit hours for the preceding semester, or a beginning freshman who ranks in the upper 25 per cent on the University classification tests, may be permitted by the dean of his college to carry as many as 22 credit hours (10 credit hours for the summer session).

A student on academic probation shall not take more than 14 credit hours in a semester or more than seven credit hours in the summer session.

The professional colleges and the Graduate School may set lower maximum loads which are consistent with their degree requirements.

A student may be registered simultaneously at the University and at another educational institution only with the approval of the dean of the University college in which he is registered. The credit hours obtained at the other institution will be considered a part of his maximum load. If the simultaneous registration has not been authorized, the transfer of credit from the other institution may be denied.

Grading System

The University 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 grade points for each credit hour.

Grade B represents a high achievement as a result of ability and effort. It is valued at three grade points for each credit hour.

Grade C represents ordinary achievement, the minimum expected of a college student. It is valued at two grade points for each credit hour.

Grade D represents the minimum passing grade. It is valued at one grade point for each credit hour.

Grade E represents unsatisfactory performance and indicates failure in the course. It is valued at zero credit hours and zero grade point. A student receiving this grade can obtain credit in the course only by repeating the entire work of the course in class. In rare cases in which undue hardship is involved in repeating the work in class, the dean of the student's college may approve repeating the work by correspondence.

Grade I—incomplete—may be given when part of the work of the course remains undone at the time that grades are due. The grade I, for undergraduates, must be removed within one month after the student re-enters the University, unless the dean of his college grants an extension of time. A grade of I not removed within this period will be changed to a grade of E by the Registrar, who will notify the instructor concerned. The grade I, for graduate students, must be removed within one calendar year of the close of the term in which the grade was assigned, unless the Dean of the Graduate School grants an extension of time.

Grade S—satisfactory work in progress—may be recorded for students in courses consisting of research, independent work, or seminars, 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.

Grade W—withdrew passing—may be given if the student was doing satisfactory work at the time of his official withdrawal. No grade will be recorded for a student who officially withdraws or is dropped from a class during the first ten class days of a semester or the summer session. Students who withdraw after these dates or who are dropped from class shall be given a grade of E if their work is unsatisfactory or if their withdrawal is not official.

GRADE POINT AVERAGE

The grade point average is the ratio of the number of points gained to the number of credit hours attempted. As stated above, an A counts four points for each credit hour carried, a B counts three points, a C two, and a D one. Thus, a student would earn 12 quality points for an A in a three-hour course and four quality points for a C in a two-hour course. To figure his overall standing, he would add all his quality points and divide this by the number of hours carried. The over all grade point average for the two courses cited above would be 16/5 or 3.2. Courses in which grades of W, S, and I have been given are ignored, but a grade of E is included even though it counts as zero credit hours in fulfilling the requirements for a degree.

Other Regulations

Entrance Examination. All new students, other than those entering the Graduate School, are required to take the University classification tests and such physical examinations as the University may require.

Aerospace Science and Military Science. Aerospace science or military science is required of all non-veteran male freshmen and sophomores who are citizens of the United States, who are not less than 14 nor more than 23 years of age, and whose physical condition meets the requirements of the appropriate branch of the armed services. In lieu of meeting the military service requirements, freshman and sophomores may elect to enroll for a two-year course in the University Band.

Physical Education. Two credit hours in physical education are required of all undergraduate students except those who are admitted to the University with junior classification or above, or excused because of age or physical reasons, or have had military training.

Acceptable Standards in English. Instructors in all courses are expected to call attention to and to penalize for errors in English usage on the part of a student, and to require rewriting of papers which do not meet acceptable standards of English.

Special Examinations. A student regularly enrolled in the University may be given a special examination for credit for material mastered outside of formal instruction, provided the request for the examination is approved by the Registrar, the dean of his college, and the head of the department concerned. Application must be made in writing to the Registrar.

A student who has failed a course may not take a special examination to remove the failure, nor may a student take an examination for credit in an audited course.

Academic Probation, Dropping for Low Scholarship, Re-admission

UNDERGRADUATE COLLEGES

The following students shall be placed on academic probation:

1. The student who, during either of his first two semesters, fails to attain a grade point average of 2.0;
2. The student who, at the end of his third semester or any subsequent semester or term, fails to have a cumulative grade point average of 2.0;
3. The student who is re-admitted after being dropped from the University for academic reasons.

A student on academic probation shall be removed from probation at the end of a semester or term if he has achieved a grade point average of 2.0 and has a cumulative grade point average of 2.0.

A student, who, during his first semester, demonstrates that he cannot or will not do satisfactory work may be dropped upon recommendation of the dean of the college in which he has been registered.

The following students shall be dropped from the University:

1. The student who, after his first two semesters, has failed to achieve a grade point average of 2.0 for at least one of the semesters;
2. The student who, after his first three semesters, has failed to achieve a grade point average of 2.0 for at least two of the semesters;
3. The student on academic probation because of a low cumulative grade point average who fails to attain a cumulative grade point average of 2.0 after one semester on probation.

A student who has been dropped shall normally be re-admitted only after two semesters have passed and after he has presented evidence to indicate that he can and will do satisfactory work if readmitted. He must apply for readmission at least 30 days before the beginning of the semester in which he plans to enroll. He shall, however, have the right to appeal for waiving the two semester requirement on the grounds of exceptional hardship.

If a student is readmitted, he shall be required to achieve a grade point average of 2.0 for the first semester after readmission, and he shall further be required to bring his cumulative grade point average up to 2.0 by the end of the second semester after readmission, or be dropped from the University.

PROFESSIONAL COLLEGES

Pharmacy. Any full-time student who fails to make a grade point average of 2.0 during a semester shall be placed upon probation. A student who fails to make a grade point average of 2.0 for two consecutive semesters shall be dropped from the University. A student on probation who makes a grade point average of 2.0 for the probationary semester but who fails to attain a grade point average of 2.0 for the total time in college will be continued on probation for another semester. If at the end of the second semester of probation he has failed to attain a cumulative grade point average of 2.0, he shall be dropped from the University.

Law. Any student who fails to make a grade point average of 2.0 during a semester will have his academic record evaluated by the law faculty and may be dropped from the University or placed on probation as the facts warrant. A student on probation who fails to make a grade point average of 2.0 in the probationary semester will be dropped from the University unless there are extenuating circumstances acceptable to the law faculty. A student who fails to make the following designated grade point average shall be dropped from the University unless he has made a grade point average of 2.0 for the semester just completed.

1.5 at the end of the one semester of Law
1.8 at the end of two semesters of Law
1.9 at the end of three semesters of Law
2.0 at the end of four semesters of Law

A student who has been dropped from the college will not be recommended by the Dean for re-admission to the college of Law until he has remained out of the college for a semester and a Summer Session and has received favorable consideration by the law faculty of a written petition stating good reasons why he can do satisfactory academic work.

ALL UNDERGRADUATE AND PROFESSIONAL COLLEGES

The dean of each college shall submit to the Office of the Registrar a complete list of students placed upon academic probation or dropped from the University within two weeks after the dean has received the grade reports from the registrar at the close of the semester or term.

A student who is on academic probation may not be employed by any department or college of the University. This shall not prevent any department or college from establishing higher standards for student employment.

A student who is on academic probation shall not be allowed:

1. To serve as an officer or committee member in any campus organization;
2. To participate in any University extra-curricular activity or in the activity of any University organization if the participation involves the expenditure of an appreciable amount of time.

At any time the dean of a college in which a student is enrolled may declare the student ineligible because of failure in current class work; at any time the dean of women or the dean of men may declare a student ineligible whose participation in an activity is judged to be detrimental to the student, the organization, or the University.

Students shall be removed from probation only on the basis of residence work at the University of Kentucky. Usually part-time work shall not be considered unless the student has been placed on probation because of unsatisfactory performance as a part-time student.

Re-admission of a student who has been dropped from the University shall be upon recommendation of the dean of the college in which the student is to be registered. However, the student shall have the right to appeal for a review of his case by the Scholarship and Attendance Committee of the University.

A student who has been dropped a second time shall not be re-admitted to the University.

Each student shall be presented with a copy of the rules that deal with probation, dropping for low scholarship and re-admission. He shall be responsible for being familiar with these rules and with their relationship to his situation.

Graduation

To be eligible for any degree, a student must have completed the requirements as approved by the University faculty. The student must file an application for a degree with the dean of his college within two weeks after the beginning of the semester or summer session in which he expects to complete his work.

RESIDENCE REQUIREMENT

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, regardless of the length of time the student has attended the University, a minimum of 30 of the last 36 credits presented for the degree must be completed in residence. This rule may be waived for veterans, provided they present at least 30 credits of residence work.

Not more than 32 credits required for an under-

graduate degree and not more than one-half of the requirements for a major may be gained by extension or correspondence. Under certain conditions, up to six credit hours and nine weeks of residence required for a master's degree may be satisfied by extension work taught by University instructors. No credit will be given in the Graduate School or in the professional colleges for correspondence courses.

Credit for work while registered at a University Center shall be limited to freshman and sophomore courses. The maximum credit acceptable from University Centers toward an undergraduate degree is 67 credit hours.

COMMENCEMENT HONORS

The bachelor's degree with honors in the student's major subject will be conferred upon the student who, in addition to having completed the requirements for the degree, shall have high standing in his major subject, passed with distinction a thorough comprehensive examination in his major subject, and been recommended by the faculty of the department in which his major work was done and by the dean of his college.

A student who attains a grade point average of 3.6 or higher for at least three years of work at the University (excepting extension and correspondence study) shall be graduated "With High Distinction." A student who attains a grade point average of 3.4 to 3.6 shall be graduated "With Distinction."

A student with a minimum of two but less than three years of residence work shall receive the appropriate Commencement honors if he attains a grade point average of 0.2 greater than those specified for three years of residence work.

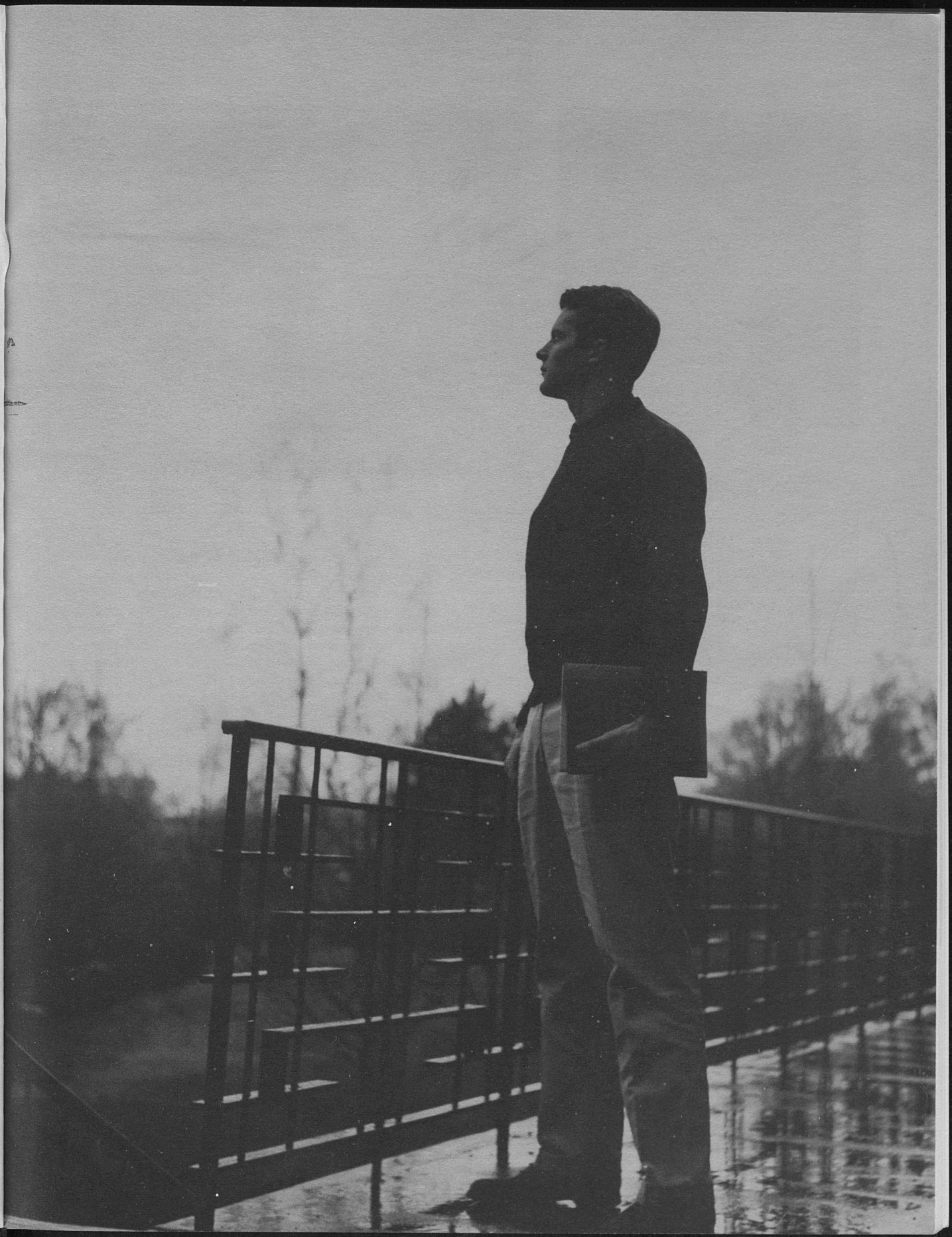
The degree with honors from a professional college shall be based solely upon work done in the professional college.

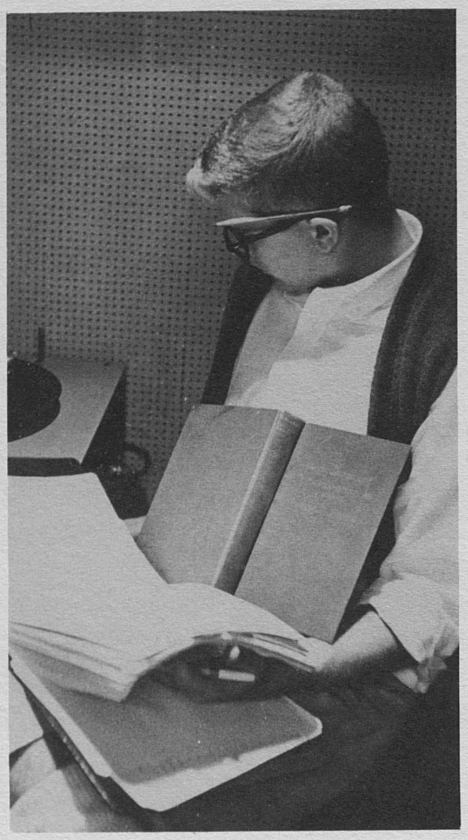
Student Discipline and Control

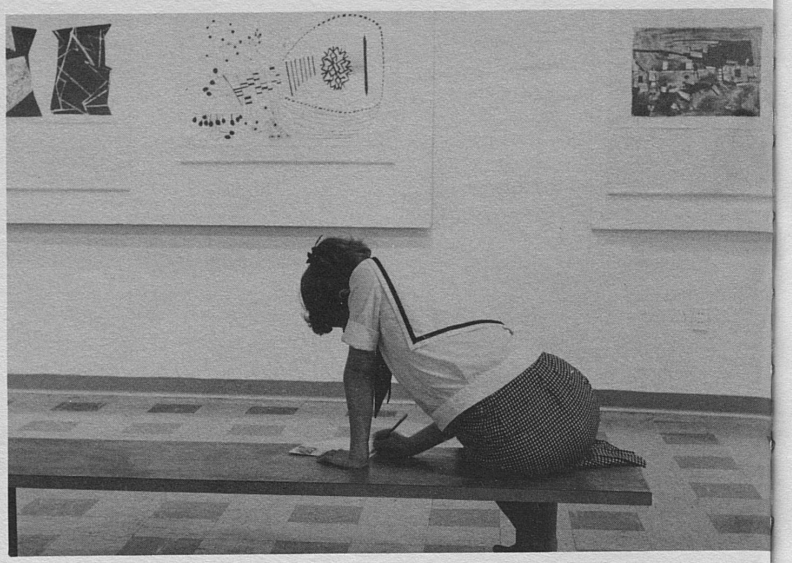
The University expects all students to hold to the strictest standards of honesty and to conduct themselves in a seemly manner, bearing in mind that their conduct determines in a large measure their reputation and that of the institution.

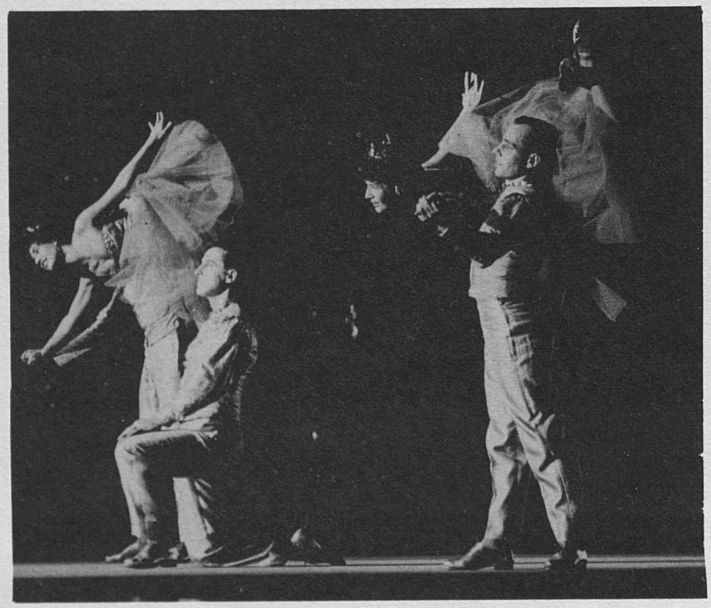
STUDENT MOTOR VEHICLES

All students registered as freshmen and sophomores at the University, regardless of the number of years they have attended college, and all students on academic or disciplinary probation are forbidden to possess and operate motor vehicles while attending the University unless given special permission by the Dean of Men. This regulation applies to the University environment including the campus, the city of Lexington, and the greater Fayette County area. Students in the above categories must not bring motor vehicles to the University at any time without permission. All upperclass students who bring motor vehicles to this area must register them in the Office of the Dean of Men at the beginning of each term.











SPECIAL OPPORTUNITIES

THE STUDENT ATTENDING the University of Kentucky is expected to develop not only through his work in the classroom, but also through daily contact with other persons of many interests, through frequent reading in the University libraries, by attending some of the many fine lectures and concerts presented on campus, and by taking part in student activities. Some of the opportunities open to the student are described in this section.

Libraries

The University of Kentucky libraries house nearly a million volumes, ranking them among the largest in the South and Midwest. The libraries contain extensive collections of source materials—both printed and manuscript—in many fields, including complete runs of most major scientific journals and many others. Among the collections are a broad range of materials on Kentucky and Ohio Valley history, the works of numerous modern authors, tobacco literature, and the papers of Alben W. Barkley, A. O. Stanley, and Jouett Shouse, which provide a detailed picture of twentieth century American political life. An addition to the main library will be built soon, doubling the size of the building and permitting greater use of the facilities.

The University libraries regularly receive approximately 5,000 periodicals and are a depository for all U.S. Government publications.

Most of the books and research materials are housed in these areas of the Margaret I. King Library on the Lexington campus:

Browsing Room—New and popular works of fiction, poetry, plays, biography, travel, and other general subjects.

Periodical and Newspaper Reading Room—Current periodicals and newspapers—including all Kentucky newspapers and some of the major indexes.

Reserved Book Reading Room—Books of required or recommended reading in the University courses.

Reference Room—Indexes and other reference works, such as encyclopedias, atlases, and bibliographies, to assist student in using library materials.

General Card Catalogue—List of all books and other materials in University libraries, filed by author, title, and subject matter.

Circulation Department—In charge of books and periodicals shelved in stacks, and of books on open shelves in browsing room.

Archives and Special Collections—Manuscripts and other items of research value, especially in the field of Southern history, and microfilms and microcards.

University and Educational Archives—Materials on Kentucky institutions of higher education—especially the University of Kentucky—early academies and private schools, historical textbooks, Kentucky War Memorial Survey.

In addition to the Margaret I. King Library, the facilities of the University include small, highly selective collections for use of undergraduates at University centers and the following collegiate, divisional, and departmental libraries: Agricultural Experiment Station, Agronomy, Art and Music, Biological Sciences, Chemistry, Education, Engineering, Geology, Home Economics, Horticulture, Law, Library Annex, Library Science, Mathematics, Medical Center, Pharmacy, and Physics.

The University of Kentucky is a member of the Midwest Interlibrary Center in Chicago, and the 13 million volumes of this institution are available to all students and faculty members.

The collection of books, periodicals, films, maps, and manuscripts in the University Libraries has been selected for the purpose of aiding the educational program of the University in teaching, in research, and in the promotion of general culture. In addition to serving the University faculty, students and staff, the libraries are available for reference use to any citizen of the state. A complete photographic laboratory makes it possible for scholars who live at a distance and graduate students not in residence to take full advantage of unique source materials in the University Libraries. Orders for microfilm, photoprints, and photostats should be addressed to the Photographic Service, University of Kentucky Libraries, Lexington, Kentucky.

Guidance in the use of the library is provided by means of a Library Guide, available at the Circulation and Reference Desks, and through individual instruction by a staff of trained librarians. Citizens who need the assistance of the library staff in any problem may write to the Reference Librarian, University of Kentucky, Lexington.

Cultural Opportunities & Student Activities

CENTRAL KENTUCKY CONCERT AND LECTURE SERIES

Programs in the Central Kentucky Concert and Lecture Series are arranged through the cooperation of the University with the Central Kentucky Concert Association and the Lexington Public Forum and are open to all students who have paid the full-time fee.

SPECIAL LECTURES

The University presents a number of other lectures throughout the school year. Among these are the presentations in the Blazer Lecture Series, sponsored by Mr. and Mrs. Paul G. Blazer of Ashland. A number of departments, such as English and Zoology, sponsor departmental series of lectures and films. Some of the presentations by the several organizations are highly specialized and appeal to a limited audience. Others are of general interest and attract members of the student body, and faculty, and the general public.

MUSICALES

Sunday afternoon musical programs are arranged for the enjoyment of the students, faculty, and friends of the University. There is no admission charge.

UNIVERSITY ART GALLERY

A series of changing exhibitions is presented each year in the University Art Gallery under the direction of the Department of Art. These exhibitions include paintings, drawings, prints, photography, and sculpture by major masters of the past and present, work by contemporary artists of the region, and an Annual Student Exhibition.

DRAMATICS

Each year the Guignol Theatre presents a series of plays in which students, faculty, and others interested in dramatics may participate.

OTHER OPPORTUNITIES

The Y.M.C.A. and Y.W.C.A. sponsor a series of informal discussions in the Student Union, the men's dormitories, the women's dormitories, and in the various fraternities and sororities. The Cosmopolitan Club, composed of students and faculty from foreign countries and the United States, seeks to promote international good will and world brotherhood through social, educational and cultural programs. Departmental clubs add effectively to the cultural life of the University.

The University has its own FM station (91,300 megacycles), carrying the call letters WBKY. Students taking courses in Radio, Television and Films, and others of demonstrated talents, are permitted to gain actual broadcasting experience by filing positions on this station. From the WBKY studios, programs are also broadcast to WHAS, Louisville, the Lexington commercial stations, and other outlets.

RELIGIOUS LIFE

Through the existence of student groups representing most major branches of Jewish and Christian Faiths, spiritual growth may be nourished. The activities of these groups are coordinated through the Interfaith Council. Most student religious groups furnish trained personnel who may act as counselors and who are actively interested in the students' lives.

STUDENT ACTIVITIES

Many opportunities are given to the student to take part in various activities outside of his college studies. He may work on the daily student newspaper, *The Kentucky Kernel*, work on other student publications, or fill a position on the University's FM radio station, WBKY. He may take part in student government or, if he is interested in dramatics he has the opportunity of taking part in plays presented in a real theatre and under competent direction. He may plan and participate in various recreational, social, and cultural activities by becoming a member of one of the Student Union Interest Groups. The Department of Physical Education conducts an extensive system of Intramurals for all men and women students. The former member of the Hi-Y Club or of the Y-Teens finds a welcome in the University Y.M.C.A. or Y.W.C.A. The student can enter into the management of various enterprises, participate in debating and in oratorical contests, take part in athletics, become a member of the orchestra, band, or glee club, and go to social affairs sponsored by the University and by various organizations. There is opportunity at the University for the student to exercise his many interests not only in hard work with his studies but in activities which bring him in contact with his fellow students.

FRATERNITIES AND SORORITIES

Nineteen national fraternities and 10 national sororities maintain chapters at the University of Kentucky.

The Honors Program

The University of Kentucky feels an obligation to provide teaching and facilities for study for students of different abilities. The University accepts as part of that obligation the nurture of gifted students. They stimulate other students and members of the faculty. They will furnish intellectual leadership for the state and nation.

The main purpose of the Honors Program is to attract students of unusual ability and achievement to the Uni-

versity and to provide them with special opportunities for further intellectual advancement. The faculty and the administration hope that the spirit of the Honors Program will in time touch many—students and faculty —and thus help spread the love of knowledge.

The Honors Program is conceived to be essentially a challenge to outstanding students and an opportunity for them to assume responsibilities commensurate with their talents. Honors Scholars are chosen not only because they are superior students but also because they have chosen to prove they are superior students.

The heart of the Honors Program is the opportunity to develop individually, each according to his talents and interests with inspiration and encouragement from association with other Honors Scholars and Faculty members.

Honors Scholars are selected on the basis of College Qualification Tests and other National Examinations, high school records and recommendations, and interviews. A very small group is selected. The selected students must want to work hard in a difficult and competitive program of studies without expecting immediate material awards. The program probably will appeal only to those bright students who want a challenge to match their talents, a chance to stretch their minds, a place to meet other bright students and interested professors, and to make friends with them.

Honors Scholars begin their studies in the freshman year in the college of their choice. They meet in some special classes and in a weekly discussion session but also attend classes with other students in the University. They have library stack permits and they have access to an Honors Reading Room in the library.

Perhaps the most important part of the program is the feature most difficult to put into words. It is in part the growth of friendship among people with a common bond—love of learning. It is in part stimulation to work hard in an environment of friendly competition. It is in part a sense of being on a worthwhile "quest." It is in part awareness that bright students need not be lonely students. It is in part a feeling that bright students are not odd. It is in part personal satisfaction derived from reading and discussing and thinking and learning for fun, without thought of academic credits.

The Honors Program is under the guidance of an Honors Program Director and an Honors Program Committee of twelve Faculty members representing all undergraduate colleges. The Committee realizes that an Honors Program must be continually adapted to meet needs. Changes will be made as they seem useful or necessary.

Although the Honors Program is not intended to be primarily a program of rewards and distinctions for talented students, rewards will inevitably come to those students who by their achievements earn them. Among the rewards will be satisfaction, friendships, prestige, opportunity for graduate scholarships, and opportunity for better positions after graduation.

Student Services

THE DEANS OF MEN AND WOMEN

The Dean of Men and the Dean of Women assist students with their problems and aid them in their adjustment to college life. Their offices serve as a general clearing house for matters pertaining to the welfare of all students.

COUNSELING AND TESTING SERVICES

The services of the University Counseling and Testing Offices are available to all students enrolled in the University. In addition, high-school students seeking help in planning a college program may utilize these services. There are no fees for testing and counseling.

The University Counseling Service has a staff of trained counselors for the purpose of helping students with their problems. Some typical problems areas are: ineffective study skills and habits, need for improved reading skills, difficulty in adjusting to the college environment, lack of a specific field of interest, vocational planning, inadequate interpersonal relations, feelings of depression, emotional insecurity, and more specific problems of a personal nature.

Testing facilities are available upon referral from the Counseling Service. Tests of intelligence, aptitude, achievement, personality, interest, study skills, and many others may be used, if the student wishes, to aid him in understanding himself and increasing his efficiency.

Counseling services are also available to staff and faculty. All interviews are confidential.

The University Counseling Service is located in Room 204 Administration Building. Appointments may be made by contacting the Secretary, Extension 3394 or 3395.

The University Testing Service, Room 303 Administration Building, acts as a testing center for the administration of various standardized tests, e.g., Graduate Record Examination, Medical College Admissions Test, National Teachers Examination and the like. All placement and classification tests administered to new and transfer students are gitven under the supervision of this office. The registration of entering students is not complete until the student has taken the required entrance test battery.

The University Testing Service is authorized by the Kentucky Association of Colleges and Secondary Schools to operate the Kentucky Cooperative Counseling and Testing Service.

COURSE NUMBERING SYSTEM

01 to 99—Non-credit and/or non-degree courses

100 to 199—Open to freshmen; undergraduate credit only

200 to 299—Sophomore classification required; undergraduate credit only

300 to 399—Junior classification required; undergraduate credit only

400 to 499—Junior classification required; undergraduate credit; graduate credit for non-majors only

500 to 599—Junior classification required; undergraduate and graduate credit

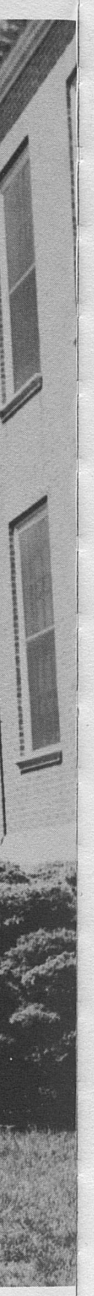
600 to 799—Graduate classification required
Courses may be approved for variable credits.

Repeated registration in a course may be allowed if the course description carries the statement: "May be repeated to a maximum of ..... credits."

A new course numbering system was inaugurated in September of 1960. The new number precedes the course description, followed by the old number in parentheses.

THE COLLEGES





ARTS & SCIENCES

The aim of the College of Arts and Sciences is to train the individual student as thoroughly as possible in the four years in the directions of his interests and powers, in order that he may lead a happy and useful life and contribute his share of leadership in social, intellectual, economic, and political advancement.

The College strives to attain its purpose by imparting knowledge and by training the student in the proper methods of acquiring and using knowledge, to the end that he may be broadly informed and skilled in the solution of problems, and that he may develop habits of self-reliance, initiative, judgment, and those inner resources that lead to self-mastery and happiness.

The distinctive character of the College is that it insists on an acquaintanceship with the main fields of intellectual interest and, in addition, as deep a knowledge as possible in the time allotted in some one special field. While all students are trained along lines useful in various vocations, the College emphasizes preparation *for* vocations rather than *in* them by the building of a well-rounded life, rich in interest, resourceful, capable of continuous growth and of adaptation to times and circumstances.

The College of Arts and Sciences embraces 28 departments and two schools: Aerospace Science; Anatomy and Physiology; Ancient Languages and Literatures; Anthropology; Art; Botany; Chemistry; Economics; English, Speech and Dramatic Arts; Geography; Geology; History; Hygiene and Public Health; Library Science; Mathematics and Astronomy; Microbiology; Military Science and Tactics; Modern Foreign Languages and Literatures; Music; Philosophy; Physical Education; Physics; Political Science; Psychology; Radio, Television and Films; Social Work; Sociology; Zoology; the School of Journalism; and the William Andrew Patterson School of Diplomacy and International Commerce. These have been grouped into four divisions: Humanities; Social Studies; Physical Sciences; and Biological Sciences.

Admission. Requirements for admission to the College of Arts and Sciences, as a freshman, or with advanced standing, or as a special student, are the same as those outlined on preceding pages for the University. The College, however, recommends strongly that the student present for admission two units of mathematics.

Freshman Advisers. Every student entering the college is assigned an academic adviser. The assignment is made on the basis of the student's interests and achievement. To minimize the possibility of the academic adviser's considering the new freshman as a major, heads of departments are not appointed as freshman advisers except where absolutely necessary. The dean of the college appoints the academic advisers annually.

The adviser makes out the student's course of study on the basis of information supplied by the Dean's office and by the advisee. He must be consulted before any changes are made in the schedule of classes the student is taking. The adviser in general holds personal conferences with each advisee, and makes recommendations to the proper university official with reference to living conditions, class schedules, etc. A freshman may upon the recommendation of the adviser be permitted to carry above a normal academic load.

Sophomore and Upper Division Advisers. The Dean of the college appoints a professor in the department in which the student is doing his major work to act as the student's adviser. The adviser must approve the student's schedule of classes prior to the placement of the student in the various courses.

Probation Students. Students placed on academic probation by the Dean of the college are urged to utilize the services of the University Counseling Office. The parent is notified at the beginning of the probation period. During the semester the student is interviewed and every attempt is made to determine his difficulty. The attitude of the college toward probation students is that they need assistance and with the co-operation of the parents the college attempts to fulfill this need.

Courses. The College offers courses designed to meet the needs of various classes of students. They may be listed under the following heads:

1. General cultural courses with majors and concentration fields, leading to the degree of A.B. or B.S.

Martin Marshall White, M.A., Ph.D., is Dean of the College of Arts and Sciences.

2. Professional courses leading to special degrees in industrial chemistry, in journalism, in music, and in medical technology.

3. Professional courses in which the general requirements for the A.B. and B.S. degrees are fulfilled.

4. Preprofessional courses meeting the requirements for admission to professional schools.

5. Combined courses, by means of which students may save a year or more in gaining both the A.B. or B.S. and a degree in law, medicine, dentistry, forestry, or engineering.

6. Graduate courses leading to the master's and the doctor's degrees in the graduate school.

Degrees. The College offers courses leading to the following degrees: Bachelor of Arts, Bachelor of Science, Bachelor of Arts in Journalism, Bachelor of Music, and Bachelor of Science in Medical Technology. In all cases the student is responsible for the meeting of the requirements for graduation.

THE DEGREE OF BACHELOR OF ARTS

For the degree of Bachelor of Arts the student is required to gain a total of 128 credits (exclusive of the required physical education) and 256 points; that is, a standing of 2.0. With the required physical education, a student is required to complete 130 credits and 260 points. In the departments of Anatomy and Physiology, Ancient Languages, Anthropology, Art, Botany, Economics, Geology, Journalism, Modern Foreign Languages, Music, Philosophy, Physical Education, Psychology, Radio, Television and Films, Social Work, and Zoology, he must pass a final comprehensive examination on his major subject. The Political Science department requires a senior thesis. A Topical Major is required to write a comprehensive paper in the senior year.

THE DEGREE OF BACHELOR OF SCIENCE

The degree of Bachelor of Science will, if preferred, be granted under the same conditions as govern the degree of Bachelor of Arts, provided that the student has gained at least 60 credits in science (biological and physical).

The detailed conditions are as follows:

The Lower Division

GENERAL REQUIREMENTS

English, first and second semesters, freshman year, 6 credits.

Foreign Languages—Twelve semester hours in one language, the first nine of which may be waived. The final semester of the intermediate year of the languages must be taken in residence. (Arabic, French, German, Greek, Hebrew, Italian, Japanese, Russian, Spanish.)

General Hygiene, first or second semester.

Physical Education, 2 credits.

Military Science or Aerospace Science (men), freshman and sophomore years, 8 credits.

GROUP REQUIREMENTS

Humanities, sophomore year, 6 credits.

Social Studies, freshman or sophomore year, 6 credits. (Anthropology, Economics, Geography, History, Political Science, Sociology.)

Physical Sciences, freshman or sophomore year, 6 credits. (Astronomy, Chemistry, Geology, Mathematics, Physics.)

Biological Sciences, freshman or sophomore year, 6 credits. (Anthropology, Botany, Anatomy and Physiology, Microbiology, Psychology, Zoology.)

WAYS IN WHICH THE GROUP REQUIREMENTS MAY BE SATISFIED

1. *The Humanities.* All lower division students will be required to complete a series of three introductory courses in the Humanities (for a total of six credits) to be chosen in any combination of three from the following courses, except that one, and only one, shall be either Humanities 203 or 204 (D or E). (Each of these courses will carry two credits.)
   - Humanities 200 (A), Classicism: Graeco-Roman; Modern European.
   - Humanities 201 (B), The Renaissance; Romanticism.
   - Humanities 202 (C), Realism and Naturalism; the Contemporary.
   - Humanities 203(D), Art; The Renaissance to the Present.
   - Humanities 204 (E), Music; The Renaissance to the Present.
2. *The Social Studies.* The student is permitted to choose any two of the following courses, to satisfy the group requirement in the social studies:
   History 108, 109 (5a,b), History of the U.S.; 104, 105 (4a,b), Modern Europe; Political Science 151 (51), American Government; Anthropology 153 (3a), Sociology 153, 154, (3a,b), or Geography 153, 154 (3a,b), Societies Around the World; Anthropology 121 (2), Introduction to Cultural Anthropology; Sociology 151 (4), Introductory Sociology; Economics 251, 252 (51, 52), Principles of Economics.
3. *The Biological Sciences.** Any two of the following courses will satisfy the biological science requirement: Anatomy and Physiology 102 or 210 (2 or 10); Anthropology 100 (1); Botany 101 or 125 (1 or 25), 103 (2); Microbiology 100, 102 (2a,b), 200 (52); Psychology 100 (1); Zoology 100 (1).
4. *The Physical Sciences.** Students will be permitted to take work in either one or two departments in order to satisfy the physical science group requirement. The student may choose six or more credits from the following courses: Astronomy 191, 192 (51a,b); Chemistry 102, 104 (4a,b), 110, 112 (1a,b); Geology 104, 105 (50a,b), 110 (20a) with 104 or 105, 100 (3), 112, 113 (14a,b) with 100, 214 (53); Mathematics 101, 111, 112, 113 (5,17,18,19); Physics 211, 213 (1a,b), 231, 232 (3a,b), 241, 242 (4a,b), 151, 152 (51a,b).

TOTAL NUMBER OF CREDITS REQUIRED IN LOWER DIVISION: 66

THE NORMAL LOAD PER SEMESTER IS 16 CREDITS PLUS PHYSICAL EDUCATION

* 6 of the 12 credits in the biological and physical sciences requirement must be in laboratory courses.

RULES AND PROCEDURES

1. Superior Students: Entering freshmen, in the upper twenty-five per cent of the classification scale, as determined by University of Kentucky classification tests, may substitute other courses in the groups for those courses which are set up especially to satisfy group requirements. Other students, with a standing of 3.0, may be granted the same privilege.
2. The requirements in whole or in part for English, for General Hygiene, and for any of the Groups under Section II, may be satisfied without credit by passing a departmental proficiency examination.
3. A student deficient in English, as indicated by the freshman tests, is advised to take English 1 (D) (with no credit) in his first semester, and the regular freshman English course in his second and third semesters, or whenever he has satisfactorily removed the deficiency.

The Upper Division

JUNIOR AND SENIOR YEARS

The student is required to gain at least 40 credits in a Field of Concentration. These 40 credits are to be elected subject to the approval of his adviser and the dean of the college, and must be in courses not open to freshmen. Courses outside of the formal field of concentration may be included in the required 40 credits on approval of the adviser and the dean. If the student elects a generically related field he is required to gain at least 15 of his required 40 credits in a department which he chooses as his major. At least 14 credits in the field of concentration must be outside the major department. The college recognizes two types of Fields of Concentration:

1. Fields consisting of departmentally or generically related courses.
2. Fields consisting of topically related courses.

GENERICALLY RELATED FIELDS

The college recognizes four general fields of generically related subject matter:

1. LITERATURE, PHILOSOPHY, AND THE ARTS

This field includes Ancient Languages and Literatures; Art; English, Speech, and Dramatics; Journalism; Library Science; Modern Foreign Languages and Literatures; Music, Philosophy; and Radio, Television and Films.

2. SOCIAL STUDIES

This field includes Anthropology, Archaeology, Commerce, Economics, Education, Geography, History, Law, Philosophy, Political Science, Psychology (social phases), Social Work, and Sociology.

3. PHYSICAL SCIENCES

This field includes Aerospace Science, Chemistry, Engineering, Geology, Mathematics, Astronomy, Military Science, and Physics.

4. BIOLOGICAL SCIENCES

This field includes Anatomy, Physiology, Agriculture (biological phases), Anthropology (biological phases), Botany, Chemistry (biological phases), Hygiene, Public Health, Microbiology, Physical Education, Psychology (biological phases), and Zoology.

The dean and head of the major department will appoint an adviser for each student of the Upper Division. This adviser is to have general oversight of the student's work and especially of the content of the field of concentration.

During the last semester of the sophomore year, the student's program of concentration is to be worked out for the entire two years by the student and his adviser, and when approved by adviser and dean is filed in the dean's office and constitutes a part of the student's requirements for graduation. Alterations in this plan may later be made if they are approved by the adviser and the dean.

A minimum of 6 credits is required as a prerequisite for a major in any department. As a general rule the prerequisites are to be acquired while the student is registered in the Lower Division.

In order to avoid working a hardship upon students who wish to secure teachers' certificates, it is provided that, if necessary, 6 credits in Education may be included in the 40 credits of the concentration field, in fields other than Social Studies.

A student electing a combination course in Arts and Medicine, Dentistry, Law, Forestry, or Engineering, is required to complete twenty credits in his concentration field, before transferring to the professional school.

TOPICALLY RELATED FIELDS

If a student has an interest which does not fall into one of the four regular fields of concentration, he may select a topic for concentration instead of a departmental major and choose his 40 hours of course work from any of the fields. Examples of such topics are: "Scientific Secretaryship," "Contemporary American Culture," and "Costume Design and Merchandising." The 40 hours of courses in the field must contribute to the topic and cannot be chosen from courses open to freshmen.

Students interested in a topical major will be referred by the Dean to the chairman of the committee in charge and this committee will aid the student in making out his upper division plan sheet.

To pursue a topical major the student must have earned a minimum academic standing of 2.5 during the freshman and sophomore years and must have the approval of the committee on topical majors which will require, as a rule, completion of the lower division group requirements as a prerequisite. The writing of a comprehensive paper is required in the senior year.

TUTORIAL WORK AND COMPREHENSIVE EXAMINATIONS

Students majoring in the departments of Anatomy and Physiology, Ancient Languages, Anthropology, Art, Botany, Economics, Geology, Journalism, Modern Foreign Languages, Music, Philosophy, Physical Education, Psychology, Radio, Social Work, and Zoology will be required to schedule tutorial or seminar courses as specified by their major departments and to take final comprehensive examinations covering their major work. Passing the comprehensive examinations is a prerequisite for graduation for major students in these departments. If a student fails to graduate because of failure in this examination, he may be given another examination when his major department is satisfied that he has made sufficient additional preparation.

* 6 of the 12 credits in the biological and physical sciences requirement must be in laboratory courses.

A.B. OR B.S. WITH DEPARTMENT HONORS

The degree of A.B. or B.S. with Honors in the student's major subject will be conferred upon the student who, in addition to having completed the requirements for the degree, shall have (1) attained high standing in his major subject (2) passed with distinction a thorough, comprehensive examination inhis major subject (3) been recommended for the said degree by the faculty of the department in which his major work was done. Students majoring in those departments that require the final comprehensive examination are automatically candidates for department honors.

INDEPENDENT WORK COURSES

A junior or senior, if his particular excellence in the department warrants it, may, with the approval of his major professor and dean, register for an independent work course in his major subject. A standing of 3.0 in the major is also required. Such a course is characterized by special assignments for study, weekly or bi-weekly conferences, reports, and semester papers of some sustained effort. Credit for such courses may be granted to undergraduates to an amount of not more than 12 credits. At the end of the semester a written report of the work in such a course, or a paper representing part of the work must be read before the staff of the department. A copy of this paper must be filed in the office of the head of the department concerned.

Independent work courses are defined by their larger scope, wider content, advanced point of view, and by a more rigorous demand of reading, writing, and thinking.

CLASSIFICATION IN FOREIGN LANGUAGES

a. The student who offers two high school units of a foreign language should register for the first semester of the intermediate course. Students who have had more than 2½ high school units should register for the second semester of the intermediate course.

b. No student whose native language is other than English, and who has had formal itnstruction in schools of his own country, may be permitted to take elementary, intermediate, or conversation courses in that language.

ELECTIVES IN OTHER COLLEGES

The student is permitted to elect and count toward graduation courses in the other colleges of the University, not to exceed 30 credits. Credits in the other colleges gained during the junior and senior years may, if not open to freshmen, be counted on major and field requirements. However, election of law courses by Arts and Sciences students is limited by the following regulations:

Students having the major part of their work in law must in all cases register in the College of Law.

Seniors registered in the College of Arts and Sciences, and by reason thereof carrying at least one-half of their work therein, may take as many as 8 credit hours of law during a semester selected from the following courses: Contracts, Torts, Agency, Crimes, Property I and II, Constitutional Law, Taxation, Municipal Corporations, Public Utilities, and such other law courses as the Dean of the College of Law may approve.

Students registered in this college who are not seniors may take work in the College of Law only on securing the consent of the Dean of the College of Law.

Students taking the combined six-year Arts-Law course must, before taking up law subjects, complete the first three years of Arts and Sciences work including all subjects required for the degree in this College.

RESIDENCE REQUIREMENTS

A minimum of 30 of the last 36 credits presented for the degree must be completed in residence at the University. In the College of Arts and Sciences the last 30 credits must be completed while registered in the college.

EXTENSION AND SPECIAL EXAMINATION

A maximum of 32 credits, taken by extension, special examination, or both, may be counted toward the baccalaureate. Not more than half of the credits required for the major may be gained by extension, special examination, or both.

COMBINED COURSES IN ARTS AND LAW, ARTS AND MEDICINE, ARTS AND DENTISTRY, ARTS AND FORESTRY, AND ARTS AND ENGINEERING

A student may combine his courses in Arts and Sciences and Law, Medicine, Dentistry, Forestry, or Engineering, gaining the A.B. or B.S. degree after three years in this college and one or more years in the professional school.

1. He must gain at least 98 credits in Arts and Sciences subjects, with a standing of 2.0 or more, before transferring to the professional school. For Arts-Law or Arts-Engineering he should have 100 credits plus physical education, with a standing of 2.3 on all work attempted, before transferring to either Law College or Engineering College.*

2. He must have met the specified requirements of the College of Arts and sciences (except hygiene, in Arts-Medicine) and have gained at least 20 credits in his field of concentration before transferring to the professional school.

3. He must have been registered in the College of Arts and Sciences for at least one full year, immediately preceding the completion of his Arts and Sciences requirements, and must have gained at least 30 credits in Arts and Sciences subjects in this college.

4. He must spend at least one year in a College of Law approved by the Association of American Law Schools, or in a Class A Medical School, a Class A College of Dentistry as rated by the Dental Educational Council of America, an accredited school of Forestry, or an engineering school approved by the Engineers' Council for Professional Development.

5. He must in his professional courses secure sufficient credits to bring his total in the Arts and the professional work up to 128 credits exclusive of the required Physical Education, and must secure a standing of at least 2.0, or its equivalent, in the professional work. Professional courses duplicating Arts and Sciences courses, or duplicating courses elected in other colleges of the University by the student while registered in the College of Arts and Sciences, will not be counted in the total.

PRE-MEDICAL COURSES

The College of Arts and Sciences offers work preparatory for the study of medicine in compliance with the minimum entrance requirements of the American Medical Association and the Association of American Medical Colleges. However,

* If a student enters the College of Law with only 98 credits he must complete 30 credits while in Law before he can receive the A.B. degree.

most medical schools require considerably more than these minimum requirements.

MINIMUM REQUIREMENTS FOR ENTRANCE TO MEDICAL SCHOOLS

1 year English Composition
1 year Biology with laboratory
1 year Physics with laboratory
2 years Chemistry including
(a) General Chemistry (c) Quantitative Analysis
(b) Qualitative Analysis (d) Organic Chemistry
Electives sufficient for Junior classification

The student may pursue a combination Arts-Medicine curriculum, spending three years at the University before transferring to medical school and obtaining the A.B. or B.S. degree after the first year's work in medical school.

The student who completes a four years' course of study and thereby obtains his degree will have time to meet the requirements for entrance to all medical schools. Opportunity is thus afforded for a broader background in the natural sciences, social studies, and humanities, which will be of advantage both in medical school and in later life. The student may elect any field of concentration and may major in any department of the field which he desires.

The number of students applying annually for admission to medical colleges exceeds the number which can be admitted. Boards of admission consequently fill their quotas from those who are best prepared, or who have had three or four years of college work, or even a college degree. Furthermore, these boards seldom select a student who does not have a satisfactory standing, regardless of the number of years spent in college.

RECOMMENDATION FOR PROSPECTIVE MEDICAL STUDENTS

1. Consider the study of medicine only if you have a serious desire to do so, and if you are capable of demonstrating this by successfully and satisfactorily completing your college courses. An applicant for entrance to medical school should have at least a 2.5 standing.

2. Rather early in your academic career, try to determine to what medical school or schools you will make application. Then, inform yourself as to the specific requirements and desires of these schools and try to conform to them. In order to do this it is advisable for you to write the Dean of the medical school or meet with him in an interview.

3. The College of Arts and Sciences has a faculty committee, known as the "Premedical Advisory and Recommendation Committee," the purpose of which is to advise prospective medical students and ultimately to recommend them for entrance to medical schools. When you enroll, you will be assigned by the Dean to a member of this committee who will be your adviser and with whom you should consult early and frequently in your premedical work. This committee collectively passes upon you as an applicant to medical school. Only the recommendation of this committee carries the endorsement of the University.

RECOMMENDED COURSES PREPARATORY TO THE STUDY OF MEDICINE°

Freshman Year

First Semester	Crs.
Chem. 110 (1a), Gen. Chem.	5
Zool. 100 (1), Gen. Zool.	4
Math. 111 (17), Coll. Algebra	3
English 101 (1a), Fresh. Comp.	3
Mil. or Aerospace Sci., 1st yr.	2
Physical Education	1
Second Semester	
Chem. 112 (1b), Gen. Chem.	5
Bot. 101 (1), Gen. Botany	4
Math. 112 (18), Pl. Trig.	3
English 102 (1b), Fresh. Comp.	3
Mil. or Aerospace Sci., 1st yr.	2
Physical Education	1

Sophomore Year

First Semester	Crs.
**Soc. 153 (3a), Societies Around the World	3
German or French	3
†Chem. 230 (30a), Org. Chem. or	
†Chem. 226 (22), Anal. Chem.	5
Humanities	2
Physics 211 (1a), Gen. Phys.	5
Mil. or Aerospace Sci., 2nd yr.	2
Second Semester	
**Soc. 154 (3b), Societies Around the World	3
German or French	3
‡Chem. 232 (30b), Org. Chem.	5
Physics 213 (1b), Gen. Phys.	5
Mil. or Aerospace Sci., 2nd yr.	2
Humanities	4

UPPER DIVISION

The student in his junior and senior years will proceed to complete the group and field requirements and the additional specific requirements demanded by the medical school to which he will apply for admission. He should consult both his major professor and his pre-medical adviser.

PRE-DENTAL CURRICULUM

Students who wish to take up the study of dentistry are advised to follow the two years' Pre-Medical curriculum which more than meets the pre-dental requirements specified by the Dental Education Council of America. With the two years' curriculum, entrance may be gained to all accredited dental schools with the exception of a very few which require three years of preparatory work.

PRE-MINISTERIAL, PRE-THEOLOGICAL, AND PRE-RELIGIOUS EDUCATION

Students planning to enter the ministry or the field of religious education should consult the adviser to pre-ministerial

° Students who plan to spend more than two years in the University may extend the required subjects into the third or fourth years and thus make room for Social Studies and other courses in the Lower Division.

Two years of Foreign Language in college are recommended, or the equivalent in high school, although a few medical schools require none or only one year. If the student is a candidate for the A.B. or B.S., and if he has entered college before February 1958, he may fulfill the Foreign Language Requirement for the Degree by passing a basic achievement examination in a foreign language or by passing both semesters of a second year language. Students entering after February 1958 will fulfill this requirement by taking two years of some foreign language.

Math. 111 and 112 are advised and should be taken sometime during the freshman year.

°° Under certain conditions, Economics 251 and 252, Principles of Economics, can be used for this requirement.

† Choice depending on length of preparatory course desired.

‡ Some medical schools require only an abbreviated course in Organic Chemistry.

students, who will plan with them their schedule for the first year and help them in the choice of their major department after the first year.

All accredited theological seminaries require a degree for entrance. The American Association of Theological Schools recommends a curriculum including English (12-16 credits); Philosophy (6-12 credits); Bible or Religion (4-6 credits); History (6-12 credits); Psychology (2-3 credits; Foreign Language—one or more of the following: Latin, Greek, Hebrew, French, German (12-16 credits); Physical or Biological Sciences (4-6 credits); Social Sciences—two or more of the following: Economics, Sociology, Political Science, Social Psychology, Education (4-6 credits).

PRE-LAW COURSES

Three years of college credit (exclusive of certain specified courses) with a minimum standing of 2.3 on all work attempted normally will be required for admission to the College of Law. Students expecting to enter the College of Law later are advised to lay special emphasis on English, history, economics, political science, and psychology and should read carefully admission requirements of the College of Law.

Many students now complete their work for a bachelor's degree before enrolling in the College of Law. Such students usually major in Political Science or History though no specific field is required. All Pre-law majors should design their study program so as to fulfill Arts and Sciences requirements. They are thus assured of the broad background required by the College of Law and at the same time are taking a necessary step toward a bachelor's degree in Arts and Sciences. Pre-law advisers will stress this point to their advisees.

PRE-PHARMACY

Those beginning college work for the first time in the fall of 1958 will be required to have the equivalent of two years of liberal arts and basic sciences before being admitted to the professional program.

The equivalent of two years of liberal arts and basic sciences is required for admission to the professional program. This pre-professional training is offered in the College of Arts and Sciences.

MINIMUM REQUIREMENTS FOR ADMISSION TO THE COLLEGE OF PHARMACY

1 year English Composition

1 year Biology with laboratory (General Botany, General Zoology)

1 year Mathematics (Algebra, Trigonometry)

1 year Physics with laboratory

Chemistry,

(a) General Inorganic, including qualitative analysis

(b) Quantitative Analysis

Electives sufficient for Junior classification.

(67 semester hours).

The electives are chosen from such areas as—

Ancient and Modern Languages	History
Anthropology	Humanities
Art	Mathematics
Commerce	Music
Economics	Philosophy
Education	Psychology
English and Speech	Sociology
Geography	

Total Semester hours of credit required, 67.

It is recommended that the student distribute his electives among several disciplines, rather than concentrate in any particular area.

All male freshmen and sophomores who are citizens of the United States, and who conform to the physical requirements as prescribed by the Department of Defense for units of the Reserve Officers Training Corps, are required to take the basic course in Military Science or Air Science. Those who are not physically qualified, those taking pre-pharmacy at an institution not requiring military or air science, and all women pre-pharmacy students, must present eight hours of additional electives in lieu of the military requirements.

All students must demonstrate a minimum proficiency in typing, must offer it as an elective, or must be concurrently register in an elementary typing course to be eligible to begin the professional course.

Admission to the College of Pharmacy is limited to sixty students.

RECOMMENDED COURSES PREPARATORY TO THE STUDY OF PHARMACY

First Year

Course	Cr.
Chem. 110 (1a)—General Chemistry	5
Eng. 101 (1a)—English Composition	3
Bot. 101 (1)—General Botany	4
Math. 101 (5)—College Algebra, or Math. 111 (17)—College Algebra	3
Military or Air Science, or Elective	2
Physical Education	1
	18
Chem. 112 (1b)—General Chemistry	5
Eng. 102 (1b)—English Composition	3
Zool. 100 (1)—Principles of Animal Biology	4
Math. 112 (18)—Trigonometry	3
Military or Air Science, or Elective	2
Physical Education	1
	18

Second Year

Physics 211 (1a)—General Physics	5
Chem. 226 (22)—Analytical Chemistry	5
Military or Air Science, or Elective	2
Electives	5
	17
Physics 213 (1b)—General Physics	5
Economics 251 (51)—Principles of Economics	3
Bact. 200 (52)—Principles of Bacteriology	4
Military or Air Science, or Elective	2
Electives	3
	17

ARTS-FORESTRY DEGREE

The University of Kentucky offers a program in forestry in cooperation with the School of Forestry of Duke University. Upon successful completion of a five year coordinated course of study, a student will have earned the Bachelor of Science degree from the University of Kentucky and the professional degree of Master of Forestry from the Duke School of Forestry.

A student electing to pursue this curriculum spends the first three years in residence at the University of Kentucky. Here he obtains a sound education in the humanities and other liberal arts in addition to the sciences basic to forestry. Such an education does more than prepare a student for his later professional training; it offers him an opportunity to develop friendships with students in many fields, expand his interests, broaden his perspective, and fully develop his potentialities.

The student devotes the last two years of his program to the professional forestry curriculum of his choice at the Duke School of Forestry. Since Duke offers forestry courses only to senior and graduate students, the student from the University of Kentucky finds himself associating with a mature student body. He is well prepared for further personal and professional development.

Candidates for the forestry program should indicate to the Dean of the college that they wish to apply for the Liberal Arts-Forestry curriculum. Admission to the college is granted under the same conditions as for other curricula. At the end of the first semester of the third year the college will recommend qualified students for admission to the Duke School of Forestry. Each recommendation will be accompanied by the student's application for admission and a transcript of his academic record at the University of Kentucky. No application need be made to the School of Forestry prior to this time.

THE PREPARATION OF TEACHERS

Students of the College of Arts and Sciences may by electing courses in the College of Education to qualify for teachers' certificates from the State Department of Education. For specific information concerning courses consult the statement of the College of Education.

AEROSPACE SCIENCE

THE AIR FORCE RESERVE OFFICERS TRAINING CORPS

The University of Kentucky maintains a unit of the senior division of the Air Force Reserve Officers' Training Corps in conformity with the provisions of the National Defense Act of 1916, as amended.

Object. The object of the Air Force Reserve Officers' Training Corps is to provide systematic military training at civil educational institutions for the purpose of qualifying selected students of such institutions as reserve officers in the United States Air Force. This object is attained by employing methods which fit men physically, mentally, and morally for pursuits of peace as well as for duties as leaders in the defense forces of the nation in an emergency.

Educational Aim. The course of study is designed to give the student training which will be as valuable to him in his industrial or professional career as it would be should the nation call upon him to act as a leader in its defense forces.

General Policy. The policy adopted by the Department of the Air Force to carry out the provisions of the Act of Congress of June 3, 1916, as amended, is to qualify students for positions of leadership in time of national emergency and to inculcate in them a respect for lawful authority, and to teach the fundamentals of the military profession and air science.

The primary purpose of all training is the development of character, leadership, and good citizenship; character through high standards of honor and integrity, leadership through the acquisition and use of knowledge, good citizenship through the idea of service as the real measurement of accomplishment and success.

The Air Force Reserve Officers' Training Corps curriculum is applicable to all students regardless of their field of academic study and is designed to produce junior officers possessing qualities and attributes essential to their progressive development in the Air Force Reserve and the Air National Guard.

Aerospace Science courses are open to women students with approval of academic advisors and college deans concerned.

The Aerospace Science Department offers two programs leading to a Bachelor of Arts or Bachelor of Science degree with a major in Aerospace Science. In addition to general admission requirements, candidates must possess to a high degree the intellectual, physical and moral attributes desired in an officer of the armed services.

Uniform Equipment. Government uniforms and equipment are furnished the University for issue to students in the basic course without cost to the individual. Each student is required to make a deposit of $10.00 with the Business Office of the University to cover the cost of any lost or damaged articles. If nothing is lost or damaged, the entire sum is refunded to the student when he completes the course or leaves school.

Students formally enrolled in AS III, The Advanced Course, will receive an Air Force uniform, under the commutation of uniform allowances system. This uniform is tailored to individual measurements. Students successfully completing the advanced course, Air Force ROTC, upon commissioning, will be permitted to retain these uniforms as personal property.

Subsistence. Advanced course, AFROTC enrollees receive an allowance of 90 cents a day for subsistence in lieu of rations.

Basic Course. The Department of Aerospace Science offers a two year basic course. The basic course is required of all male freshmen and sophomores who are citizens of the United States, over 14 years of age, and who conform to the physical requirements as prescribed by the Department of Air Force for units of the Air Force Reserve Officers' Training Corps. (The basic course may also be taken in Military Science.)

Advanced Course. The elective and competitive advanced course of two years, including attendance at one Summer Training Unit for all students and the Flight Training Program for qualified personnel is offered to students who have been recommended by the President of the University and the Professor of Aerospace Science for further training. Recommendations for this course will be limited to those students who have manifested special interest and demonstrated ability during the basic course, and who desire to pursue the course to completion, with a view to qualifying for a commission in the Air Force Reserve.

Reserve officers on active duty in the Air Force may compete for commissions in the Regular Air Force. Those who desire pilot or other technical training are permitted to train in grade as officers rather than as cadets.

FACULTY

Roland W. Boughton, A. M. Burton, Thomas V. Corbett, J. A. Donovan, Richard M. Dorsey, John B. Gipson, George W. Johnson, Jr., Francis L. Mahula, James S. Meador, Kellis D. Moore, Robert G. Nations, Robert T. Palmer, Lynn A. Peterson, D. A. Rook, P. A. Schuler, J. Thistlewood, P. E. Turner, Bernard A. Walters, and John D. Watkins.

Course Descriptions

AIR FORCE ROTC BASIC COURSE

First Year

101,102(10a,b) *Foundations of Air Power* 1. (2 ea.)
A general survey of air power designed to provide the student with an understanding of the elements of air power and basic aeronautical science. Leadership Laboratory. Three hours per week.

Second Year

201,202(20a,b) *Foundations of Air Power* 2. (2 ea.)
Development of aerial warfare, emphasizing principles of war, concepts of employment of forces, and changing weapon systems. Treatment of aerial warfare covers targets, weapon systems, delivery vehicles, bases, materiel, personnel and operations. The problems and possibilities of operating in space are also covered. A continuation of the basic Leadership Laboratory program and introduction to the advanced program. Three hours per week. Prereq: 101, 102.

ADVANCED COURSE, AIR FORCE ROTC

A summer training period at a regular Air Force base will be required of all students as part of this course.

Third Year

301,302(30a,b) *Air Force Officer Development.* (3 ea.)
Command and staff concepts; leadership laboratory; problem-solving techniques; communications process; principles and techniques of teaching; Air communications process; principles and techniques of teaching; Air Force correspondence and publications; military law, courts, and boards; aerial navigation, weather; and functions of the Air Force Base. Five hours per week. Prereq: Basic Course or equivalent.

303(35) *AFROTC Summer Training Unit.* (0) S
Familiarization flying, field exercises, individual weapons, USAF base activities and equipment, and Air Base problems. Prereq: AS 301, 302.

Fourth Year

311,312(40a,b) *Air Science* D, *Global Relations.* (3 ea.)
A study of the principles of leadership and management, military aspects of world political geography, foundations of military power, military aviation and the science of war, career guidance, briefing for commissioned service, and leadership laboratory. Five hours per week. Prereq: 301, 302.

313(41) *AFROTC Flight Instruction Program.* (2)
Approximately 36 hours of aerial flight instruction, five hours of classroom instruction on Federal Aviation Agency Regulations. Prereq: Category 1 Air Science 301, 302.

395 *Independent Work* (2-6 crs.)
A study of an advanced problem on subject area in aeronautical science under the guidance of a departmental staff member. One discussion per week; term paper required. Prereq: AS 101, 102, 201, 202, 301, 302; Senior standing; major and 3.0 standing in Air Science.

AGRICULTURE

A student in the College of Arts and Sciences may elect toward the A.B. or B.S. degree a total of 30 credits from other colleges of the University.

ANATOMY AND PHYSIOLOGY

The courses offered by the Departments of Anatomy and Physiology in the College of Medicine are prepared with the purpose of making them of educational value and at the same time, providing a preliminary training in the theoretical aspects for those students who plan to study for advanced degrees in Anatomy, Physiology, or related subjects.

Premedical students who intend to obtain their degrees from the College of Arts and Sciences before entering a medical school and who choose Anatomy and Physiology as their major will have met all the requirements and recommended courses of study for all medical schools.

Students of Anthropology, Art, Agriculture (Animal Husbandry, Animal Pathology, Genetics, Home Economics), Education, and Sociology will find advanced courses that will be of practical value to them.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Biological Sciences including the major work. *Requirements for a major. Prerequisites*: Zoology 100; Botany 101; Physics 211 and 213; Chemistry 110 and 112. *Required:* A minimum of 4 elective credits of advanced work in Anatomy and Physiology plus other work to be outlined by the advisor and passing a comprehensive examination in senior year.

The following courses, offered in the Departments of Anatomy and Physiology in the College of Medicine, are open to students in the College of Arts and Sciences:

206 *Elementary Anatomy.* (4) I
The objectives of the course include: a familarization with the terminology applying to the major parts of the body; the organs, systems and regions, and the terminology applying to motion in the various parts of the body. Information is given on the constituents of cells, the ways in which cells are united with each other and with intercellular substances to form tissues, organs and regions of the body. Students will be informed about the structure of the body in such a way that the functions of the body can be better understood. Lectures, three hours; lab-discussion, one hour. Prereq: An introductory course in Biology, Zoology or Botany and consent of the chairman. Freshmen admitted by special permission. *Staff.*

503 *Independent Work in Anatomy.* (3) I, II, S
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 lab work by individual arrangement. Prereq: An introductory course in Biology, Zoology, or Botany and permission of the chairman. *Staff.*

PHYSIOLOGY

516,517 *Principles of Mammalian Physiology.* (5) I
A comprehensive discussion of mammalian physiology using advanced texts and library reading; includes function as related to major body system and laboratory experience with major experimental techniques. *Staff.*

602 *Physiological Technique.* (2) II
Training in techniques used in physiological research. Lecture, one hour; lab, two hours. *Staff.*

604 *Experimental Endocrinology.* (2) II
Experimental study of endocrine functions. Lecture, one hour; lab, two hours. Prereq: Physiology 507. *Allen, Archdeacon and Carlson.*

606,607 *Advanced Neurophysiology.* (3) II
Electrical analysis of nerve fibres and synapse; nerve impulse theories, reflexes, metabolism and central nervous function are considered from the cybernetic viewpoint. Lectures, two hours; lab, two hours. Prereq: Physiology 508, 509 and 512, 513; instructor's consent. *Boyarsky and Megirian.*

768 *Thesis Course.* (0) I, II, S
For the Master's degree. May be repeated once. *Staff.*

769 *Thesis Course.* (0) I, II, S
For the Ph.D. degree. May be repeated indefinitely. *Staff.*

774 *Graduate Seminar in Physiology.* (1) I, II, S
Staff.

791 *Research in Physiology.* (3) I, II, S
Staff.

ANCIENT LANGUAGES & LITERATURES

The courses and curricula in Ancient Languages and Literatures are concerned with the Classical, the Semitic, and the Middle Eastern fields. The languages concerned are Latin, Greek, Hebrew, and Arabic. The literatures and cultures concerned are the Hebraic, the Islamic, and those of the ancient Middle East extending from Persia to the Indus River. The curricula are planned to meet the needs of the following:

1. Students who are going to teach Latin or Greek or Hebrew or Arabic or who are going to do graduate work or research in Classical languages, Semitic languages, ancient history, archaeology, Middle Eastern studies, Medieval studies, or linguistics.

2. Students who wish to take the M.A. in one of the following fields: Latin, Greek, Hebrew, Arabic, Classical languages and civilization, Middle Eastern languages and civilization (including Islamic studies), ancient languages and civilization, and the teaching of Classical languages.

3. Students who wish to take one of the fields in (2) as a minor on the M.A. or Ph.D. degree.

4. Students who wish to get a general liberal education without preparing for any specific vocation. The broadest possible educationally sound program will be permitted.

5. Students who want to prepare through a major in the Department for work in the various graduate and professional schools (e.g. law, medicine, dentistry, theology, etc.). Such students will use their electives to meet the specific requirements of the individual graduate or professional school.

6. Students who wish to prepare with a major in the Department for entering various vocations upon the completion of the A.B. degree. For the individual student this department, in consultation with the department representing the student's vocational interests (home economics, journalism, radio arts, commerce, etc.), will arrange a curriculum that will satisfy the requirements both for a major in the Department and for the vocation.

7. Students who intend to enter the ministry, the missionary field, or the field of religious education and wish to take an undergraduate major in the area of Latin, Greek, Hebrew, Arabic, or ancient civilization, or wish merely to learn to read the Greek New Testament or the Hebrew Old Testament. Majors will be allowed the widest possible choice of electives.

8. Students who want for the work of their major department a background in the foundations of Western civilization through courses in Greek, Latin, Hebrew, Arabic, or ancient civilization.

9. Students who wish, through Greek and Latin, to build the background of their English vocabulary for use in the learned professions (law, medicine, teaching, the ministry, etc.) or in literary or public work.

10. Students who want to fulfill through Greek or Latin or Hebrew or Arabic the foreign language requirement or course requirements.

The emphasis in this department will be threefold:

1. On interpreting Classical, Hebraic, and general Middle Eastern culture in its relation to Western Civilization.

2. On learning to read Greek, Latin, Hebrew and Arabic—according to the individual student's needs and preferences.

3. On developing a background for Classical or Semitic scholarship for those who will teach or do graduate work or research in these fields.

The student, in working out his major, may place emphasis on Greek, or on Latin, or on Classical civilization, or on Hebrew and Hebraic civilization, or on Arabic and Middle Eastern studies, or on a combination of these. To this end, six majors are offered: Latin, Greek, Classical Civilization, Hebrew and Hebraic Civilization, Arabic and Middle Eastern civilization, or on a combination of these.

FACULTY

Jonah W. D. Skiles, Warren James Castle, Margaret Elaine Reesor, Joseph R. Rosenbloom, and Leon Zolondek.

Upper Division Requirements

Requirements in the Field of Concentration: 40 credits of advanced work, including the major work and such other courses as may be approved by the advisor and be useful to the student.

Requirements for a Major. Prerequisites: Six semester credits of Latin or Greek or Hebrew or Arabic. *Required:* A minimum of 15 credits of advanced work in Ancient Languages and Literatures; Tutorial Seminar; comprehensive examination in the senior year.

Note—A student who presents high school credit in Latin, Greek, Hebrew, or Arabic has the option of enrolling in a beginning college course for college credit or in an advanced course. The Head of the Department will advise the student as to his correct placement. In either situation, the student receives college credit.

Course Descriptions

101(*1a) *Beginning Latin.* (3) I, II, S
Emphasis on learning to read simple Latin, with attention to the basic elements of Latin grammar. Much attention to English words derived from Latin and to a basic understanding of Roman civilization. Vocabulary building. *Skiles and Staff.*

102(*1b) *Elementary Latin Reading.* (3) I, II, S
Selections relating to Roman life and literature, including Caesar. Emphasis on learning to read Latin. Prereq: A. L. 101 or one year of high school Latin. *Skiles and Staff.*

107,108(*2a,b) *Latin Conversation and Composition.* (1 ea.)
Practice in the oral and written use of the language. Primarily courses to be taken concurrently with 101 and 102. *Skiles and Staff.*

203(3) *Cicero and Selections.* (3) I
Selections from Cicero, showing the orator, statesman, and humanist, from Ovid's *Metamorphoses* studied as myths and short stories and from other writers. Prereq: A. L. 102 or two years of high school Latin. *Harris.*

204(4) *Vergil.* (3) II
Selections from the Aeneid, studied as a masterpiece of epic poetry and as a product of the Augustan Age. The influence of the *Aeneid* on Western Literature. Prereq: A. L. 102 or two years of high school Latin. *Harris.*

205(5) *Latin Prose Selections.* (3) II, S
Selections from Livy's *History, Cicero's de Senecute,* and such other prose as may meet the needs of the class. Prereq: Three years of high school Latin or three semesters of college Latin or consent of instructor. *Staff.*

206(6) *Horace.* (3) I
Selections to show the poetic genius and the thought of the poet. Prereq: Three years of high school Latin or three semesters of college Latin or consent of instructor.

209,210(9a,b) *Selections from Latin Literature.* (3 ea.) I, II
An author or authors or selections will be used to develop both the student's ability to read Latin and his acquaintance with classical ideas. Prereq: Three years of high school Latin or three semesters of college Latin or consent of instructor.

217(17) *Medieval Latin.* (3) I
Selections of prose and poetry down to the Renaissance. Introduction to the thought and life of the Middle Ages. Prereq: Three years of high school Latin or three semesters of college Latin or consent of instructor. *Skiles.*

218(18) *Plautus.* (3) II
Selected plays of Plautus. Lectures on Greek and Roman comedy. Introduction to the comedy of manners. Prereq: Three years of high school Latin or three semesters of college Latin or consent of instructor. *Skiles.*

509,510(109a,b) *Latin Literature.* (3 ea.) I, II, S
Courses in various authors, periods, or types to suit the need of the class. Prereq: Twelve semester hours of Latin, or the equivalent, and permission of the instructor.

511,512(152a,b) *Studies in Roman Philology.* (3 ea.) I, II, S
Courses to meet the needs of students in various areas of Roman philology, e.g., in Latin literature, in Roman civilization, in Latin linguistics, etc. Prereq: Consent of instructor.

514,515(114a,b) *Latin Composition.* (1 ea.) I, II, S
The writing of Latin prose of moderate difficulty. Prereq: A. L. 203 or consent of instructor. *Skiles.*

521(121) *Roman Civilization.* (2) II, S
Special reference to the relation to modern life. Topics in literature, art, philosophy, and religion, as well as in political history. No knowledge of Latin necessary. *Skiles and Harris.*

530(150) *The Teaching of Latin.* (3) I, II, S
The place of Latin and the classical humanities in general education. Objectives, materials, and methods. The reading approach to learning Latin. Evaluation of textbooks and other materials. Prereq: Junior or senior standing in Latin.

GREEK

150(*51a) *Beginning Greek.* (3) I
Easy excerpts from Koine Greek literature. The basic elements of Greek grammar. Emphasis on learning to read Greek, but attention will be given to some understanding of Greek civilization. Vocabulary building. *Skiles and Harris.*

157(*50a) *Greek Conversation and Composition.* (1)
Practice in the oral and written use of the language. Primarily course to be taken concurrently with 150.

235(70) *Greek Mythology.* (2) I, II, S
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. No knowledge of Latin or Greek required.

251(51b) *Selections from the Greek New Testament.* (3) II
Easier parts of the New Testament read to introduce the Greek Testament and to give facility in reading Greek. Prereq: A. L. 150. This course does not duplicate any course in classical Greek. *Skiles.*

252,253(52a,b) *Selections from Greek Writers.* (3 ea.) I, II, S
Selections from various writers, such as Xenophon, Herodotus, Plutarch, or from various periods of Greek literature, including the *Koine.* Prereq: A. L. 251 or consent of instructor.

254(53) *Homer.* (3) I
Readings to give some idea of the greatness of the *Iliad* and the *Odyssey* as epics and some idea of their place in the background of Greek literature and of Western literature as a whole. Prereq: A. L. 251 or consent of instructor.

255(54) *Plato.* (3) II
Selections, with an attempt to evaluate their philosophy in its relation to both ancient and modern thought. Prereq: A. L. 251 or consent of instructor.

258(50b) *Greek Conversation and Composition.* (1)
Practice in the oral and written use of the language. Primarily course to be taken concurrently with 251.

364,365(115a,b) *Greek Composition.* (1 ea.) I, II, S
The writing of Greek of moderate difficulty. Prereq: A. L. 252 or consent of instructor.

520(120) *Greek Civilization.* (2) II, S
Special reference to relation to modern life. Emphasis placed on literature, art, philosophy, and religion, rather than on political history, and the student may concentrate his reading in any field. No knowledge of Greek necessary. Skiles and Harris

556(156) *Greek Tragedy.* (3) I
Selected plays from Aeschylus, Sophocles, and Euripides. Lectures on Greek tragedy and its effects on the Western World. Prereq: A. L. 254 or 255 or consent of instructor.

561,562(153a,b) *Studies in Greek Philology.* (3 ea.) I, II, S
Courses to meet the needs of students in various areas of Greek Philology, e.g., in Greek literature, in Greek civilization, in Greek linguistics, etc. Prereq: Consent of instructor. *Staff.*

559(157) *Greek Comedy.* (3) II
Selected plays of Aristophanes. Lectures on Greek comedy and its effect on the Western World. Prereq: A. L. 556 or consent of instructor.

652(204) *The Greek of the New Testament.* (3) I, II, S
Class and/or individual work. Reading or research in the vocabulary and syntax of the Koine, in the text of the New Testament, and in other fields. Prereq: Two years of college Greek or consent of instructor. *Skiles.*

HEBREW

170(*81a) *Beginning Hebrew.* (3) I, II, S
Emphasis on learning to read simple Biblical Hebrew prose, with attention to the basic elements of Hebrew grammar. *Rosenbloom and Zolondek.*

271(81b) *Elementary Hebrew Reading.* (3) I, II, S
Selections from the prose portions of the Hebrew Old Testament. Emphasis on learning to read Hebrew. Prereq: A. L. 170 or the equivalent. Staff.

272,273(82a,b) *Selections from the Hebrew Old Testament.* (3 ea.) I, II
Selections of prose and/or poetry to develop ability in reading Hebrew and in understanding Hebrew thought. Prereq: A. L. 271 or the equivalent. *Staff.*

278,279(83a,b) *Hebrew Conversation and Composition.* (1 ea.) I, II
Practice in the use of the language. Primarily for those wishing to improve aural-oral ability, but also for those wishing to have additional practice in the language. Prereq: Consent of the instructor. *Staff.*

324,325(119a,b) *Hebrew Civilization.* (3 ea.) I ,II, S
Special reference to relation to Western Civilization. Emphasis on literature, thought, and religion rather than on political history. The student may concentrate his reading in any of these fields. Given in English, no knowledge of Hebrew necessary. *Rosenbloom.*

574(180a) *Isaiah.* (3) I
Selections with attention to the literary, historical, and general cultural background. Prereq: 273 or consent of instructor. *Staff.*

575(180b) *The Psalms.* (3) II
Selections with attention to poetic form and to historical and general cultural background. Prereq: 273 or consent of instructor. *Staff.*

576,577(154a,b) *Studies in Semitic Philology.* (3 ea.) I, II
Courses to meet the needs of students in various areas of Semitic Philology, e.g., in literature, in civilization, in linguistics, etc. Prereq: Consent of instructor. *Staff.*

ARABIC

140(*40a) *Beginning Arabic.* (3) I, II, S
Emphasis on learning to read simple Arabic, with attention to the basic elements of Arabic grammar. Some attention to Islamic civilization. No prereq. *Zolondek.*

147(*41a) *Arabic Conversation and Composition.* (1) I
Practice in the use of the language. Primarily for those wishing to improve aural-oral ability, but also for those wishing to have additional practice in the language. No prereq. *Zolondek.*

241(40b) *Elementary Arabic Reading.* (3) II
Selections from various prose sources. Prereq: 140. *Zolondek.*

248(41b) *Arabic Conversation and Composition.* (1) I, II, S
A continuation of 147. Prereq: 147. *Zolondek.*

CLASSICS AND SEMITICS IN GENERAL

131(*31) *Medical Terminology from Greek and Latin.* (3) II
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. Skiles.

326,327(125a,b) *Middle Eastern Literature in English Translation.* (3 ea.) I, II
Selections from various genres to give the student a basic understanding of Middle Eastern Literature. The material will be drawn from Hebraic, Arabic, Persian, Syriac, Egyptian, Akkadian, Sumerian, Turkish and Hittite sources. Given in English. No knowledge of Middle Eastern language necessary. *Zolondek.*

395,396(90a,b) *Tutorial Seminar.* (1 ea.) I, II, S
Conferences, readings, and reports in preparation for the comprehensive examination. Required of all senior majors in Ancient Languages and Literatures. *Staff.*

522(122a) *Greek Literature in English Translation: Homer to Xenophon.* (3) I, II, S
Extensive reading in the most important works. Discussion of the significance of the works in their own and later times to the present. No knowledge of Greek necessary.

523(122b) *Greek Literature in English Translation: Plato to Procopius.* (3) I, II, S
Extensive reading and discussion as in 522.

580(151a-h) *Independent Work in Ancient Languages.* (3) I, II, S
Courses to meet the needs of the students will be arranged in various areas of classical philology, e.g., in Greek or Latin writers, in classical civilization, in Greek or Latin linguistics, in various areas of Semitics, etc. May be repeated to a maximum of 24 credits. Prereq: Major and a standing of 3.0 in dept.

632(201) *Comparative Greek and Latin Grammar.* (3) I, II, S
Studies or research in comparative linguistics, historical syntax, semantics, and other aspects of linguistics in the Greek and Latin area. Prereq: Necessary command of the language involved. *Skiles.*

633(205) *Intensive Study of an Author.* (3) I, II, S
Studies or research in the works of an author (Plato, Aristotle, Lucretius, Caesar, Ovid, or Horace): with due regard to his sources, milieu, purposes, technique, language, and influence on later periods. Prereq: Necessary command of languages involved. *Staff.*

636(206) *Intensive Study of a Period.* (3) I, II, S
Studies or research in a period of significance (Age of Pericles, Hellenistic Age, Ciceronian Age, Augustan Age, Silver Age, Christian Latin, or Medieval Latin): with emphasis on literary, social, and linguistic trends, with consideration of sources, and of influence on later periods. Prereq: Necessary command of languages involved. *Staff.*

637(207) *Intensive Study of a Literary Genre.* (3) I, II, S
Studies or research in a genre (epic, tragedy, comedy, satire, history, or the novel): from its beginnings in the ancient world and throughout its development in the ancient world and throughout its development in the ancient world, with some attention to its effect on later periods. Prereq: Necessary command of the languages involved. *Staff.*

638(210) *The Transmission of Classical Texts.* (3)
Preservation and transmission of Greek and Latin texts. Introduction to epigraphy and palaeography. Introduction to the history of classical scholarship. Prereq: Reading knowledge of Greek and Latin.

768 *Residence Credit for Master's Degree.* (0)
May be repeated once.

790(200) *Research in the Teaching of Classical Languages.* (3) I, II, S
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: A.L. 350 or the equivalent. *Skiles.*

ANTHROPOLOGY

Anthropology is the study of Man in all his aspects, past and present. It must concern itself with anything that concerns Man, and thus it synthesizes the materials of a large number of separate studies and disciplines in both the social and biological sciences. Basically, anthropology is divided into (1) Physical Anthropology, which deals with man's origin, evolution, and growth, the relationships of races, and man's physical response to his total environment; and (2) Cultural Anthropology, which includes prehistory (or archaeology), and ethnology (or social anthropology), the study of the

culture of various societies. Attention has been directed chiefly toward "primitive" peoples, in the attempt to learn how such aspects of man's behavior as religion, language, social controls, and economic activities have developed and interacted on each other. But "civilized" groups, as well, are studied with the broad viewpoint and emphasis on understanding the total scope of man's life.

While many of the Department's advanced courses are planned for students interested in professional training, the introductory courses Anthropology 100 and 121 should be of much wider interest. They survey the entire field, and show the relations between all the facets of human activity throughout man's long occupation of the earth. These courses emphasize the essential unity of mankind and furnish a basis for further work in many different fields of the social and biological sciences. In addition, properly qualified students in other departments will find the advanced courses sufficiently broad in scope to be of value to them. Anthropology 526, Culture and Personality, is of particular interest to Psychology majors.

Students who intend to major in Anthropology should know that advanced degrees are required by nearly all institutions that hire professional anthropologists. However, smaller colleges are adding Anthropology to their curricula. Properly qualified anthropologists presently have a wide variety of employment possibilities, not only in teaching or research, but in the many practical applications of this field.

The Museum of Anthropology has a series of public exhibits on the pre-history of Kentucky and a number of study exhibits which are correlated with the teaching program. In addition, the extensive collections of artifacts and skeletal remains from prehistoric sites in Kentucky provided varied opportunities for advanced research problems, especially in archaeology and physical anthropology.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in any related fields during the sophomore, junior and senior years, including the major work.

Requirements for a Major. Prerequisites: Anthropology 100 and 121; Anthropology, Sociology, or Geography 153. *Required:* A minimum of 24 credits of advanced work including Anthropology 582 repeated once, and at least one course in each subdivision of Anthropology, namely, in ethnology, archaeology, and physical anthropology; plus a comprehensive examination in the Senior year.

FACULTY

Frank J. Essene, Kenneth E. Harper, Douglas W. Schwartz, Charles E. Snow, and William S. Webb.

Course Descriptions

100(*1) *Introduction to Physical Anthropology.* (3) I, II, S

Meets Biological Sciences requirements. An outline of the biological aspects of man. Demonstration lectures on man's origin and development, the primates, fossil man, races, race mixture, human biology, and growth. *Snow.*

101(*4) *Osteometric Techniques.* (1) I, II, S

An elementary laboratory study of the skulls of primates, fossil man and modern race populations; morphological measurements and classification techniques. Prereq: Anthro. 100 or concurrent. *Snow.*

121(*2) *Introduction to Cultural Anthropology.* (3) I, II, S

Meets Social Studies requirements. Archaeological remains of prehistoric man and the arts, industries, social organization, languages, and religions of modern primitive peoples. *Essene.*

153(*3a) *Societies Around the World.* (3) I, II

Meets Social Studies requirements. Comparative study of Eskimo, Navajo, and Baganda as preliterate, primitive societies in difficult environments. Same as Geography and Sociology 153. *Staff.*

200(11) *Anthropometry.* (2) I, S

A laboratory course teaching the technique of measuring and describing the human body and skeleton from anatomical landmarks with emphasis upon the practical application to human engineering. *Snow.*

221(60) *Primitive Inventions.* (3) I

Ancient and modern inventions of primitive peoples. Theoretical approach combined with handling and manufacturing artifacts. *Essene.*

383(181a-d) *Special Problems.* (2) I, II, S

Designed for upper division students who undertake minor research problems in archaeology, ethnology and physical anthropology in regular consultation with the instructor. May be repeated 3 times. *Staff.*

500(125) *Physical Anthropology.* (4) II

A lecture-laboratory course on the biological nature of man. The fields of the primates, fossil man, races, race mixture, constitutional anthropology and human growth with supplementary laboratory exercises will be covered. Prereq: Anthro. 100 or 3 hours in any other Biol. Sci. *Snow.*

501(126) *Human Ancestry.* (4) I

A lecture-laboratory course on human origins and the fossil remains of Pleistocene man throughout the world. The lineage, formation, and inter-breeding of modern racial groups will be stressed. Prereq: Anthro. 500 or special permission. *Snow.*

502(127) *Human Identification.* (2) II

A systematic and detailed study of human morphology (bones and soft parts) for purposes of identification. Two hours laboratory, one hour lecture per week. *Snow.*

510 *History of Anthropological Theory.* (3)

Description and analysis of significant anthropological ideas in their historical context; the growth of the theoretical concepts in physical anthropology, archaeology and ethnology.

515(185b) *Descriptive Linguistics: Phonemics.* (3)

An investigation of speech-sounds and systems of speech-sounds. Also, attention to both speech and writing as communication systems. (Same as English 515.) Prereq: consent of instructor. *Faust.*

516(185a) *Descriptive Linguistics: Morphemics.* (3)

An explanation of some of the ways speech-sounds are put together in patterns so as to form languages. (Same as English 516.) Prereq: consent of instructor. Faust.

521(107) *Ethnology of the New World.* (3) II

Cultures and physical types of the American Indians during and after white settlement. (Northwestern North America is not included.) *Essene.*

522(130) *North Pacific Coast Cultures.* (3) I

Ethnology of the maritime peoples of western North America and Northeast Asia. Cultural connections between America and Asia will be stressed. *Essene.*

523(131) *Ethnology of Oceania.* (3) I

A survey of the various cultures to be found on the islands of the Pacific Ocean. Both aboriginal and modern acculturated societies will be considered. *Essene.*

524(140) *Mythology.* (3) II

The unwritten literature of primitive peoples. Themes, diffusion, style, literary devices, and function of myths. *Essene.*

525(141) *Applied Anthropology.* (3) II
Application of anthropological methods to contemporary practical problems such as acculturation, colonial administration, intercultural education, and race relations. *Essene.*

526(142) *Culture and Personality.* (3) I
The cultural basis of personality. Personal character considered as the result of culturally fostered patterns. The ideal personality in several selected societies. (Also listed as Sociology 526.)

541(111) *Archaeological Theory and Method.* (3) II
The concepts and aims of archaeology, its history as a scientific discipline and its present role in the social sciences. Attention to basic principles in field work and to recent advances. *Schwartz.*

542(115) *North American Archaeology.* (3) I
Origin and growth of prehistoric American Indian cultures north of Mexico as revealed by archaeological data. *Schwartz.*

543(116) *Beginnings of Civilization.* (3) I
Prehistory of the Near East, the earliest evidences of agriculture, pastoralism, pottery, smelting, writing, law codes, irrigation, astronomy, kingships, building of stone, priesthood, temples, coined money. *Schwartz.*

544(117) *Diffusion of Civilization.* (3) II
Prehistory of the Far East, Europe, and Negro Africa and ethnology of primitive tribes in these areas. The spread of Near Eastern civilization provided the basis for higher culture developments. Prereq: Anthro. 543 or equivalent course on the Near East. *Essene.*

545(112) *Archaeology of Kentucky.* (3) II, S
A rapid survey of the more important prehistoric cultures found in North America and the sequence of cultures found in Kentucky to the time of the white settlers. *Schwartz.*

546(114) *Prehistoric Meso-America and Peru.* (3) I
An intensive study of the native American civilizations, their origins, development, and achievements. *Schwartz.*

547(118) *Cultures of the Southwestern United States.* (3) II
Development of sedentary and nomadic Indian peoples, from earliest times to the present. Emphasis on Puebloan, Mogollon, and Hohokam archaeology and continuity with modern Indians. *Schwartz.*

561(180) *Anthropology: Man and His Works.* (3) I, S
Survey of the major fields of anthropology, physical, prehistory, and ethnology and a guide to source material. Designed for students not contemplating further work in anthropology. *Staff.*

581(103a-d) *Independent Work in Anthropology.* (2) I, II, S
Prereq: Major and a standing of 3.0 in the dept. May be repeated 3 times. *Staff.*

582(150a-d) *Tutorial Seminar.* (2) I, II, S
Anthropological methods and theory. May be repeated three times. Prereq: Major in anthropology. *Staff.*

768(500) *Thesis.* (0) I, II, S
Residence credit for the master's degree. May be repeated twice. *Staff.*

770(201a,b) *Seminar.* (2) I, II, S
Intensive work in particular fields of anthropology. All students during a given semester will be assigned related phases of the same problem. Designed primarily for students working toward a master's degree in anthropology. May be repeated once. *Staff.*

790(203a-d) *Research Problems in Anthropology.* (3) I, II, S
Intensive study in the fields of Physical Anthropology, Archaeology and Ethnology with qualified staff members. Term papers required. May be repeated three times. *Staff.*

ART

As a department within the College of Arts and Sciences, the Department of Art is concerned that its majors shall have a liberal education. Hence, all students in art are grounded in the accepted foundations of a liberal education: science, social studies, language and the humanities. This kind of education should result in a command of ideas and a mastery of skills which will afford graduates the possibility of creative action through life. A departmental faculty of professional artists and scholars is dedicated to these purposes.

The University of Kentucky has one of the best equipped fine arts buildings in the country. There are modern studios for creative work in drawing, painting, printmaking, sculpture and the crafts; classrooms and conference rooms for the critical study of art; a large study collection of photographs and facsimile reproductions; an adequate collection of slides; an excellent fine arts library; and an art gallery which in size, design, and lighting is entirely suited to show the most important national circulating exhibitions of original works of art.

The Department offers two separate majors: (1) a straight art major for those wishing a liberal arts education built around the study of art, and (2) a combined art and education major for prospective teachers of art in the public schools.

1. *The Art Major* provides for a balanced program of studio classes for creative work in painting, sculpture, printmaking, etc., with, at the same time, lecture and conference courses in the history, criticism, and philosophy of art. These two types of experience complement one another in the study of art, and a synthesis is made in a senior seminar. Since some students demonstrate an aptitude for scholarly research, others for creative studio work, these difference are recognized in a system of independent-work courses where the qualified student may have separate and individual instruction.

Students with professional intentions in the Applied Arts (Industrial Design, Interior Design, Advertising Design and Illustration, etc.) will find that the basic courses offered by the Department of Art constitute excellent preparation for advanced work in these fields. In addition, appropriate electives can be chosen from courses given by other departments and colleges.

2. *The Art-Education Major* has been developed in cooperation with the College of Education. Students graduating with a major in art-education are fully qualified to teach art in the elementary schools. Teaching in the secondary schools usually calls for work beyond the A.B. degree, and the present tendency is to require the M.A. degree which again includes studies in both art and education.

The Graduate Program in Art for the M.A. degree allows for emphasis in any one of three broad fields: (1) creative work in painting, sculpture, constructive design, printmaking, etc.; (2) critical studies and research in art, comparative studies in art, music, literature, etc.; (3) research and planning in art-education. In each case a written thesis is required. And in all cases the masters' candidates continue to balance their course work between studio classes for creative work and classes in the history of art, criticism and aesthetics.

Upper Division Requirements

Requirements in the Field of Concentration: 40 credits in advanced work in the field of Literature, Philosophy, and the Arts, including the Major work.

Requirements for a Major in Art. Prerequisites: Art 100, 105, 110, 130, 210, and 236 or 237. *Required:* A minimum

of 26 credits of advanced work in Art, including courses 500, 509, 12 credits in studio courses, 9 credits in the history and theory of art; and a comprehensive examination in the senior year.

Requirements for a Major in Art Education. Prerequisites: Art 100, 110, 130, 210 and 237. *Required:* 15 credits in advanced studio courses, including Art 230, 236, 242, 310, 312 and 336, 9 credits in public school art, including Art 170, 172 and 577, 10 credits in history and theory of art, including Art 564 and one more history course, 500 and 509, 4 credits to be chosen within one of the studio areas; and 22 credits in Education, including Education 202, 325, 342, 440 or 444, and 450.

FACULTY

Richard B. Freeman, Clifford Amyx, C. Raymond Barnhart, Anne W. Callihan, Anne G. Green, Edward W. Rannells, Janis Sternbergs, Frederic M. Thurz, and Robert A. Wiggs.

Course Descriptions

GENERAL COURSES

100(*1) *Introduction to Art. (For art majors)* (2) I
Criteria for evaluation of works of art; detailed study and analysis of original works of art: paintings, sculpture, prints, applied design and architecture. Required of and open only to prospective majors in art. *Staff.*

105(*34) *Forms of Art.* (2) I, II, S
Evolution of forms in art; style; relation of styles to cultural context. *Green.*

500(151) *Criticism of Art.* (3) I
History and theory of criticism in the visual arts. Contemporary problems in criticism. Analyses, interpretations, evaluations. *Amyx.*

509(160a,b) *Seminar in Art.* (1) I, II
Current problems in art; correlations of theory and practice; discussions and reports. For seniors and graduates majoring in art. The seminar is prerequisite to the comprehensive examination. May be repeated once for a total of 2 credits. *Staff.*

592(153) *Aesthetics.* (3) II
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. *Amyx.*

768 *Residence Credit for Master's Degree.* (0)
May be repeated once. *Staff.*

DRAWING, PAINTING AND PRINTMAKING

110(*61) *Beginning Drawing and Painting.* (2) I, II, S
Basic concepts and procedures in drawing and painting. Media: pencil, charcoal, ink, casein and watercolor. Four studio hours; one hour, criticism. *Staff.*

112,113(11a,b) *Descriptive Drawing.* (2 ea.) I, II
A course designed for students majoring in the sciences and engineering. Descriptive drawing, freehand perspective, technical problems in rendering and illustration. Pencil, pen and ink, charcoal and watercolor. Six studio hours. *Sternbergs.*

115(*51a,b) *Painting. (For non-art majors)* (2) I, II, S
A general studio course for students not intending to major in art. Study of color, form and space as expressive elements in the making of pictures. Instruction in various media. Six studio hours. May be repeated once for a total of 4 credits. *Sternbergs.*

210(63) *Intermediate Drawing and Painting.* (2) I
Creative representation based upon analytic study of natural forms. Figure, still life and landscape. Media: charcoal, ink, casein and watercolor. Four studio hours; one hour, criticism. Prereq: 110. *Thursz.*

310,311(65a,b) *Intermediate Painting.* (3 ea.) I, II, S
Principles of pictorial structure and composition. Still life and landscape. Medium: oil. Nine studio hours. Prereq: 210. *Staff.*

312,313(116a,b) *Printmaking.* (2 ea.) I, II
Technical instruction in printmaking processes: lithography, etching, wood cut. Six studio hours. Prereq: 210. *Sternbergs.*

395(177a-d) *Independent Work: Painting, Printmaking.* (3)
Individual work in drawing, painting and printmaking. Prereq: Major and a standing of 3.0 in the department. May be repeated twice for a total of 9 credits. *Staff.*

510(165a-c) *Advanced Painting.* (3) I, II, S
Individual development in creative painting. May be repeated twice for a total of 9 credits. Prereq: 311. *Thursz.*

615(267) *Traditional and Experimental Media in Painting.* (3) I, II, S
A survey of historical and contemporary procedures and materials with sustained problems in mural and easel painting. Preparation of grounds and consideration of permanency in pigments, vehicles and supports. Prereq: 3 credits in advanced painting and consent of the instructor. *Staff.*

783(177a-d) *Problems in Painting and Printmaking.* (3) I, II, S
Sustained individual problems in drawing, painting and printmaking. Prereq: 12 credits in upper division studio work and consent of the instructor. May be repeated twice for a total of 9 credits. *Staff.*

SCULPTURE, CERAMICS AND DESIGN

130(*62) *Basic Design.* (2) I, II, S
Training in basic design skills. Creative construction in common materials; logical development of unified forms. *Barnhart, Green, Wiggs.*

236(64a) *Beginning Sculpture.* (2) II
Wood carving. Problems of sculptural form and composition. Prereq: 110, 130. *Barnhart.*

237(64b) *Beginning Sculpture.* (2) II
Clay modeling. Problems of sculptural form and composition. Prereq: 110, 130. *Green.*

242(68a) *Graphic Design.* (2) I, S
Basic training in the design of printing; lettering; layouts and presentation. Six studio hours. Prereq: 110 or 112. *Sternbergs.*

243(68b) *Graphic Design.* (2) II, S
Continuation of 242. Problems in the design of posters; illustration, etc. Six studio hours. Prereq: 242. *Barnhart.*

247(67) *Art in Advertising.* (2) I
Advertising as a problem in vision and expression; its relation to art forms and concepts. Four studio hours and weekly problems. Prereq: Junior standing in Commerce, Journalism, or Art. *Barnhart.*

330(122) *Advanced Design.* (2) I
Special problems in one field or aspect of design. Intensive analysis and sustained creative work in a chosen problem. Six hours studio work. Prereq: Art 230. *Barnhart.*

336,337(126a,b) *Ceramics.* (3 ea.) I
The design, construction, glazing and firing of pottery. Nine hours studio work. Prereq: 130 and 237 or consent of instructor. *Green.*

397(179a-d) *Independent Work: Sculpture, Ceramics and Design.* (3) I, II
Individual research and experimental work in technical and theoretical problems of design. May be repeated twice for a maximum of 9 credits. Prereq: Major and a standing of 3.0 in the department. *Staff.*

780(179a-d) *Problems in Sculpture, Ceramics and Design.* (3) I, II, S

Sustained individual problems and experimental work in the technical and theoretical problems of design. Prereq: 12 credits in upper division studio work and consent of instructor. May be repeated twice for a total of 9 credits. *Staff.*

HISTORY OF ART

200 *Art History Survey: Primitive to Medieval Art.* (2) I

A survey of the major art forms from primitive through ancient and medieval periods. Emphasis on the development of major styles. Required of prospective majors in art. *Staff.*

201 *Art History Survey: Renaissance to Modern Art.* (2) II

Continuation of 200. A survey of major styles and of major artists from the early Renaissance to the present. Required of prospective majors in art. *Staff.*

252(45a) *History of Architecture.* (2) I

A survey of architectural developments from ancient times through the 18th century. Analysis of Classical, Medieval, Renaissance, and Baroque styles. *Rannells.*

253(45b) *History of Architecture.* (2) II

A study of architecture in the 19th and 20th centuries. *Rannells.*

399(175a-d) *Independent Work: History, Criticism.* (3) I, II, S

Individual research: history, criticism, aesthetics, etc. Prereq: Major and a standing of 3.0 in the department. May be repeated to a maximum of 9 credits. *Staff.*

554(135) *Ancient Art.* (3) I

The art of the ancient cultures of the Mediterranean and West-Asian world through Greek and Roman times. Emphasis on classical art. *Rannells.*

556(136) *Medieval Art.* (3) I

The art of Byzantium and the Near East and of the Latin and Germanic cultures in the West; Romanesque and Gothic Art in Northern Europe. Emphasis upon Christian Art. *Rannells.*

558(140) *Renaissance Art in Italy.* (3) I

The arts of the Renaissance in Italy from the late middle ages through the sixteenth century. Italian humanism; analyses of style; study of individual masters. *Rannells.*

559(138) *Renaissance Art in Northern Europe.* (2) II

The arts of the Renaissance and Reformation outside Italy from the late middle ages through the sixteenth century. Northern humanism; analyses of style; study of individual masters. *Rannells.*

560(141) *Baroque Art.* (3) II

The arts of the Reformation and Counter-Reformation in Europe from the mid-sixteenth century in Italy through the eighteenth century in France and Germany. The Baroque and Rococo styles; study of individual masters. *Rannells.*

562(142) *Nineteenth Century Art.* (3) I

The arts in Europe and America from the mid-eighteenth century through the nineteenth century. Consideration of social and economic changes in relation to art; study of individual artists. *Amyx.*

563(147) *Art in America.* (2) II

A survey of American architecture, sculpture, painting, illustration, handicrafts, industrial design, etc., from Colonial times to the present. *Amyx.*

564(143) *Twentieth Century Art.* (3) II

The arts of the twentieth century in Europe and the Americas. Consideration of social and technological changes in relation to art; study of individual artists. *Staff.*

664(243) *Studies in Contemporary Art.* (3) II

Intensive study of the content of selected 19th and 20th century works. Emphasis, according to works chosen, upon parallels with contemporary theory and procedure in the sciences, psychology and philosophy; consideration of psychology, mathematical and social theory. Prereq: 564 and 500 or 592.

781(175a-d) *Problems in Art History and Criticism.* (3) I, II, S

Sustained individual research and interpretation in history, criticism, aesthetics. Prereq: 12 hours in art history and criticism and the consent of the instructor. May be repeated twice for a total of 9 credits. *Staff.*

ART EDUCATION

170(*10a) *Public School Art.* (3) I, II, S

Essentials of public school art. The development of vision and art in the child; the major forms of two-dimensional art. Creative problems in drawing and painting. For students in elementary education. Two hours lecture-discussion; four studio hours. *Wiggs.*

172(*10b) *Public School Art.* (3) I, II, S

Continuation of Art 170. Emphasis on the three-dimensional forms of art, and the relation of art to visual environment. Creative problems in sculpture and design. For students in elementary education. Two hours lecture-discussion; four studio hours. Prereq: Art 170. *Wiggs.*

379(159) *Art Education Workshop.* (1) S

Creative problems, lectures and discussion in public school art. Primarily for in-service teachers. Thirty class hours. Prereq: Art 170. *Wiggs.*

575(155) *Art in Elementary Schools.* (2) S

An advanced course for in-service teachers in elementary schools. Programs of instruction related to the development levels of vision and expression in the child. Lectures, conferences, studio work, and reports. *Wiggs.*

577(157) *Art in Secondary Schools.* (3) S

Art for teachers in secondary schools. The literature of art education. Courses of study. Teaching materials. Lectures, conferences, and reports. *Rannells and Amyx.*

670(210) *School and Community Art.* (3) I, S

Analyses of the social function of art; organization of school and community programs in art; case studies of existing programs. Emphasis on relation of school programs to community needs. Prereq: Art 564, 575 or 577; Sociology 220; Education 732 or 661; or consent of the instructor. *Rannells and Amyx.*

BIOLOGY

Biology 101 and 102 will be taught at the University centers only, and the 1960-61 school year is the last year they will be offered. Students expecting to transfer to the Lexington campus should be warned that it would be unwise to take Biology 101 without following it by Biology 102. The equivalent cannot be obtained by following Biology 101 with Zoology 100 or Botany 101.

Course Descriptions

101(*1) *Biology.* (4)

An elementary course concerned with a study of plant and animal organisms, including man, and designed to serve both the major and non-major in an understanding of biological principles and processes. Two lectures and two laboratories per week.

102(*2) *Biology.* (4)

A continuation of Biology 101. Two lectures and two laboratories per week. Prereq: Biology 101.

BOTANY

The elementary courses of the Department of Botany are designed to give the general student a knowledge of the basic principles of plant life, to show him the relation of plants to

man, and to give him a better understanding of his environment. These courses are fundamental to students of agriculture, forestry, and pharmacy and will satisfy part of the premedical requirements of most medical schools. The advanced courses lead to an undergraduate major in botany with emphasis upon morphology, classification, physiology, and cytogenetics and should be of interest to students of applied botanical sciences.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Biological Sciences including the major work.

Requirements for a Major. Prerequisites: Botany 101 and 103 or equivalents. *Required:* A minimum of twenty credits of advanced work in Botany and the passing of a comprehensive examination.

FACULTY

Herbert P. Riley, Carl E. Henrickson, Jasper H. B. Garner, Frank T. McFarland, Berthus B. McInteer, Dale M. Smith, Elizabeth A. Walthall, and John C. Warden.

Course Descriptions

101(*1) *General Botany.* (4) I, II
Principles of botany. Cells and tissues; the structure and functions of the root, stem, and leaf; reproduction in flowering plants. Two lectures and two two-hour lab periods per week. *Staff.*

103(*2) *Plant Kingdom.* (3) II
Structure, life cycles, and biological relationships of typical lower plants and gymnosperms. Two lectures and one two-hour lab period per week. Prereq: Botany 101 or 125. *Warden.*

125(*25) *General Plant Biology.* (3) I, II, S
The principles underlying the structure and physiology of green plants. Three lectures per week. *Staff.*

201(15) *Local Flora.* (4) II, S
The identification and recognition of the vascular plants primarily of Kentucky, including an introduction to the use of manuals, herbarium, field study, and the principles of taxonomy. Two lectures and two two-hour labs per week. Prereq: Botany 101 or 125.

219(19) *Dendrology.* (2) I, II
Primarily a field course in which a student is taught how to identify and recognize trees by their bark, bud and leaf characters. Summer and winter conditions studied. Two lectures per week. Prereq: Botany 101 or 125. *Smith.*

240(40) *The Origin of Cultivated Plants.* (3) II
Archaeological, historical, and biological evidence for the place and time of origin of many plants useful to man and the relation of these plants to ancient centers of civilization. Three lectures per week. *Riley.*

501 *Plant Physiology.* (3-5)
Basic principles of plant physiology; the physiological processes of green plants and the effect of the environment of these processes. Prereq: Bot. 101 or 125, Chem. 112 or 104 or equiv. *Henrickson.*

506(106a-d) *Special Problems.* (3) I, II
Independent work in some phase of advanced Botany. May be repeated three times. Prereq: consent of instructor. *Staff.*

507(107) *Morphology of Algae.* (3) I
The economic value of algae and the structure and life histories of representative forms of the various groups. Three two-hour lab periods per week. Prereq: Six credits of botany.

513(114) *Ecology.* (4) I
The relationships existing between plants and their various factors of environment. Three lectures and one two-hour lab period per week. Prereq: Six credits of Botany. *Smith.*

515(115a,b) *Seminar.* (1) I, II
Readings and reports on special topics. Required of all senior botany majors. May be repeated once. *Staff.*

521(124) *Anatomy of Vascular Plants.* (4) II
The nature and origin of primary and secondary tissues and their distribution in plant organs; the use of anatomical information in phylogeny, ecology, pathology and other research areas. Two lectures and two two-hour lab periods per week. Prereq: Six credits in Botany.

524(125) *Mycology.* (4) I
The structure, relations, and physiology of the fungi and their relations with and effects on other plants and animals. Two lecture-discussions and two two-hour lab periods per week. Prereq: Botany 101 or its equivalent. *Garner.*

526(126) *Advanced Mycology.* (4) II
Detailed examination of the structure and physiology of specific groups of fungi that are of economic importance. Two lecture-discussions and two two-hour lab periods per week. Prereq: Botany 524 or its equivalent and consent of instructor. *Garner.*

528(129) *Plant Cytology.* (4) I
The structure of plant cells; mitosis and meiosis. Two lectures and four hours lab per week. Prereq: 3 credits in the Biological Sciences. *Riley.*

530(130) *Introduction to Heredity.* (3) II
The principles of heredity and their physical basis. Three lectures per week. Prereq: 3 credits in the Biological Sciences. *Riley.*

532(132) *Genes and Their Action.* (3) II
The nature and action of genes. Physiological genetics. Three lectures per week. Prereq: Botany 530 or equivalent. *Riley.*

534(134) *Cytogenetics.* (3) II
Cytological and genetic evidence for the chromosome theory. Chromosome aberrations and their importance in heredity and evolution. Three lectures per week. Given in alternate years. Prereq: Botany 528 and 530 or equivalent. *Riley.*

541(141) *Plant Pathology.* (3)
Significance, nature, causes, and methods of control of plant diseases. Lectures and discussion, two hours; lab, two hours. Prereq: Botany 101. (Same as Agronomy 541.) *Diachun.*

551(151) *Taxonomy of Vascular Plants.* (4) II
A study of the principles and practices of taxonomy and a detailed consideration of the families of vascular plants. Two lectures and two two-hour labs per week, including field trips. Prereq: Botany 101 and 103. *Smith.*

560(160) *Plant Microtechnique.* (3) II
The principal methods used in the preservation and preparation of plant materials for microscopic examination; basic microscopy; techniques for measurement and illustration. Six hours of laboratory per week. Prereq: Botany 101 or 125.

701 *Advanced Plant Physiology.* (4)
A study of metabolism, mineral nutrition and hormones in green plants. The physiology of growth and development. Lecture and discussions, three hours; lab, two hours. Prereq: Chem. 236 or 432; Bot. 501 or consent of instructor. *Henrickson.*

735(235) *Biosystematics.* (3) I
Principles in the application of data from the fields of ecology, genetics, cytology, morphology, phytogeography, and physiology to the solution of taxonomic problems. Two lectures and one two-hour lab per week. Given in alternate years. *Smith.*

738 *Radiation Genetics.* (4)
Types of ionizing radiations and their effects on the hereditary mechanism; the induction of gene mutations and chromosomal aberrations by radiation. Two lectures or discussions and four hours lab per week. Prereq: Bot. 528 and 530 or equivalent. *Riley.*

770 *Seminar.* (1)
Reports and discussions on various topics in botany. One hour. May be repeated five times for a total of six hours. *Staff.*

790(206a-d) *Research in Plant Morphology.* (4)
Graduate students prepared for independent work will be assigned to investigations in anatomy, histology, or special morphology of plants. May be repeated twice for a maximum of 12 credits. *Staff.*

791(207a-d) *Research in Mycology.* (4)
Those desiring to carry on investigations in mycology should have had Botany 524 or the equivalent. Suitable work will be suggested to students desiring to enter this field. May be repeated twice for a maximum of 12 credits. *Staff.*

792(210a-d) *Research in Plant Physiology.* (4)
Graduate students with adequate preparation in plant physiology, physics, and chemistry may carry on independent investigations in plant physiology. May be repeated twice for a maximum of 12 credits. *Henrickson.*

793(213a-d) *Research in Systematic Botany.* (4)
Graduate students may carry on independent work that may be used in the preparation of their theses. May be repeated twice for a maximum of 12 credits. *Smith.*

794(215a-d) *Research in Cytogenetics.* (4)
Independent investigations in cytogenetics and radiation genetics. In connection with his investigations, the student will be expected to master the literature and present a report. May be repeated twice for a maximum of 12 credits. *Riley.*

768 *Residence Credit for the Master's Degree.*
May be repeated once. *Staff.*

769 *Residence Credit for the Doctor's Degree.*
May be repeated indefinitely. *Staff.*

CHEMISTRY

The Department of Chemistry offers training leading to the Bachelor of Science degree with a major in chemistry and the Bachelor of Arts degree with a major in chemistry.

Commercial subjects combined with training in this department constitute preparation for technical salesmen, technical service men, liaison agents between laboratory and plant, or secretaries in scientific or industrial laboratories. Persons majoring in chemistry may choose library techniques as electives with the expectation of becoming technical librarians.

By including certain courses in Education in the requirements for the A.B. degree, the student may become well prepared for teaching science and mathematics in the high school.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE WITH CHEMISTRY AS A MAJOR

Freshman Year

First Semester	Crs.
English 101 (1a)	3
Chem. 110 (1a), Gen. Chem.	5
Math. 111 (17), Coll. Alg.	3
Hygiene 109 (9)	2
Military or Aerospace Sci. (Men)	2
Physical Education	1
	16

Second Semester	Crs.
English 102 (1b)	3
Chemistry 112 (1b), Gen. Chem.	5
Math. 112 (18), Trig.	3
Social Studies	3
Military or Aerospace Sci. (Men)	2
Physical Education	1
	17

Sophomore Year

First Semester	
Chemistry 220 (25a), Anal. Chem.	5
Math. 113 (19), Anal. & Calc. I	3
Biological Science	3
Social Studies	3
Military or Aerospace Sci. (Men)	2
	16

Second Semester	
Chem. 222 (25b), Anal. Chem.	5
Math. 211 (20), Anal. & Calc. II	4
Biological Science	3
Humanities	2
Elective	2
Military or Aerospace Sci. (Men)	2
	18

Junior Year

First Semester	
Chem. 430 (130a), Organic	5
Math. 212 (21), Anal. & Calc. III	4
Physics 231 (3a)	3
Physics 241 (4a)	2
MFL 121 (21a), German	3
	17

Second Semester	
Chem. 432 (130b), Organic	5
Physics 232 (3b)	3
Physics 242 (4b)	2
MFL 122 (21b), German	3
English 181 (6), Publ. Spkg.	3
Humanities	2
	18

Senior Year

First Semester	
Chem. 510 (110), Adv. Inorg.	3
Chem. 532 (133), Qual. Org. Anal.	3
Chem. 440 (140a), Physical	3
Chem. 441 (144a), Phys. Lab.	2
MFL 225 (24a), Chem. German	3
Humanities	2
Elective	2
	18

Second Semester	
Chem. 520 (115), Radiochem.	2
Chem. 442 (140b), Physical	3
Chem. 443 (144b), Phys. Lab.	2
Chem. 570 (188), Seminar	1
Chem. 582 (181), Chem. Lit.	1
MFL 226 (24b), Chem. German	3
English 203 (50), Comp. for Tech. Stud.	3
Elective	3
	18

Note: A student who is planning for graduate study should complete one year of French or Russian.

Lower Division Requirements

Freshman and Sophomore Years: For a major in chemistry the lower division requirements of the College of Arts and Sciences must be fulfilled.

Upper Division Requirements

Registration of juniors and seniors as majors in the Department of Chemistry is restricted to students having a grade-point average of 2.0 or higher in all chemistry courses.

Students transferring into the curriculum leading to the A.B. degree above the sophomore level must have an overall average of 2.5 or higher.

REQUIREMENTS FOR THE DEGREE, A.B. WITH A MAJOR IN CHEMISTRY

Requirements in the Field of Concentration: Forty credits in courses not open to freshmen in the combined fields of physical and biological sciences including the major field. A maximum of six hours of education may be included in satisfying this requirement.

Requirements for a Major. Prerequisites: Chemistry 110, 112, 226 or 220, Mathematics 113. *Required:* Chemistry 430, 432, 444 or 440, 441, 442, 443, 570; Physics 211, 213 or 231, 232, 241, 242, and sufficient additional courses in physical and biological sciences to satisfy the requirements in the field of concentration.

REQUIREMENTS FOR THE DEGREE, B.S. WITH A MAJOR IN CHEMISTRY

Requirements in the Field of Concentration: Forty credits of advanced work in the field of physical sciences, including the major work.

Requirements for a Major. See curriculum leading to the degree of Bachelor of Science with a major in chemistry.

FACULTY

Lyle R. Dawson, Rodney Black, Ellis V. Brown, James E. Douglass, Hartley C. Eckstrom, William D. Ehmann, Joseph Fisher, Arthur Fort, Ellwood M. Hammaker, Jacob R. Meadow, John R. Mitchell, John M. Patterson, William K. Plucknett, Paul G. Sears, Walter T. Smith, Jr., John F. Steinbach, Olus J. Stewart, and William F. Wagner.

Course Descriptions

100(*3) *Chemistry for Nurses.* (4) I, II

This course deals with those general principles of chemistry which give the necessary foundation for practical work in nutrition, materia medica, and other subjects. Lecture and recitation, three hours; lab, two hours. *Patterson.*

102,104(*4a,b) *General Chemistry for Students in Agriculture and Home Economics.* (4 ea.) I, II, S

Subject matter similar to 110 and 112, with emphasis on topics of importance to students in the College of Agriculture. Lectures and recitations, three hours; lab, two hours. Prereq: Proficiency in arithmetic and elementary algebra. *Staff.*

106,108(*2a,b) *General Chemistry for Engineers.* (4 ea.) I, II, S

Subject matter similar to 110 and 112, except that topics of importance to engineers are given special emphasis. Lectures and recitations, three hours; lab, two hours. Prereq: Proficiency in arithmetic and algebra. *Staff.*

110,112(*1a,b) *General Chemistry.* (5 ea.) I, II, S

Chemistry of the non-metallic elements and the metals including a brief study of the qualitative analysis scheme for the metallic ions. Lectures and recitations, three hours; lab, four hours. Prereq: Proficiency in arithmetic and algebra. *Staff.*

220,222(25a,b) *Analytical Chemistry.* (5 ea.) I, II

Fundamental course in qualitative and quantitative analysis including theories and calculations. Lectures, two hours; lab, six hours. Prereq: Chem. 110, 108 or 104. *Wagner.*

226(22) *Analytical Chemistry.* (5) I, II, S

An introduction to the theory and practice of qualitative analysis and the general principles and methods of quantitative analysis. Lectures, two hours; lab, six hours. Prereq: Chem. 112, 108 or 104. *Hammaker.*

230,232(30a,b) *Organic Chemistry.* (5 ea.) I, II, S

A systematic study of organic compounds. Lectures and recitations, three hours; lab, six hours. Prereq: Chem. 112 or 108. *Smith.*

236(37) *Organic Chemistry.* (4) I, II, S

An elementary course for non-professional students. Lectures and recitations, three hours; lab, two hours. Prereq: Chem. 112, 108 or 104. *Patterson.*

395(190a-d) *Independent Work in Chemistry.* (1-2) I, II, S

May be repeated for a total of four credits. Prereq: Major and a standing of 3.0 in the Department. *Staff.*

402,404(101a,b) *Orientation in Modern Chemistry for Teachers.* (3 ea.) S

A review of the fundamentals of Chemistry and a study of recent developments. The relation of chemistry to various aspects of modern life is considered. Lectures and discussions in the classroom or by Continental Classroom television broadcasts. Prereq: Employment as high school science teacher. *Staff.*

430,432(130a,b) *Organic Chemistry.* (5 ea.) I, II, S

A systematic study of organic compounds. Lectures and recitations, three hours; lab, six hours. Prereq: Chem. 112 or 108. *Smith.*

440,442(140a,b) *Physical Chemistry.* (3 ea.) I, II

The fundamental principles of chemistry are studied with emphasis upon the application of these in the correlation of natural phenomena. Lectures and recitations, three hours. Prereq: Analytical Chemistry, Mathematics 212, Physics 232, and 242. *Black.*

441,443(144a,b) *Physical Chemistry Laboratory.* (2 ea.) I, II

Laboratory studies in physical Chemistry to accompany 440, 442. Six hours. *Black.*

444(143) *Physical Chemistry.* (5) II

For students in Agriculture and in the Biological Sciences. Lecture and recitations, three hours. Prereq: Chem. 112 or 104, and 236, 237; Physics 213, and Mathematics 113. *Dawson.*

446,448(147a,b) *Physical Chemistry for Engineers.* (4 ea.) I, II

The principles of physical chemistry are studied with applications of these in mining and metallurgical engineering. Lectures and recitations, three hours. Prereq: Chem. 226, 227; Mathematics 212; Physics 232 and 242. *Black.*

510(110a,b) *Advanced Inorganic Chemistry.* (3) I

A systematic course in inorganic chemistry with especial emphasis upon the preparation and reactions of various types of compounds. Lectures and recitations, three hours. Prereq: Quantitative analysis and organic chemistry. *Sears.*

520(115) *Elementary Radiochemistry.* (2) II, S

An introductory study of the radioactive elements and other substances involved in nuclear reactions. Lectures, laboratory and discussions, three hours. Prereq: Chem. 226 or equivalent. *Ehmann.*

522(122) *Instrumental Analysis.* (3) II, S
The applications of microscopic, colorimetric, spectrophotometric, polarographic, and electrometric methods. Lecture, one hour; lab, six hours. Prereq: Chem. 222. *Wagner.*

524(125) *Advanced Quantitative Analysis.* (3) I
The complete analysis of a silicate mineral or ore, and the alloys of iron, copper, and aluminum. Lecture, one hour; lab, six hours. Prereq: Chem. 222. *Wagner.*

532(133) *Qualitative Organic Analysis.* (3) I, S
A systematic study of the separation and identification of organic compounds. Lecture, one hour; lab, six hours. Prereq: Chem. 432 or 232. *Fort.*

535(136) *Synthetic Organic Chemistry.* (3) II, S
A critical comparison of preparation methods accompanied by laboratory work and reports. Lab, nine hours. Prereq: Chem. 432 or 232. *Smith.*

542(141) *Chemical Thermodynamics.* (3) II
Principles and applications of chemical thermodynamics. Lectures, three hours. Prereq: Chem. 442. *Eckstrom.*

544(145) *Colloid Chemistry.* (2) II
Lectures, recitations, and assigned readings on the chemistry of colloids. Lectures and recitations, two hours. Prereq: Chem. 442. *Black.*

550,552(150a,b) *Physiological Chemistry.* (4 ea.) I, II
A study of the chemistry of living processes. Lectures and recitations, three hours; lab, three hours. Prereq: Chem. 112 or 104, 220 and 432. *Smith.*

570,572(188a,b) *Seminar.* (0, 1) I, II
Reports and discussions on recent research and current chemical literature. Required of all seniors. Attendance at the seminar for two semesters is required before the one hour of credit is earned. *Staff.*

582(181) *Chemical Literature.* (1) I
Training in the use of chemical literature. One hour per week. Prereq: Junior or Senior standing. *Black.*

583(182) *Laboratory Arts.* (2) I, II
The fabrication of chemical apparatus of glass, metal, and plastics. Prereq: Major in the Department of Chemistry with Junior or Senior standing. *Eckstrom.*

616(215) *Radiochemistry.* (2) I
An advanced study of nuclear chemistry and radiochemistry. Lectures, two hours. Prereq: Chem. 442, 443, 520. *Ehmann.*

620(220) *Advanced Qualitative Analysis.* (3) I
A study of qualitative analysis for the anions and the separation and detection of the less common elements, employing a physico-chemical method of approach to the theory of separation. Lectures, one hour; lab, six hours. Prereq: 222. *Wagner.*

622(221) *Semimicro Quantitative Analysis.* (3)
The applications of semimicro and micro techniques to the quantitative analysis of both organic and inorganic substances. Lectures, one hour; lab, six hours. Prereq: Chem. 442. *Hammaker.*

625(223) *Optical Methods of Analysis.* (2)
An intensive study of the theory and applications of each of the following methods: emission spectroscopy, absorption spectrophotometry, colorimetry, refractometry, and polarimetry. Laboratory, six hours. Prereq: Chem. 442 and 522. *Hammaker.*

627(227) *Miscroscopic Analysis.* (2)
Qualitative and semi-quantitative analysis of microgram amounts of various cation groups in a single drop under a microscope. Lab, six hours. Prereq: Chem. 222. *Staff.*

628(228) *Principles of Analytic Chemistry.* (3) II
An advanced study of the theory and practice of quantitative analysis. Lectures and discussions, three hours. Prereq: Chem. 442. *Hammaker.*

630,632(230a,b) *Synthesis of Organic Compounds.* (2 ea.) I, II
A thorough study of the types of reactions used in organic synthesis with emphasis on the conditions and reagents that can be used. Lectures, two hours. Prereq: Chem. 432. *Smith.*

634(234) *The Electronic Theory as Applied to Organic Reactions.* (2) I
A study of the modern viewpoints of valence and their application to the interpretation of organic reactions. Lectures, two hours. Prereq: Chem. 432 and 442. *Patterson.*

636(232) *Stereoisomerism of Carbon Compounds.* (3) II
Optical isomerism; polarimetry; stereochemistry of biphenyls and related compounds; cistrans isomerism; and stereochemistry of the sugars. Lectures, three hours. Prereq: Chem. 432. *Smith.*

638(238) *Principles of Organic Chemistry.* (4) I
A general survey of the field of organic chemistry. Lectures, four hours. Prereq: Chem. 432 or equivalent. *Brown.*

644(244) *Phase Rule.* (2) II
Lectures and assigned readings on the theory and applications of the phase rule. Lectures, two hours. Prereq: Chem. 442 and 443. *Eckstrom.*

646(246) *Chemical Kinetics.* (3)
Studies of chemical reactions from the standpoint of velocity and mechanism. Lectures, three hours. Prereq: Chem. 442 and 443. *Plucknett.*

648(248) *Principles of Physical Chemistry.* (4) I
An advanced course dealing with the fundamental principles of physical chemistry. Prereq: College physics, integral calculus, and one course in physical chemistry. *Dawson.*

710(310) *Topics in Inorganic Chemistry.* (2) II
The chemistry of the rare earths and other less common elements. Selected topics dealing with recent advances in the field. Lectures, two hours. Prereq: Chem. 510. *Staff.*

714(314) *Non-Aqueous Solutions.* (2) II
A study of the properties of non-aqueous solutions and reactions in non-aqueous media. Lectures, two hours. Prereq: Chem. 442 and 443. *Sears.*

722(322) *Electrical Methods of Analysis.* (2) I
The theory and application of potentiometric, polarographic, and conductometric measurements. Lectures, one hour; lab, three hours. Prereq: Chem. 442, 443 and 522. *Wagner.*

732(335) *Molecular Rearrangements.* (2)
A study of the various mechanisms which have been proposed for reactions which produce change in the structural arrangement of the molecule. Lectures, two hours. Prereq: Chem. 634.

734(336) *Heterocyclic Compounds.* (2)
Occurrence, preparation, and properties of cyclic compounds containing oxygen, sulfur, and nitrogen. Lectures, two hours. Prereq: Chem. 432.

736,738(339a,b) *Topics in Organic Chemistry.* (2 ea.) I, II
Selected topics which may include heterocyclic organic compounds, natural and synthetic dyes, carbohydrates, nitrogen compounds, and other recent advances in the field of organic chemistry. Lectures, two hours. Prereq: Chem. 432. *Staff.*

740(340) *Electrochemistry.* (3) I
Modern theories of solutions. Applications of electrochemical methods in determining the properties of solutions. Polarization. Electrolysis. Equilibrium in solutions of electrolytes. Lectures, three hours. Prereq: Chem. 442 and 443. *Staff.*

742(341) *Quantum Chemistry.* (2)
An introduction to quantum mechanics with emphasis on the aspects closely related to chemistry. Prereq: Chem. 442 and 443. *Plucknett.*

744(342) *Statistical Thermodynamics.* (2)
The study of chemical thermodynamics from the viewpoint of the statistical treatment of systems rather than from the empirical classical approach. Prereq: Chem. 542 and differential equations. *Plucknett.*

746,748(349a,b) *Topics in Physical Chemistry.* (2 ea.)
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. Lectures, two hours. Prereq: Chem. 442 and 443 and Mathematics 431 and 531. *Staff.*

768 *Residence Credit for the Master's Degree.* (0)
1 to 6 weeks residence.
May be repeated for a total of six weeks.

769 *Residence Credit for the Doctor's Degree.* (0)
1 to 18 weeks residence.
May be repeated indefinitely.

776,778(288a-h) *Graduate Seminar.* (1 ea.) I, II
Reports and discussions on recent research and current literature. Required of all graduate students. *Staff.*

780 *Individual Work in Chemistry.* (1-5) I, II, S
May be repeated twice for a total of six credits. *Staff.*

790(290a-l) *Research in Chemistry.* (1-5) I, II, S
May be repeated indefinitely. *Staff.*

ECONOMICS

Students wishing to major in economics from the social science approach may register in the College of Arts and Sciences. This program will enable the graduate to enter many fields of governmental and private employment. Opportunities for service include the general field of economic research and many specialties such as taxation, labor relations, finance, and statistics.

The student wishing to major in economics will be guided by an advisor in the economics department of the College of Commerce.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of social studies, including the major work.

Requirements for a Major. Prerequisites: Economics 251 and 252. *Required:* A minimum of 18 credits of advanced work in Economics, including Economics 402, 504, 505, and 515. Tutorial course 396 must be taken in the senior year to prepare for the required comprehensive examination.

List of Courses. Courses that may be used to satisfy the over-all requirements are described under the College of Commerce and include the following: 251 and 252—Principles of Economics; 402—Labor Economics; 503— Transportation; 504—Public Finance; 505—Money and Banking; 507—Statistical Method; 516—Business Cycles; 515—Intermediate Economic Analysis; 524—State and Local Taxation; 525—Evolution of Economic Institutions; 527—International Economics; 530—Labor Legislation; 534— Advanced Economic History of the United States; 554—Urban Real Estate; 555—Industrial Relations; 560—Business Combinations; 565—Comparative Economic Systems; 566—Personnel Problems; 396—Tutorial Work in Economics; 386—Economic Research; 590—Introduction to Mathematical Economics.

EDUCATION

A student in the College of Arts and Sciences may elect toward the A.B. or B.S. degree a total of 30 credits from other colleges of the University.

ENGINEERING

A student in the College of Arts and Sciences may elect toward the A.B. or B.S. degree a total of 30 credits from other colleges of the University.

ENGLISH, SPEECH, & DRAMATIC ARTS

Though many of the courses in the Department are planned to fit the needs of other departments and colleges, most of them are designed to meet the undergraduate and graduate needs of those who may wish to specialize in English, Speech, and the Dramatic Arts.

The majority of students who take English courses do so either because they expect to teach English in high school or college, or because of the personal satisfaction that they derive from great books. A few take English because it provides a good background for an editorial career, or that of professional book reviewer, dramatic or literary critic, or author of imaginative literature. And others take language, speech, and dramatic arts courses because they need to learn the accurate, precise use of language; need speech experience as a part of their preparation for such professions as law, the ministry, teaching, and salesmanship; or training in drama and theatre leading to a career in little theatre work, dramatic criticism, and in a few cases in professional acting.

The Department offers training in language study; English, American, and comparative literature; creative writing; speech; and the dramatic arts. Course work leading to the A.B. and M.A. degrees is available in most of these areas and to the Ph.D. in English language and literature.

REQUIREMENTS FOR A MAJOR

1. English: *Prerequisites:* 101, 102, 221, and 222.
2. Speech: *Prerequisites:* 101, 102; 181; and 6 hours from 221, 222, 161, 251, 252.
3. Dramatic Arts: *Prerequisites:* 101, 102; 191 or 192; 181, 291, or 288; and 6 hours from 221, 222, 161, 251, 252.

Required for an English major: A minimum of 24 additional credits of advanced work in English, Speech, and Dramatic Arts, as set forth in the departmental statement of requirements.

Required for Speech and Dramatic Arts majors: A minimum of 18 additional credits of advanced work in Speech and Dramatic Arts plus 6 additional credits of advanced work in English.

Requirements in Field of Concentration. Forty credits (in courses not open to freshmen) in the field of Literature, Philosophy, History, and the Arts, including the major work.

FACULTY

William S. Ward, Michael Adelstein, Jacob H. Adler, Viron L. Barnhill, Ben W. Black, Gifford Blyton, George K. Brady, Wallace N. Briggs, Arthur L. Cooke, Alfred L. Crabb, John L. Cutler, Charles F. Dickens, Robert O. Evans, George P. Faust, Edward F. Foster, Sheldon N. Grebstein, Lelia G. Harris, Maurice A. Hatch, Robert Hazel, James R. Hurt, Robert D. Jacobs, William H. Jansen, Albert Paris Leary, Darryl McCall, Joseph E. Mainous, Arthur K. Moore, Archie B. Rainey, Mary Ellen Rickey, Lolo L. Robinson, Hill Shine, George W. Smith, J. Reid Sterrett, Margaret O. Stewart, William B. Stone, Thomas B. Stroup, Milton A. Voight, Jack E. Wallace, Robert L. White, George T. Wright, and Erma L. Zerkle.

Course Descriptions

1(D) *Sub-Freshman Composition.* (0)
A course for students inadequately prepared for English 101. Frequent short writing assignments; work in grammar and mechanics as needed. Freshmen are advised to enter the course on the basis of (1) classification tests or (2) first papers written in English 101. *Staff.*

5 *Remedial English for Remanded Students.* (0)
Instruction (normally on a tutorial basis) for upperclassmen who have been referred to the department because of their poor work in English. The student is excused from the course upon proof of proficiency. *Staff.*

101(*1a) *Freshman Composition.* (3)
A course designed to teach students to develop and express their ideas in clear, effective English. The principal means are the reading and discussion of essays and articles, with frequent practice in expository writing. English 101 or 105 required of all freshmen. *Staff.*

102(*1b) *Freshman Composition.* (3)
A continuation of English 101, which is prerequisite. Emphasis on composition continues, with particular attention to forming and expressing acceptable judgments about significant topics of discussion. English 102 or 106 required of all freshmen. *Staff.*

105 *Advanced Freshman Composition.* (3)
A variant of English 101 for students who score in the 85th percentile or above on their classification tests. *Staff.*

106(*1bR) *Advanced Freshman Composition.* (3)
A continuation of English 105. The reading matter is largely imaginative: poetry, drama, fiction. Excellence in English 101 or 105 and recommendation of the instructor required for admission. *Staff.*

201(30) *Business English.* (2)
A study of the principles of composition with emphasis on their practical application in business. Letters, articles, and reports. Prereq: Freshman Composition. *Staff.*

203(50) *Composition for Technical Students.* (3)
A course designed to give writing experience for students in the sciences, engineering, agriculture, and business. Definitions, analyses, classifications, interpretations, directives, business letters, reports. Prereq: Freshman Composition. *Staff.*

205(60) *Advanced Composition.* (3)
A course for those who wish further instruction and practice in expository writing. The emphasis is upon thoughtful organization of material and clear writing, Prereq: Freshman Composition. *Staff.*

207(80) *Writing of Fiction.* (3)
A course for those who wish to write fiction and to develop a critical appreciation of narrative writing. Analysis of models and student manuscripts. Prereq: Consent of instructor. *Hazel.*

208 *Writing of Poetry.* (2)
The theory and practice of the craft of English verse, to develop the student's ability to understand and write poetry. *Leary.*

501(117a) *Fiction Workshop.* (2)
Chief attention is directed to the short story, but time is also given to the novel. Manuscripts are analyzed, but primary attention is given to the theory and convention of fiction writing. Prereq: Consent of instructor. *Hazel.*

502(117b) *Fiction Workshop.* (2)
Emphasis on application of fictional techniques in student writing. Designed to bring about a fuller understanding of the conventions set forth in 501 and to bring practice closer to theory. Prereq: Consent of instructor. *Hazel.*

504(172) *Writing the One-Act Play.* (3)
This course is designed for those students interested in creative drama. The completion of at least one one-act play is required during the semester. *Robinson.*

505(174) *Writing the Full-Length Play.* (3)
The writing of a full-length play is required during the semester. *Robinson.*

509(180) *Composition for Teachers.* (3)
The basic studies helpful to high school teachers of composition. The teaching of grammar, punctuation, usage, etc., and of theme planning, correction, and revision. Students are required to do quite a bit of writing. *Crabb, Hatch.*

510(102) *Modern British and American English.* (3)
A survey of modern British and American English with respect to pronunciation, syntax, spelling, and usage. Historical developments will be examined insofar as doing so sheds light on modern practice. *Cutler.*

512(101) *Grammar of Structure and Usage.* (3)
Descriptive grammar for advanced students. Analysis of sentence structure; consideration of standards of usage; investigation of current practice. *Faust.*

515(185b) *Descriptive Linguistics: Phonemics.* (3)
An investigation of speech-sounds and systems of speech-sounds. Also attention to both speech and writing as communication systems. (Same as Anthropology 515.) Prereq: Consent of instructor. *Faust.*

516(185a) *Descriptive Linguistics Morphemics.* (3)
An explanation of some of the ways speech sounds are put together in patterns so as to form languages. (Same as Anthropology 516.) Prereq: Consent of instructor. *Faust.*

610(203) *Old English.* (3)
Introduction to Old English language and literature. *Moore.*

611 *Beowulf.* (3)
Chiefly a study of *Beowulf*, though with some reference to allied literature and the Germanic background. *Moore.*

612(204) *History of the English Language.* (3)
A survey tracing the development of modern standard English from its Indo-European origin. Emphasis will be placed on the history of sounds, inflections, and vocabulary and on the varying concepts of "correctness." *Cutler.*

ENGLISH, AMERICAN, AND COMPARATIVE LITERATURE

161(*4) *Introduction to Literature.* (3)
An analytical rather than historical approach to literature, intended to deepen the student's insight into the nature and purpose of literature and to develop literary taste and judgment. *Staff.*

221(3a) *Survey of English Literature.* (3)
A survey of English literature from *Beowulf* to the beginnings of the Romantic movement. The emphasis is upon the more important writers, with attention to their cultural background. *Staff.*

222(3b) *Survey of English Literature.* (3)
A survey of English literature from the beginnings of the Romantic movement to the present. The emphasis is upon the more important writers, with attention to their cultural background. *Staff.*

251(5a) *Major American Writers.* (3)
The approach is aesthetic and analytical, rather than historical. Authors such as the following are studied: Franklin, Irving, Cooper, Poe, Longfellow, Hawthorne, Emerson, Thoreau, Melville. *Staff.*

252(5b) *Major American Writers.* (3)
The approach is aesthetic and analytical, rather than historical. Authors such as the following are studied: Whitman, Twain, Howells, James, Frost, Robinson, Eliot, O'Neill, Maxwell Anderson. *Staff.*

395(131a-d) *Independent Work.* (3)
For undergraduate majors in English with a high standing. Each pursues a course independently under the guidance of a staff member, writes a paper embodying the results of his study, and takes an examination. May be repeated once for a total of 6 credits. *Staff.*

520(105) *Chaucer.* (3)
Extensive readings in the principal works of Chaucer, with particular attention to The Canterbury Tales and Troilus and Criseyde. *Moore and Cutler.*

522(124a) *English Literature: 1500-1600.* (3)
Literature of the Elizabethan period exclusive of the drama. Foreign sources of the English Renaissance. Major writers such as More, Ascham, Wyatt, Sidney, Spenser, Raleigh, and Marlowe. *Stroup.*

523(124b) *English Literature: 1600-1660.* (3)
Selected non-dramatic works of such writers as Bacon, Donne, Ben Jonson, George Herbert, Izaak Walton, Herrick, Sir Thomas Browne, Vaughan, Traherne, and Milton. *Stroup.*

524(109) *Pre-Shakespearean Drama.* (3)
A course in English origins, beginning with the *Quem Quaeritis* Trope and extending through the works of the early Elizabethans. *Stroup.*

525(145) *Elizabethan Drama, Exclusive of Shakespeare.* (3)
A survey of English drama from the early Elizabethans until the closing of the theatres. *Stroup.*

526(110a) *Shakespeare: The Comedies.* (3)
Shakespeare's comedies will be studied in detail. *Black and Evans.*

527(110b) *Shakespeare: The Tragedies.* (3)
Shakespeare's tragedies will be studied in detail. *Black and Evans.*

528(104) *Milton.* (3)
A study of all of Milton's poetry and of his more important prose; readings from contemporary thinkers; studies in thought currents of the time and Milton's relation to them. *Stroup.*

530(152) *Age of Pope.* (3)
Addison and Steele, Swift, Pope, Defoe, and other contemporary figures. *Cooke.*

531(147) *Age of Johnson.* (3)
Johnson and his circle; Burke, Goldsmith, Gray, Walpole, Cowper. The Pre-Romantic movement. *Cooke.*

532(153) *Restoration and Eighteenth-Century Drama.* (3)
A study of the dramatic types that arose between the closing of the theatres in 1642 and the death of Sheridan. *Cooke.*

533(111a) *Eighteenth-Century British Novel.* (3)
Study of the novel from its beginnings in English literature through the eighteenth century. *Cooke.*

535(106a) *English Romantic Poetry.* (3)
The philosophical, critical, social, and political backgrounds of romanticism are examined. The emphasis is on Wordsworth, Coleridge, Byron, Shelley, and Keats. *Ward.*

536(106b) *English Romantic Prose.* (3)
The emphasis is on the essays and critical prose of Lamb, Hazlitt, and DeQuincey; the critical prose of Wordsworth, Coleridge, and Shelley; and the letters of Keats. *Ward.*

538 *Victorian Literature: 1830-1860.* (3)
Poets and essayists—Macaulay, Mill, Carlyle, Newman, Tennyson, Mrs. Browning, Browning, Ruskin, and Arnold—in their historical setting. *Shine.*

539 *Victorian Literature: 1860-1900.* (3)
Poets and essayists—Rossetti, Swinburne, Meredith, Huxley, Pater, Wilde, Davidson, Henley, Stevenson, Housman, Hardy, Kipling, and some others—in their historical setting. *Shine.*

540(111b) *Nineteenth-Century British Novel.* (3)
Study of the novel in English literature from Jane Austen through Thomas Hardy. *Wright.*

541(156b) *Twentieth-Century British Novel.* (3)
A study of the content and technique of the best twentieth-century British novels, with some consideration of these in relation to significant social, philosophical, and literary trends.

542(155b) *Twentieth-Century British Poetry.* (3)
Close study of major British poetry of the twentieth century, with attention to literary movements and critical theory. *Moore.*

551(123a) *American Literature Before 1860.* (3)
A survey of the development of American life, thought, and letters from the beginnings to 1860. *Jacobs.*

552(123b) *American Literature After 1860.* (3)
A survey of the development of American life, thought, and letters from 1860 to the present. *Jacobs.*

554(113) *American Novel Before 1900.* (3)
Study of the American novel from the beginnings to Henry James.

555(156a) *Modern American Novel.* (3)
Novels chosen for their enduring value rather than historical importance. Attention to shifting techniques of fiction and to contrasting interpretation of the American scene. *Jacobs.*

556(155a) *Modern American Poetry.* (3)
Examination of the forces which brought about the revolutionary changes in technique and idea in twentieth-century poetry; study of the major American poets from 1890 to the present. *Jacobs.*

560(130a) *Comparative Literature I.* (3)
A study of Western World literature. From Homer to Montaigne. *Brady.*

561(130b) *Comparative Literature II.* (3)
A study of Western World literature. From Montaigne to Anatole France. *Brady.*

563(116) *Modern Drama.* (3)
Continental, British, and American dramatic literature from Ibsen to the present. *Adler.*

565(165) *The Lyric in English.* (3)
A critical examination of selected lyrics from the Middle Ages to the present. *Moore.*

568(108a) *History of Literary Criticism I.* (3)
Literary criticism in the Western World from Plato through the eighteenth century. Application of critical principles to literary works. *Adler.*

569(108b) *History of Literary Criticism II.* (3)
Literary criticism in Europe and America from Wordsworth to the present. Application of critical principles to literary works. *Adler.*

570(127a) *Literature of the Old Testament.* (3)
Critical analysis of the canonical and apocryphal Old Testament in English, with particular attention to Biblical ideas and symbols helpful to students of literature. *Leary.*

571(127b) *Literature of the New Testament.* (3)
Critical analysis of the canonical and apocryphal New Testament in English, with particular attention to Biblical ideas and symbols helpful to students of literature. *Leary.*

573(148) *General Introduction to Folklore.* (3)
An introduction—on a world-wide scope—to the types of folklore. Emphasis upon folklore as a cultural phenomenon in its own right and upon its relations to literary types. The development of the science of folklore. *Jansen.*

574(149) *American Folklore.* (3)
A study of the major materials in American folklore. The use of this material in other forms. Experience in actual collecting and in the cataloging of materials. *Jansen.*

600(210) *Bibliographical Studies.* (3)
An introduction to graduate work, with particular attention to the monuments of literary scholarship, reference works, and use of the library. The preparation of an extensive bibliography is required. Must be taken by all candidates for the M.A. in English. *Brady.*

620(205) *Middle English Literature.* (3)
Survey of Middle English literature, exclusive of Chaucer, with collateral reading of non-English monuments in English translation. *Moore.*

622 *Studies in English Literature: 1500-1600.* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. *Stroup.*

623 *Studies in English Literature: 1600-1660.* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. *Stroup.*

630 *Studies in English Literature: 1660-1720.* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. *Cooke.*

631 *Studies in English Literature: 1720-1780.* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. *Cooke.*

635 *Studies in English Literature: 1780-1830.* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. May be repeated once for a total of 8 credits. *Ward.*

638 *Studies in English Literature: 1830-1860.* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. *Shine.*

639 *Studies in English Literature: 1860-1900.* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. *Shine.*

651 *Studies in American Literature Before 1860.* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. *Jacobs.*

652 *Studies in American Literature Since 1860:* (4)
Comprehensive study of broad topics, normally limited to an intensive survey of the literature and scholarship of the period as a whole. *Jacobs.*

768(500) *Residence Credit for the Master's Degree.* (0)
May be repeated once.

769(500) *Residence Credit for the Doctor's Degree.* (0)
May be repeated indefinitely.

770 *Seminar in English Literature.* (3)
Intensive study and research centering upon such subjects as the following: a particular author or group of authors, a literary *genre*, a literary movement, a restricted period of time. May be repeated three times for a total of 12 credits. *Graduate Staff.*

772 *Seminar in American Literature.* (3)
Intensive study and research centering upon such subjects as the following: a particular author or group of authors, a literary *genre*, a literary movement, a restricted period of time. May be repeated once for a total of 6 credits. *Graduate Staff.*

774 *Seminar in Comparative Literature.* (3)
Intensive study and research centering upon the relationship between English or American literature and that of some other country. May be repeated once for a total of 6 credits. *Graduate Staff.*

780(131a-d) *Directed Studies.* (3)
Independent work devoted to study and research on specific subjects and problems according to the interests and needs of individual students. May be repeated twice for a total of 9 credits. *Graduate Staff.*

SPEECH

181(*6) *Basic Public Speaking.* (3)
A course designed to give the student platform experience in the fundamentals of effective speaking. *Staff.*

183(*14) *Parliamentary Usage.* (2)
The theory and practice of parliamentary procedure as it applies both to governmental and non-governmental organizations. Ample time is allocated for practice in organizing groups and conducting meetings. *Blyton.*

184(*40a-b) *Intercollegiate Debating.* (1)
Preparation for and participation in intercollegiate debating. May be repeated once for a total of 2 credits. *Blyton.*

283(11) *Argumentation and Debate.* (3)
A course in the theory of argument, with practice in the several forms of debate. *Blyton.*

284(40c-f) *Intercollegiate Debating.* (1)
Preparation for and participation in intercollegiate debating. May be repeated three times for a total of 4 credits. *Blyton.*

285(72) *Applied Phonetics.* (3)
Study of the phonetic structure of the 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. *Blyton and Cutler.*

287(7) *Speeches for Special Occasions.* (3)
Practice in various types of speeches motivated by specific occasions, such as introductions, welcomes, presentations, dedications, good-will speeches, and after-dinner speeches. *Sterrett.*

288(38) *Oral Interpretation.* (3)
An analysis of prose and poetry for oral interpretation. Helpful to those who plan to teach literature. *Sterrett.*

580(146a) *Discussion.* (3)
The essentials of discussion, with emphasis upon the thinking process as it operates in group situations. Participation in the various forms of discussion. *Blyton.*

581(146b) *Advanced Discussion.* (3)
An intensive study of discussion as democracy in action. Ample time devoted to practice discussions. *Blyton.*

582(159) *Persuasion.* (3)
The principles and methods of persuasion. Of particular benefit to teachers, lawyers, business majors, and other persons whose work is concerned with motivating human conduct. *Blyton.*

583(158) Advanced Argumentation and Debate. (3)
The function of argumentation and debate in a democracy, plus a much more detailed and critical examination of logic and argument than in English 283. *Blyton.*

584(157) *Teaching of Speech.* (3)
An analysis of the field of speech education as related to the teacher of speech. *Blyton.*

588(138) *Oral Interpretation of Drama.* (3)
The cutting and adapting of the three-act play for oral presentation. *Sterrett.*

589(164) *Speech Composition.* (3)
A study of speech structure and its characteristic oral style. Both the analysis of contemporary speeches and the preparation of speech manuscripts. *Sterrett.*

782(247b) *Special Topics in Speech.* (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. *Staff.*

DRAMATIC ARTS

191 (*35) *Stagecraft.* (2)
A laboratory course in the craft of play production: scenery, construction, properties, lighting, painting of scenery etc. Recommended for those interested in any technical phase of amateur theatre. *Rainey.*

192(*36) *Staging Techniques.* (2)
Problems in stage management, lighting, equipment, and design. Students are given an opportunity to take charge of completing important scenic units in a current production and to serve on its production staff. *Rainey.*

291(32) *Voice Development.* (3)
An analysis of each student's voice and articulation, and a pointing out of methods to correct speech faults. Exercises for flexibility, range, relief from tension, and articulation. *Briggs and Dickens.*

590(160) *Acting.* (3)
Development of skill and grace in the use of the body. Attention to establish mood, reactions between characters, suspense through voice modulations, pause and other modes of emphasis, projecting voice and characterization. *Briggs.*

591(161) *Theatre Directing.* (3)
Study of movement, interpretation of lines, creation of atmosphere, use of stage areas, use of levels, methods of achieving a climax, handling of groups, planning of mob scenes. *Briggs.*

592(162) *Theatre Production.* (3)
Application of modern aesthetic principles and theories of the theatre. Attention to coordination of the playwright, designer, technical director, electrician, stage manager, actor. *Rainey.*

593(163) *Scenic Design.* (3)
A study of form, line, and color as applied to the stage. Practical work in building model sets and in the application of these models to the major production. *Rainey.*

596(134) *History of the Stage.* (3)
Designed to give the student a knowledge of the problems of staging from ancient to modern times. Theatre and stage architecture, scenic effects, costuming, and acting styles of all major periods are discussed and their relation to dramatic literature analyzed. *Dickens.*

597(137) *Survey of Theatre Principles.* (3)
A course designed to introduce teachers and community theatre workers to the problems of staging under circumscribed conditions; minimum essentials of play production and the means of supplying these needs. *Briggs.*

784(247a) *Special Topics in Dramatic Arts.* (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. *Staff.*

GEOGRAPHY

The need for well-trained personnel in the field of Geography has become increasingly apparent. At the present time three major fields of activity utilize the services of competent professional geographers: Education (Elementary, Secondary, and Collegiate), Government (National, State, and City), and Business (Trade, Transportation, Publishing). The Department of Geography is prepared to offer necessary training to students for these economic activities.

In addition to the training of professional geographers, the Department of Geography contributes directly to the fulfillment of the College of Arts and Sciences requirement in Social Studies (Geography 153 and 154). To non-geography majors in all colleges of the University the Department of Geography offers a wide selection of supplementary and elective courses which contribute importantly toward a liberal education.

A foundation in all phases of Geography is required of all department majors seeking a career in the field. For those who do not wish to become professional geographers, a major in Geography may be arranged. (See Catalog of Courses.)

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits, including the major work, in advanced courses in the field of Social Studies and certain closely allied physical science fields.

Requirements for a Major. Prerequisites: Geography 151 and 155. *Requirements:* A minimum of 18 credits of advanced work in Geography varied according to the curriculum elected by the student.

FACULTY

Joseph Raymond Schwendeman, Thomas Parry Field, P. P. Karan, William A. Withington, and Forrest L. McElhoe.

Course Descriptions

151(*1) *Elements of Geography.* (3) I, II, S
An orientation course in the field of geography, certain basic facts and geographical tools. Major emphasis upon elements of weather, climate, and earth processes. *Karan.*

152(*2) *Regional Geography of the World.* (3) II, S
A study of the geography of the world by regions, an explanation of their (1) position, (2) extent, and (3) influence upon people. (Required of students in Education for elementary certification.) *Karan.*

153(*3a) *Societies Around the World.* (3) I, II, S
Meets Social Studies requirements. Comparative study of the Eskimo, Navajo, and Baganda as preliterate, primitive societies in difficult environments. (Same as Anthropology and Sociology 153 except for Ed. majors.)

154(*3b) *Societies Around the World.* (3) I, II
Meets Social Studies requirements. Comparative study of the Chinese Peasant, Cotton South and British Midlands as more highly developed societies living in more moderate environments. (Same as Sociology 154 except for Ed. majors.) *Schwendeman and Field.*

155(*10) *Economic Geography Survey.* (3) I, II, S
A survey of selected agricultural, mineral and industrial commodities and occupations, including world patterns of distribution, and their relation to factors of the natural environment. *Withington and McElhoe.*

252(20) *Introduction to Weather and Climate.* (3) I
A study of the atmosphere directed toward a basic understanding of the elements and controls of weather and climate. Attention is given to instruments, maps and observation techniques. Prereq: Geography 151 or consent of instructor. *Karan.*

260(30a,b) *Introductory Field Studies in Geography.* (3)
Techniques of obtaining and verifying data in the field, association of geographic names, technical and descriptive terms of geographic phenomena with classification and report. May be repeated once. *Staff.*

520(100) *Regional Geography of Anglo-America.* (2) I, S
A regional study of the physical, economic, and cultural characteristics of the various areas of the United States, Canada, and Alaska. Prereq: One geography course. *Withington.*

521, 523, 525, 527, 529, 535, 537, 539, 541 543 (133a-k) *Special Problems.* (1 ea.) I, II, S
Designed for advanced students who undertake minor research problems to be conducted in regular consultation with the instructor. It can only be taken concurrently with a related upper division course in Geography. *Staff.*

522(101) *Geography of Kentucky.* (2) II, S
A study of how the people of Kentucky adjust themselves to the location, surface, climate, and other natural resources of their state. Prereq: One geography course. *Schwendeman.*

524(102) *Regional Geography of Latin America.* (2) I
A study of countries and geographic regions of Mexico, Central America, and South America. Prereq: One geography course. *Schwendeman.*

526(103) *Regional Geography of Europe.* (2) I
A study of Western Europe major geographic regions, climate, soil, terrain, mineral, and biotic factors. Population problems, economic adjustments, and political significance of resources. Prereq: One geography course. *Karan.*

528(104) *Regional Geography of Asia.* (2) II
A regional study of the countries of Asia including European U.S.S.R., China, Japan, and India. Role of the Orient in the international landscape. Prereq: One geography course. *Karan.*

530(130a,b) *Intermediate Field Studies.* (3)
An intensive study of a particular geographic area with such specific skills as filling in a base map and observing and recording data for map composition and report. May be repeated once. *Staff.*

534(105) *Regional Geography of Australia and the Pacific Islands.* (2) II
A study of the geographical problems and adjustments of the peoples and countries of the Pacific area. Reference to the strategic nature of the location. Prereq: One geography course. *Field.*

536(106) *Regional Geography of Africa.* (2) II
A study of Africa as a complete continent and not as an example of European imperialist policy; as a series of geographic regions. Prereq: One lower division course in geography. *Field.*

538(112) *Conservation of Natural Resources.* (2) I
A general study of the needs for and problems of conserving the natural resources including the development of the conservation movement and resource use. Prereq: Geography 155. *Withington.*

540(114) *Geography of Urban Areas.* (2) II
A study of the location and growth of cities and urban communities in relation to environmental factors. Prereq: Geography 155 or permission of Instructor. *McElhoe.*

542(140) *Geographical Foundations of World Power.* (2) I
The influence of such factors as location, size, form, surface, climate, and natural resources, on the rise and fall of nations. Consideration given to geopolitics. Prereq: One geography course. *Schwendeman.*

544(120) *Climatology.* (3)
A study of the elements and controls of climate and of world climatic patterns. Prereq: Geography 151 or consent of instructor. *Shear.*

545(132a-d) *Independent Work in Geography.* (3) I, II, S
Individual research involving such problems as: (a) Materials and methods in teaching geography; (b) the Historical Evolution of Geography; (c) map reading and interpretation; (d) special area studies; (e) other topics may be elected by consent of instructor. May be repeated once. Prereq: Major and a standing of 3.0 in the department. *Staff.*

547(134) *Cartography.* (3) I, II
A course in the construction and interpretation of maps. Prereq: Geography 151. *Field.*

548(136) *Applied Cartography.* (3) I, II, S
Map compilation techniques as directed by Army Map Service specifications. Enrollment by permission. Field.

650(200a,b) *Regional Study of Special Areas.* (3)
The application of the methods of regional interpretation to special areas such as the U.S.S.R., Mediterranean Basin, Caribbean Region, Mexico, Central Europe, etc. May be repeated once. *Staff.*

660(230a,b) *Advanced Field Studies in Geography.* (3)
Field study and preparation of a report which shall include both manuscript and graphic material. May be repeated once. *Staff.*

770(250) *Seminar—Development of Geographic Thought.* (3) II
Series of topics selected in order to acquaint the graduate student of geography or of related subjects with the basic literature and evolution of the broad field of geography. Prereq: Geography major or consent of instructor. *Staff.*

768 *Residence Credit for the Master's Degree.* (0) I, II, S
May be repeated once.

GEOLOGY

The demand for the professional geologist comes from the need for geological guidance in the exploitation of the nation's mineral wealth. Its relation to mining and to oil and gas exploration is such that geological services are indispensable to companies engaged in developing this mineral resource. Opportunities are also open with state and federal geological surveys, in museum work, and in college teaching. The Department of Geology is prepared to equip men and women for such work.

The George W. Pirtle Fellowship:

A grant of $500 a year is given by George W. Pirtle to a graduate student in geology upon the recommendation of the faculty of the Department of Geology. The award is made upon the basis of need and promise of future achievement in the geological field. Mr. Pirtle has set up this grant in appreciation of the training he received in the Geology Department and is given in honor of Dr. A. C. McFarlan.

The recipient shall write a thesis based on field work. Mr. Pirtle was the first student to obtain the Master's Degree from the University with a major in Geology.

Applications for this grant should be directed to the Head, Department of Geology.

LIST OF COURSES FOR PROFESSIONAL TRAINING IN GEOLOGY

	Crs.
Freshman Year	
Geology 104, 105 (50a,b), Outlines of Geology	6
Geology 110 (20a), Lab Work in Elementary Geology	1
Sophomore Year	
Geology 210, 211 (60a,b), General Geology	6
Geology 220, 221 (10a,b), Field Geology	5
Geology 212, 213 (61a,b), Mineralogy	6
Junior Year	
Geology 520, 521 (107a,b), Advanced Field Geology	4
Geology 500, 501 (101a,b), Paleontology	6
Geology 502 (112), Economic Geology	4
Geology 524, 526 (118a,119a), Field Work in Regional Geology (Summer)	8
Senior Year	
Geology 504 (129), Elementary Petrology	3
Geology 505 (130), Elementary Structural Geology	3
Geology 522, 523 (107c,d), Advanced Field Geology	4
Geology 503 (127), Petroleum Geology	2
Geology 530, 531 (126a,b), Seminar	2
Geology 506 (135), Advanced Principles of Geology	4

ALLIED SCIENCES, ETC.

Chemistry—General, Qualitative,* and Quantitative
Physics—General*
Zoology—General Zoology*
Mathematics—College Algebra, Trigonometry, Analytics*, and Calculus
Engineering—Mechanical Drawing*

* Required work in other sciences indicated by asterisks.

The suggested courses do not constitute a prescribed curriculum. It is planned, however, to give the necessary background for professional work.* For a less professional major, courses in other fields may be substituted except for those prerequisite to required courses in Geology. For mineral resource work attention is called to courses in Mining and Metallurgy. For paleontological work take Zoology 200 and 500. For later training in geo-physical methods, add calculus and substitute Physics 231, 232, and 241, 242, for a second year of Chemistry. For combination engineering and geology, consult Dr. Lyon.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits in the field of Physical and Biological Sciences, including the major work, in courses not open to freshmen.

Requirements for a Major. Required: Geology 210, 211, 212, 213, 220, 221, 500, 501, 502, 504, 505, 506, 520, 521, 524, 526, 530, 531. *Field Work:* A summer field course, Geology 524, and a report, Geology 526, are required of major students for graduation. Local field work is offered throughout the year.

Students majoring in Geology are required to pass a final comprehensive examination in the department.

FACULTY

A. C. McFarlan, William R. Brown, Lois Campbell, Irving S. Fisher, Erwin J. Lyon, Vincent E. Nelson, and Thomas G. Roberts.

Course Descriptions

100(*3) *Elementary Geology.* (3)
A course in general geology including the common minerals and rocks, geologic processes, and a brief discussion of historical geology. Lecture and recitation, two hours; one lab. conf. (Credit is not allowed for both 100 and 104). *Staff*

104(*50a) *Outlines of Geology.* (3)
An introduction to general geology. Lecture, three hours. *Staff.*

105(*50b) *Outlines of Geology.* (3)
A study of some of the more important and better known geologic features of the earth. An introduction to mineral resources, historical geology and the fossil record. Lectures, three hours. Prereq: Geol. 100 or 104 or 200. *Brown and Fisher.*

110(*20a) *Laboratory Work in Elementary Geology.* (1)
Prereq or Concurrent: Geology 104.

112,113(*14a,b) *Elementary Field Geology.* (1 ea.)
Visits are made to localities in the vicinity of Lexington to study local geologic phenomena. For special fee see page 24.

120,121(*23a,b) *Elementary Field Work in Regional Geology.* (6 ea.)
Eight weeks in the field. The party works along with that in Geology 524. Prereq: Elementary Geol. For special fee see page 21. *McFarlan and Lyons.*

200(12a) *Elementary Geology for Engineers.* (3)
An introduction to the principles of geology. *Lyons*

202(12b) *Elementary Geology for Engineers.* (3)
The practical application of geology to engineering. A treatment of metallic and non-metallic mineral resources. Geologic maps. Two lectures, one lab conference. Prereq: Geol. 200. *Lyon.*

204 *Laboratory in Engineering Geology.* (1)
Lyons.

210,211(60a,60b) *Historical Geology.* (3 ea.)
A study of the events of earth history and the interpretation of this record from the rocks. Continental evolution—stratigraphic succession —fossil record. Two lectures, one laboratory conference. Prereq: a course in Elem. Geol. with laboratory. *Nelson.*

212(61a) *Mineralogy.* (3)
A study of geometrical crystallography and other physical properties useful in mineral identification. Lecture, one hour; lab, four hours. Prereq: Geology 104 and 110, or equivalent, and Chemistry 110 and 112 (or concurrent). *Fisher.*

213(61b) *Mineralogy.* (3)
The determination of minerals by physical properties, blowpipe analysis, and the petographic miscroscope. A study of their origin, occurrence, and associations. Lecture, one hour; lab, four hours. Prereq: Geology 212. *Fisher.*

214(53) *Physiography of North America.* (3)
A regional study of the physical regions of North America, land forms, their nature and origin. Lecture, two hours; lab, two hours. Prereq: a course in Elem. Geol. *Campbell.*

215(54) *Geomorphology.* (3)
A study of the geologic origins and the development of landscapes by subaerial and submarine processes. Special attention will be given to the evolution of concepts of interpretation and classification. Prereq: a course in Elem. Geol. *Campbell.*

220(10a) *Field Geology.* (3)
An introduction to field methods involving the identification and tracing of formations, areal mapping, and structure contouring. Prereq: Geol. 210 and 211. For special fee see page 24. One lecture and 6 hours field work. *Lyons.*

221(10b) *Field Geology.* (2)
Topographical mapping. Six hours of field work a week. Prereq: Geol. 210, 211; Math. 112, and CE 100. For special fee see page 24.

400(120a) *Geology of Kentucky.* (3)
A study of the geology of the state. This includes the major events in its geological history, the development of regional characteristics, an explanation of its scenic and natural wonders, and mineral resources. *McFarlan.*

500(101a) *Paleontology.* (3)
A study of fossil invertebrates, their nature, classification, and geological distribution. Lecture, one hour; lab, four hours. Prereq: Geol. 210, 211 and Gen. Zoology. *Campbell.*

501(101b) *Paleontology.* (3)
A study of geologic faunas. Practice in determining stratigraphic horizons. Lecture. one hour; lab, four hours. Prereq: Geol. 500. *McFarlan.*

502(112) *Economic Geology.* (4)
Mineral deposits other than petroleum and natural gas. Distribution, mode of occurrence, origin, methods of search for and uses. Lecture, three hours; lab, two hours. Prereq: Geol. 210, 211, 212 and 213. *Brown.*

503(127) *Petroleum Geology.* (2)
The origin and accumulation of petroleum and natural gas. A study of geological methods used in exploratory work. Geology of principal producing fields. Lecture, two hours. Prereq: Geol. 210, 211; Physics 211, 213. *Roberts.*

504(129) *Elementary Petrology.* (3)
A study of the common rocks with emphasis on the sedimentary rocks. Prereq: Geol. 212, 213. *Fisher.*

505(130) *Elementary Structural Geology.* (3)
An introduction to Earth structures. Advanced geologic map interpretation. Prereq: Geol. 210, 211; Physics 211, 213. *Nelson.*

506(135) *Advanced Principles of Geology.* (4)
A general study of geological processes. Lecture, three hours; lab, one hour conference. Prereq: Restricted to senior major students in geology or by permission of the instructor. *Fisher.*

520-523(107a-d) *Advanced Field Geology.* (2 ea.)
A field course in geologic mapping involving problems of local structure and stratigraphy. Six hours a week in the field. Prereq: Geol. 220, 221. For special fee see page 24. *McFarlan and Nelson.*

524,525(118a,b) *Field Work in Regional Geology.* (7 ea.)
Eight weeks in the field in Colorado. The course is an effort to bring the student into contact with diverse geological phenomena and problems. Geological field methods. See special announcement. Required of major students at the end of junior year. Prereq: Geol. 210, 211. For special fee see page 21. *McFarlan and Lyons.*

526,527(119a,b) *Report on Field Work in Regional Geology.* (1 ea.)
Prereq: 524, 525.

530,531(126a,b) *Seminar.* (1 ea.)
Required of all senior majors. *Staff.*

532(105a-d) *Independent Work in Geology.* (3)
Directed work in independent investigations. Thesis required. May be repeated for a maximum of 12 credits. Prereq: Major and standing of 3.0 in the department.

600(208) *Structural Geology.* (3)
A study of the structural features of the earth's crust with an analysis of the mechanics involved. Lecture, three hours; or lecture, two hours; lab, two hours. Prereq: Physics 211, 213; Geol. 210, 211, 505. *Nelson.*

601(210a) *Stratigraphy.* (3)
Regional stratigraphy. Stratigraphic problems and principles. Use of fossils. Lecture, two hours; lab, three hours. Prereq: Geol. 210, 211, 500, 501. *McFarlan.*

602(210b) *Stratigraphy.* (3)
A continuation of 601. Lecture, two hours; lab, three hours. Prereq: Geol. 601. *McFarlan.*

603(212a) *Optical Mineralogy.* (3)
A study of the optical properties of minerals by means of the petrographic microscope. Lecture, one hour; lab, four hours. Prereq: Geol. 212 and 213; Physics 211 and 213. *Brown.*

604(212b) *Sedimentary Petrology.* (3)
The classification and interpretation of sedimentary rocks, with emphasis on those aspects which relate to the occurrence of petroleum. Lecture, two hours; lab, four hours. Prereq: Geol. 603. *Roberts.*

605(212c) *Petrology of the Igneous Rocks.* (3)
The occurrence, origin, and classification of igneous rocks. Identification with the petrographic microscope. An introduction to metamorphic rocks. Lecture, one hour; lab, four hours. Prereq: Geol. 603. *Brown.*

606(213) *Advanced Economic Geology.* (3)
Lecture, two hours; lab, two hours. *Nelson.*

768(500) *Residence Credit for Master's Degree.* (0)
May be repeated once. *Staff.*

770(217a-d) *Seminar.* (1)
May be repeated three times for a total of 4 credits. *Staff.*

HISTORY

The Department of History has two fundamental functions in a liberal arts curriculum. First, it seeks to give a maximum number of students an understanding of the background of civilization. History is a significant gateway to the world's great collections of literature embodying the story of man's striving, hopes, and accomplishments. It is basic to many of the fields of the Arts and Sciences, and to an intelligent understanding of the complexities of civilization. The second function of the Department of History is that of offering a sound and comprehensive advanced and graduate program whereby students may acquire better familiarity with the broad movements in history, an intense knowledge of given fields, and specific knowledge of historical criticism and techniques.

For a Department of History to render effective service to its students, it must be composed of scholarly men who have had original experience in research, writing, and interpretation of source materials. Since this department offers work leading to two advanced degrees, it tries to live up to these objectives.

History offers students an excellent foundation for many special courses in the university curriculum, its cultural possibilities are unlimited, and it provides excellent training for specialists in the fields of journalism, library work, public service, literature, law, and the radio. In his own right the historian has an unlimited field for teaching, research, and writing.

The introductory courses—104 and 105 in European history, and 108 and 109 in American history, and 202 and 203 in British history—will aid freshmen and sophomores in subsequent courses in history, commerce, law, education, journalism, literature, and general liberal arts.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of social studies, including the major work.

Requirements for a Major. Prerequisites: History 202 and 203, or 104 and 105, 108 and 109. *Required:* A minimum of 18 credits of advanced courses in history plus the Senior Seminar.

FACULTY

Thomas D. Clark, Carl B. Cone, W. Clement Eaton, J. Merton England, Will D. Gilliam, Holman Hamilton, James F. Hopkins, John Jenkins, A. D. Kirwan, E. E. Kraehe, Joseph LaPage, Robert G. Lunde, Shelby T. McCloy, Jill Nadell, Dirck Parkin, Charles Talbert, Rhea A. Taylor, Bennett H. Wall, Ross A. Webb, and Gerhard L. Weinberg.

Course Descriptions

104(*4a) *Modern Europe to the French Revolution.* (3) I, II
A survey of the growth of Europe from the decline of the Roman Empire to the French Revolution. *Staff.*

105(*4b) *Modern Europe Since the French Revolution.* (3) I, II
A survey of European developments from the French Revolution to the present. A continuation of 104. *Staff.*

108(*5a) *History of the United States Through 1865.* (3) I, II
This course traces the nation's development through the Civil War. It is designed to meet the demands for a general understanding of American history. This course fulfills the requirements for the elementary teachers' certificate. *Staff.*

109(*5b) *History of the United States Since 1865.* (3) I, II

A continuation of 108, from 1865 to the present. *Staff.*

202(2a) *History of British People to the Restoration.* (3) I, II

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. *Cone.*

203(2b) *History of British People Since the Restoration.* (3) I, II

From the Stuart period to the present. A continuation of 202. *Cone.*

228(28) *The Ancient World.* (3) I

The Near-East and Pre-Grecian Period. Egypt, Babylonia, Assyria, Persia, Palestine. Greece, and Rome.

240(40) *History of Kentucky.* (3) I, II

A general survey of the chief periods of Kentucky's growth and development from 1750 to the present. *Clark.*

I. AMERICAN HISTORY

316(116a) *Historical Method.* (2) I

To be taken during the first semester of junior year. *Staff.*

416(116b) *Senior Seminar: Historical Literature.* (2)

A course for seniors designed to present the bibliography and literature in selected fields of history. *Staff.*

500(100a) *The Diplomacy and Foreign Policy of the United States to 1898.* (3) I

A survey designed to acquaint the student with the principles of American foreign policy and its historical evolution. Prereq: History 108 or equivalent. *Hopkins.*

501(100b) *The Diplomacy and Foreign Policy of the United States Since 1898.* (3) II

A continuation of 500. Foreign policy after the United States became a world power. Prereq: History 109 or equivalent. *Hopkins.*

505(105a) *Colonial America.* (3) I

A study of the origins and development of the English colonies; their relations with England and European states. Emphasis on imperial policies and colonial autonomy. Prereq: One year of American or European History. *Gilliam.*

506(105b) *The American Revolution and the Constitution, 1763-1800.* (3) II

This course deals with the American Revolution and the beginning of the United States as a sovereign nation. Prereq: One year of American or European History. *Taylor.*

508(106a) *Colonial Latin America.* (2) I

A survey of the origins and development of Latin American Colonies and their struggle for independence.

509(106b) *Latin American Republics.* (2) II

This course involves a study of the political, economic, and social institutions, and problems of the Latin American Republics from attainment of independence to the present.

524(124a) *Social and Cultural History of the United States to 1865.* (3) I

The development of American life and thought. *England.*

525(124b) *Social and Cultural History of the United States Since 1865.* (3) II

A continuation of 524. *England.*

532(132) *History of American Agriculture.* (3)

A study of American agriculture from 1800 to 1941. *Wall.*

540(140a-d) *Independent Work.* (2 ea.)

Under special conditions selected students may investigate problems, with weekly reports to the instructor. May be repeated three times for a total of 8 credits. *Staff.*

545(141) *Tutorial Reading.* (1)

Staff.

546(146a) *The Middle Period of American History, 1800-1850.* (3)

A study of powerful personalities and pivotal events during this period: presidential influence of Jefferson; War of 1812; the impact of Marshall and Jackson; sectional differences and similarities; Mexican War, Compromise of 1850. Emphasis is placed on national growth, party battles, social cleavage, and industrial change. Prereq: History 108, 109. *Wall.*

547(146b) *The Civil War and Reconstruction, 1850-1877.* (3) II

The political, social, and constitutional history of the Confederacy and the Reconstruction of the southern states. *Eaton and Wall.*

548(146c) *Recent History of the United States. 1877-1920.* (3) I

A study of the transformation of America from a rural society "isolated" from world affairs into a highly industrialized power. Prereq: History 108 and 109 or equivalent. *Wall.*

549(147) *Recent History of the United States, 1920 to the Present.* (3) II

An intensive study of the principal movements and episodes in the history of the people of the United States from World War I to the present. Prereq: One year of American History. *Wall.*

551(151a) *The American Frontier.* (3) I

A course dealing specifically with American westward expansion. Prereq: History 108 and 109 or equivalent. *Eaton and Clark.*

552(151b) *The American Frontier.* (3) II

A continuation of 551. It will consider the Trans-Mississippi West. *Eaton and Clark.*

555(180a) *History of the Old South.* (3) I

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: History 108. *Eaton and Kirwan.*

556(180b) *History of the New South.* (3) II

The evolution of southern life and society, agrarian politics, relationships with other sections, industrial growth, and new leadership. *Clark.*

II. ENGLAND AND THE BRITISH EMPIRE

561(131a) *English Constitutional History to 1603.* (3) I

A study of the backgrounds of the English constitution. Prereq: History 202 or equivalent. *Cone.*

562(131b) *English Constitutional History Since 1603.* (3) II

A continuation of 561. The constitutional struggle between the Stuart kings and Parliament; triumph of constitutional monarchy; rise of the Cabinet; effect of democracy in recent times. Prereq: History 203 or equivalent. *Cone.*

564(134) *History of Canada.* (3)

A brief survey of Canada under the French; the development under British control; evolution of the Dominion; relation with the United States and British Commonwealth of Nations. Prereq: One year of college history. *Cone.*

565(135a) *The British Empire to 1860.* (3) I

Origin of the British Empire, 1783 to 1860; development of British sea power; the early growth and development of Canada, Australia, New Zealand, South Africa, and India. *Cone.*

566(135b) *The British Empire and Commonwealth.* (3) II
A continuation of 565. Great Britain and the growth of the Dominions and the Commonwealth since 1860. Prereq: History 202 and 203. *Cone.*

568(138) *British Social History During the Tudor Period, 1485-1603.* (3) II
A study of British life, manners, and customs in town and country. Particular emphasis will be placed upon the age of Elizabeth, with political events subordinated to social changes. Prereq: History 202. *Cone.*

569(139) *British History Since 1815.* (3) I
A detailed study of Britain's political, social, diplomatic and industrial development during the modern period. Special consideration of Britain in World War I and World War II, and her position in the contemporary world. *Cone.*

III. EUROPE

570(110a) *Early Middle Ages.* (3)
The political, economic and cultural aspects of medieval development from the fourth to the twelfth centuries. *Nadell.*

571(110b) *Later Middle Ages.* (3)
Emphasis will be placed on the significant political and intellectual development of the "High Middle Ages" through the later Middle Ages. *Nadell.*

572(111) *Medieval Civilization.* (3) II
The chief emphasis will be placed on the "High Middle Ages" of the twelfth and thirteenth centuries and the distinctive civilization which then flourished in Western Europe. *Nadell.*

575(115) *The Renaissance and Reformation.* (3) I
This course is designed for a study of the birth of modern spirit and institutions. *McCloy.*

578(118) *Social History of Europe in the Eighteenth Century.* (3) II
A study of the life and manners of the people of Europe in the 1700's. Special attention will be given to Western and Southern Europe. McCloy.

580(119a) *The French Revolution and Napoleon.* (3) I
A study of the period 1789-1815 in Europe, treating of the appearance and manifestation of the spirit of revolt. Conditions in France and adjoining nations, the evolution of France from 1774 to 1795, and changes under Napoleon. *McCloy.*

581(119b) *Europe. 1814-1870.* (3) II
This course treats the successive political changes in 1823, 1830, 1848, and 1870, together with the outstanding commercial, cultural, and scientific developments of European life after 1815. *Kraehe.*

582(119c) *Europe, 1870-1918.* (3)
A balanced treatment of the political, social, cultural, economic, and intellectual life of Europe in the period indicated. Special emphasis placed on diplomatic and military developments leading to the first World War. *Kraehe.*

583(120) *Europe Since 1919.* (3) I
A study of the origins and consequences of the two World Wars together with the revolutionary movements of fascism and communism and their challenge to liberal democracy. *Kraehe.*

585(145a) *Russia to 1905.* (3)
A survey of Russian history from its beginnings to the Revolution of 1905, including the Kiev state, the Mongol conquest, the rise of Moscow, and the rule of the Romanovs. Prereq: History 104 or equivalent. *Staff.*

586(145b) *Russia Since 1905.* (3) II
This course will trace the development of Russia through the revolutionary upheavals of the present century, to a proletarian and industrial state under the Soviet regime. *Staff.*

588(171) *The Age of Absolutism.* (3) I
A study of the development of absolute monarchies from Louis XIV; the European rivalries at home and abroad; benevolent depotism, and the Age of Enlightment. Prereq: History 104 or equivalent. *Lunde.*

590(179) *Modern Europe.* (3)
This course is offered to meet a demand for a broader course which will equip students who are going out to teach European history in the present high school curriculum. Prereq: History 104 and 105. *Kraehe.*

592(185a) *Cultural History of Seventeenth Century Europe.* (3) I
A history of the development of culture in Western and Southern Europe in various fields. *McCloy.*

593(185b) *Cultural History of Eighteenth Century Europe.* (3) II
This course is designed to give a survey of European culture during the 1700's treating the sciences, literature, history, philosophy, the fine arts, and the industrial arts. *McCloy.*

IV. THE FAR EAST

595(190a) *The Far East to 1900.* (3) I
The Portuguese, Dutch, French and British colonial and trading empires in the Central East (India, Burma, Indo-China, and the East Indies). Prereq: History 104 or equivalent. *Staff.*

596(190b) *The Far East Since 1900.* (3) II
The contacts of Europe and America with the Far East (China, Japan, Korea, and the Philippines) in the 19th and 20th centuries. Prereq: History 105 or equivalent. *Staff.*

THE GRADUATE GROUP

a. Seminars

These are content courses presented by the lecture and discussion method and as such are distinct from those numbered "300" and which are concerned with problems and the practice of research.

600(280) *European Historiography.* (3) I
McCloy.

603(281) *American Historiography.* (3) II
Clark, Eaton, and Kirwan.

606(282) *Historical Criticism.* (3)
Required of every entering graduate student. *Staff.*

b. Advanced Seminars

Seminars—Basically research in character. These are not content courses. They provide intensive training in historical research (collection and critical analysis of bibliography, note-taking and organization of materials, and the presentation of a properly documented thesis).

610(300a-d) *Seminar in American History.* (3) I, II
Problems selected in critical periods in American foreign policy, particularly from the Spanish-American War. A seminar paper, based upon research in source materials, to be presented and defended in the seminar group. Topic will be chosen in keeping with the interest of the professors in charge. May be repeated three times for a total of 12 credits. *Staff.*

620(320a-d) *Seminar in Modern European History.* (3)
May be repeated three times for a total of 12 credits. *Kraehe.*

630(331) *Seminar in Modern British History.* (3)
Cone.

640(342) *Seminar in Kentucky History.* (3) I
The development of Kentucky as a western commonwealth, with emphasis on economic and political phases from the 18th century to the present, with writing of papers based upon research among documents and other source materials. *Clark.*

c. Theses

768 *Residence Credit for the Master's Degree.* (0)
May be repeated once.

769 *Residence Credit for the Doctor's Degree.* (0)
May be repeated indefinitely.

HOME ECONOMICS

A student in the College of Arts and Sciences may elect toward the A.B. or B.S. degree a total of 30 credits from other colleges of the University.

HUMANITIES

To satisfy the lower division requirement in the Humanities, students in the College of Arts and Sciences must take two courses in literature and philosophy (Humanities 200, 201 or 202) and one course in art or music (Humanities 203 or 204). Work in the Humanities has not been organized into a distinct department, but a faculty of instructors interested in the humanistic approach to literature, philosophy, and the fine arts has been assembled from the related departments.

200(A.) *Classicism: Graeco-Roman; Modern European.* (2)
Lecture and discussion, and required reading from representative works. Typical of the writers to be considered are Plato, Aristotle, Descartes, Lessing, Goethe. Prereq: Sophomore standing.

201(B.) *Romanticism.* (2)
Lecture and discussion, and required reading from representative works. Typical of the writers to be considered are Ovid, Dante, Rabelais, Cervantes, Rousseau, Goethe, Shelley, Poe, Rostand. Prereq: Sophomore standing.

202(C.) *Realism and Naturalism: The Contemporary.* (2)
Lecture and discussion, and required reading from representative works. Typical of the writers to be considered are Zola, Hardy, Huxley, O'Neill, Kafka. Prereq: Sophomore standing.

203(D.) *Art: The Renaissance to the Present.* (2)
Illustrated lectures and discussions, with required reading from the literature of art, history and criticism. Intensive critical study of selected masterworks. Prereq: Sophomore standing.

204(E.) *Music: The Renaissance to the Present.* (2)
Lectures and discussion, with illustrations by performance and from recordings. Study of musical forms; required reading and listening; analyses of selected masterworks. Prereq: Sophomore standing.

205(F.) *Aspects of Oriental Culture.* (2)
Selected readings from the literary masterpieces of India, China, Japan as an introduction to the outlook of Oriental man. Prereq: Sophomore standing. May be takn only as an elective.

206(G.) *Aspects of Middle Eastern Culture.* (2)
Lectures, reading and discussion in the literature and thought of the Middle East, with emphasis on the perspective of the Middle Eastern man. Prereq: Sophomore standing. May be taken only as an elective.

300(100a,b) *Seminar: Studies in the Humanities.* (2)
Intensive study of an area involving the several humanistic disciplines—literature, philosophy and the arts. May be repeated to a maximum of 6 credits. Prereq: 6 crs. in Humanities and consent of the staff.

HYGIENE & PUBLIC HEALTH

The lower division courses are designed to meet the general requirements in health and also to fulfill the requirements in health for teacher certification in elementary and secondary schools. The courses at the upper division level lead to a major in Hygiene and Public Health. There are opportunities in the field of Public Health for those interested in sanitary work, education, field positions in voluntary and official health agencies, etc.

Upper Division Requirements

Requirements in the Field of Concentration: 40 credits in the field of Biological Sciences, including the major work, in courses not open to freshmen.

Requirements for a Major. Prerequisite: 12 credits in Biological Sciences. *Required:* A minimum of 15 credits of advanced work in Hygiene and Public Health.

FACULTY

Wilbur A. Heinz, John S. Chambers, J. D. Farris, and W. Brooks Hamilton.

Course Descriptions

101(*1) *Personal and Community Health.* (1) I, II
Lectures and recitations. An introduction to the principles of personal and community health. *Heinz and Hamilton.*

109(*9) *Fundamentals of Health.* (2) I, II, S
A course considering the major health problems of today, with special emphasis upon the problems of adult health. It covers the area of chronic disease and disability and reviews our knowledge concerning the causes, prevention, and control of these diseases. *Heinz and Hamilton.*

224(24) *Community Organization for Public Health.* (1) I, II
A consideration of community resources that may be utilized in the promotion of Public Health programs. *Staff.*

251(51) *Personal Health Problems.* (2) I, II
A course involving the detailed study of certain practical health problems of the present day. Not available for credit to students who have had Hygiene 101. Not open to Freshmen. *Hamilton.*

500(100a) *Public Health.* (3) I, S
Environmental sanitation and the effects of environment on the control of communicable diseases. Prereq: Hyg. 109 or 251. *Hamilton.*

501(100b) *Public Health.* (3) II, S
A continuation of 500. Administrative and organizational approach to disease prevention. Prereq: Hyg. 109 or 251. *Heinz.*

510(110) *Health Education.* (3) II, S
A course dealing primarily with principles of health education, health service, and health protection. Prereq: Hyg. 109 or 251. *Heinz.*

511(111a-f) *Independent Work in Hygiene and Public Health.* (3) I, II, S
Prereq: Major and a standing of 3.0 in the department. May be repeated three times for a total of 12 credits. *Staff.*

515(115) *Communicable Diseases.* (3) II, S
A consideration of the cause, prevalence, transmission, and control of preventable diseases. Prereq: Bacteriology 200 or its equivalent. *Hamilton.*

520(120a) *Mental Hygiene.* (3) I, II, S
An introduction to mental hygiene including a consideration of the cause, treatment and prevention of mental disorders. Not open to students who have credit in Psychology 520.

522(122) *School and Community Health.* (2) II, S
A course designed to develop an idea of the cooperative nature of school health work and the importance of connecting it up with adult health work. *Heinz.*

550,552(150a,b) *Problems in Health Education.* (2, 2) I, S
An individual problems course for students and teachers in service, based upon a systematic attack upon the health problems of a school. Prereq: Hyg. 109 or 251. *Heinz.*

600(200) *Epidemiology.* (3) I, II, S
A study of the natural history of disease. *Hamilton.*

603(203) *Public Health Records.* (2) I, II, S
Staff.

604(204) *Maternal and Child Health.* (2) I, S
A study of the principles of maternal, prenatal, infant, and child care. *Staff.*

612(212a) *Public Health Administration.* (3) I, S
A consideration of the principles of public health administration. *Heinz.*

613(212b) *Public Health Administration.* (2) II
A continuation of Hygiene 612. *Heinz.*

618(218a) *Vital Statistics.* (3) I, S
Application of the statistics of population, births, deaths, etc. in Public Health. *Heinz.*

619(218b) *Vital Statistics.* (2) II, S
A continuation of Hygiene 618. *Heinz.*

625(225a) *County Health Practice.* (2) I, II, S
Staff.

626(225b) *County Health Practice.* (2) I, II, S
Staff.

768 *Residence Credit for Master's Degree.* (0)
May be repeated once. *Staff.*

770(290) Seminar. (1) I, II, S
Staff.

JOURNALISM

See School of Journalism.

LAW

A student in the College of Arts and Sciences may elect toward the A.B. or B.S. degree a total of 30 credits from other colleges of the University. For the combined Arts-Law curriculum consult the Dean of the College of Arts and Sciences.

LIBRARY SCIENCE

The University provides professional education for librarianship through the Department of Library Science of the College of Arts and Sciences. This Department is accredited by the American Library Association, the only training agency so accredited in Kentucky. The Department also is accredited by the Southern Association of Colleges and Secondary Schools.

An acute nation-wide shortage of librarians, estimated at 18,000 by the American Library Association, provides unusual opportunities for qualified men and women entering the profession. Recognizing its responsibility for preparing librarians for various levels of service in schools, colleges, universities, and public libraries, the Department offers training on both an undergraduate and a graduate level.

The *undergraduate curriculum*, leading to a bachelor's degree, may be taken during the junior and senior years. Intended primarily for the education of school librarians, this program gives the training required for certification by the Kentucky State Board of Education. Students working toward the bachelor's degree either in the College of Education or the College of Arts and Sciences may qualify for a certificate in school librarianship in Kentucky by completing a prescribed 18-hour minor in Library Science. The undergraduate curriculum includes nine hours of basic foundation for graduate work and gives students majoring in other fields opportunities to take related courses in Library Science.

The *graduate curriculum* is designed for majors in Library Science and leads to a master's degree. It is open to nonmajors on the approval of the Head of the Department. In general, the graduate courses are designed to train for the more responsible positions in librarianship.

REQUIREMENTS FOR THE MASTERS DEGREE

Prerequisites: A bachelor's degree from an approved college or university; an undergraduate scholastic record that is above average, together with evidence of ability to perform graduate work satisfactorily; and completion of a preliminary core of nine semester hours in Library Science.

Undergraduate preparation should include academic rather than professional courses. Languages are considered basic for those interested in college or university library work. Subject to the recommendation of the Head of the Department, the preliminary core of nine semester hours in Library Science may be taken during the first semester of the graduate program; comparable work taken elsewhere may reduce this requirement.

The Master of Arts degree requires: Satisfactory completion of twenty-four semester hours of graduate work in Library Science; fulfillment of the residence requirement of 36 weeks; fulfillment of the requirement of a reading knowledge of one modern foreign language; preparation of a thesis; and passing a final oral examination in which the student is asked to defend his thesis and also is examined on any subject matter related to his field. The M.S. degree substitutes six semester hours for the thesis and a minimum of six semester hours with a minimum grade of C for the requirement of a reading knowledge of one modern foreign language.

The residence requirement may be fulfilled by any combination of semesters or summer sessions which totals the

required number of weeks. Subject to the recommendation of the Head of the Department, candidates who have had previous training in Library Science may take up to one-third of their graduate work in courses in other departments. Such courses must be related closely to the student's field of specialization.

PROFESSIONAL CURRICULUM IN LIBRARY SCIENCE

Undergraduate Courses

Course No.	Title	Crs.
395(101a-d)	Independent Work—repeated 4 times	1
513(113)	Organization and Administration of the School Library	3
521(121)	Introduction to Library Work	3
529(129)	Cataloging and Classification	3
533(133)	Reference and Bibliography	3
536(136)	Literature and Related Materials for Young People	3
537(137)	Children's Literature and Related Materials	3
539(139)	Library Practice	3
545(145)	Organization of Library Materials	3
552(152)	Book Selection	3
586(186)	Visual Teaching	3

Graduate Courses

612(212)	The Public Library	3
613(213)	Problems in School Library Service	3
614(214)	The College and University Library	3
627(227)	Problems in Reading for Children and Young People	3
629(229)	Advanced Cataloging and Classification	3
632(232)	Library Work with Children	3
633(233)	Subject Bibliography	3
635(235)	Government Publications	3
642(242)	History of Books	3
650(250)	Adult Reading Guidance	3
652(252)	Advanced Book Selection	3
687(287)	Nonbook Materials	3
771(254)	Seminar	3
781(101a-d)	Individual Study in Library Science—repeated 4 times	1

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the Field of Literature, Philosophy, and the Arts, or acceptable equivalent, including major work.

Requirements for a Major. Prerequisite: Junior or senior standing, with average scholastic record during the first two college years. Prospective majors should consult with the Head of the Department regarding courses to be taken during the first two years of college. A broad academic program is recommended. *Required:* A minimum of 21 semester hours.

FACULTY

Maurice D. Leach, Jr., Emma Lou Lecky, Laura K. Martin, Margaret Roser, and Azile M. Wofford.

Course Descriptions

GENERAL COURSES

125(*25) *Use of the Library.* (2) I, II

A practical survey of library book resources, tools, and services; designed to aid the college student in his study, research, and recreational reading. *Staff.*

PROFESSIONAL COURSES

395(101a-d) *Independent Work.* (1) I, II, S

Conferences, assigned readings, reports, etc. May be repeated for a maximum of 4 credits. Prereq: Major and a standing of 3.0 in the department. *Staff.*

311(103a-c) *Workshop.* (3) S

Designed primarily for persons with little or no library science training who are responsible for a bookmobile or a public or school library situation. *Visiting Instructors.*

312(103d-f) *Workshop.* (3) S

Continuation of 311. *Visiting Instructors.*

313(113) *Organization and Administration of the School Library.* (3) I, II, S

Designed to help beginning librarians organize collections for and administer school libraries. Topics include: planning and managing the library; ordering and preparing materials for use; and work with students and teachers. *Wofford.*

521(121) *Libraries and Librarianship.* (3) I, II, S

An orientation course designed to give students a general understanding of libraries and library work. *Martin.*

529(129) *Cataloging and Classification.* (3) I, S

Emphasis on functions with sufficient practice to enable students to handle cataloging in the average library situation. Dewey Decimal classification and simplified cataloging emphasized with use of printed cards and other aids. *Lecky.*

533(133) *Reference and Bibliography.* (3) I, II, S

A study of the essential reference works, including dictionaries, encyclopedias, atlases, yearbooks, periodical indexes, and the more important subject and trade bibliographies. *Leach.*

536(136) *Literature and Related Materials for Young People.* (3) II, S

For teachers and librarians planning to work with young people. Emphasis on library materials to supplement the school curriculum and encourage recreational reading. *Wofford.*

537(137) *Children's Literature and Related Materials.* (3) I, II, S

For teachers and librarians planning to work with children. Emphasis on library materials to supplement the school curriculum and encourage recreational reading. *Wofford.*

539(139) *Library Practice.* (3) I, II, S

Observation and supervised practice in a school library. This course fulfills a requirement of the Southern Association for school librarians. Prereq: L.S. 313, 529 and two of the following courses: 533, 536, 537.

545(145) *Organization of Library Materials.* (3) I, II, S

A course designed to give the beginning librarian practical instruction in the acquisition and organization of library materials. Among the topics included are ordering, accessioning, preparation of books and other materials. *Wofford.*

552(152) *Book Selection.* (3) I, S

A general study of book selection principles and methods, with emphasis on printed materials as they interpret modern problems. *Leach or Martin.*

586(186) *Visual Teaching.* (3) I, II, S

A course in methods and techniques of visual instruction. Emphasis is on the effective use of films, film strips, pictures, maps, graphs, slides, field trips, by means of lesson plans. Surveys are made of visual materials. (Same as Ed. 486.)

612(212) *The Public Library.* (3) I, II, S

A study of the public library as a functioning institution. The course will include case studies of specific libraries. *Martin.*

613(213) *Problems in School Library Service.* (3) II, S

For experienced school librarians and administrators concerned with improving the program of library services in elementary and junior and senior high schools. Prereq: Library Science courses leading to professional certification (18 hours.) *Wofford.*

614(214) *The College and University Library.* (3) I, II, S

A study of the college and university library as a functioning institution. The course will include case studies of specific libraries. *Leach.*

627(227) *Problems in Reading for Children and Young People.* (3) II, S

Reading interests of young readers of various ages, and reading needs of average and exceptional readers. Current studies in field considered. Designed for those with experience in working with young readers. Prereq: 536, 537, or equivalent. *Wofford.*

629(229) *Advanced Cataloging and Classification.* (3) II, S

Expansion of the principles and methods of classification and cataloging books and related materials. Attention given to more advanced problems in cataloging. Prereq: 529 or equivalent. *Lecky.*

632(232) *Library Work with Children.* (3) I, S

A study of the origin and present status of library work with children in school and public libraries. *Martin.*

633(233) *Subject Bibliography.* (3) II

A comprehensive study of basic reference materials in the humanities, social sciences, and natural sciences. This course emphasizes reference service in research libraries. Prereq: 533 or equivalent. *Staff.*

635(235) *Government Publications.* (3) II

A study of the problems of acquisition, preparation, and use of United States federal, state, and local government publications. Some consideration is given to documents of the United Nations. Prereq: 533 or equivalent. *Lecky.*

642(242) *History of Books.* (3) I

This course considers the records of early man, invention of the alphabet, early writing materials, manuscript books, the invention of printing, and book production in modern times. *Lecky.*

650(250) *Adult Reading Guidance.* (3) II, S

Survey of the significant published studies of adult reading, as a guide to book selection through knowledge of adult needs and interests commonly satisfied through printed materials. *Martin.*

652(252) *Advanced Book Selection.* (3) II, S

Emphasis on the more imaginative and creative forms of literature, especially the place of fiction in the modern library. Prereq: 552 or equivalent. *Martin.*

687(287) *Non-Book Materials.* (3) II

The evaluation, selection, acquisition, preparation for use, preservation and function of non-book materials in a library program. Prereq: L.S. 529, 533, and 545, or equivalent. *Lecky.*

768 *Residence Credit for the Master's Degree.* (0)

May be repeated once. *Staff.*

781(101a-d) *Independent Work.* (1) I, II, S

Conferences, assigned readings, reports, etc. May be repeated for a total of 4 credits. *Staff.*

786(201a-d) *Problems in Library Science.* (1) I, II, S

Individual conferences, assigned readings, and reports on the investigation of chosen problems and areas in library science. Prereq: 9 hours of library science at the 600 level. *Staff.*

771(254) *Seminar.* (3) II, S

Discussions and reports on current problems and trends in library service. Consideration of methods of investigating library problems Assistance in the preparation of the thesis. *Leach.*

MATHEMATICS & ASTRONOMY

The Department of Mathematics and Astronomy serves a four-fold purpose.

First: It provides courses in furtherance of the aim that a student, aside from his specialized interests, acquire some understanding of the elements of mathematics and the role it plays in society if his education is to be truly liberal.

Second: It provides courses to fit the specialized needs of students in other departments and colleges. To this end it offers courses to prepare the student for his work in agriculture, bacteriology, chemistry, economics, engineering, geology, philosophy, and physics.

Third: It provides the prospective elementary school teacher with courses planned to furnish the special and desirable background training he needs for teaching the introductory concepts. The prospective secondary school teacher will find courses suitable to his needs on the undergraduate and graduate level. The inservice teacher will find specially selected topics to fit the needs in this area.

Fourth: It provides courses for those who wish to specialize in mathematics. Courses are offered in algebra, analysis, geometry, statistics and applied mathematics, topology, and various courses in numerical analysis and computer techniques being directly applicable to the electronic computer field. Courses at the advanced levels, leading to the M.A. Degree and the Ph.D. Degree, are offered for the research specialist and/or college teacher.

The Mathematics library is one of the best in the South. It contains several thousand volumes as well as complete sets of most of the important mathematical periodicals.

Two non-mathematical courses in Introductory Astronomy are offered. Other courses of a mathematical and practical nature are offered from time to time. The University has a small observatory with an eight-inch refracting telescope and other instruments. Occasional meetings are held at the observatory to give the student an opportunity to view the more interesting celestial objects. A portion of the departmental library consists of astronomical books, journals, and bulletins.

Upper Division Requirements

Requirements in the Field of Concentration: At least forty credits of advanced work in the field of Physical Science, including the major work.

Requirements for a Major. Prerequisites: Math. and Ast. 2, 101 or 111, 112, 113, 211, 212. *Required:* A minimum of 18 credits of advanced work in mathematics, including M&A 431 and 471. Upper division major work is usually selected from M&A 361, 301, 565, 431, 531, 471, 571, 433, 407, 521, 543, 523, 551, 566, 538. Other courses may be substituted as approved by the advisor.

Requirements for Graduate Work. Graduate students must have had at least 12 credits of mathematics beyond M&A 212 before counting work toward an advanced degree.

FACULTY

James C. Eaves, Paul P. Boyd, Marion C. Brown, Vincent F. Cowling, Harold H. Downing, Alfred L. Duquette, Adolph W. Goodman, Wasley S. Krogdahl, Frank Levin, Sallie E. Pence, Tullio J. Pignani, Wimberly C. Royster, and John B. Wells, Jr.

Course Descriptions

1(*1) *Basic Mathematics.* (non-degree credit) I, II, S
Common and decimal fractions, percentages, averages, powers and roots in arithmetic; simple equations, and graphs in algebra; simple problems in geometry; and solutions of triangles in trigonometry. Prereq. For students making 30 or less on University Placement Test. Only under unusual circumstances will a student be permitted to register for this course a second time.

2(*2) *Solid Geometry.* (non-degree credit) I, II, S
A study of lines, planes, cubes, spheres, cones, and cylinders. For the student who has not had this subject in high school. Prerequisite for M. and A. 211. (Credit is not allowed for both M&A 2 and M&A 3.) Prereq: 1 unit high school plane geometry. Only under unusual circumstances will a student be permitted to register for this course a second times.

3(*3) *Basic Geometry.* (non-degree credit
An introductory course in Euclidean Geometry for students who have had no previous work in geometry. Five hours per week. (Credit is not allowed for both M&A 2 and M&A 3.) Prereq: None. Only under unusual circumstances will a student be permitted to register for this course a second time.

101(*5) *College Algebra.* (3) I, II, S
Contents same as M&A 111. Extra time is spent in scheduled study. Prereq: For students having score of greater than 30 and less than 70 on University Placement Test(or M&A 1, or consent of the department. (Credit is not allowed for both M&A 101 and 111.)

111(*17) *College Algebra.* (3) I, II, S
Standard course. Prereq: 1 unit high school algebra and score of 70 or better on University Placement Test. (Credit is not allowed for both 101 and 111.)

112(*18) *Plane Trigonometry.* (3) I, II, S
Study of the triangle with applications. Also a study of analytic trigonometry. Prereq: 1 unit high school plane geometry, and M. and A. 101 or score of 70 or better on University Placement Test.

113(*19) *Analytics and Calculus I.* (3) I, II, S
Introductory analytical geometry, differentiation and integration of algebraic and trigonometric functions, differentials, and applications of these concepts. Prereq: M. and A. 111 or 101 and 112.

121(*15) *Mathematics of Finance.* (3) I, II
A study of simple interest, simple discount, compound interest, and annuities with the derivations of the necessary formulas. Applications to solutions of problems in amortization, sinking funds, valuation of bonds. Prereq: M. & A. 101 or 111.

201(37) *Fundamentals of Elementary Mathematics.* (3)
A course designed to give teachers an understanding of elementary mathematics. Basic concepts of the number system and the laws of operation. This course is for elementary education majors. Prereq: Consent of instructor.

202(37) *Fundamentals of Elementary Mathematics.* (3)
A course designed to give teachers an understanding of elementary mathematics. Selections will be made from: the number system, elementary number theory, algebra, non-Euclidean geometry, finite geometry, topology, matrices. This course is for education majors who are planning to teach at the junior or senior high school level. Prereq: Consent of instructor.

211(20) *Analytics and Calculus II.* (4) I, II, S
Additional topics in analytic geometry, transcendental functions, hyperbolic functions, integrational techniques and application to physics and engineering problems. Prereq: M&A 2 (or 3 or high school solid geometry) and M&A 113.

212(21) *Analytics and Calculus III.* (4) I, II, S
Vectors, determinants, space geometry, partial differentiation, multiple integrals, infinite series. complex numbers. Prereq: M&A 211.

301(27) *Advanced Analytic Geometry.* (3)
General equations of the second degree, translation and rotation of axes, invariants, simple transformations in the plane, tangents and normals, curves sketching, polar reciprocation, inversion. Prereq M&A 211.

331(35) *Differential Equations for Engineers.* (2)
First order differential equations, higher order differential equations with constant coefficients, and applications. Prereq: M&A 212.

361(26) *Advanced Algebra.* (3) I
Introduction to theory of numbers, domains, fields, polynomials, matrices. Prereq: M&A 113.

398,399(101a-f) *Independent Work in Mathematics.* (3 ea.) I, II, S
Reading courses for upper division and graduate students of high standing. Prereq: Major and a standing of 3.0 in the department.

407(119) *College Geometry.* (3)
The geometry of the triangle and the circle. Requires only elementary Euclidean concepts. Prereq: Consent of instructor.

421(146) *Elementary Computational Methods.* (3)
Study of number systems, matrices, determinants, and Boolean Algebra with applications to electrical networks, machine computation, automatic electronic digital computors, and other engineering problems. Prereq: M&A 212.

431(105a) *Differential Equations.* (3)
First order differential equations, differential equations of higher order, series solutions, special second order equations. Prereq: M&A 212.

432 *Applied Calculus.* (3)
Fourier series and integrals, Laplace Transform, partial differential equations, matrices, Bessel functions, complex variables and conformal mapping, vector analysis, and numerical analysis. Prereq: M&A 331.

433 *Applied Calculus.* (3)
A continuation of M&A 432.

471(106) *Advanced Calculus.* (3)
Continuous functions, differentiable functions, infinite series, implicit functions, Riemann integral, the gamma and beta functions, line, surface and space integrals. Prereq: M&A 212 or equivalent.

501-504(161a-d) *Summer Seminar in Selected Topics.* (3 ea.) S
This course is designed for those students who do not usually attend our regular semester courses but who wish to take several of the courses in summer school. The topics covered here will be selected from the advanced courses. Prereq: Teaching experience in the field of mathematics and consent of instructor.

511-513(144a-c) *Problem Seminar.* (3 ea.)
Reports on current research papers. Problems from various fields of mathematics. Prereq: Consent of instructor.

521(120) *Mathematical Statistics.* (3) II
Averages, coefficients of dispersion and skewness, correlation and regression lines, curve fitting, Bernouli Theorem, DeMoivre-Laplace Theorem, generating functions, sampling. Prereq. M&A 212.

522(122) *Actuarial Mathematics.* (3)
Theory of mortality tables, life annuities, premiums, terminal reserve, joint-life annuities and insurance. Prereq: M&A 211.

523(129) *Probability.* (3)
Theorems of total and compound probability, Bernoulli's Theorem, Bayes' Theorem. Poisson Law, Expected value, Law of large numbers. Distribution functions and characteristic functions. Prereq: M&A 212.

525(132) *The Calculus of Finite Differences.* (3)
Method of differencing, interpolation, finite integration, summation of series, approximate integration and difference equations. Prereq: M&A 212 and consent of instructor.

531(105b) *Partial Differential Equations.* (3)
Equations in several variables, partial differential equations. Prereq: M&A 431.

532 *Differential Equations.* (3)
This course consists of a thorough study of the linear differential equation of the second order along with its associated Riccati Equation. Attention is given to equations of the Fuchsian Type and other classical equations. Eigenvalue problems are considered along with oscillation theory of the second and fourth order linear differential equations. Prereq: M&A 431.

535(102) *Vector Analysis.* (3)
The algebra and calculus of vectors; applications to geometry, electricity, and physics; harmonic functions and potentials. Prereq. M&A 212.

536(128a) *The Operational Calculus.* (3)
The introductory theory and properties of the Laplace Transformation. Application in differential equations, difference equations and boundary value problems of mechanics, electricity and heat. Prereq: M&A 331.

537(128b) *The Operational Calculus.* (3)
The theory of the inverse Laplace Transformation. Applications in advanced boundary value problems. Fourier Transforms and applications. Prereq: M&A 536.

538(153) *Elementary Numerical Analysis.* (3)
Approximate computation, approximate roots of equations, numerical curve fitting, interpolation formulas, numerical differentiation and integration, solutions of systems of linear equations, introduction to numerical solutions of ordinary differential equations. Prereq: M&A 331 or consent of instructor.

541(107) *Projective Geometry.* (3)
Harmonic forms, projectively related primitive forms, curves and pencils of rays of second order, ruled surfaces of second order, theory of poles and polars, involution, inversion. Prereq: Consent of instructor.

542(123) *Curve Tracing.* (3)
A study of various methods for sketching algebraic curves. Emphasis on the analytic polygon in finding approximations to the form of the curve in the finite portion of the plane and at infinity. Prereq: Consent of instructor.

543,544(127a,b) *Introduction to Higher Geometry.* (3 ea.)
Emphasis on fundamentals common to all geometry. Geometries associated with the projective group and the group of circular transformations. Prereq: M&A 301 or its equivalent.

545,546(202a,b) *Algebraic Curves.* (3 ea.)
Topics include general properties of algebraic curves, the theory of residuation, singular points, covariant curves, unicursal curves, systems of curves. Prereq: M&A 544. *Pence.*

551(130) *Introductory Topology.* (3)
Elementary set theory and general topological phenomena, metric spaces, the topology of the real line and plane. Prereq: Consent of instructor.

561(126) *Introduction to Higher Algebra.* (3)
Integral domains, groups, rings, fields, polynomials, vector spaces. Prereq: M&A 361 or consent of instructor.

565 *Introduction to Matrices.* (3)
The algebra of matrices, linear transformations, determinants of matrices, systems of equations, applications. Prereq: M&A 211.

566(141) *Introduction to Theory of Numbers.* (3)
Divisibility, prime numbers, congruences and residues, Diophantine equations. Prereq: Consent of instructor.

571(106b) *Advanced Calculus.* (3)
A continuation of M&A 471.

601-604(261a-d) *Summer Seminar in Selected Topics.* (3 ea.) S
Continued fractions, Peano's axioms, matrices and the solutions of systems of equations, machine computation, space curves, groups, rings, and fields. Prereq: Teaching experience in the field of mathematics and consent of instructor.

611-614(101c-f) Research Work in Mathematics. (3)
Reading course for graduate students of high standing. Prereq: Mathematics major and a standing of at least 3.0 in the department.

621(210) *Mathematical Statistics.* (3)
Theory of sampling, the Chi-square distribution, testing statistical hypotheses. Prereq: 521.

632(231) *Advanced Differential Equations.* (3)
Existence theorems, partial differential equations, linear equations with periodic coefficients, classical equations, equations in infinitely many variables. Prereq: M&A 532, 571.

635(221) *Tensor Analysis.* (3)
Topics considered: The theory of tensors, quadratic differential forms, Riemannian geometry, pseudo-Euclidean geometry. Prereq: Consent of instructor.

638(253) *Numerical Analysis.* (3)
Advanced methods of solutions of systems of equations, approximation of functions, numerical solution of ordinary and partial differential equations, convergence of iterative processes, error analysis, eigen-values of matrices. Prereq: M&A 421 or 538 or equivalent with consent of instructor.

641(205) *Differential Geometry.* (3) I
Metric differential geometry of curves and surfaces in 3 dimensional Euclidean space, developable surfaces, curvature, geodesics, mapping of surfaces, absolute geometry of a surface. Prereq: Consent of instructor. *Staff.*

642,643(227a,b) *Higher Geometry.* (3 ea.)
Topics include: Projective spaces, groups of collineations, invariants and covariants, Cremona transformations, the plane cubic and quartic, space curves, the cubic surface. Prereq: M&A 544, or consent of instructor.

651(230) *General Topology.* (3)
Embedding and metrization, compact spaces, uniform spaces and function spaces. Prereq: M. and A. 551.

661,662(226a,b) *Higher Algebra.* (3 ea.)
Groups, rings, fields, Galois theory, linear algebra, hyper-complex numbers, ideals. Prereq: M&A 561 or consent of instructor.

665(236) *Theory of Matrices.* (3)
Study of matric algebra and canonical forms. Prereq: M. and A. 565, or consent of instructor.

666(241) *Number Theory.* (3)
Peano's Axioms, continued fractions, quadratic fields, algebraic integers, p-adic numbers, etc. Prereq: M. and A. 561 and 566.

667(206) *Theory of Groups.* (3)
Permutation groups, isomorphisms, the group postulates, abstract groups, automorphisms, homomorphisms, quotient groups. Abelian groups, Galois groups. Prereq: M&A 561 or consent of instructor.

671,672(207a,b) *Functions of a Complex Variable.* (3 ea.)
Differentiation and integration, contour integration, poles and residues, Taylor and Laurent series, conformal mapping, Riemann mapping theorem, Dirichlet problem, multiple-valued functions, Riemann surfaces, and applications. Prereq: M&A 571.

677(214) *Potential Function.* (3)
Topics considered: Attraction of bodies, Newtonian potential function, theorems of Green and Gauss, level surfaces, spherical harmonics. Prereq: M&A 531.

678,679(204a,b) *Calculus of Variations.* (3 ea.)
The ordinary problem for the plane and space cases; the necessary conditions of Euler, Weietrass, Legendre, and Jacobi. The parametric problem; the isoperimetric problem. Sufficiency conditions. Prereq: M&A 531.

681,682(208a,b) *Functions of a Real Variable.* (3 ea.)
Brief discussion of real numbers; continuous functions, semi-continuous functions, functions of bounded variation; Stieltjes Integral, measure and integration. Prereq: M&A 571 or consent of instructor.

683,684(212a,b) *Summable Infinite Processes.* (3 ea.)
Fundamental limit ideas applied to infinite sequences, infinite series, infinite products, etc. Summability of Cesaro, Holder, Abel, Borel and Leroy. Prereq: M&A 571.

685(213) *Fourier Series.* (3)
Expression of a general periodic function as a Fourier series, sufficient conditions for convergence, Fejer's theorem, applications. Prereq: M&A 571.

686(222) *Orthogonal Systems of Functions.* (3)
Eigen value problems for linear differential equations, systems of orthogonal functions, spherical harmonics, hypergeometric and related functions, completeness. Prereq: Consent of instructor.

687(223) *Integral Equations.* (3)
Systems of ordinary linear equations, linear operators, orthogonal systems, linear integral equations of the second kind, theorems of Freedholm, Volterra's equation. Prereq: Consent of instructor.

711(201a-f) *Independent Work in Mathematics.* (3)
Reading courses for graduate students. Prereq: Consent of the Department. May be repeated to a maximum of 12 credits.

751,752(233a,b) *Selected Topics in Topology.* (3 ea.)
Topological algebras, algebraic topology, topologies in lattices. Prereq: M&A 651.

753,754(232a,b) *Linear Spaces.* (3 ea.)
Topological spaces, metric spaces, vector spaces. Banach space, with applications to summability theory, infinite systems of linear equations, spectral theory. Prereq: Consent of instructor.

768(500) *Residence Credit for Master's Degree.* (0)
May be repeated once.

769(500) *Residence Credit for Doctor's Degree.* (0)
May be repeated indefinitely.

771-776(209a-f) *Selected Topics in the Theory of Complex Variables.* (3 ea.)
Analytic continuation, functions with natural boundaries, gap theorems, over-convergence, entire functions, Dirichlet series, univalent functions, variational methods, Dirichlet principles. Prereq: Consent of instructor.

777,778(220a,b) *Mathematical Seminar.* (3 ea.)

ASTRONOMY

191,192(*51a,b) *Descriptive Astronomy.* (3 ea.)
A non-mathematical course dealing with the earth, moon, solar system, the stars, the galaxy, and the universe at large. Occasionally special classes will be held at the observatory. Prereq: None.

193(55) *Elementary Astronomy.* (3)
A descriptive, non-mathematical account of the solar system, the sun and stars, our galaxy, and the universe at large. For elective credit, non-science requirement. (Credit is not given for both M&A 193 and either 191 or 192.) Prereq: None.

291(56a) *Spherical Astronomy.* (3)
Application of the formulae for the spherical triangle to a variety of problems on the celestial sphere. Prereq: M&A 112.

292 *Galactic Astronomy I.* (3)
Consideration of stellar statistics, radio astronomy, galactic rotation, stellar populations, interstellar medium. Prereq: M&A 191, 192, or consent of the department.

391 *Celestial Mechanics.* (3)
The mechanics of systems of gravitating particles, with emphasis upon the calculation of orbits, theory of perturbations. Prereq: M&A 331.

492 *Galactic Astronomy II.* (3)
Study of the content, organization, and evolution of our own and other galaxies. Prereq: Consent of the department.

591 *Cosmology I.* (3)
Consideration of observational basis of cosmology, cosmological theories of general relativity, the steady state theory, and kinematic relativity. Prereq: M&A 113, and M&A 211.

592 *Cosmology II.* (3)
A study of the universe as a complete physical unit. Consideration of the various relativistic models and theory evaluation in the light of current observations. Prereq: M&A 471.

MICROBIOLOGY

The Department of Microbiology as its contribution to a curriculum devoted to the liberal arts, offers courses for students who wish to learn about microbes, their effects on human and animal health, and their use as tools in many industries, as well as for students who wish to make microbiology their profession. The non-professional student becomes acquainted with many fundamental biological principles through the study of living things seen only with the microscope. For the professional student the department affords opportunity to gain the A.B. or B.S. degree with microbiology as a major, and it also provides a curriculum in Medical Technology. In addition, the department offers the M.S. degree in the various fields of microbiology, and the Ph.D. degree in the fields of morphology and physiology of microorganisms, immunology and serology, and public health bacteriology.

The Degree of B.S. in Medical Technology

The University of Kentucky, in affiliation with the Good Samaritan Hospital, is registered, through the Department of Microbiology, as an approved school for the training of medical technologists by the Board of Registry of the American Society of Clinical Pathologists, and by the Council on Medical Education and Hospitals of the American Medical Association.

The Medical Technology curriculum may function as a pre-medical curriculum since it includes all the requirements of the American Medical Association and the Association of American Medical Colleges for entrance to accredited medical schools, provided the student has a reading knowledge of a foreign language.

CURRICULUM LEADING TO THE DEGREE B.S. IN MEDICAL TECHNOLOGY

Freshman Year

First Semester	Crs.
English 101 (1a)	3
Chemistry 110 (1a)	5
Microbiology 100 (2a)	4
Zoology 100 (1)	4
Physical Education	1
**Military or Aerospace Sci.	(2)
	17

Second Semester	Crs.
English 102 (1b)	3
Chemistry 112 (1b)	5
Microbiology 102 (2b)	4
Botany 101 (1)	4
Physical Education	1
**Military or Aerospace Sci.	(2)
	17

Sophomore Year

First Semester	Crs.
Zoology 200 (27)	4
Physics 211 (1a)	5
Microbiology 210 (56)	4

Humanities	4
**Military or Aerospace Sci.	(2)
	17

Second Semester	Crs.
Chemistry 226 (22)	5
Physics 213 (1b)	5
Microbiology 220 (57)	4
Humanities	2
**Military or Aerospace Sci.	(2)
	16

Junior Year

First Semester	Crs.
Zoology 513 (101)	4
Microbiology 500 (103)	4
Foreign Lang.	3
Microbiology 510 (110a)	3
Anatomy & Phys. 210 (10)	5
	19

Second Semester	Crs.
Zoology 515 (104)	3
Microbiology 550 (125)	5
Foreign Lang.	3
Microbiology 511 (110b)	3
Zoology 506 (106)	4
*Microbiology 99 (118)	0
	18

Senior Year

First Semester	Crs.
Chemistry 430 (130a)	5
Microbiology 520 (111)	4
Microbiology 350 (150a)	1
Microbiology 300 (120a)	4
Elective (Social Sci.)	3
	17

Second Semester	Crs.
Chemistry 432 (130b)	5
Physics 520 (120)	2
Microbiology 350 (150b)	1
Microbiology 301 (120b)	6
Elective (Social Sci.)	3
	17

Total credits 136 exclusive of Military Science and Physical Education credits.

* A student must make a grade of C or better in this course to be eligible for the degree Bachelor of Science in Medical Technology.

** Required of all able-bodied male freshmen and sophomores who are citizens of the United States.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the Sciences including the major work.

Requirements for a Major. Prerequisites: Chemistry 110 and 112; Physics 211 and 213; Microbiology 102, or 200 and 410; Botany 101; Zoology 100. *Required:* Chemistry 225 or 220 and 430, 432; Microbiology 500, 550, 350 twice,, and a minimum of 5 additional credits of advanced work in Microbiology.

Courses 100 and 102 majors. Course 200 or 400 is recommended to fulfill the requirements of students in the College of Agriculture and Home Economics, premedical students, and students in sanitary engineering.

Either courses 100 and 102 or 200 or 400 is available for students in Education or Commerce, to fulfill the biological sciences group requirement in the College of Arts and Sciences, etc.

Courses 110 and 112 are designed primarily for student nurses but are open to others.

FACULTY

Morris Scherago, Etta W. Best, Ogden F. Edwards, Margaret Hotchkiss, James C. Humphries, James T. McClellan, R. H. Weaver, and Ralph F. Wiseman.

Course Descriptions

100(*2a) *Elementary Microbiology.* (4) I, II

The fundamental nature of bacteria and other microorganisms. Morphology of microorganisms. Lecture, two hours; lab, four hours. *Weaver and Wiseman.*

102(*2b) *Elementary Microbiology.* (4) I, II

Continuation of 100. A cultural study of bacteria. Microbial physiology. Relationship of microorganisms to soil fertility, foods, industrial fermentations, disease, etc. Lecture, two hours; lab, four hours. Prereq: Micro. 100. *Weaver and Wiseman.*

110(*6a) *Elementary Medical Microbiology.* (4) II, S

A study of the characteristics and habits of microorganisms and of their relation to medicine, surgery, and public health. Lecture and recitation, two hours; lab, four hours. Prereq: A&P 102; Chemistry 100. *Scherago, Edwards, and Hotchkiss.*

112(*6b) *Elementary Pathology.* (2) II, S

A study of the causes of disease, the nature of disease processes, the securing and preserving of specimens for the laboratory. Lecture and recitation, one hour; lab, two hours. Prereq. or concurrent: Micro. 110. *Scherago, Edwards, and Hotchkiss.*

200(52) *Principles of Bacteriology.* (4) I, II, S

Lecture and recitation, two hours; lab, four hours. (An alternative course for students who do not have the prerequisites for 400.) Prereq. or concurrent: Chem. 112 or 104. *Scherago or Edwards and others.*

210(56) *Bacteriology of Foods.* (For Sophomores.) (4) I, S

Dairy and miscellaneous food products; food preservation; food poisoning. Standard methods for official food and public health laboratories. Lecture, two hours; lab, four hours. Prereq: Micro. 400 or 200; or 102 and Chem. 112. *Weaver and Humphries.*

220(57) *Bacteriology of Water and Sewage.* (For Sophomores.) (4) II, S

Microbiology of water; methods of purification. Sewage disposal methods. Operation of swimming pools. Standard and other methods for examination. Lecture, two hours; lab, four hours. Prereq: Micro. 400 or 200; or 102 and Chem. 112. *Weaver and Humphries.* ....

300,301(120a,b) *Hospital Laboratory Practice.* (4,6) I, II, S

Students are required to carry out, under supervision, the laboratory work in one of the hospitals in Lexington. Lab, twelve hours, and eighteen hours, respectively. Prereq: Micro. 510 and 511 and consent of head of department. *Best and others.*

350(150a-d) *Seminar.* (1) I, II

Review of current literature in bacteriology; presentation of papers on work in progress in the department or on assigned topics; reports on meetings of national bacteriological societies. Required of all seniors. May be repeated to a maximum of 4 credits. Two hours. *Staff.*

395(115a-f) *Independent Work.* (3) I, II, S
Students are assigned special problems in laboratory work and reference reading. Lab, six hours. May be repeated to a maximum of 18 credits. Prereq: Major and standing of 3.0 in the department. *Staff.*

400(102) *General Bacteriology.* (4) I, II, S
Microorganisms; their morphology, classification, physiology, relation to certain fermentations, to food, to soil fertility, and to disease. Lecture and recitation, two hours; lab, four hours. Prereq: Chem. 112 or 104. *Scherago or Hotchkiss and others.*

410(104) *Applied Bacteriology.* (2) I, II, S
A course in bacteriological analysis to supplement Courses 200 and 400. Lab, four hours. Prereq: Micro. 400 or 200; or 102 and Chem. 112. *Hotchkiss and others.*

500(103) *Pathogenic Bacteriology.* (4) I, S
Human and animal pathogenic microorganisms, especially their morphological, cultural, and pathogenic properties. Lectures, two hours; lab, four hours. Prereq: Micro. 400 or 200; or 102 and Chem. 112. *Scherago or Humphries.*

510(110a) *Laboratory Diagnosis.* (3) I, S
Laboratory methods employed in diagnostic and public health laboratories. Designed primarily for medical technology students. Examination of sputum, urine, and blood. Lab, six hours. Prereq: Preceded or accompanied by Micro. 500. *Hotchkiss.*

511(110b) *Laboratory Diagnosis.* (3) II, S
Continuation of 510. Examination of blood continued. Laboratory diagnosis of parasitism and infectious diseases. Lab, six hours. Prereq: Preceded or accompanied by Micro. 500. *Hotchkiss.*

520(111) *General Pathology.* (4) I, S
Effects of disease are studied at autopsies and by the examination of fresh and museum specimens and histological sections. Lecture, two hours; lab, four hours. Prereq: Anat. and Physiol. 210, Zool. 200, 515 and 506; Micro. 500. *Scherago, McClellan, and Hotchkiss.*

550(125) *Immunology and Serology.* (5) II
The theories and mechanisms of infection and immunity; preparation, standardization, and uses of biological products; serology. Lectures, two hours; lab, six hours. Prereq: Micro. 500. *Scherago and Humphries.*

610(206) *Bacteriology of Foods.* (4) I, S
Dairy and miscellaneous food products; food preservation; food poisoning. Standard methods for official food and public health laboratories. Lecture, two hours; lab, four hours. Prereq: Micro. 400 or 200; or 102 and Chem. 112. *Weaver and Humphries.*

620(207) *Bacteriology of Water and Sewage.* (4) II, S
Microbiology of water; methods of purification. Sewage disposal methods. Operation of swimming pools. Standard and other methods for examination. Lecture, two hours; lab, four hours. Prereq: Micro. 400 or 200; or 102 and Chem. 112. *Weaver and Humphries.*

630(203a) *Public Health Bacteriology.* (3) I, S
Public health aspects of bacteriology including the etiology, epidemiology, immunology, and lab. diagnosis of infectious diseases. Lectures, one hour; lab, four hours. Prereq: Open only to physicians and health officers or those with equivalent training. *Scherago and others.*

632(203b) *Public Health Bacteriology.* (3) II, S
Continuation of 630. Lectures and recitations, one hour; lab, four hours. Prereq: Micro. 630. *Scherago and others.*

635(210) *Clinical Mycology.* (2) I, S
Methods and techniques for isolating and propagating pathogenic actinomycetes and fungi. Laboratory diagnosis of fungous infections. Lab, four hours. Prereq: Chem. 432; reading knowledge of one foreign language; Micro. 550. *Hotchkiss.*

640(224) *Disinfectants and Antibiotics.* (3) II, S
Chemical agents injurious to microorganisms. Practical applications and methods of testing. Conferences, one hour; lab, four hours. Prereq: Micro. 400 or 200; or 102 and Chem. 112. *Hotchkiss.*

651(235) *Immunochemistry and Advanced Immunology.* (4) II, S
Chemistry of antigens and antibodies; of the reaction between them in vitro and in vivo; immune and hypersensitive reactions. Lectures and conferences, two hours; lab, four hours. Prereq: Micro. 550; Chem. 432 and 444. *Scherago or Humphries.*

660(270) *Electron Microscopy.* (3) II, S
Theory, operation and uses of the magnetic electron microscope and the vacuum unit for metal shadow casting. Lecture, one hour; lab, four hours. Prereq: Physics 231, 232, 241, 242. *Edwards.*

670(272) *Viruses and Rickettsiae.* (4) I, S
Natures, activities, and methods of laboratory cultivation of viruses and rickettsiae; their relation to bacteria, plants, and animals. Lectures, two hours; lab, four hours. Prereq: Micro. 550. *Edwards.*

700(220) *History of Bacteriology.* (2) II, S
Conferences, two hours. Prereq: Micro. 550. *Weaver.*

710(222) *Advanced General Bacteriology.* (4) I, S
Bacterial cytology; theories of staining. Microbial genetics. Taxonomy and nomenclature. Lectures and conferences, two hours; lab, four hours. Prereq: Micro. 550 and Chem. 432. *Weaver.*

720(226a) *Metabolism of Microorganisms.* (4) I
Chemical changes produced by microorganisms; properties of their enzymes; the physiology of their growth. Lectures or conferences, two hours; lab, four hours. Prereq: Chem. 432; reading knowledge of German or French. *Wiseman.*

722(226b) *Metabolism of Microorganisms.* (4) II
Continuation of 720. Lectures or conferences, two hours; lab, four hours. Prereq: Micro. 720. *Wiseman.*

768 *Residence Credit for the Master's Degree.* (0)
May be repeated once.

769 *Residence Credit for the Doctor's Degree.* (0)
May be repeated indefinitely.

770(250a-j) *Seminar.* (1) I, II
Review of current literature in bacteriology; presentation of papers on work in progress in the department or on assigned topics; reports on meetings of national bacteriological societies. Required of all graduate students. Two hours. May be repeated to a maximum of 10 credits. *Staff.*

790(201a-f) *Research in Bacteriology.* (6) I, II, S
For the Master's Degree. Lab, ten hours. May be repeated to a maximum of 12 credits. *Senior Staff.*

795(201a-f) *Research in Bacteriology.* (6) I, II, S
For the Doctor's Degree. Lab, ten hours. May be repeated to a maximum of 24 credits. *Senior Staff.*

MILITARY SCIENCE & TACTICS

THE RESERVE OFFICERS TRAINING CORPS

The University of Kentucky maintains a unit of the senior division of the Reserve Officers' Training Corps in conformity with the provisions of the National Defense Act of 1916, as amended.

Object. The object of the Reserve Officers' Training Corps is to provide systematic military training at civil educational institutions for the purpose of qualifying selected students of such institutions as reserve officers in the military forces of the United States. This object is attained by employing methods which fit men physically, mentally, and morally for pursuits of peace as well as for duties as leaders in the defense forces of the nation in an emergency.

Educational Aim. The course of study is designed to give to the student a training which will be as valuable to him in

his industrial or professional career as it would be should the nation call upon him to act as a leader in its defense forces.

General Policy. The policy adopted by the War Department to carry out the provisions of the act of Congress of June 3, 1916, as amended, is to qualify students for positions of leadership in time of national emergency and to inculcate in them a respect for all lawful authority, and to teach the fundamentals of the military profession.

The primary purpose of all training is the development of character, leadership, and good citizenship; character through high standards of honor and integrity, leadership through the acquisition and use of knowledge, good citizenship through the idea of service as the real measurement of accomplishment and success.

Discipline of Body and Mind. The following characteristics of an officer and a gentleman will be insisted upon: Neatness in dress, the cultivation of the manners and habits of a gentleman, a dignified and military bearing, devotion to duty and consideration of others; the cultivation in the student body of esprit de corps, obedience to orders, acceptance of responsibility, and avoidance of excuses.

Uniform Equipment. Government uniforms and equipment are furnished the University for issue to basic students without cost to the individual. Each basic student is required to make a deposit of $10.00 with the Business Office of the University to cover the cost of any lost or damaged articles. If no clothing is lost or damaged, the entire sum is refunded to the student when he completes the two years' basic course or leaves school.

Advanced students will obtain uniforms through a commutation of uniforms system. The University acts as the agent of the advanced course student in whose behalf commutation of uniform is drawn, and purchases a uniform for the advanced student with the allowance received. This uniform becomes the property of the student only after fulfillment of the advanced course contract and, as such, is his sole responsibility to maintain and keep. Advanced course students are required to deposit $10.00 with the Comptroller of the University prior to receipt of the Uniform. Refund of this deposit, during the period between academic years, is governed by the same rules as for the basic student.

Subsistence. Advanced course ROTC enrollees receive an allowance of 90 cents per day for subsistence in lieu of rations.

Basic Course. The military department offers a two years' basic course in military science and tactics. The basic course in military or air science is required of all male freshmen and sophomores who are citizens of the United States, and who conform to the physical requirements as prescribed by the Department of Defense for units of the Reserve Officers' Training Corps. Credit in the required two years' elementary course in military or air science may be given for three months' service in the United States or allied military, naval, or air force. This credit will not necessarily admit the student to advanced military or air science. Students who have not had previous active military service, but who have had previous ROTC training, may be exempted by the Professor of Military Science and Tactics from the requirement, or from part of requirement.

The successful completion of the basic course in military or air science is a prerequisite for graduation in the University.

Advanced Course. The advanced course of two years, including a six-weeks summer encampment at the conclusion of the junior (MS III) year, is offered to students who have successfully completed the basic course, and who have been recommended by the President of the University and the Professor of Military Science and Tactics for further training. Recommendations for this course will be limited to those students who have manifested special interest and demonstrated ability during the basic course, and who meet other standards, with a view to qualifying for a commission in the United States Army Reserve. An advanced course student, who makes and maintains a minimum graduation point standing of 2.5 and meets other standards, may be designated a Distinguished Military Student which makes him eligible to apply for a commission in the Regular Army. A Distinguished Military Student may be designated a Distinguished Military Graduate upon his being awarded a baccalaureate degree, provided he continues to meet the required standards.

The Military Science Department offers two programs leading to a Bachelor of Arts or Bachelor of Science degree with a major in Military Science.

FACULTY

Robert E. Tucker, Luther Lee Baxter, Cecil G. Dansby, Claude G. Erd, Lawrence L. Harvey, Victor J. Kelly, Charles L. Kitchen, John Woodrow Morgan, Benton A. Rayfield, Robert N. Weaver, Frank D. Weeks, Jr., and Glenn W. Zarger.

Course Descriptions

Branch General

BASIC COURSE

101,102(*1a,b) *Military Science I, ROTC.* (2 ea.)
Introductory course covering broad concepts of military science, including Organization of the Army; American military history; and individual weapons, together with such practical subjects as marksmanship, leadership and drill. *Staff.*

201,202(20a,b) *Military Science II, ROTC.* (2 ea.)
Course in crew-served weapons and gunnery; map and aerial photograph reading; role of the Army in National Defense; leadership, drill and command. Prereq: 101 and 102. *Staff.*

ADVANCED COURSE

Upon successful completion of the Advanced Course (MS III and MS IV), commissions may be granted as Second Lieutenants, United States Army Reserve. Each member of the Advanced Course will be required to attend Summer Camp.

Prerequisite for the Advanced Course is the satisfactory completion of the Basic Course requirements, and selection by the President of the University and the head of the Department of Military Science.

301,302(30a,b) *Military Science III ROTC.*
(Branch General) (3 ea.)
A study of small unit tactics and communications; organization, function, and mission of the arms and services; military teaching methods; leadership; and school of the soldier and exercise of command. Prereq: 201, 202. *Staff.*

341-342(40a,b) *Military Science IV ROTC.* (Branch General) (3 ea.)
An advanced study of logistics, operations, military administration, personnel management, military justice, the role of the United States in world affairs, service orientation and leadership, drill and command. Prereq: 301, 302. *Staff.*

11(11) *Army ROTC Summer Camp.* (0) S
Practical training supplementing theoretical work of the college course. Exercises developing performance technique of tactical, technical, and administrative duties; training in leadership is stressed. Record and familiarization firing of weapons. Prereq: 301, 302.

MODERN FOREIGN LANGUAGES & LITERATURES

The Department of Modern Foreign Languages and Literatures embraces the five major European languages: French, German, Spanish, Italian, Russian and two years of Japanese. Undergraduate students are offered the choice of three specialized curricula leading to the A.B. degree with a major in French, German, or Spanish. On the graduate level, the Department offers advanced work in the literature and philology of each of these three languages, leading at present to the Master of Arts degree.

As a branch of the liberal arts curriculum, one of the fundamental aims of language study must be to broaden and deepen our acquaintance with the world about us by presenting new aspects of its culture and a more intimate knowledge of its peoples through the medium of foreign languages and literatures. In addition, the Department provides training for those interested in entering the diplomatic and various other Government services where knowledge of foreign languages is required; it offers specialized preparation to prospective high school and college language teachers; it furnishes graduate and science students with the training necessary to use foreign language books and periodicals for reference and research.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits in the field of Literature, Philosophy, and the Arts, including the Major work, in courses not open to freshmen. With the approval of the head of the department and the dean, courses in related fields may be counted in the field of concentration.

It is inadvisable for a student to begin the study of two foreign languages at the same time.

The student who offers two high school units of a foreign language should register for the first semester of the intermediate course. Students who have had more than 2½ high school units should register for the second semester of the intermediate course.

FACULTY

A. E. Bigge, Norman H. Binger, W. J. Chambliss, Calvin H. Evans, Jane Haselden, J. E. Hernandez, Margaret Horsfield, James H. Johnson, John A. Rea, Blaine W. Schick, Alberta W. Server, John H. Ubben, Thomas C. Walker, Robert O. Weiss, and Paul K. Whitaker.

Course Descriptions

FRENCH LANGUAGE AND LITERATURE

Requirements for a Major. Prerequisites: Junior standing; 12 hours of English, MFL 101, 102, 201, 202; 141, 142 or 191, 192; 203 or 207, 208. *Required:* a minimum of 17 credits of advanced work in French; MFL 513. Comprehensive examination in the senior year.

101(*1a) *Elementary French.* (3,4) I, II, S
The study of the basic principles of the language through grammar, with emphasis on oral practice through the use of oral exercises. A short reader is introduced. *Staff.*

102(*1b) *Elementary French.* (3,4) I, II, S
A continuation of 101. Several short readers are translated. Prereq: 101 or one year of high school French. *Staff.*

103(*6) *Elementary Aural-Oral Practice in French.* (1)
Two hours a week. A course to improve pronunciation and comprehension of spoken French. Aural-oral drills, diction, and recordings. *Staff.*

201(2a) *Intermediate French.* (3) I, II, S
Supplementary reading. A good pronunciation, a thorough knowledge of grammar and verbs, reading and conversation are the aims of the course. Prereq: 101, 102 or two years of high school French. *Staff.*

202(2b) *Intermediate French.* (3) I, II, S
A continuation of 201. Prereq: 201 or three years of high school French. *Staff.*

203(3a,b) *French Conversation and Composition.* (2) I, II, S
This course is designed to give students a fair amount of fluency in the use of the spoken language. Vocabulary will be built by the use of images rather than by translation, i.e. the direct method. May be repeated for a total of 4 credits. Prereq: 201, 202.

204,205,206(4a-c) *French Novel and Drama.* (3 ea.) I, II, S
Reading of standard texts in prose, and drama. Verb drill, dictation, composition, conversation drill, based on some text read and memorized. Reports on assigned reading outside of classrooms. Prereq: 201, 202.

207,208(5a,b) *French Phonetics.* (3 ea.) I, II, S
A scientific study of French sounds based on the International System of Phonetic Symbols. Prereq: 201, 202. *Schick.*

395(108a-d) *Independent Work in French.* (3) I, II, S
May be repeated for a total of 12 credits. Prereq: Major and a standing of 3.0 in the department. *Staff.*

501(101a,b) *Advanced Phonetics.* (3) I, II, S
This course is especially planned for teachers of phonetics both in high school and in college. May be repeated for a total of 12 credits. Prereq: 207, 208 or equivalent. *Schick.*

502(102a) *French Literature of the XIX Century.* (3) I, II, S
A study of the representative writers of the period with emphasis on Romanticism. Prereq: 204, 205. *Walker.*

503(102b) *French Literature of the XIX Century.* (3) I, II, S
A continuation of 502 with emphasis on Realism, Naturalism and the Parnassian movement. Prereq: 204, 205. *Walker.*

504(103a) *French Literature of the XVII Century.* (3) I, II, S
A study of the representative writers of the XVII century with the exception of Moliere, Corneille, and Racine. Prereq. 204, 205.

505(103b) *French Literature of the XVII Century.* (3) I, II, S
A course in the Classical Drama of the XVII century. Plays of Moliere, Corneille and Racine will be studied. Prereq: 204, 205.

506,507(I04a,b) *Advanced French Grammar.* (3 ea.) I, II, S
A study of the finer points of French grammar. Prereq: 204, 205. *Schick.*

508(105a) *French Literature of the XVIII Century.* (3) I, II, S
A study of the representative writers of the period, with special attention given to Montesquieu and Voltaire. Prereq: 204, 205. *Walker.*

509(105b) *French Literature of the XVIII Century.* (3) I, II, S
A continuation of 508 with emphasis on Diderot and Rousseau. Prereq: 204, 205. *Walker.*

510(106a) *French Literature of the XX Century.* (3) I, II, S
A study of the modern writers starting with the Symbolist Group and continuing up to the present. Prereq: 204, 205. *Schick.*

511(106b) *French Literature of the XX Century.* (3) I, II, S
A continuation of 510 with special emphasis given to the theater from Giraudoux to Ionesco. Prereq: 204, 205. *Schick.*

512(107a,b) *Advanced French Conversation.* (2) I, II, S
A study of intonation and elocution in French. Three minute speeches in French will be prepared for each recitation. Some reading in French poetry will also be practiced. May be repeated for a total of 4 credits. Prereq: 203 or 207, 208.

513(191a,b) *Tutorial Seminar for Majors in the Romance Languages.* (French) (1) I, II
A survey of French literature. Required of all Majors in French during the senior year. May be repeated for a total of 2 credits. *Staff.*

601,602(201a,b) *French Literature of the Renaissance.* (3 ea.) I, II, S
A course starting with Francois Villon and including such writers as Marot, Rabelais, Calvin, Montaigne, Ronsard, DuBellay, Belleau and Regnier. To be given in French. Prereq: twenty-one semester hours of college French.

603,604(202a,b) *Old French.* (3 ea. I, II, S
A study of the historical development of the French language to 1300, with readings in Old French literature. Prereq: three years of college French or equivalent. *Rea.*

770(203a,b) *Seminar in French Literature.* (3) I, II, S
Prereq: twenty-one semester hours of college French. May be repeated once for a total of 6 credits. *Staff.*

GERMAN LANGUAGE AND LITERATURE

Requirements for a Major. Prerequisites: Junior standing, MFL 121, 122, 221, 222. *Required:* A minimum of 18 credits or work in German, independent of Junior and Senior Tutorial Courses. Comprehensive examination in the senior year.

21(C21a) *Elementary German.* (0) I, II, S
This course is designed to meet the needs of Upper Division and Graduate Students who are preparing for the graduate reading examination. No prereq. *Staff.*

121(*21a) *Elementary German.* (3,4) I, II, S
The essentials of grammar with practice in reading and writing German. *Staff.*

122(*21b) *Simple German Reading and Pronunciation.* (3,4) I, II, S
Continuation of German 121 with more extended exercise in easy reading, writing and pronunciation. Prereq: 121 or one high school unit. *Staff.*

123(*25) *Elementary Aural-Oral Practice in German.* (1)
A course designed to improve pronunciation and comprehension of spoken German. Aural-oral drills, dictation, recording, etc. Class will be limited to permit individual attention. *Staff.*

221(22a) *German Translation and Rapid Reading.* (3) I, II, S
Certain selected texts are read intensively with emphasis upon translation, while others, particularly in the second semester, are read with emphasis upon the development of rapid reading and comprehension of content. Prereq: 122. *Staff.*

222(22b) *German Translation and Rapid Reading.* (3) I, II, S
Continuation of 221. Prereq: 221. *Staff.*

223(23a) *Readings in Medical German.* (3) I, II, S
This course is designed specifically to meet the needs of Pre-Medical and medical Technology students as well as Bacteriology majors. The text used provides reading and builds up a graduated vocabulary in Biological Sciences. Prereq: 122. *Staff.*

224(23b) *Readings in Medical German.* (3) I, II, S
Continuation of 223. Prereq: 223. *Staff.*

225(24a) *Readings in Chemical German.* (3) I, II, S
This course is designed to meet the needs of Industrial Chemists and Chemistry majors. The material provides a vocabulary in Chemistry and an intimate acquaintance with the style which is characteristic of German scientific writing. Prereq: 122. *Staff.*

226(24b) *Readings in Chemical German.* (3) I, II, S
Continuation of 225. Prereq: 225. *Staff.*

227(26) *Intermediate Aural-Oral Practice in German.* (1) I, II
Continuation of the elementary course on a more advanced level. May be taken only in conjunction with courses on or beyond the second year level. Prereq: 123 or permission of instructor. *Staff.*

228(27a) *Elementary German Conversation and Composition.* (3) I, II, S
This course is conducted mainly in German. The work will be held to simple every-day terms which any student having had 122 should be able to master without difficulty. Prereq: 122 or approval of the Department. *Ubben.*

229(27b) *Elementary German Conversation and Composition.* (3) I, II, S
Continuation of 228. Prereq: 228. *Ubben.*

230(28a) *Introduction to Classical and 19th Century German Literature.* (3) I, II, S
The emphasis in this course will be on the development of reading facility and the acquisition of vocabulary through extensive reading. Selections from the less difficult work of authors of this period will be read. Prereq: 222. *Bigge.*

231(28b) *Introduction to Modern German Literature.* (3) I, II, S
Readings from some of the less difficult works of Hauptmann, Mann, Schnitzler, and other late 19th and 20th Century writers. Prereq: 222. *Bigge.*

232(29) *Survey of German Literature in English Translation.* (2) I, II, S
More than a thousand years of German literature, from the "Song of Hildebrand" to "The Magic Mountain," are covered in this course. No knowledge of German is required. Lectures and reports on outside reading. *Staff.*

521(121a-d) *Independent Work in German.* (3) I, II, S
This course is designed for students who wish to do advanced work in German on any subject. Prereq: Major and a standing of 3.0 in the department. May be repeated three times for a total of 12 credits. *Staff.*

522,523(122a,b) *Advanced Scientific German.* (3 ea.) I, II, S

This course is designed for students of the Physical and Biological Sciences. Reading is done in recent German scientific journals and books, the material being selected in line with the student's special interest. Prereq: 224 or 226. *Whitaker.*

Proseminars in 18th, 19th and 20th Century German Literature.

A balanced selection of works from one representative author of each century will be studied in each course, and written reports will be assigned on various subjects related to his writing.

The purpose of the proseminar courses is threefold:

(1) Study of a representative author and certain of his works in their relation to his period;
(2) Acquaintance with basic works of the author;
(3) Training in simple research projects and proper form in the writing of papers. Prerequisites for any Proseminary Course: 230 or 231.

524(123) *Proseminar in Kleist.* (3) I
Whitaker.

525(124) *Proseminar in Hauptmann.* (3) II
Bigge.

526(125) *Proseminar in Schiller.* (3) I
Weiss.

527(126) *Proseminar in Grillparzer.* (3) II
Whitaker.

528(127) *Proseminar in Thomas Mann.* (3) I
Bigge.

529(128) *Proseminar in Lessing.* (3) II
Weiss.

530(129) *Proseminar in Hebbel.* (3) I
Whitaker.

531(130) *Proseminar in Sudermann.* (3) II
Whitaker.

532(131a,b) *Junior Tutorial for German Majors.* (1) I, II, S

A review of the History of German Literature from its beginning. May be repeated once for a total of 2 credits. *Staff.*

533(132a,b) *Senior Tutorial for German Majors.* (3) I, II, S

The development of the German Epic and Lyric is studied during the first semester and development of the German Drama during the second semester. May be repeated once for a total of 6 credits. *Staff.*

534,535(133a,b) *Life and Works of Goethe.* (3 ea. I, II, S

This course follows the unfolding of Goethe's genius from his first lyrics through Faust. His principal literary works will be read and attention devoted to autobiographical material, letters and diaries. Prereq: six semesters of German. *Weiss.*

536(134) *Origin and Development of the German Language.* (3) I, II

This course in Germanic Philology acquaints the student with the position of German in the European language group and traces the development of the language to the present. Special emphasis is given to the relationship of German and English words. Prereq: six semester of German. *Staff.*

537(135) *Introduction to Middle High German.* (3) I, II

This is a literary course with a necessary minimum of Middle High German grammar. Selections will be read from epic and lyric poetry of the period and reports will be given on assigned topics. Prereq: six semesters of German. *Staff.*

538(136) *Advanced German Conversation and Composition.* (3) I, II, S

This course is primarily for German majors. It involves intensive practice in the writing of German prose, with some review of German grammar. Prereq: six semesters of German. *Ubben.*

621(221a) *German Drama of the 19th Century.* (3) I, II

This course is a study of the German Drama from Schiller's "Die Braut von Messina" to 1870. Prereq: six semesters of German. *Whitaker.*

622(221b) *The German Novelle.* (3) I, II

This course traces the origin and development of the German Novelle from Goethe to Thomas Mann. Prereq: six semesters of German. *Whitaker.*

623,624(222a,b) *20th Century German Literature.* (3 ea.) I, II

Extensive readings, discussions, and comprehensive reports on the leading literary minds and movements of this Century. Prereq: six semesters of German. *Bigge.*

771(223) *The Age of Goethe.* (3) I, II

A seminar devoted to the investigation of one or more topics in the literature and social development of Germany during the period 1750 to 1825. Prereq: six semesters of German. *Staff.*

SPANISH LANGUAGE AND LITERATURE

Requirements for a Major. Prerequisites: Junior standing, 12 hours of English, MFL 141, 142, 241, 242; 101, 102 or 191, 192; 246. *Required:* A minimum of 17 credits of advanced work in Spanish, MFL 551 (2 credits). Comprehensive examination in the senior year.

141(*81a) *Elementary Spanish.* (3,4) I, II, S

The study of the basic principles of the language through grammar, with emphasis on oral practice through the use of oral exercises. A short reader is introduced. *Staff.*

142(*81b) *Elementary Spanish.* (3,4) I, II, S

A continuation of 141. Selected readings. Prereq: 141 or one year of high school Spanish. *Staff.*

143(*83) *Elementary Aural-Oral Practice in Spanish.* (1) I, II, S

Two hours a week. A course to improve pronunciation and comprehension of spoken Spanish. Aural-oral drills, dictation and recordings. *Staff.*

241(82a) *Intermediate Spanish.* (3) I, II, S

Readings of selected Spanish works and rapid review of principles of grammar. Prereq: 81a, b or two years of high school Spanish. *Staff.*

242(82b) *Intermediate Spanish.* (3) I, II, S

Continuation of 241. Prereq: 241 or three years of high school Spanish. *Staff.*

243,244,245(84a-c) *Spanish Novel and Drama.* (3 ea.) I, II, S

Reading of standard texts; brief survey of Spanish literature; composition and outside reading. Prereq 241, 242. *Server.*

246(85a,b) *Spanish Conversation and Composition.* (3) I, II, S

This course is designed to give the student a fair amount of fluency in the use of the spoken language. Dictation, vocabulary building, special emphasis on pronunciation. Class conducted entirely in Spanish. Prereq: 241, 242. *Server.*

247(86) *Civilization of Spain and Spanish America.* (2) I, II

Spanish traditions and their influence on the cultural development of Spanish America; indigenous civilizations and folklore. Lectures and reports on outside reading. No knowledge of the Spanish language is required. *Server.*

541,542(181a,b) *Advanced Spanish Grammar and Composition.* (3 ea.) I, II, S
A study of the finer points of Spanish grammar. Prereq: 243, 244. *Server.*

543(182a) *Spanish Literature of the XVII Century.* (3) I, II, S
Cervantes and the picaresque novel. Prereq: 243, 244. *Hernández.*

544(182b) *Spanish Literature of the XVII Century.* (3) I, II, S
The Golden Age: Dramatic works of Calderon, Lope, de Vega, Tirso de Molina, etc. Prereq: 243, 244. *Hernández.*

545,546(183a,b) *Spanish Literature of the XX Century.* (3 ea.) I, II, S
A study of the works of the Generation of 1898 and representative novelists and dramatists of the XX century. Prereq: 243, 244. *Server.*

547,548(184a,b) *Spanish American Literature.* (3 ea.) I, II, S
A study of representative writers and principal literary productions of Spanish America. Outside reading of 1500-2500 pages of selected works. Prereq: 243, 244. *Server.*

549(185a) *Spanish Literature of the XIX Century.* (3) I, II, S
A study of the prose writers from Fernan Caballero to Galdos. Prereq: 243, 244. *Hernández.*

550(185b) *Spanish Literature of the XIX Century.* (3) I, II, S
A study of the romantic poets and dramatists. Prereq: 243, 244. *Hernández.*

552(186a-d) *Independent Work in Spanish.* (3) I, II, S
Prereq: Major and a standing of 3.0 in the department. May be repeated three times for a total of 12 credits *Staff.*

551(191c,d) *Tutorial Seminars for Majors in the Romance Languages.* (Spanish) (1) I, II
A survey of Spanish literature. Required of all Majors in Spanish during the senior year. May be repeated once for a total of 2 credits. *Staff.*

641(281a) *Old Spanish.* (3) I, II, S
A study of the vocabulary and grammar of Old Spanish, contrasting and comparing it to modern Spanish. Prereq: twenty-one semester hours of college Spanish. *Rea.*

642(281b) *Old Spanish.* (3) I, II, S
Reading of texts in Old Spanish. Prereq: 641. *Server.*

772(282a,b) *Seminar in Spanish Literature.* (3) I, II, S
Prereq: twenty-one semester hours of college Spanish. May be repeated once for a total of 6 credits. *Staff.*

RUSSIAN

161(*71a) *Elementary Russian.* (3,4) I, II
The study of the basic principles of the language through grammar and reading, with emphasis on oral practice. *Staff.*

162(*71b) *Elementary Russian.* (3,4) I, II
A continuation of 161. Prereq: 161 or one year of high school Russian. *Staff.*

163(*76) *Elementary Aural-Oral Practice in Russian.* (1) I, II
A course designed to improve pronunciation and comprehension of spoken Russian. Aural-oral drills, dictation, recording, etc. Class will be limited to permit individual attention. Two hours per week. *Staff.*

261(72a) *Intermediate Russian.* (3) I, II
Review of grammatical principles, supplementary reading of lighter prose. Increased emphasis on good pronunciation and comprehension of spoken Russian. Conversation and recordings. Prereq: 161, 162. *Staff.*

262(72b) *Intermediate Russian.* (3) I, II
A continuation of 261. Prereq: 261. *Staff.*

263(77) *Intermediate Aural-Oral Practice in Russian.* (1) I, II
Continuation of 163 on a more advanced level. Prereq: 163 or 161, 162. *Staff.*

264(73a) *Advanced Readings in Russian Literature.* (3) I, II
Readings in Russian in Gogol, Turgenev, Tolstoy, Lermontov, Dostoyevski, and others. Assigned readings in English on Russian history and culture. Review of Russian grammar as necessary. Oral practice. Prereq: 262 or equivalent. *Staff.*

265(73b) *Advanced Readings in Russian Literature.* (3) I, II
A continuation of 264. Prereq: 262 or equivalent and approval of the instructor. *Staff.*

266,267 *Russian Conversation.* (3 ea.)
This course is designed to give students a fair amount of fluency in the use of the spoken language. Dictation, vocabulary building, pronunciation. Class conducted entirely in Russian. Prereq: MFL 261, 262, or permission of the instructor. *Moore.*

561(171a) *Survey of Russian Literature.* (3) I, II
An outline of Russian literature in lecture to be accompanied by representative readings in Russian up through the period of Turgenev. A paper on some aspect of Russian literature will also be required. Prereq: eighteen semester hours of college Russian or consent of the instructor. *Staff.*

562(171b) *Survey of Russian Literature.* (3) I, II
A continuation of 561. Readings from the time of Tolstoy and Dostoyevski to the present. Prereq: eighteen semester hours of college Russian or consent of the instructor. *Staff.*

JAPANESE

181(*41a) *Elementary Japanese.* (3,4) I, II
An introduction to the spoken language through conversational practice, with grammatical principles being explained as an aid to conversation. Written Japanese is introduced gradually. *Chambliss.*

182(*41b) *Elementary Japanese.* (3,4) I, II
A continuation of 181. Prereq: 181 or one year of high school Japanese. *Chambliss.*

281(42a) *Intermediate Japanese.* (3) I, II
Reading of texts written in modern colloquial Japanese and continued practice in conversation. Prereq: 181, 182. *Chambliss.*

282(42b) *Intermediate Japanese.* (3) I, II
A continuation of 281. Prereq: 281. *Chambliss.*

ITALIAN

191(*51a) *Elementary Italian.* (3,4) I, II
A study of the grammar and composition of Italian. *Schick.*

192(*51b) *Elementary Italian.* (3,4) I, II
A continuation of 191. Prereq: 191 or one year of high school Italian. *Schick.*

291(52a) *Intermediate Italian.* (3) I, II
Review of grammatical principles and readings of selected Italian works. Prereq: 192. *Schick.*

292(52b) *Intermediate Italian.* (3) I, II
A continuation of 291. Prereq: 291.

OTHER DEPARTMENTAL OFFERINGS

248(89) *Mexican Civilization.* (3) S
A lecture course on the cultural development of Mexico, designed to furnish a working basis for required trips to important centers of Mexican civilization. To be offered only during the summer session in Mexico. *Server.*

552(193) *The Teaching of Modern Foreign Languages.* (3)
A course for teachers and prospective teachers of French, Spanish, or German, with the objective of providing a more vital approach to the teaching of these languages. *Server.*

610(291a,b) *Romance Philology.* (3) I, II, S
Study of the historical development of the various Romance languages with reading of texts chiefly from the medieval period. Special attention will be given to historical phonology and morphology. Prereq: 603 or 641 or equivalent. May be repeated once for a total of 6 credits. *Rea.*

768 *Residence Credit for Master's Degree.* (0)
May be repeated once. *Staff.*

769 *Residence Credit for Doctor's Degree.* (0)
May be repeated indefinitely. *Staff.*

778(295) *Seminar: Main Currents of Romance and German Literature.* (3)
Studies of the principal works of the French, German and Spanish literatures. Lectures, student reports. Required of all candidates for M.A. degree under Plan B.

MUSIC

The music department provides the opportunity for cultural and professional growth through intensive music study and participation, and presents a varied series of musical programs of cultural value to the entire university community.

A student whose prime interest is music may work toward the Bachelor of Music degree in Applied Music or Music Education, or the Bachelor of Arts degree. The courses of study leading to the Bachelor of Music degree are designed for those who plan to be professional performing musicians or school music teachers, and presume a considerable amount of musical experience on the pre-college level. The Bachelor of Arts degree with a major in music is a general cultural degree with emphasis in music, allowing more time during the Junior and Senior years for the election of courses in related and other subject matter fields. All degrees offered by the Department of Music demand the fulfillment of the basic lower division course requirements of the College of Arts and Sciences in the belief that the ideas and concepts derived from such study are essential to the happiness and well-being of every individual.

DEPARTMENTAL FACILITIES

The University provides one of the most modern and adequately equipped Fine Arts buildings in the South. The music facilities include well lighted, sound proofed, air conditioned classrooms, rehearsal halls, teaching studios, listening cubicles, a departmental library, and 44 practice rooms including 4 two-manual practice pipe organs. In the building there are two auditoriums seating approximately 500 and 120. Radio, recording, and broadcasting facilities are available for instructional purposes and performances. There is a fine Holtkamp pipe organ in Memorial Hall for teaching and concert purposes.

SCHOLARSHIPS

The department offers a limited number of grants-in-aid consisting of a waiver of $66.75 in fees each semester. These grants are awarded on the basis of scholastic standing, character, musical ability, and need.

Approximately $300.00 is available each year from the McCracken Music Scholarship Fund for Kentucky students with exceptional musical talent.

The Junior-League Award in Music Education of approximately $200.00 is awarded to a Junior or Senior in the department each year on the basis of scholarship, character, and prospective success in the field of music teaching.

For further information or application write to the Head of the Department of Music.

UNIVERSITY BANDS

The University has three bands: the famous Marching 100, the Symphonic Band, and the AFROTC Band. The Marching 100 performs at athletic events and other campus and community activities. The Symphonic Band is a concert organization which performs the finest of concert band literature in a series of programs on campus, and makes one concert tour each year. The Air Force Band is a regular part of the ROTC program at the University and plays at Army and Air Force reviews.

UNIVERSITY CHORAL ENSEMBLES

For those students interested in singing, there are four choral organizations on campus: the Men's Glee Club, Women's Glee Club, the Choristers, a select mixed choir, and the University Chorus of approximately 150 members. These organizations are open to every University student by permission of the respective directors.

UNIVERSITY SYMPHONY ORCHESTRA

The *University Symphony Orchestra* is a student, faculty, and civic musical organization, and presents standard symphonic literature regularly in concert. Admission to the orchestra is arranged by consultation with the director.

PARTICIPATION IN MUSICAL ORGANIZATIONS

No student is permitted to participate in the orchestra, concert band, glee clubs, or other musical organizations unless all eligibility requirements for extracurricular activities are met.

SPECIAL FEES

Applied Music:

$25.00 per semester for one course for 1 credit (or non-credit)
50.00 per semester for one course for 2 credits (or non-credit)
50.00 for 2 or more courses (credit or non-credit)
5.25 per semester for each half-hour lesson per week for each student in Applied Music who is not regularly enrolled in the University. This is in addition to the usual charge for individual lessons.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF MUSIC

The following sequences are offered:

RECITAL ATTENDANCE

All students are required during each semester of residence to attend a certain percentage of the departmental recitals as directed and posted each semester by the department.

MUSIC EDUCATION

Freshman

	1st Sem. Crs.	2d Sem. Crs.
Applied Major	2	2
[1]Secondary Applied	1	1-2

Ensemble	1	1
Music 170, 171 (11a, b)	3	3
Foreign Language	3	3
English 101, 102 (1a, b)	3	3
Biological Science	3	—
[2]Humanities 204 (E)	—	2
Physical Education	1	1
[3]Military or Aero. Science	(2)	(2)
Recital Attendance	0	0
	17	16-17

Sophomore

	1st Sem. Crs.	2d Sem. Crs.
Applied Major	2	2
Secondary Applied	1-2	1-2
Ensemble	1	1
[4]Music 270, 271 (51a, b)	2	2
Music 272, 273 (52a, b)	2	2
Music 280, 281 (19a, b)	3	3
Humanities	—	2
Psychology 100 (1)	4	—
Education 101, 202 (51, 52)	2	4
Military or Aero. Science	(2)	(2)
Recital Attendance	0	0
	17-18	17-18

Junior

	1st Sem. Crs.	2d Sem. Crs.
Applied Major	2	2
Secondary Applied	1-2	1-2
Music 370, 372 (53a, 133)	2	3
Education 444 (144)	—	4
Ensemble	1	1
Music 371 and 560 (121, 116a)	2	2
[5]Music 360, 362 (129a, 130)	2	2
Music 361 (129b)	—	2
Social Studies	3	—
Hygiene 101 (1)	1	—
Elective	3	—
Recital Attendance	0	0
	17-18	17-18

Senior

	1st Sem. Crs.	2d Sem. Crs.
Applied Major	2	2
Secondary Applied	1-2	1
Education 377 (177a, b)	4	4
[6]Physical Science	3	3
Ensemble	1	1
Music 563 (145)	—	1
Music 561, 562 (116b, 115)	2	—
[7]Music 363 (139)	2	—
Humanities	2	—
Social Studies	—	3
Recital Attendance	0	0
	17-18	17-18

MINIMUM CREDITS—133

For all footnotes see p. 85.

APPLIED MUSIC

Voice

Freshman

	1st Sem. Crs.	2d Sem. Crs.
Music 142 (C17a, b)	3	3
Music 101 (C15a, b)	1	1
Ensemble	1	1
Music 170, 171 (11a, b)	3	3
English 101, 102 (1a, b)	3	3
Foreign Language	3	3
Biological Science	3	—
Physical Education	1	1
[3]Military or Aero. Science	(2)	(2)
Humanities 204 (E)	—	2
Recital Attendance	0	0
	17-19	17-19

Sophomore

	1st Sem. Crs.	2d Sem. Crs.
Music 242 (C17c, d)	3	3
Music 201 (C15c, d)	1	1
Ensemble	1	1
[4]Music 270, 271 (51a, b)	2	2
Music 272, 273 (52a, b)	2	2
Humanities	2	2
Music 280, 281 (19a, b)	3	3
Foreign Language	3	3
Military or Aero. Science	(2)	(2)
Recital Attendance	0	0
	17-19	17-19

Junior

	1st Sem. Crs.	2d Sem. Crs.
Music 342 (C17e, f)	3	3
Music 370, 372 (53a, 133)	2	3
Social Studies	3	3
Hygiene 101 (1)	1	—
Music 580 and 581 (131 & 132)	2	2
Electives	3	6
Biological Science	3	—
Recital Attendance	0	0
	17	17

Senior

	1st Sem. Crs.	2d Sem. Crs.
Music 442 (C17g, h)	3	3
Music 564 (102)	2	—
Music 584 (107)	—	3
Music 572, 573 (113a, b)	2	2
Music 587 (123)	2	—
[6]Physical Science	3	3
Electives	4	4
Recital Attendance	0	0
	16	15

MINIMUM CREDITS—133

For all footnotes see p. 85.

PIANO

Freshman

	1st Sem. Crs.	2d Sem. Crs.
Music 141 (C15a, b)	3	3
Music 170, 171 (11a, b)	3	3
Ensemble	1	1
English 101, 102 (1a, b)	3	3
Foreign Language	3	3
Social Studies	3	—
Physical Education	1	1
[3]Military or Aero. Science	(2)	(2)
Humanities 204 (E)	—	2
Recital Attendance	0	0
	17-19	16-18

Sophomore

	1st Sem. Crs.	2d Sem. Crs.
Music 241 (C15c, d)	3	3
[4]Music 270, 271 (51a, b)	2	2
Music 272, 273 (52a, b)	2	2
Ensemble	1	1
Music 280, 281 (19a, b)	3	3
Humanities	2	2
Biological Science	3	3
Hygiene 101 (1)	1	—
Military or Aero. Science	(2)	(2)
Recital Attendance	0	0
	17-19	16-18

Junior

	1st Sem. Crs.	2d Sem. Crs.
Music 341 (C15e, f)	3	3
Music 370, 372 (53a, 133)	2	3
Ensemble	1	1
[6]Physical Science	3	3
Music 580 and 581 (131 & 132)	2	2
Electives	6	6
Recital Attendance	0	0
	17	18

Senior

	1st Sem. Crs.	2d Sem. Crs.
Music 441 (C15g, h)	3	3
Music 572, 573 (113a, b)	2	2
Ensemble	1	1
Music 582, 583 (106a, b)	2	2
Social Studies	—	3
Music 587 (123)	2	—
Electives	6	5
Recital Attendance	0	0
	16	16

MINIMUM CREDITS—133

For all footnotes see p. 85.

ORGAN

Freshman

	1st Sem. Crs.	2d Sem. Crs.
Music 143 (C18a, b)	3	3
Music 101 (C15a, b)	1	1
Music 170, 171 (11a, b)	3	3
Ensemble	1	1
English 101, 102 (1a, b)	3	3
Foreign Languages	3	3
Social Studies	3	—
Physical Education	1	1
[3]Military or Aero. Science	(2)	(2)
Humanities 204 (E)	—	2
Recital Attendaince	0	0
	18	17-19

Sophomore

	1st Sem. Crs.	2d Sem. Crs.
Music 243 (C18c, d)	3	3
Music 201 (C15c, d)	1	1
[4]Music 270, 271 (51a, b)	2	2
Music 272, 273 (52a, b)	2	2
Ensemble	1	1
Music 280, 281 (19a, b)	3	3
Humanities	2	—
Biological Science	3	3
Military or Aero. Science	(2)	(2)
Recital Attendance	0	0
	17-19	15-17

Junior

	1st Sem. Crs.	2d Sem. Crs.
Music 343 (C18e, f)	3	3
Music 370, 372 (53a, 133)	2	3
Humanities	2	—
Hygiene 101 (1)	—	1
[6]Physical Science	3	3
Music 580, 581 (131 and 132)	2	2
Electives	6	6
Recital Attendance	0	0
	18	18

Senior

	1st Sem. Crs.	2d Sem. Crs.
Music 443 (C18g, h)	3	3
Music 572, 573 (113a, b)	2	2
Music 585, 586 (108a, b)	2	2
Social Studies	—	3
Music 587 (123)	2	—
Electives	6	5
Recital Attendance	0	0
	15	15

MINIMUM CREDITS—133

For all footnotes see p. 85.

ORCHESTRAL INSTRUMENT

Freshman

	1st Sem. Crs.	2d Sem. Crs.
Performance Major	3	3
Piano 101	1	1
Music 170, 171 (11a, b)	3	3
Ensemble	1	1
English 101, 102 (1a, b)	3	3
Foreign Language	3	3
Social Studies	3	—
Physical Education	1	1
[3]Military or Aero. Science	(2)	(2)

Humanities 204 (E)	—	2
Recital Attendance	0	0
	17-19	17-19

Sophomore

	1st Sem. Crs.	2d Sem. Crs.
Performance Major	3	3
Piano 201	1	1
[4]Music 270, 271 (51a, b)	2	2
Music 272, 273 (52a, b)	2	2
Ensemble	1	1
Humanities	2	2
Biological Science	3	3
Music 280, 281 (19a, b)	3	3
Military or Aero. Science	(2)	(2)
Recital Attendance	0	0
	17-19	17-19

Junior

	1st Sem. Crs.	2d Sem. Crs.
Performance Major	3	3
Music 370, 372 (53a, 133)	2	3
Hygiene 101 (1)	1	—
[6]Physical Science	3	3
Music 371, 560 (121, 116a)	2	2
Music 580, 581 (131 and 132)	2	2
Electives	4	4
Recital Attendance	0	0
	17	17

Senior

	1st Sem. Crs.	2d Sem. Crs.
Performance Major	3	3
Music 572 ,573 (113a, b)	2	2
Social Studies	—	3
Music 587 (123)	2	—
Electives	8	8
Recital Attendance	0	0
	15	16

MINIMUM CREDITS—133

For all footnotes see top of next column.

BACHELOR OF ARTS DEGREE WITH A MAJOR IN MUSIC

This curriculum, leading to a Bachelor of Arts degree with a major in music, is intended to provide the student with a general cultural background with emphasis on music.

MUSIC REQUIREMENTS FOR A MAJOR IN MUSIC

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Literature, Philosophy, and the Arts during the junior and senior years, including the major work.

Music Prerequisites: Junior standing and the following lower division courses in music:

Theory 170, 171, 270, 271, 272, 273, 280, 281 (11a, b, 51a, b, 52a, b, 19a, b)

Applied Music—6 to 8 semester hours

Upper Division Music Requirements: A minimum of 20 semester hours of advanced work in music in accordance with the student's particular interest and as directed by the Music Department.

NOTES

1. A total of 10 credits in secondary applied subjects must be elected.
2. With special permission.
3. Required of all able-bodied male freshmen and sophomores who are citizens of the United States.
4. Must be taken concurrently with 272 and 273.
5. Required only of choral teachers.
6. Must satisfy lower division requirement.
7. Required only of instrumental teachers.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Literature, Philosophy, and the Arts, including the major work.

Music Prerequisites: Junior standing and the following lower division courses in music: Music 170, 171, 270, 271, 272, 273, 350, 280, 281; Applied Music—8 to 10 semester hours.

Upper Division Music Requirements: A minimum of 20 semester hours of advanced work in music in accordance with the student's particular interest and as directed by the Department of Music. A comprehensive examination is required in the senior year.

FACULTY

Bernard Fitzgerald, Jerry Ball, Arnold Blackburn, Almonte C. Howell, Phyllis Jenness, Howard Karp, James King, Robert F. King, Gordon Kinney, Aimo Kiviniemi, Mildred Lewis, Warren Lutz, Daniel McAninch, Ford Montgomery, Gordon A. Nash, Nathaniel Patch, William Worrel, and Kenneth Wright.

MUSIC PERFORMANCE COURSES

Non-Credit Courses

Piano	1	21
Voice	2	22
Organ	3	23
Violin	4	24
Viola	5	25
Cello	6	26
String Bass	7	27
Flute	8	28
Oboe	9	29
Clarinet	10	30
Bassoon	11	31
Trumpet	12	32
French Horn	13	33
Trombone	14	34
Baritone	15	35
Tuba	16	36
Saxophone	17	37
Percussion	18	38

Students enrolled in courses numbered 1-18 receive one half-hour lesson a week.

Students enrolled in courses numbered 21-38 receive two half-hour lessons a week.

MUSIC PERFORMANCE COURSES

Series I—Secondary Courses

Secondary courses in music performances carry 1 hour credit each semester. Registration in these courses is open to students from other divisions of the University desiring elective credit and to music majors electing a secondary

instrument. Music majors may not count secondary courses toward the music performance requirement for the major instrument.

Each undergraduate course in this series may be repeated twice for a total of 3 credits.

Each graduate course in this series may be repeated 3 times for a total of 4 credits.

Undergraduate Courses

Piano	101, 201, 301, 401 (C15a-q)
Voice	102, 202, 302, 402 (C17a-q)
Organ	103, 203, 303, 403 (C18a-q)
Violin	104, 204, 304, 404 (C16a-q)
Viola	105, 205, 305, 405 (C16a-q)
Cello	106, 206, 306, 406 (C16a-q)
String Bass	107, 207, 307, 407 (C16a-q)
Flute	108, 208, 308, 408 (C31a-q)
Oboe	109, 209, 309, 409 (C31a-q)
Clarinet	110, 210, 310, 410 (C31a-q)
Bassoon	111, 211, 311, 411 (C31a-q)
Trumpet	112, 212, 312, 412 (C32a-q)
French horn	113, 213, 313, 413 (C32a-q)
Trombone	114, 214, 314, 414 (C32a-q)
Baritone	115, 215, 315, 415 (C32a-q)
Tuba	116, 216, 316, 416 (C32a-q)
Saxophone	117, 217, 317, 417 (C31a-q)
Percussion	118, 218, 318, 418 (C32a-q)

Graduate Courses

Piano	501, 601 (C215a-q)
Voice	502, 602 (C217a-q)
Organ	503, 603 (C218a-q)
Violin	504, 604 (C216a-q)
Viola	505, 605 (C216a-q)
Cello	506, 606 (C216a-q)
String Bass	507, 607 (C216a-q)
Flute	508, 608 (C231a-q)
Oboe	509, 609 (C231a-q)
Clarinet	510, 610 (C231a-q)
Bassoon	511, 611 (C231a-q)
Trumpet	512, 612 (C232a-q)
French horn	513, 613 (C232a-q)
Trombone	514, 614 (C232a-q)
Baritone	515, 615 (C232a-q)
Tuba	516, 616 (C232a-q)
Saxophone	517, 617 (C231a-q)
Percussion	518, 618 (C232a-q)

MUSIC PERFORMANCE COURSES

Series II—Major Courses

Courses in this series carry 2 hours credit each semester. Registration in these courses is open only to music majors.

Each undergraduate course in this series may be repeated twice for a total of 6 credits.

Each graduate course in this series may be repeated 3 times for a total of 8 credits.

All courses in this series carry 1 hour credit if taken in the Summer Session.

Undergraduate Courses

Piano	121, 221, 321, 421 (15a-q)
Voice	122, 222, 322, 422 (17a-q)
Organ	123, 223, 323, 423 (18a-q)
Violin	124, 224, 324, 424 (16a-q)
Viola	125, 226, 325, 425 (16a-q)
Cello	126, 226, 326, 426 (16a-q)
String Bass	127, 227, 327, 427 (16a-q)
Flute	128, 228, 328, 428 (31a-q)
Oboe	129, 229, 329, 429 (31a-q)
Clarinet	130, 230, 330, 430 (31a-q)
Bassoon	131, 231, 331, 431 (31a-q)
Trumpet	132, 232, 332, 432 (32a-q)
French horn	133, 233, 333, 433 (32a-q)
Trombone	134, 234, 334, 434 (32a-q)
Baritone	135, 235, 335, 435 (32a-q)
Tuba	136, 236, 336, 436 (32a-q)
Saxophone	137, 237, 337, 437 (31a-q)
Percussion	138, 238, 338, 438 (32a-q)

Graduate Courses

Piano	521, 621 (215a-h)
Voice	522, 622 (217a-h)
Organ	523, 623 (218a-h)
Violin	524, 624 (216a-q)
Viola	525, 625 (216a-h)
Cello	526, 626 (216a-h)
String Bass	527, 627 (216a-h)
Flute	528, 628 (231a-h)
Oboe	529, 629 (231a-h)
Clarinet	530, 630 (231a-h)
Bassoon	531, 631 (231a-h)
Trumpet	532, 632 (232a-h)
French horn	533, 633 (232a-h)
Trombone	534, 634 (232a-h)
Baritone	535, 635 (232a-h)
Tuba	536, 636 (232a-h)
Saxophone	537, 637 (231a-h)
Percussion	538, 638 (232a-h)

MUSIC PERFORMANCE COURSES

Series III—Major Courses

Courses in this series carry 3 hours credit each semester. Registration in these courses is open only to music majors.

Each undergraduate course in this series may be repeated twice for a total of 9 credits.

Each graduate course in this series may be repeated 3 times for a total of 12 credits.

Courses in this series carry 1 hour credit if taken in the Summer Session.

Undergraduate Courses

Piano	141, 241, 341, 441 (C15a-q)
Voice	142, 242, 342, 442 (C17a-q)
Organ	143, 243, 343, 443 (C18a-q)
Violin	144, 244, 344, 444 (C16a-q)
Viola	145, 245, 345, 445 (C16a-q)
Cello	146, 246, 346, 446 (C16a-q)
String Bass	147, 247, 347, 447 (C16a-q)
Flute	148, 248, 348, 448 (C31a-q)
Oboe	149, 249, 349, 449 (C31a-q)
Clarinet	150, 250, 350, 450 (C31a-q)
Bassoon	151, 251, 351, 451 (C31a-q)
Trumpet	152, 252, 352, 452 (C32a-q)
French horn	153, 253, 353, 453 (C32a-q)
Trombone	154, 254, 354, 454 (C32a-q)
Baritone	155, 255, 355, 455 (C32a-q)
Tuba	156, 256, 356, 456 (C32a-q)
Saxophone	157, 257, 357, 457 (C31a-q)
Percussion	158, 258, 358, 458 (C32a-q)

Graduate Courses

Piano	541, 641 (C215a-h)
Voice	542, 642 (C217a-h)
Organ	543, 643 (C218a-h)
Violin	544, 644 (C216a-h)
Viola	545, 645 (C216a-h)
Cello	546, 646 (C216a-h)

String Bass	547, 647 (C216a-h)
Flute	548, 648 (C231a-h)
Oboe	549, 649 (C231a-h)
Clarinet	550, 650 (C231a-h)
Bassoon	551, 651 (C231a-h)
Trumpet	552, 652 (C232a-h)
French horn	553, 653 (C232a-h)
Trombone	554, 654 (C232a-h)
Baritone	555, 655 (C232a-h)

Music Performance Courses are taught by the following faculty members:

Piano—Patch, Karp, Montgomery.
Voice—Kiviniemi, Jenness, King
Organ—Blackburn
Violin, Viola—Wright, R. King
Cello, String Bass—Kinney
Flute—
Oboe—McAninch
Clarinet, Saxophone—Lutz
Trumpet—Fitzgerald, Ball
Trombone, Percussion—Worrel
French Horn, Baritone, Tuba—Ball

Course Descriptions

160(64a,b) *Class Instruction in Voice.* (1) I, II, S
A beginning course in the fundamentals of singing. Two laboratory hours per week. May be repeated once for a total of 2 credits. *Jenness and Kiviniemi.*

161(65a-b) *Class Instruction in String Instruments.* (1) I, II, S
A beginning course in the fundamentals of playing and teaching violin and viola. Two laboratory hours per week. May be repeated once for a total of 2 credits. *Kinney and R. King.*

162(65c-d) *Class Instruction in String Instruments.* (1) I, II, S
A beginning course in the fundamentals of playing and teaching cello and string bass. Two laboratory hours per week. May be repeated once for a total of 2 credits. *Kinney and R. King.*

163(66a) *Brass Instruments.* (1) I, II, S
A beginning course in the fundamentals of playing and teaching brass and percussion instruments. Two laboratory hours per week. *Ball and Worrel.*

164(66b) *Brass Instruments.* (1) I, II, S
A beginning course in the fundamentals of playing and teaching brass and percussion instruments. Two laboratory hours per week. *Ball and Worrel.*

165(67a) *Class Instruction in Woodwind Instruments.* (1) I, II, S
A beginning course in the fundamentals of playing and teaching woodwind instruments. *Lutz.*

166(67b) *Class Instruction in Woodwind Instruments.* (1) I, II, S
A beginning course in the fundamentals of playing and teaching woodwind instruments. *Lutz.*

170(11a) *Theory I—The Elements of Musical Theory.* (3) I
A course in the fundamentals of Musical theory including the elements of sight-singing, dictation, rhythm, keyboard, terminology, notation, corrective listening, and ear training. Five meetings each week. *McAninch.*

171(11b) *Theory I—The Elements of Musical Theory.* (3) II
A continuation of Music 170 (11a). Five meetings each week. Prereq: 170 (11a). *McAninch.*

190(22a-1) *Band.* (1) I, II
May be repeated 11 times or a total of 12 credits. *Fitzgerald and Lutz.*

191(40a-1) *Orchestra.* (1) I, II
Students who have demonstrated the required ability are given an opportunity to study standard orchestral literature. Public performances are given at regular intervals. May be repeated 11 times for a total of 12 credits. *R. King.*

192(48a-1) *University Choristers.* (1) I, II
Admission to the University Choristers is through the director. May be repeated 11 times for a total of 12 credits. *Lewis.*

193(39a-1) *Men's Glee Club.* (1) I, II
Any student in the University may be admitted to the glee club after consultation with the director. May be repeated 11 times for a total of 12 credits. *King.*

194(39a-1) *Women's Glee Club.* (1) I, II
Any student in the University may be admitted to the glee club after consultation with the director. May be repeated 11 times for a total of 12 credits. *Jenness.*

195(49a-1) *University Chorus.* (1) I, II, S
Any student in the University may be admitted to the University Chorus after consultation with the director. May be repeated 11 times for a total of 12 credits. *Kiviniemi.*

260(4a) *Music Education in the Primary Grades.* (3) I, II, S
Methods and materials for the Primary Grades, stressing care of the child voice; rote song singing, selection, and repertoire; rhythmic development; listening, and experiences of standard music literature; beginning notation; keyboard and autoharp experiences; classroom observations. For non-music majors or classroom teachers. Three meetings each week. *Lewis, Nash and Worrel.*

261(4b) *Music Education in the Intermediate Grades.* (3) I, II, S
Methods and materials for the Intermediate Grades. Continuation of activities started in 260 (4a) with emphasis upon development of part-singing; minor mode; extended work on keyboard and autoharp experiences; study of typical song series for elementary grades; classroom observations. Prereq: 260 (4a). For non-Music majors or classroom teachers. Three meetings each week. *Lewis, Nash and Worrel.*

270(51a) *Theory II—Aural Theory.* (2) I
Development of aural responsiveness to the harmonic and melodic elements of music, and of sightsinging techniques as an aid to music comprehension. Three meetings each week. Prereq: 171 (11b). *McAninch and Wright.*

271(51b) *Theory II—Aural Theory.* (2) II
The continuation of the aural and sightsinging techniques of 270 (51a). Three meetings each week. Prereq: 270 (51a) *McAninch and Wright.*

272(52a) *Theory II—Written Theory.* (2) I
The acquisition of harmonic vocabulary and development of part-writing techniques, elementary counterpoint, free composition, and analysis. This course must be taken concurrently with 270 (51a). Two meetings each week. Prereq: 171 (11b). *McAninch and Wright.*

273(52b) *Theory II—Written Theory.* (2) II
The continuation of the work of 272 (52a). This course must be taken concurrently with 271 (51b). Two meetings each week. Prereq: 272 (52a). *McAninch and Wright.*

280(19a) *History of Music.* (3) I, S
A survey of the history of music from ancient times to the present. Prereq: Humanities 204 (E) or consent of the instructor. *Blackburn and Howell.*

281(19b) *History of Music.* (3) II, S
A continuation of Music 280 (19a). Prereq: Humanities 204 (E) or consent of the instructor.

282(120a) *Survey of Music Literature.* (2) I, S
This course is intended for non-music majors desiring to acquire an understanding of the literature of music through a study of representative compositions of great composers. Prereq: Humanities 204 (E) or consent of instructor. *Kinney and R. King.*

283(120b) *Survey of Music Literature.* (2) II, S
A continuation of Music 282 (120a). For non-music majors. Prereq: Same as above. *Kinney and R. King.*

290(122a) *Chamber Music Ensembles.* (1) I, II, S
The study of chamber music through performance. Two class hours per week. May be repeated once for a total of 2 credits. *Staff.*

360(129a) *Vocal Methods and Materials in the Elementary Grades.* (2) I, S
A course for music education majors in methods and materials in music education for the first six grades. This includes the care of the child voice, rote-singing and repertoire, rhythmic development, listening experiences, notation, part-singing, and use of accompanying instruments. Three lectures per week. *Lewis.*

361(129b) *Choral Methods and Materials on the Secondary Level.* (2) II, S
Methods and materials in music education for junior and senior high schools. This includes the study of the adolescent and his voice, general music classes, importance of assembly-singing, organization of choral groups, preparation of integrated units, program production, etc. Prereq: 360. Three lectures per week. *Lewis.*

362(130) *Instrumental Methods and Materials in the Elementary School.* (2) I, S
A study of methods and materials, teaching techniques, and the organization of instrumental instruction in the elementary school. Three class hours each week. Prereq: Junior standing in music and Music 160, 163, 165. *Worrel.*

363 *Instrumental Methods and Materials in the Secondary School.* (2)
A study of the methods, materials and techniques of teaching instrumental music in the secondary school, including the survey and analysis of band and orchestra repertory, rehearsal techniques, marching band techniques. Three class hours each week. Prereq: Junior standing in music and Music 160, 163, 165, 560, 362.

370(53a) *Theory III—Advanced Harmony and Counterpoint.* (2) I
A study of the 19th Century harmonic idioms through projects in analysis and composition. Three meetings a week. Prereq: 273 (52b). *Wright.*

371(121) *Instrumentation and Arranging.* (2) I, II, S
A basic course in instrumentation and arranging for typical school instrumental and vocal ensembles. *Fitzgerald and Kinney.*

372(133) *Musical Analysis.* (3) I, II, S
A study of musical style through structural, harmonic and melodic analyses. *Wright.*

390(122b) *Chamber Music Ensembles.* (1) I, II, S
A continuation of 290 (122a). Prereq: Junior standing in applied music. May be repeated once for a total of 2 credits. *Staff.*

560(145) *Supervision of Music.* (1) II, S
A study of supervision of the school music program through curriculum planning, supervisory techniques, administrative and community relationships, the use of mechanical aids in the improvement of teaching, etc. One lecture and one laboratory each week. Prereq: Music 360, 361 and 362 (129a, b and 130). *Lewis.*

561(104 *Music Activities in the Elementary School.* (2) I, II, S
The study of music and its contribution to child development. An analysis of instructional materials and the development of criteria for the evaluation of these materials. Advanced studies and activities in rhythms, singing, listening, creativity, and reading music to create a musical environment in the classroom. Open to classroom teachers only. Prereq: Music 260 and 261 (4a and 4b) or equivalents and consent of the instructor. *Nash and Worrel.*

562(116a) *Conducting.* (2) I
A study of the technique and practice of the fundamentals of conducting. *Fitzgerald and R. King.*

563(116b) *Instrumental Conducting.* (2) II
A continuation of 562 (116a). Prereq: 562 (116a). *Fitzgerald and R. King.*

564(115) *Interpretation of Choral Music.* (2) I, II, S
A study of the fundamentals of choral conducting and choral literature, emphasizing materials for the secondary school level. *Lewis.*

565(102) *Vocal Pedagogy.* (2) I, S
For teachers of voice, supervisors of music and choir directors. The study of physical and psychological problems in the teaching of voice production, the study of breath control, diction, resonance, interpretation, and repertoire. *Jenness and Kiviniemi.*

570(117a) *Orchestration.* (2) I, S
This course includes a study of the individual instruments of the orchestra and band with practice in scoring for these instruments. Prereq: 371 (121). *Kinney.*

571(117b) *Orchestration.* (2) II, S
A continuation of 570 (117a). Prereq: 570 (117a). *Kinney.*

572(113a) *Counterpoint.* (2) I, S
A study of Counterpoint based on 16th Century and 18th Century contrapuntal techniques, original compositions and analysis. *Kinney.*

573(113b) *Counterpoint.* (2) II, S
A continuation of 572 (113a). Prereq: 572 (113a). *Kinney.*

574(119a) *Composition and Orchestration.* (2) I, S
A basic course in original composition and orchestration. Prereq: Music 371 (121). *Wright.*

575(119b) *Composition and Orchestration.* (2) II, S
A continuation of 574 (119a). Prereq: 574 (119a). *Wright.*

580(131) *Seventeenth and Eighteenth Century Music.* (2) I, II, S
A survey of music literature composed c. 1600—c. 1800. Prereq: Humanities 204 (E) or consent of instructor. *Howell.*

581(132) *Nineteenth Century Music.* (2) I, II, S
A study of masterworks of music composed in the nineteenth century. Prereq: Humanities 204 (E) or consent of instructor. *Howell.*

582(106a) *Piano Literature.* (2) I, S
A survey of music written for the piano, emphasizing problems in performance of standard piano literature. *Karp and Patch.*

583(106b) *Piano Literature.* (2) II, S
A continuation of 582 (106a). *Karp and Patch.*

584(107) *Vocal Literature.* (3) I, S
A study of the development of the Art Song, Opera, Oratoria, and Cantata. *Jenness and Kiviniemi.*

585(108a) *History and Literature of the Organ.* (2) I, S
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. *Blackburn.*

586(108b) *History and Literature of the Organ.* (2) II, S
A continuation of 585 (108a). Prereq: 585 (108a). *Blackburn.*

587(123) *Survey of Contemporary Music.* (2) I, S
Kinney.

588(134) *History and Literature of Opera.* (3) I, S
The development of opera as an art form, and analysis of representative operas from various areas. *Howell.*

589(135) *History of American Music.* (3) II, S
A study of music in America from colonial times to the present. *Howell, Kinney, and Wright.*

590(124a-c) *Opera Workshop.* (1)
May be repeated twice for a total of 3 credits. *Jenness, Kiviniemi, and King.*

591(125) *Music Education Workshop: Choral.* (1) S (30 class hours)
An intensive study of choral literature and interpretation through lectures, demonstrations, and participation. *Staff.*

592(126) *Music Education Workshop: General Music.* (1) S (26 class hours)
A study of elementary and secondary school methods and materials, class piano techniques, audio-visual aids in Music Education, and the administration of school music. *Staff.*

593(127) *Music Education Workshop: The School Orchestra.* (1) S (20 class hours)
A study of school orchestra methods, materials, and administration, and specific stringed instrument teaching problems. *Staff.*

594(128) *Music Education Workshop: The School Band.* (1) S (20 class hours)
A study of concert and marching band organizations on the secondary school level, with brass, woodwind, percussion, and conducting clinics. *Staff.*

660(214 *Advanced Instrumental Conducting.* (2) II, S
This course is intended to further develop the ability to interpret and conduct the larger forms written for the symphony orchestra and concert band. *Fitzgerald and R. King.*

661(203) *Choral Literature and Technique.* (2) I, S
A study of Choral literature and its interpretation. *Lewis.*

662(204 *Advanced Band Technique.* (2) II, S
An advanced course in band techniques with concentration on band organization and materials, the technique of band conducting and intensive study in the field of band arranging. *Staff.*

663(225) *Advanced Instrumental Techniques.* (1) S
An advanced technical study of playing string, brass, and woodwind instruments, designed for the needs of school music teachers. May be repeated twice for a total of 3 credits. *Staff.*

664(242) *Administration and Supervision of Public School Music.* (3) II, S
A study of current trends in school music, curricula, testing programs, and other supervisory procedures. *Fitzgerald and Worrel.*

665(243) *Advanced Methods and Materials in Music Education.* (2) I, S
Survey and evaluation of new music education methods and materials. *Fitzgerald and Worrel.*

666(244) *History and Philosophy of Music Education.* (2) I, S
A course designed to acquaint the student with the historical development and basic philosophy in music education. *Fitzgerald and Worrel.*

667(239) *Current Practices in Elementary School Music.* (2) I, II, S
Contemporary philosophies and objectives of music in the elementary school. The in-service training of the classroom teacher; the music specialist as a resource person. Techniques for developing the child's musical interest and capacity for music. The status of music in America's public schools. Open to music teachers only. Prereq: Music 360 (129a) or its equivalent. *Nash.*

670(202 *Theory Review.* (0) I, S
A review of the fundamentals of music theory. *Wright.*

671(224a) *Advanced Musical Analysis.* (2) I, S
A course designed to show the changing aspects of musical style through analysis of representative compositions from all periods. *Kinney and Wright.*

672(224b) *Advanced Musical Analysis.* (2) II, S
A continuation of 671 (224a). Prereq: 671 (224a). *Kinney and Wright.*

673(200a-c) *Advanced Composition and Orchestration.* (2) I, II, S
Prereq: Music 574 and 575 (119a and 119b). May be repeated 2 times for a total of 6 credits. *Wright.*

674(223a) *Pedagogy of Theory.* (2) I, II, S
The teaching of music theory. *Wright.*

675(223b) *Pedagogy of Theory.* (2) I, II, S
The teaching of music theory. *Wright.*

676(226) *Sixteenth Century Counterpoint.* (2)
The study of sixteenth century counterpoint techniques through analysis and composition. *Wright.*

680(205) *Medieval and Renaissance Music.* (3) II, S
An advanced study of the musical development during these periods. *Howell.*

681(219) *Symphonic Literature.* (3) II, S
An intensive study of orchestral literature. *Howell, Kinney, and Wright.*

682(220) *Research Methods.* (2) I, S
A course designed to acquaint the student with the basic research techniques and materials in music. *Howell and Kinney.*

768 *Residence Credit for the Master's Degree.* (0)
May be repeated once.

780(C222a) *Independent Work in Music Education.* (1) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

781(222a) *Independent Work in Music Education.* (2) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

782(C222a) *Independent Work in Music Education.* (3) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

783(C222b) *Independent Work in Music Theory.* (1) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

784(222b) *Independent Work in Music Theory.* (2) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

785(C222b) *Independent Work in Music Theory.* (3) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

786(C222c) *Independent Work in Musicology.* (1) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

787(222c) *Independent Work in Musicology.* (2) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

788(C222c) *Independent Work in Musicology.* (3) I, II, S
Prereq: 4-6 hours of graduate credit in the area of specialization. *Fitzgerald, Howell, Kinney, Lewis, and Wright.*

PHILOSOPHY

Philosophy is today, as it has been in the past, a pursuit of an understanding of the most basic traits of the universe and of man and his activities. While each of the special sciences examines a limited sphere, philosophy strives for inclusive vision. Also it seeks clear definition of the fundamental meanings that underlie the various fields of human knowledge and practice. Standards present in man's knowing and acting are studied in logic, theory of knowledge, and ethics. Historical courses survey the development of the most general thought patterns of successive epochs. Such systematic courses as metaphysics and philosophy of religion discuss ideas bearing on the nature and organization of the universe.

All the courses offered by the Philosophy Department are designed to provide training which will constitute significant components of a liberal education. The special services of the Department may be listed as follows: (1) Several of its courses provide such training in the broadest ideas and values of civilization as will be useful for students working for a career in education, engineering, commerce, law, agriculture, medicine, and nursing. (2) The Department plans courses with a view to reinforcing and complementing various Arts and Sciences curricula, such as those in the humanities and the social studies, although it offers courses of value to students in the physical and biological sciences as well. In pre-professional programs leading toward medicine and the ministry there are courses that are virtually indispensable. Such courses as logic and ethics, which develop skill in reasoning and a more thorough understanding of the principles of moral conduct, are of special value in all curricula. (3) Finally, it provides a program of study for students who wish to major in philosophy itself, whether these students do or do not plan to pursue philosophy beyond the A.B. degree. The Department offers training as far as the M.A. degree and plans its graduate program with a view to preparing the student for effective study elsewhere toward the Ph.D. degree and a career of teaching philosophy.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in philosophy and allied courses.

Requirements for a Major. Prerequisite: 6 credits in philosophy, including Philosophy 200. *Required:* A minimum of 15 credits in philosophy; Philosophy 280 (3 credits); and a comprehensive examination in the senior year.

FACULTY

John Kuiper, Roger J. Chacon, Jesse De Boer, and Henry Howard Jack.

Course Descriptions

200(21) *Introduction to Philosophy.* (3) I, II, S
An elementary study of the principal problems of philosophy. *Staff.*

220(31) *Elementary Logic.* (3) I, II, S
A study of the logical principles underlying valid thought. *Chacon and Jack.*

230(51) *Ethics.* (3) I, II, S
A first course in ethics; study of the nature of moral action; meaning of right and good; moral standards; principal moral theories; organization of individual and social values. *Jack.*

280(35a-e) *Tutorial Work in Philosophy.* (1) I, II, S
Weekly conferences with major students; reports on assigned readings; readings in preparation for the comprehensive examination. Required of senior majors in Philosophy. May be repeated twice for a total of 3 credits. *Staff.*

395(109a-d) *Independent Work.* (3) I, II, S
Open only to students who have distinguished themselves in philosophy or in allied subjects. May be repeated three times for a total of 12 credits. *Staff.*

500(101a) *History of Philosophy—Ancient and Medieval.* (3) I
A survey of the philosophical thought of ancient Greece and Rome, and of medieval Christendom. *DeBoer.*

502(118) *Plato and Aristotle.* (3)
Plato's development of a theory of the world and of practice, studies in selected dialogues. Analysis of passages in Aristotle's major works on natural philosophy, metaphysics, knowledge, ethics, and politics. *DeBoer.*

510(101b) *History of Philosophy—Modern.* (3) II
A survey of modern European and American philosophy from the Renaissance to contemporary times. *Kuiper.*

511(110) *The Making of the Modern Mind.* (3)
A study of the intellectual background of the modern age. Renaissance humanism, 17th and 18th century rationalism, 19th century romanticism and idealism are some of the major tendencies to be stressed. *Kuiper.*

512(106) *Representative Modern Philosophers.* (3)
A study of the original works of the chief figures in modern philosophy. Special attention will be given to Descartes, Spinoza, Locke, Hume and Kant. *Kuiper.*

515(102) *Contemporary Philosophy.* (3) I
A study of contemporary philosophical tendencies, notably pragmatism, idealism, the analytic movement (e.g., logical atomism, logical positivism, and philosophical analysis), phenomenology, and existentialism. *Chacon.*

518(140) *Existentialism.* (3)
A systematic study of the fundamental concepts and problems of existentialism. Selected readings in Kierkegaard, Marcel, Heidegger, Jaspers, and Sartre. *Chacon.*

520(115) *Intermediate Logic.* (3) I
A second course in logic including the logic of classes, of relations, of propositions and propositional functions, the theory of deductive systems, and a consideration of the rival schools of contemporary logical theory. *Jack.*

540(120) *Great Religions.* (3) I, II, S
A descriptive survey of several religions as they developed within their culture, for example, Hinduism, Buddhism, Confucianism, Judaism, Christianity. *DeBoer.*

545(125) *Philosophy of Religion.* (3) II
A philosophical examination of religious ideas, including such topics as the origin of religion; the nature of religion; the various concepts of God, the soul, immortality; and internal and external criticisms of religion. *DeBoer.*

550(130) *Metaphysics.* (3) II
Study of concepts and problems important for understanding the general or ultimate factors in reality; e.g. space-time, change, causality, substance, matter, life, God. *DeBoer.*

555(135) *Epistemology.* (3) II
A study of the origin, nature, kinds, and validity of knowledge, with a consideration of such topics as faith, intuition, belief, opinion, certainty, and probability. Also some discussion of recent developments in semantics. *Chacon.*

560(160) *Philosophy of Science.* (3) II

An examination of the logical and epistemological foundations of empirical science, including such topics as the unity and diversity of the sciences, methodology, theory and explanation, and current studies in the language of science. *Jack.*

580(190) *Problems of Philosophy.* (3) S

This course is designed for upper division and graduate students who have had little or no formal training in philosophy but wish to study the presuppositions underlying religion, education, art, morality, and government. *Staff.*

592(153) *Aesthetics.* (3) I

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 Art 592.) *Amyx.*

620(210a,b) *Types of Logical Theory.* (3)

An intensive study of recent and contemporary contributions to logical theory: Whitehead and Russell, C. I. Lewis, R. Carnap, John Dewey, and others. May be repeated once for a total of 6 credits. *Kuiper.*

768 *Residence Credit for the Master's Degree.* (0)

May be repeated once.

770(201a-h) *Seminar in Philosophy.* (2)

One 2-hour meeting a week for discussion of current developments in philosophy as found in books and periodicals. Readings and reports. May be repeated 3 times for a total of 8 credits. *Staff.*

790(220a-f) *Research in Philosophy.* (3) I, II, S

This course is primarily intended for advanced students who desire and are prepared to do research in philosophy. May be repeated 3 times for a total of 12 credits. *Staff.*

PHYSICAL EDUCATION

REQUIRED PHYSICAL EDUCATION

All students (except veterans who have had three or more months of military service; students who have successfully completed two semesters of physical education at another college or university; students who have entered the university with a Junior standing or above, or following their twenty-fifth birthday; and students who are excused by the University physician for medical reasons) must successfully complete two semesters of physical education. Insofar as their schedules and health status (as determined by a physical examination upon entrance) permit, students may select the courses which include the activities they wish to learn, or in which they wish to participate.

Physical Education courses offer one credit hour, and are organized in such a manner as to teach two activities each semester. Students (except those exempt) are required to complete successfully two semesters of physical education. After students have completed their physical education requirements they are encouraged to enroll in additional service classes for credit or as auditors.

The required, or service, physical education program consists of specific courses of instruction for men and women students which are designed to:

1. Teach students activities which may serve as a recreational pursuit during leisure time.
2. Provide the students with a means of regulated and supervised physical exercise.
3. Develop a sane and intelligent attitude toward the need for and benefits of well-regulated physical activity.

A standard uniform is required of all students. The cost of this ranges from $5.00 to $12.00. A locker fee of $2.00 per semester is charged each student which includes towel service, soap, locker rental, and the privilege of using the equipment and facilities of the Department of Physical Education during non-class periods. The swimming fee is $4.00 per semester and includes locker rental.

INTRAMURALS

A second phase of the Department's program is its intramural sports for men and women students and the Women's Athletic Association for women students. Through the intramural and W.A.A. programs and such organizations as the U.K. Troupers, Tau Sigma (Modern Dance), and Blue Marlin (Swim Club) numerous activities are sponsored which provide opportunity for all students to participate in competitive sports and recreational activities.

PROFESSIONAL PHYSICAL EDUCATION

The majority of students selecting Physical Education as a major do so because they expect to enter this field as teachers or as coaches. Since our students come from widely different backgrounds inside the state and from outside of Kentucky an effort is made to gear the program to their individual needs, backgrounds, and future requirements. To this end opportunities for varying extents of concentration in the major field and in minor fields within limitations of University and College policy are offered for the guidance of and selection by the student. Requirements in the fields of English, the Basic Sciences, Social Studies, Nutrition, Psychology and (for the teacher) in Education are outlined to accompany work in the major field. The student may receive the degree through the College of Arts and Sciences or through the College of Education. All physical education majors are required to enroll in Physical Education 281, Camp Leadership, offered at Camp Robinson at the end of the Sophomore year, and in Physical Education 61, Field Trip, scheduled in the spring of the Junior year.

TOPICAL FIELDS

Topical fields are offered in Recreation, Horsemanship and Dance. A student enrolling in one of the fields will have an individual curriculum prescribed to prepare him for his life's work.

SERVICE COURSES (FOR MEN AND WOMEN)

Note: All students except those excused from Physical Education are required to satisfactorily complete two Physical Education Service Courses prior to graduation. Students may elect to enroll in a maximum of four additional Service Courses after they have completed their requirement. Only two of the Service Courses may count in the minimum degree requirements of 130 credits.

Physical Education 100. (1) I, II, S

Two activities selected from a large variety of aquatic, individual and group activities, not previously taken in a Service Course. May be repeated for a maximum of six credits.

Physical Education 100 will be offered only during the first hour on the Monday, Wednesday, and Friday cycle. Physical Education 101 through 125 are the same as Physical Education 100, except that each course is offered at the hour and on the cycle designated below:

PHYSICAL EDUCATION 101, Second Hour, Monday, Wednesday and Friday

PHYSICAL EDUCATION 102, Third Hour, Monday, Wednesday and Friday

PHYSICAL EDUCATION 103, Fourth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 104, Fifth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 105, Sixth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 106, Seventh Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 107, Eighth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 108, Ninth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 109, Tenth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 110, Eleventh Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 111, Twelfth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 112, Thirteenth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 113, Fourteenth Hour, Monday, Wednesday and Friday
PHYSICAL EDUCATION 114, First Hour, Tuesday, Thursday and Saturday
PHYSICAL EDUCATION 115, Second Hour, Tuesday, Thursday and Saturday
PHYSICAL EDUCATION 116, Third Hour, Tuesday, Thursday and Saturday
PHYSICAL EDUCATION 117, Fourth Hour, Tuesday, Thursday and Saturday
PHYSICAL EDUCATION 118, 12:00-1:15, Tuesday and Thursday
PHYSICAL EDUCATION 119, 1:00-2:15, Tuesday and Thursday
PHYSICAL EDUCATION 120, 2:00-3:15, Tuesday and Thursday
PHYSICAL EDUCATION 121, 3:00-4:15, Tuesday and Thursday
PHYSICAL EDUCATION 122, 4:00-5:15, Tuesday and Thursday
PHYSICAL EDUCATION 123, 5:00-6:15, Tuesday and Thursday
PHYSICAL EDUCATION 124, 6:00-7:15, Tuesday and Thursday
PHYSICAL EDUCATION 125, 7:00-8:15, Tuesday and Thursday

Upper Division Requirements

PROFESSIONAL COURSES

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Biological Sciences, including the major work.

Requirements for a Major. Prerequisites: For Men and Women—Zoology 100, Sociology 220 or 240, English 181 or 291, Physical Education 150, 515, 250, 251. For Men—Physical Education 141, 142, 143, 144.

Required: For Men and Women—Anatomy and Physiology 204, 206, and 520; Home Economics 401; Hygiene 510; Physical Education 061, 152, 280, 281, 343, 360, 370, 540, 545, 572. For Women: Physical Education 491.

(*For Teaching Certificate:* Education 100, 101, 202, 369, 370, 444, Physical Education 344, 360. Only 6 hours of Education count in Field of Concentration in A. & S. It is recommended that the student seeking a teaching certificate elect a second teaching field in addition to Physical Education and that he consult with his or her adviser early in the Freshman year.)

FACULTY

Don Cash Seaton, William S. Arnsparger, Jr., Betty G. Blanton, Martha G. Carr, Maurice A. Clay, Stella Gilb, Charles W. Hackensmith, Bernard M. Johnson, Milo G. Karsner, Earl Kauffman, Jr., Harry Lancaster, Lovaine C. Lewis, William E. McCubbin, Alfred M. Reece, and Kob Ryen.

Course Descriptions

COURSES FOR MEN AND WOMEN

061(61) *Field Trip.* (0) II
Required the spring semester of all Juniors majoring in physical education. Visitation and inspection of physical education programs. *Carr and Clay.*

140(40) *Professional Orientation.* (2) I
Introduction to the fields of health, physical education, and recreation. Two hours per week. Required of all students the first fall semester enrolled in the University in Physical Education. *Carr, Clay, and Reece.*

141(*41) *Basketball Coaching Fundamentals.* (2) I
Theory and practice in coaching fundamentals involved in basketball. Four hours lab per week. *Lancaster.*

142(*42) *Football Coaching Fundamentals.* (2) II
Theory and practice in coaching fundamentals of football. Four hours lab per week. *McCubbin and Arnsparger.*

143(*43) *Track and Field Coaching Fundamentals.* (2) II
The theory and practice of coaching track and field events. Four hours lab per week. *Seaton.*

144(44) *Baseball and Softball Coaching Fundamentals.* (2) II, S
Theory and practice in coaching fundamentals involved in baseball and softball. Four hours lab per week. *Shannon.*

150,151 *Physical Education and Recreation Activities.* (2 ea.) I, II
Theory and practice of activities recommended for physical education and recreation programs. Six hours per week lab required of all freshman physical education and recreation majors. *Staff.*

152 *Techniques of Swimming.* (2) I, alternate S
A basic course in swimming and diving skills beginning with the intermediate level. To include survival, lifesaving, synchronized and skin diving skills. Four hours lab per week. Prereq: Special Skill Test. *Reece.*

185(85) *Jumping (Horseback.)* (1)
Practice in jumping over different obstacles for show and hunting. Prereq: Four hours in horsemanship or consent of instructor. Two hours lab per week. *Ryen.*

250,251 *Physical Education and Recreation Activities.* (2 ea.) I, II
Theory and practice of activities recommended for physical education and recreation programs. Six hours lab per week required of all sophomore physical education and recreation majors. *Staff.*

252 *Water Safety Leadership.* (2) II, alternate S
Leadership training in the teaching of swimming, lifesaving, diving, synchronized swimming, competitive swimming, camp waterfront, beach and pool operation and exhibition. Four hours lab per week. Prereq: Senior Lifesaving Certificate and Special Skill Test. *Reece.*

280(80) *Recreation Leadership.* (2) I, II
Discussion, observation, and practice of leadership in recreation situations. Students in class serve as leaders of the Faculty Children's Play Club and of special activities by other groups when requested. Lecture, two hours; lab, two hours. *Kauffman.*

281(81) *Camp Leadership.* (2) II
Designed for the training of camp administrators and counselors. Offered at Camp Robinson or on campus with field experiences at Camp Robinson. *Kauffman.*

286(86a) *Equestrian Dressage.* (2)
The technique of training dressage. One hour lecture and two hours laboratory. Prereq: Horsemanship or equivalent. *Ryen.*

290(190) *History and Survey of the Dance.* (3) I, S
The study of the evolution of dance through the cultural periods of history and the correlation of social structure and dance forms. Open to male students. Three hours per week. *Blanton.*

(343)143 *History and Principles of Physical Education.* (3) I
Study of the historical development of physical education and an interpretation of the biological, psychological, and sociological principles of physical education. Three hours per week. *Hackensmith and Carr.*

(344)144 *Physical Education in the Secondary School.* (3) II, S
Required for teacher certification in physical education. Theory and practice in methods of teaching physical education activities and supervising programs in the secondary school. One hour per week of lecture, and four hours lab. May be repeated by women for a maximum of six credits. *Carr and Clay.*

356(158a) *Sports Officiating for Men.* (1) I, S
The theory and practice of officiating football, volleyball, basketball, swimming, and other sports. Officiating in college intramurals and high school athletics will be required. One hour lecture, two hours lab. *Johnson.*

357(158b) *Sports Officiating for Men.* (1) II, S
The theory and practice of officiating basketball, track, baseball, tennis, and other sports. Officiating in college intramurals and high school athletics will be required. One hour lecture, two hours lab. *Johnson.*

358(159a) *Sports Officiating for Women.* (1) I, S
Instruction, interpretation of rules, and practice in officiating field hockey, volleyball, and other sports. Preparation for Women's National Official's rating in athletics. One hour lecture, two hours lab.

359(159b) *Sports Officiating for Women.* (1) II, S
Instruction, interpretation of rules, and practice in officiating basketball, softball, tennis, and other sports. Preparation for Women's National Official's rating in athletics. One hour lecture, two hours lab. *Blanton.*

360(60) *Physical Education in the Elementary School.* (2) I, II, S
Required of all physical education majors and others who wish to qualify for a teaching certificate. Materials and techniques in physical education activities suitable for elementary school children. Prereq: Eight hours in lower level requirements or consent of instructor. *Gilb.*

362(62a,b) *Tutorial Work in Physical Education.* (1) I, II
This work is to be given in preparation for the comprehensive examination. For Arts & Sciences majors only. One hour per week. May be repeated for maximum of two hours credit. *Carr and Seaton.*

370 *Safety, Training, and First Aid.* (2) I, II
Prevention and care of injuries common to physical education and recreation activities. Standard A.R.C. certificate in First Aid may be earned. One hour lecture and three hours lab. *Seaton and Hackensmith.*

386(86b) *Applied Dressage.* (1)
The principles and practice of dressage movements in training for position and collection. Prereq: P.E. 286. Two hours lab. *Ryen.*

395(120a-d) *Independent Work in Physical Education.* (3) I, II, S
Prereq: Major and 3.0 standing in the Department. May be repeated for a maximum of 12 hours credit. *Staff.*

481(181) *Camping in Education.* (2) I, S
Purpose, history, organization, and conduct of camps of various types. Prereq: Physical Education 281 or permission of instructor. *Kauffman.*

482(182) *Intramural Sports.* (2) II, S
A study of the development of intramural sports; lecture, recitation, and practice in methods of organizing and administering intramural sports. Three hours per week. One hour lecture and two hours, lab. *McCubbin.*

486(86c) *Advanced Dressage.* (2)
The advanced techniques in equestrian dressage leading up to the fundamentals of haute'ecole (high school) riding. Prereq: 386. One hour lecture, two hours lab. *Ryen.*

491 *Dance in Education.* (4) II
An introduction to the creative approach to dance for elementary, secondary and college levels. The principles of kinesthetics and rhythmical forms applied to the practice of fundamental movement techniques. Two hours lecture and four hours lab. *Blanton.*

540(140) *Organization and Administration of Physical Education.* (3) I, S
Policies and procedures of administration on the secondary school and collegiate levels. Special emphasis on construction and care of facilities, equipment, and supervision of personnel. Three hours per week. *Carr and Clay.*

541(141) *Coaching Advanced Basketball.* (2) I, S
Lecture and recitation on the theory and practice of team play in basketball. Special emphasis is placed upon systems of offense and defense. Two hours per week. Prereq: Physical Education 141 or consent of instructor. *Lancaster.*

542(142) *Coaching Advanced Football.* (2) I, S
Lecture and recitation on the theory of football. Special emphasis is placed on generalship, signal systems, scouting and conditioning of players. Two hours per week. Prereq: Physical Education 142 or consent of instructor. *Arnsparger and McCubbin.*

545(145) *Introduction to Tests and Measurements.* (3) II
The construction and grading of essay and objective tests; construction and analysis of achievement tests; and testing and measuring in health and physical education. Lecture two hours and lab two hours per week. *Clay.*

572 *Kinesiology and Its Application.* (4) I
A study of basic principles of bodily movement and their application to sports, rhythmical activities and the correction of functional defects. Three hours lecture and two hours lab. Prereq: Anatomy and Physiology 204 and 206. *Hackensmith.*

580(180) *Administration and Organization of Recreation.* (3) II, S
This course is designed to equip students and community workers with workable procedures for developing and operating recreation programs in communities of various sizes and with varying political and social structures. *Kauffman.*

583(183) *Interpretations of Leisure and Recreation.* (3) I, S
Designed to provide students interested in recreation as a profession as an adjunct to other work, or as informed citizens with a basic understanding of the significance of leisure and the objectives of recreation. *Kauffman.*

586(186) *Equitation Teaching.* (2)
The techniques of horsemanship and methods of instruction. One hour lecture and two hours laboratory. Prereq: Horsemanship and Animal Industry 102. *Ryen.*

592(192) *Dance Composition.* (4) II

Dance choreography, program planning, directing, staging and costuming. Formal program required of all students. Open to male students. Two hours lecture and recitation; four hours lab per week. Prereq: Physical Education 491. *Blanton.*

595(195) *Folk Dance Leadership for School and Community.* (2) I, II, S

Philosophy, background, and methods of folk dance for schools and communities. Leadership, participation, and program planning with special emphasis upon field work with community groups. One hour lecture and two hours lab. *Lewis.*

GRADUATE COURSES FOR MEN AND WOMEN

644(244) *Research and Its Application.* (3) I, S

The theory and practice of tests and measurements in the field of health and physical education. Two hours lecture and two hours lab. *Hackensmith.*

650(250) *Curriculum and Program Development.* (3) I, S (even years)

A study of fundamental principles basic to the development of the overall curriculum in physical education with special emphasis upon the proper selection and organization of physical education activities to meet the education and recreational needs of all students. Three hours per week. Prereq: P.E. 343, 344, 540. *Carr.*

651(251) *Facilities, Construction, and Equipment.* (2) II, S (odd years)

Principles and standards for maintaining facilities, and planning construction; purchase and care of equipment. Two hours per week. Prereq: P.E. 540. *Seaton.*

685(285) *Administrative Practices in Recreation.* (3) I, S

This course deals with such administrative practices as decision making, policy determination, public relations, personnel practices, and routine details that constitute the functions of the chief recreation officer and his staff associates. Prereq: P.E. 580 or consent of instructor. Three hours per week. *Kauffman.*

690(290) *Organization and Administration of Dance in Education.* (3) II, S (odd years)

Special emphasis will be placed upon the organization and administrative program in dance to meet the needs of students from elementary through college levels. Some attention will be given to dance production, festivals and social dance functions in schools. Three hours per week. Prereq: P.E. 491 or consent of instructor. *Blanton, Karsner, and Lewis.*

741(241) *Current Studies and Trends.* (3) II, S

A study of modern trends in health and physical education and standards of evaluation in relation to the history of the various systems, including a review of the principles and objectives. *Seaton.*

770(240) *Seminar.* (2) I, II, S

A review of current literature in the field. Guidance in thesis writing. Two hours per week. May be repeated once. *Hackensmith.*

780(280) *Problems in Recreation.* (2) I, S

Current problems in recreation are identified and analyzed by the application of appropriate recreation technique. The course is designed for recreationists, school people and community workers. *Kauffman.*

782(242) *Problems Course in Physical Education.* (3) I, S

For school administrators and directors of physical education. Students work on individual problems applicable to their situation and interests, as well as upon general school problems. *Seaton.*

783(243) *Problems in the Administration of Athletics.* (2) II, S

For athletic directors, supervisors, and athletic coaches. A study of representative athletic administration procedures for colleges and public school systems. Business management is also stressed. Two hours per week. *Clay.*

PHYSICS

The objectives of the Department of Physics are:

1. To provide instruction to the end that a student, regardless of his special interests, may acquire a general understanding and appreciation of physics.
2. To provide a complete undergraduate curriculum with sufficient elasticity so that a graduate with a major in physics may teach in secondary schools, go on to greater specialization in physics, or use his major as a strong foundation for vocations.
3. To provide graduate instruction and modern facilities for research in physics leading to advanced degrees.

SUGGESTED OUTLINE OF A CURRICULUM IN THE PHYSICAL SCIENCES WITH PHYSICS AS A MAJOR:

Freshman Year

First Semester	Crs.
Mil. or Aero. Science 1st yr.	2
Physical Education	1
English 101 (1a)	3
Math. 111 (17), Coll. Alg.	3
Math. 112 (18), Trig.	3
Chem. 110 (1a), General Chem.	5
	17

Second Semester	Crs.
Mil. or Aero. Science 1st yr.	2
Physical Education	1
English 102 (1b)	3
Math. 113 (19), Anal. & Calc. I	3
Engineering Prob.	1
Chemistry 112 (1b), General Chem.	5
Hygiene	2
	17

Sophomore Year

First Semester	Crs.
Mil. or Aero. Science 2nd yr.	2
Math. 211 (20), Anal. & Calc. II	4
Physics 231 (3a), General	3
Physics 241 (4a), General Lab.	2
Biological Science	3
*Foreign Language	3
	17

Second Semester	Crs.
Mil. or Aero. Science 2nd yr.	2
Math. 212 (21), Anal. & Calc. III	4
Physics 232 (3b), General	3
Physics 242 (4b), General Lab.	2
Biological Science	3
*Foreign Language	3
	17

Junior Year

First Semester	Crs.
Physics 504 (104), Theor. Mech.	4
Physics 508 (108, Light	3
Math. 431 (105a), Diff. Eq.	3
Chem. 226 (22), Anal. Chem.	5
Social Study	3
	18

Second Semester	Crs.
Physics 511 (111), Elec. & Mag.	3
Physics 538 (138), Exp. Optics	2
Math. 531 (105b), Diff. Eq.	3
Social Study	3
Humanities	4
	15

Senior Year

First Semester	Crs.
Physics 522 (123a), Heat & Thermo.	3
Physics 554 (155a), Atomic	3
Physics 512 (131), Exp. Elec.	2
Math. 471 (106a), Adv. Calc.	3
Humanities	2
Field or Free Electives	6
	19

Second Semester	Crs.
Physics 523 (123b), Heat & Thermo.	3
Physics 555 (155b), Neucleonics	3
Math. 571 (106b), Adv. Calc.	3
Field or Free Electives	10
	19

* One to four semesters of foreign language depending on amount taken in high school.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of physical science, including the major work.

Requirements for a Major. Prerequisite: Physics 231 and 232; Mathematics 111, 112, and 113. *Required:* Mathematics 211 and 212; a minimum of 19 credits of advanced work in Physics, including at least two advanced laboratory courses.

FACULTY

Francis L. Yost, Lewis W. Cochran, John G. Dardis, Wendell C. DeMarcus, Menno Fast, R. Fletcher Gabbard, L. W. Gildart, Richard Hanau, Vincent P. Kenney, Bernard D. Kern, O. T. Koppius, Marcus T. McEllistrem, W. D. Shephard, Everett F. Sieckmann, C. N. Vittitoe, and William S. Webb.

Course Descriptions

151(*51a) *Introduction to Physics.* (3) I
A lecture demonstration course covering the mechanics of solids, liquids, and gases; and heat. *Yost.*

152(*51b) *Introduction to Physics.* (3) II
A lecture demonstration course covering magnetism and eleetricity, sound, and light. *Yost.*

211(1a) *General Elementary Physics.* (5) I, II, S
An elementary course covering the mechanics of solids, liquids, and gases; and heat. Lectures and recitations, four hours; lab, two hours. Prereq: High School or College Algebra, Plane Geometry. *Staff.*

213(1b) *General Elementary Physics.* (5) I, II
Continuation of Physics 1a, covering Magnetism and electricity, sound, and light. Lectures and recitations, four hours; lab, two hours. Prereq: Physics 211 or equivalent. *Staff.*

231(3a) *General College Physics.* (3) I, II, S
An advanced general course covering the mechanics of solids, liquids, and gases; heat and sound. Lecture and recitations, four hours. Prereq: Mathematics 111, 112, and 113; Chemistry 110 and 112; or equivalents; Mathematics 211, concurrent. *Staff.*

232(3b) *General College Physics.* (3) I, II, S
An advanced general course covering magnetism and electricity, and light. Lecture and recitations, four hours. Prereq: Physics 231, or equivalent; Mathematics 212 or concurrent. *Staff.*

241(4a) *General College Physics Laboratory.* (2) I, II, S
An advanced general laboratory course involving experiments on the mechanics of solids, liquids, and gases; and heat. Laboratory, four hours. Prereq: Physics 231, or concurrent. *Staff.*

242(4b) *General College Physics Laboratory.* (2) I, II, S
An advanced general laboratory course involving experiments on magnetism and electricity, sound, and light. Laboratory, four hours. Prereq: Physics 241; Physics 232, or concurrent. *Staff.*

281(8) *General Physics for Students in Agriculture and Home Economics.* (4) I, II
A general elementary course summarizing in one semester the main features of a two-semester course in Physics. Recitations, three hours; lab, two hours. Prereq: Mathematics 101 or 111 or equivalent (Open only to students in the College of Agriculture and Home Economics). *Cochran.*

332(132) *Radioistopes Techniques.* (3)
An introductory course designed primarily for students in the biological sciences, geology, engineering and agriculture. Includes fundamental principles of radioactive decay, interaction of radiation with matter, techniques of measurements and applications. Lectures and recitations, two hours; lab, three hours. Prereq: Consent of instructor. *Kern.*

395(125a-d) *Independent Work in Physics.* (3)
Prereq: Major and a standing of 3.0 in the department. May be repeated three times for a total of 12 credits. *Staff.*

501(101a) *Orientation in Modern Physics for Teachers.* (3) S
Review of fundamentals of physics: mechanics, optics, electricity, magnetism, electronics. Problems associated with high school physics teaching. Prereq: Employment as high school science teacher. *Staff.*

502(101b) *Orientation in Modern Physics for Teachers.* (3) S
Review of fundamentals of physics: heat, atomic physics, nuclear physics, solid state phenomena. Problems associated with High School physics teaching. Prereq: Employment as high school science teacher. *Staff.*

504(104) *Theoretical Mechanics.* (4) I
Considers the fundamental laws of mechanics and the conditions under which they hold. Topics are the dynamics and statics of a particle and rigid body, including constrained and oscillatory motion. Prereq: Physics 232, 242; Mathematics 212. *Dardis.*

508(108) *Optics.* (3)
Considers basic phenomena of geometrical and physical optics including thick lenses, apertures, wave motion, interference, diffraction, polarization, double refraction, and the theory of selected optical instruments. Prereq: Physics 232, 242; Mathematics 212. *Kenney.*

510(110) *Spectroscopy.* (3)
Considers production, recording, measuring, and interpretation of spectra. Includes atomic structure, spectrographs, photometry, interpretation of spectra in fields of atomic structure and spectrographic analysis. Prereq: Physics 232, 242; Mathematics 212. *Hanau.*

511(111) *Electricity and Magnetism.* (3)
Considers the fundamental theory of electricity and magnetism, including conductors and dielectrics, magnetic forces and energy of current, magnetization of iron, and transient and alternating currents. Prereq: Physics 232, 242; Mathematics 212. *Kenney.*

512(131) *Experimental Physics: Electricity and Magnetism.* (2)
Includes calibration and use of electrometers, galvanometers, and potentiometers; studies of dielectrics and magnetization; measurements of capacitance, resistance and inductance; absolute determinations of electrical quantities. Prereq: Physics 511. *Gildhart.*

514(114) *Vacuum Tubes and Circuit Theory.* (3)
A lecture and problem course covering the theory of vacuum tubes and associated circuits. Prereq: 232, 242; Mathematics 212. *Kern.*

515(115) *Theory of Measurements.* (3)
Considers the analysis of experimental data, including finding an empirical equation to fit data, quantitative graphs, approximations, probability distributions, errors and deviations, least square solutions. Prereq: Physics 504; Mathematics 212. *Hanau.*

519(119) *X-rays and Crystal Structure.* (3)
Considers the production and properties of X-rays, including development of the formulae of absorption, scattering, polarization; methods of wave-length measurement; the Compton effect; quantum phenomena. Prereq: Physics 232, 242; Mathematics 212. *Gildhart.*

520(120) *X-ray Technique.* (2)
An introductory course for medical technologists; includes the design and operation of X-ray equipment, and the factors affecting the quality of radiographs. Several weeks are devoted to practice in radiography. Prereq: Physics 213. *Hanau.*

522(123a) *Heat and Thermodynamics.* (3)
Stresses fundamental principles of heat phenomena; laws of thermodynamics; equations of state for gases; changes of state; thermodynamic relations and their applications to physics and allied sciences. Prereq: Physics 232, 242; Mathematics 212. *Gabbard.*

523(123b) *Heat and Thermodynamics.* (3)
Continuation of Physics 522; thermodynamic functions; thermodynamic equilibrium; phase rule and phase equilibria; equilibrium in gaseous and liquid systems; ionic equilibrium; electromotive force and free energy; surface phenomena; radiation; Nernst's heat postulate. Prereq: Physics 522. *Gabbard.*

524(124) *Solid State Physics.* (3)
Structure of solids; bonding, solid types, lattice energy; thermal, dielectric and magnetic properties; electrons in metals and semi-conductors; theory of rectifiers, transistors and solid state devices. Prereq: Physics 232, 242; Mathematics 212. *Gildart.*

525(137) *Experimental Physics: Heat.* (2)
Thermal and electrical conductance in solids, photoelectric effect, photoresistice effect, rectification, transistor action, diffusion, Hayne's experiment. Prereq: Physics 524. *Gildart.*

530(130) *Experimental Physics: Spectroscopy.* (2)
Considers the use and properties of various light sources; prism and grating spectragraphs; photographic materials; photometry; qualitative analysis of unknown materials by spectrographic methods. Prereq: Physics 510 or 508. *Hanau.*

534(134) *Experimental Physics: Vacuum Tubes.* (2)
Considers the measurements of circuit and vacuum tube constants, and the experimental study of amplifiers, a.f. and r.f. oscillators, pulse generators, saw-tooth generators, etc. Prereq: Physics 514, or equivalent (may be taken simultaneously). *Staff.*

535(135) *Experimental Physics: Atomic and Nuclear.* (2)
Measurement of e, e/m, h/e, resonance potentials, x-ray absorption, half-lives, beta-ray and gamma ray absorption, gamma spectra, specific activity, alpha particle ranges, and radiation dosage. Prereq: Physics 555 or concurrent. *Gildart.*

538(138) *Experimental Physics: Light.* (2)
Considers the properties of lenses, mirrors, prisms, gratings, and combination of these elements. Important optical phenomena are studied by means of microscope, telescope, spectrometer, interferometer, polarimeter. Prereq: Physics 508. *Hanau.*

554(155a) *Fundamental Atomic and Nuclear Physics.* (3)
Atomic models, electromagnetic radiation, special theory of relativity, x-rays and crystal structure, Compton effect, wave nature of matter, atomic spectra, vector model, Zeeman effect. Prereq: Physics 232, 242; Math. 212. *Dardis.*

555(155b) *Fundamental Atomic and Nuclear Physics.* (3)
Nuclear size; concepts of spin, parity, and statistics; alpha, beta, and gamma decay; natural radioactivity; nuclear reactions; systematics of nuclei; nuclear forces; fission and fusion. Prereq: Physics 554. *Dardis.*

556(156) *Nuclear Reactor Physics.* (3)
A lecture and problem course covering nuclear fission and neutron diffusion as they enter into reactor theory; physical principles of reactor design; time behavior of eractors. Prereq: Physics 554. *DeMarcus.*

598,599 *Introduction to Quantum Mechanics.* (3 ea.)
An introduction to modern quantum mechanics with primary emphasis on one-dimensional problems so that fundamental ideas can be assimilated without complications of purely mathematical nature. Basic postulates; Schrodinger's wave equation and its applications. Prereq: Phys. 232, 242; Math. 431. *DeMarcus.*

604(204) *Classical Mechanics.* (3)
The methods of Lagrange and Hamilton and their application to particles, systems of particles, and continuous media; variational principles; transformation theoy. Prereq: Physics 504; Mathematics 431. *McEllistrem.*

605(205) *Kinetic Theory of Matter.* (3)
Classical kinetic theory of gases, including theorems of Clausius, Joule, Maxwell, and Boltzman; coefficients of viscosity and slip; Browian movements; specific heat relations; equations of changes of state. Prereq: Two "500" Physics courses; Mathematics 431. *DeMarcus.*

608(208) *Microwaves.* (3)
Considers electromagnetic wave theory emphasizing modern problems of microwave transmission, including plane, rectangular, and cylindrical wave guides, and special problems of transmission at hyperfrequency. Prereq: Mathematics 431; Physics 511. *Staff.*

612(212) *Conduction of Electricity Through Gases.* (3)
Considers basic phenomena of electrical discharge in gases, including ionic formation, mobility, diffusion, and recombination; representative discharges such as the arc, glow, spark, corona. Prereq: Physics 511, 510 or 554; Mathematics 431. *Hanau.*

613(213) *Electromagnetic Theory.* (3)
Applies electromagnetic theory to the optical phenomena of reflection, refraction, polarization, absorption, and dispersion. Isotropic, non-isotropic, conducting, and non-conducting media are treated. Prereq: Physics 511 and 508; Mathematics 431. *DeMarcus.*

614(214) *Transient Electric and Vacuum Tube Phenomena.* (3)
Considers transient currents in circuits with variable inductance, capacitance, and resistance, coupled circuits, vacuum tube circuits. Heaviside's operational method of circuit analysis is used. Prereq: Physics 511 or 514; Mathematics 431. *Staff.*

616(217a) *Theoretical Physics.* (4)
A course of lectures presenting the basic aspects of theoretical physics in a unified way. Representative topics: advanced dynamics; hydrodynamics; elasticity. Prereq: Two "500" courses in Physics; Mathematics 431. *Sieckmann.*

617(217b) *Theoretical Physics.* (4)
A continuation of 217a dealing with statistical mechanics, thermodynamics, electrodynamics, relativity, quantum theory. Prereq: Physics 616 or equivalent. *Sieckmann.*

618(218) *Thermodynamics.* (3)
Review of the two classical laws of thermodynamics and their dynamical and statistical mechanical support; Nernst's heat theorem; applications of classical thermodynamics; relativity thermodynamics. Prereq: Physics 522; Mathematics 431. *Kern.*

624(224) *Theory of the Solid State.* (3)
A lecture and problem course covering the fundamental theory of the structure and properties of complex atoms, molecules, liquids and solids. Topics include mechanical, chemical, and thermal properties of matter. Prereq: Physics 714 or equivalent. *Gildart.*

629(230a) *Nuclear Physics.* (3)
A lecture and problem course dealing with advanced experimental nuclear physics. Topics include properties of nuclei, nuclear transformations, observational methods, radioactivity and interaction of radiation with matter. Prereq: Physics 616. *McEllistrem.*

630(230b) *Nuclear Physics.* (3)
A lecture and problem course concerned with the theories of the structure of atomic nuclei. Topics include nuclear shell structure, internuclear forces, nuclear binding energies, and theory of nuclear reactions. Prereq: Physics 714 or equivalent. *McEllistrem.*

631(231) *Atomic Structure.* (3)
A lecture and problem course treating the theory of atomic structure. Topics include atomic and molecular spectra, multiplet structure, interatomic and intermolecular forces, and quantum mechanical treatment of the vector model. Prereq: Physics 714. *McEllistrem.*

632(232) *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: Physics 523 and 616. *Kern.*

639,640(240a,b) *Theoretical Astrophysics.* (3 ea.)
A study of those branches of physics which have thus far proved most useful in astronomical applications and a thorough treatment of several major astronomical problems which have been elucidated by these methods. Prereq: Physics 617, 554, or equivalent. *DeMarcus.*

650(250) *Cosmic Rays and Relativistic Phenomena.* (3)
A lecture and problem course dealing with the field of cosmic rays. Topics include relativity theory, interaction of cosmic rays with matter, shower theory, properties and production of mesons. Prereq: Physics 616 or equivalent. *Kenney.*

651(251) *Physics of Elementary Particles.* (3)
Lectures and problems on topics which include elementary particles, meson theory, particle interactions (pion-nucleon, nucleon-nucleon, nucleon-nucleus), strange particles. Prereq: Physics 555, 617. *Kenney.*

706(206) *Methods of Mathematical Physics.* (3)
Solution of physical problems systematized according to the equations they satisfy. Variational methods, boundary conditions, eigenfunctions. Green's function, integral representations, approximation procedures, with applications from electromagnetic theory, quantum mechanics, acoustics. Prereq: Consent of instructor. *DeMarcus.*

714(215a) *Quantum Mechanics.* (3)
Considers the origin of quantum theories and the older theories of Bohr and Sommerfeld; mathematical techniques of quantum mechanics; general aspects of wave mechanics and matrix mechanics; the uncertainty principle. Prereq: Physics 616. *DeMarcus.*

715(215b) *Quantum Mechanics.* (3)
A continuation of 714 with extensions into special methods of solving problems in the theory, problems in more than one dimension, and the Pauli and Dirac theories of the electron. Prereq: 714 or equivalent. *DeMarcus.*

768 *Residence Credit for the Master's Degree.* (0)
May be repeated once.

769 *Residence Credit for the Doctor's Degree.* (0)
May be repeated indefinitely.

770(220a-h) *Seminar.* (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. *Staff.*

781(125a-d) *Independent Work in Physics.* (3)
May be repeated three times for a total of 12 credits. *Staff.*

790(226a,b) *Research.* (3)
May be repeated once for a total of 6 credits. *Senior Staff.*

791(227a,b) *Research.* (5)
May be repeated once for a total of 10 credits. *Senior Staff.*

POLITICAL SCIENCE

The courses and facilities of the Department of Political Science are designed to serve a number of purposes. Among these purposes are: (1) To provide orientation and training in the problems of citizenship for undergraduate students. (2) Provide further special background for students majoring in journalism or preparing for admission to professional courses such as law. (3) To train social science teachers for the primary and secondary schools. (4) To provide special training for students preparing for governmental or quasi-governmental work conducted by non-governmental agencies. (5) To provide research training in the problems of government. (6) To give graduate training in Political Science and related fields in preparation for college and university teaching.

PUBLIC SERVICE COURSES

Government service is offering an ever widening field of opportunity for the college trained man and woman. The last years have seen a tremendous increase in the number of civil employees. The complexity of our public problems and the rising demand for an efficient public service have led to the demand for people qualified and trained for government positions.

Students interested in entering the Federal Civil Service through the usual channel of the Federal Service Entrance Examination find a variety of types of preparation acceptable. If a career in public administration is the student's goal a course in public administration is most advantageous. For the general part of this examination, a broad background in political science and the related fields of social sciences will be helpful. For those desiring to enter specialized fields of the public service in federal, state, or local government, combinations of courses across departmental lines can be arranged to supply the technical training required.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Social Studies, including the major work.

Requirements for a Major. Prerequisites: Political Science 151 and Economics 251. *Required:* At least one course in each of four fields of Political Science, including one course each in Constitutional Development and Political Theory; Political Science 390; minimum of fifteen credits of advanced work in Political Science; a comprehensive paper in the senior year.

FACULTY

Ernest G. Trimble, Everett W. Cunningham, H. N. Drennon, Malcolm E. Jewell, John E. Reeves, William O. Reichart, Robert M. Rodes, Edward Schten, Samuel V. Stiles, Jr., Amry Vandenbosch, and Kenneth E. Vanlandingham.

Course Descriptions

151(*51) *American Government.* (3) I, II, S
A survey of federal, state, and local governments in the United States, with comparisons with government on the same levels in Canada and Great Britain. *Staff.*

311(111) *Current Public Affairs.* (2) I, II
An analysis and discussion of the most significant contemporary problems affecting public policy. *Staff.*

390(190) *Seminar in Political Science.* (3) II
Open to major students. *Staff.*

595(180a-d) *Independent Work.* (3) I, II, S
Honors course for seniors who are majors or minors in the department. Consent of the department required for admission. May be repeated three times for a total of 12 credits. Prereq: Major and standing of 3.0 in department. *Staff.*

768 *Residence Credit for the Master's Degree.* (0)
May be repeated once.

769 *Residence Credit for the Doctor's Degree.* (0)
May be repeated indefinitely.

I. POLITICAL PARTIES AND PUBLIC OPINION

570(170) *Political Parties.* (3) I
An analysis of pressure groups; organization, methods, and functions of political parties in the United States. *Jewell.*

573(173) *Public Opinion.* (3) II
A study of the nature of public opinion, influence of the press, propaganda techniques and media of communication in politics. *Jewell.*

581(179) *Political Leadership.* (3) II, S
A course in practical politics, an analysis of the interaction of leaders and led in government. A course intended particularly for persons expecting to enter the profession of politics. *Jewell.*

RELATED COURSES IN OTHER DEPARTMENTS

Psychology 544, Social Psychology.

II. PUBLIC ADMINISTRATION

577(177a) *Introduction to Public Administration.* (3) I, S
A study of theories of administration and organization, problems of line management and control, the principal staff and auxiliary functions and agencies, and the problem of administrative responsibility under democratic government. *Schten.*

578(177b) *Public Personnel Administration.* (3) II
A study of the history of the merit system in public administration, recruitment, position classification, pay policies, employee relations and morale, tenure, promotion, transfer, and training in the public service; the role of the personnel officer. *Schten.*

579(177c) *Administrative Regulation.* (3) II, S
An examination of the regulatory movement, legal bases of regulation, the organization and administration of regulatory agencies, practice and procedure in rule-making and administrative adjudication; and judicial control.

763(202) *National and Regional Planning.* (3) II, S
A study of the theories and principles of planning with a detailed investigation of the regional life of selected areas.

790(206) *Special Problems in Public Administration.* (3) I
A research course in selected problems of public administration. The problems will be chosen in accordance with the needs and desires of students registered for the course. *Schten.*

RELATED COURSES IN OTHER DEPARTMENTS

Economics 402. Labor Economics.
Economics 504. Public Finance.
Economics 524. State and Local Taxation.
Economics 530. Labor Legislation.
Law 532. Taxation.
Law 542. Administrative Law.
Social Work 500. Public Welfare Administration.
Social Work 222. Fields of Social Work.
Social Work 551. Public Assistance.

III. THEORY

571(171a) *Early Political Theory.* (3) I
The political theories of Plato and Aristotle, Roman and early Christian Political Thought. *Reichert.*

572(171b) *Modern Political Theory.* (3) II
Study of Machiavelli, Hobbes. Locke, Rousseau, Burke, and the theories of the American and French Revolutions, the English Utilitarians. *Reichert.*

575(175) *Contemporary American Political Thought.* (3) II, S
Conceptions of the respective roles of national and local governments subsequent to the war between the states; American ideas of *laissez faire* and free enterprise; resistance to monopoly; the new nationalism, the new freedom, the new deal, American Development of Socialism and Communism; current ideas of America's role in world affairs. *Reichert.*

770(271) *Seminar in Contemporary Political Theory.* (3) I, S
An intensive study of contemporary political ideologies. *Reichert.*

RELATED COURSES IN OTHER DEPARTMENTS

Philosophy 500 and 510. History of Philosophy.
Philosophy 511. Making of the Modern Mind.

IV. COMPARATIVE GOVERNMENT

555(155a) *Comparative Government—Parliamentary Democracies.* (3) I, S
A study of the governments of Great Britain and the Dominions, France, and Scandinavia. *Drennon.*

556(155b) *Comparative Government—Contemporary Dictatorships.* (3) II, S
A study of the totalitarian states of Europe and Asia. *Rodes.*

568(168) *The Governments and Politics of Eastern Asia.* (3) I, S
An introductory study of the political institutions of China, Japan, India, and the countries of Southeast Asia. *Chambliss.*

V. PUBLIC LAW

559(159a) *American Constitutional Development.* (3) I, S
Chronological survey of the making of the constitution and its interpretation through principal statutes and judicial decisions; some emphasis upon the economic and social interests which influenced this growth. *Trimble.*

560(159b) *American Constitutional Development.* (3) II
From the adoption of the Civil War Amendments to the present time. Congressional policies embodied in social-economic legislation; doctrines developed by the Supreme Court; analysis and criticism of chief cases. *Trimble.*

576(176) *Legislation.* (3) II
A functional study of legislative bodies and the process of legislation, covering the organization of legislative assemblies, operation of the committee system, procedures, bill drafting, aids, and controls over legislation. *Jewell.*

761(211) *The Constitution and Civil Rights.* (3) I, S

The American conception of civil rights as expounded by the Constitutional Fathers and as interpreted by the courts. The social, economic, and political aspects and implications of these rights. *Trimble.*

762(213) *Federal Centralization.* (3) II

A study of the shifting of power and control from the states to the federal government as a result of the economic and social development of the country and the resulting alteration of our constitutional system. *Trimble.*

RELATED COURSES IN OTHER DEPARTMENTS

History 561, 562. English Constitutional History.
Law 529. Constitutional Law.

VI. INTERNATIONAL LAW AND DIPLOMACY

265(65) *World Politics.* (3) I, II, S

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. *Drennon.*

501(101) *Latin American Relations.* (3) II, S

The relations between the United States and the Latin American counties, with emphasis on the Monroe Doctrine and Pan-Americanism. *Drennon.*

550(150) *International Law.* (3) II

Sources and sanctions of international law, recognition, intervention, jurisdiction; nationality; protection of citizens abroad; diplomatic intercourse of states; the making, termination, and interpretation of treaties; treatment of aliens. *Vandenbosch.*

566(166) *The United Nations.* (3) II, S

Background of the United Nations. Problems and issues at the San Francisco Conference; analysis of charter and comparison with League of Nations Covenant; nature, structure, and functions. *Vandenbosch.*

774(204) *International Relations and Organization.* (3) II

Social and economic factors leading to the establishment of international administrative organs, the International Labor Organization, the League of Nations; the United Nations and related organizations. *Vandenbosch.*

775(217) *Contemporary American Diplomatic Problems.* (3) I, S

An examination of the more important and basic current problems of American foreign policy. *Vandenbosch.*

RELATED COURSES IN OTHER DEPARTMENTS

Economics 527. International Economics.
History 500, 501. The Diplomacy and Foreign Policy of the United States.
History 583. Europe since 1919.
History 565, 566. The British Empire.
History 586. Russia Since 1900.
History 595, 596. The Far East.
Law 540. Conflict of Laws.

VII. STATE AND LOCAL GOVERNMENT

280(80) *State Government.* (3) I, II, S

A study of the forms and functions of government in operation in the states of the United States. *Reeves.*

540(140) *Rural Local Government.* (3) I, S

A study of the organization and functioning of units of local government, with primary emphasis on government in Kentucky counties. *Vanlandingham.*

552(152) *Municipal Government.* (3) I

An introductory course in the study of the structure and functions of modern city governments with some attention to other forms of local government. *Reeves.*

574(172) *Kentucky Government and Constitution.* (3) II

An intensive study of government and administration in Kentucky. The course is intended primarily for teachers of civics in the secondary schools, and for teachers of government in colleges. *Reeves.*

RELATED COURSES IN OTHER DEPARTMENTS

Economics 524. State and Local Taxation.
Sociology 220. The Community.
Sociology 519. Sociology of Urban Life.

PSYCHOLOGY

The Department's undergraduate program includes courses in general, social, experimental, animal, abnormal, and child psychology; in psychological testing, in the applications of psychology to business and industry, and in theory and techniques of speech and hearing therapy.

The graduate program includes work leading to the master's degree in general psychology and the Ph.D. degree in the fields of clinical, experimental, or personality—social psychology or speech pathology. A program in counseling psychology is operated jointly with the College of Education. In cooperation with the Veterans Administration and the Kentucky Department of Mental Health, the Psychology Department offers graduate training in clinical psychology leading to the Ph.D. degree. Students in these programs usually have part-time assignments in hospitals or clinics in the Veterans Administration or Department of Mental Health. Various other means of securing practical training in clinical psychology are afforded by other hospitals and clinics in the locality.

The Department operates a speech clinic and an audiology clinic. Diagnosis and corrective therapy is provided for children and adults with speech and hearing disorders, and training is offered in the techniques of speech correction and clinical audiology.

Upper Division Requirements

Requirements for a Major. Prerequisite: Psychology 100 and 201, or their equivalent. *Required:* The student may choose as his field of concentration either the Biological or the Social Science group of subjects. In either case 15 of the 40 credits in the field must be courses in Psychology not open to freshmen. In addition, students majoring in the Department must pass a comprehensive examination in the senior year.

FACULTY

James S. Calvin, Richard Blanton, Loren Chapman, Fogle C. Clark, Lucille Clay, Charles F. Diehl, Graham B. Dimmick, John Donahoe, Charles F. Elton, Betsy W. Estes, Logan Gragg, Richard M. Griffith, Julia High, Jessie Irvine, Roger Kirk, Francis Kodman, Thomas Lawson, Joan C. Lee, Albert J. Lott, Parl L. Mellenbruch, Jack J. Monroe, Edward Newbury, Frank A. Pattie, Ruth Parrish, A. D. Roberts, H. E. Roadman, George Rogers, Walter E. Watson, and M. M. White.

Course Descriptions

100(*1) *Introduction to Psychology.* (4) I, II, S
An introduction to the study of problems of human behavior. Among the topics covered are: heredity; development of the individual, motivation, emotion, learning, the senses, perception, and personality. Lecture-Recitation, three hours; lab, two hours. *Staff.*

102(*2) *Applied Psychology.* (3) I, II
Practical application of psychology to business, industry, law, medicine, and everyday living. The student is led to see how he can employ psychology efficiently and how psychology in turn affects him. Prereq: 100. *Mellenbruch.*

200(7) *Psychology of the Child.* (3) I, II, S
The development of behavior from birth to maturity. The problems of conduct arising during infancy, childhood, and adolescence in relation to child care and training. Prereq: 100. *Staff.*

201(8) *Individual Differences.* (3) I, II, S
An introduction to the study of individual differences in relation to measurement in psychology. Effects on behavior of race, sex, heredity, physical constitution, and training will be considered. Prereq: 100. *Newbury.*

395(120a-d) *Independent Work in Psychology.* (2) I, II, S
Designed for advanced students who undertake minor research problems to be conducted in regular consultation with the instructor. Prereq: Major in the Department with a standing of 3.0 in psychology courses. May be repeated to a maximum of 8 credits. *Staff.*

505(108) *Experimental Psychology.* (4) I
An experimental study of the nature of sensation and perception—of the process by which we know the world through our senses; vision; hearing; taste and smell; the skin senses. Prereq: 100. *Donahoe.*

507(113) *Psychology of Learning.* (4) II
An experimental study of the learning process with an analysis of various types of learning—verbal learning, form learning, conditioned-response learning, acquisition of skills, memory, problem solving, thinking. Prereq: 100. *Donahoe.*

509(116) *Animal Behavior.* (4) I
Experimental techniques used in investigations of animal behavior. Topics include: heredity and environemnt, activity, instinct, motivation, learning, sensory discrimination, and personality in subhuman species. Prereq: 100. *Newbury.*

511(125) *Experimental Child Study.* (3) I
An advanced course in the psychology of the normal child. The scientific background of experimental and observational method. Opportunities are provided to work with children. Prereq: Psy. 200. *Estes.*

520(124) *Mental Hygiene.* (3) I, II, S
A general orientation to the subject of mental hygiene, its historical development, its scope and relation to various sciences. The individual and cultural determinants of behavior will be discussed. Prereq: 100. Same as Hygiene 520. *Blanton and Chapman.*

521(114) *Abnormal Psychology.* (3) I, II, S
Disturbed conduct and thinking studied from both the theoretical and the practical points of view. The major psychoses and neuroses are given special consideration. Some opportunity for clinical observation. Prereq: 100. *Pattie.*

522(121) *Counseling Psychology.* (3) II, S
The methods of dealing with problems in counseling psychology in college and high school, including the problems of selection, classification, grading, personal adjustment, motivation, academic, vocational and personal counseling. Prereq: Psy. 520 or 521. *Elton.*

523(141) *Psychology of the Criminal.* (2) I
A study of psychological factors involved in criminality with special emphasis on the emotional and personality patterns underlying the life of the criminal, and the problems brought about by incarceration. Prereq: 100. *Watson.*

530(117) *Biology of Motivation.* (2) I
Fundamental activating and goal-seeking processes of living organisms, biologically considered, including experimental and theoretical studies on such topics as instincts, drives, motives, and taste perferences. Prereq: 100. *Newbury.*

531(115) *Genetic Psychology.* (3) II
AInfluence of hereditary factors in the development of human behavior, a critical survey of the evidence regarding psychological traits such as musical and other special abilities, intelligence, interest, insanity. Prereq: 100. *Newbury.*

535(150 *Psychological Testing.* (3) I, II
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: 100, 201. *Lee and Pattie.*

540(127) *Introduction to Industrial Psychology.* (3) I
Review of the functions and findings of psychology applicable to business and industry. Topics covered are: employment procedures, personnel testing, attitude analysis, motivation, and morale. Prereq: 100. *Mellenbruch.*

541(128) *Psychology of Industrial Personnel Procedure.* (3) II
A practical course for those preparing for personnel administration and for psychology in industry and business. A study is made of the theory and methods of position classification, job analysis, job evaluation, merit rating, supervisor selection and training, and collective bargaining. Prereq: 100. *Mellenbruch.*

544(104) *Social Psychology.* (3) I, II
Description and explanation of social phenomena in terms of the original and acquired reaction systems of the individual. Topics given special consideration: crowds, mob behavior, propaganda, and nationalism. Prereq: 100. Same as Sociology 544. *Lott.*

545(105) *Small Group Behavior.* (3) II
The course will systematically cover theoretical and empirical approaches to small groups. Attention will be given to certain group properties and how these properties affect the behavior of individuals. Prereq: One introductory course in Psychology, one introductory course in Sociology. *Lott.*

550(130a) *Speech Pathology: A Survey.* (3) I, S
An introduction to the nature, causes, and treatment of the major disorders of speech: articulation, stuttering, voice, cleft palate, hearing, cerebral palsy and aphasia. Prereq: Psy. 100. *Diehl.*

551(130b) *Speech Pathology: An Introduction to Therapy.* (3) II, S
Observation and discussion of and limited supervised experience with therapeutic techniques and procedures of speech therapy. Prereq: 550, or concurrent. *Diehl.*

552(131) *Stuttering and Its Correction.* (3) II
The nature, causes, and treatment of stuttering, with emphasis on therapeutic procedures. Prereq: 550. *Diehl.*

553(132) *Speech Mechanisms.* (3) I, II
A detailed investigation of the speech musculature: respiration, phonation, resonation, and articulation. Voice disorders and cleft palate will be given special emphasis. Prereq: 550. *Diehl.*

560(133) *Introduction to Clinical Audiology.* (3) II
Topics covered are the auditory stimulus, air and bone conduction thresholds, masking, speech audiometry and auditory rehabilitation. Prereq: 550. *Kodman.*

561(134) *Audiometry.* (3) S
Methods and theory underlying the evaluation of the hearing of large samples (school children, industry). Study of test instruments, calibration and variables in testing procedures. Essentials of hearing conservation. Prereq: 550 or consent of instructor. *Kodman.*

562(135) *Introduction to Hearing Disorders.* (3) II
Types of hearing loss. Classification of organic hearing disorders. Non-organic hearing disorders. Psychological effects of impaired hearing. Differential diagnosis. Theoretical considerations. Prereq: 560. *Kodman.*

563(136) *Advanced Clinical Methods for the Aurally Handicapped.* (3) S
Principles and methods of speech and hearing therapy including speech reading, auditory training, speech conservation and hearing aid counseling for children and adults. Prereq: 562 or equivalent. *Kodman.*

600(222) *Systems of Psychology and Their History.* (3) I
A survey of the history of Psychology and an intensive study of current systems of psychology. *Pattie.*

601(231a) *Theories of Learning and Perception.* (3) I
An examination of theories of learning and perception and the relation of these theories to psychological research. Prereq: 505, 507 or equivalent and 600. *Clark.*

602(231b) *Theories of Personality.* (3) II
A review of current theories of personality and research in this area. Prereq: 505, 507 or equivalent and 600. *Blanton.*

603(253) *Psychopathology.* (4) II
Problems of differentiation between the various neuroses and psychoses with emphasis upon the affective and conative factors. Prereq: 521, 602. *Dimmick.*

610(215) *Psychometrics.* (3) I
Analysis and interpretation of human measurements. The course deals with the computation and interpretation of simple, partial, and multiple correlations, regression equations, and reliability of measures. *Calvin.*

611(270) *Psychological Research.* (3) II
A study of the application of experimental methods in the major areas of psychology, including sensation and perception, learning, motivation, emotion, and personality. The design of research studies will be emphasized. Prereq: Psy. 505, 507. *Calvin.*

615(211) *Mental Work and Fatigue.* (3) I
A laboratory course. Two hours devoted to experiments and two hours discussion each week. Prereq: An advanced course in Experimental Psychology and Elementary Statistics or their equivalent.

617(212) *The Emotions.* (3) II
An experimental study of feeling and emotion. The following aspects of emotional behavior are considered: the conscious experience of emotion; behavior in emotional situations; physiological changes accompanying emotion. Prereq: Psy. 505 or equivalent.

618 *Experimental Psychopathology.* (4) I
A consideration of the research evidence of several problems in psychopathology. Prereq: One course each in abnormal psychology, statistics, and experimental psychology. For graduate students only. Permission of instructor required. *Chapman.*

630(219) *Clinical Psychology.* (4) I, S
A survey of clinical work on the diagnosis and adjustment of problem children and adults. The course gives practical training and experience with representative cases. *Blanton.*

631(217) *Psychology of Language.* (2) II
A survey of semantic uses of language as related to human behavior. Special attention will be given to language problems of the brain injured: aphasic, cerebral palsied, and mentally disordered. *Diehl.*

640(225) *Practice in Testing: Intelligence Tests.* (3) II
This course provides advanced laboratory practice in the measurement of intelligence by individual techniques. Six hours a week. Prereq: Psy. 535 or equivalent. *Estes.*

641(226) *Psychological Measuring Instruments.* (3) II
A study is made of a wide variety of psychological tests including group intelligence tests, personality and interest inventories, area aptitude tests, and special aptitude tests. Prereq: Psy. 201. *Mellenbruch.*

642(234a) *Principles of Test Construction.* (3) I
A survey of the principles involved in different types of standardized tests, followed by the construction and item analysis of an original test by the student. Prereq: Psy. 610. *Mellenbruch.*

643(234b) *Test Standardization.* (3) II
A continuation of 642. The student will administer a revised form of his preliminary test to an adequate sampling of the appropriate population and will determine its reliability and validity. Prereq: Psy. 642. *Mellenbruch.*

644(251a) *Projective Techniques I.* (3) II, S
Projective tests as instruments in obtaining information concerning thought content, attitudes, and feelings; their use in clinical diagnosis and therapy. Practice in administering, scoring, and interpretation. Prereq: 630 and 640. *Dimmick and Chapman.*

645(251b) *Projective Techniques II.* (3) I
A continuation of Psychology 644. *Dimmick.*

646(237) *Clinical Testing.* (2) II
Practical experience in the application of clinical diagnostic techniques to a variety of pathological subjects. Prereq: Psy. 640. *Watson.*

650(235) *Diagnosis and Counseling in Counseling Psychology.* (3) I, II
An advanced course in diagnosis and application of theories, techniques and tools in counseling psychology. Prereq: A graduate major in psychology or education.

651(252) *Psychotherapy.* (3) II
Theories and techniques of psychotherapeutic procedures including directive, non-directive, and play therapies. Demonstration and supervised experience in these techniques. Prereq: Completion of one year of graduate study in psychology. *Dimmick.*

652(300a) *Medical Therapeutic Procedures.* (1) I
Rationale, procedures, and results of four important psychiatric therapeutic methods: (1) electrical and pharmacological shock, (2) narcohypnosis of drug-analytic methods, (3) malaria and other types of fever therapy, and (4) prefrontal lobotomy.

653(300b) *Medical Therapeutic Procedures.* (1) II
This course presents the history, rationale, indications, procedures, and results of psycho-therapeutic methods.

661(310a-h) *Practicum in Clinical Psychology.* (3) I, II
Supervised case experience in clinical psychology. Students rotate among various institutions, including neuropsychiatric hospitals, institutes for mental defectives, and child guidance clinics. Prereq: Psy. 630, 640. May be repeated to a maximum of 12 credits. *Blanton and Chapman.*

662(312a-h) *Practicum in Child Psychology.* (3) I, II
Nine hours of supervised work each week. May be repeated to a maximum of 12 credits. *Dimmick and Estes.*

663(313a-h) *Practicum in Industrial Psychology.* (3) I, II, S
Nine hours of supervised work each week. May be repeated to a maximum of 12 credits. *Mellenbruch.*

664(315a,b) *Practicum in Speech Therapy.* (3) I, II, S
Practical case work in speech therapy in speech clinic, hospitals, and public schools. Training in diagnostic examination, case history methods, and group therapy. Prereq: 550 and 551. May be repeated once. *Diehl.*

665(311a-h) *Practicum in Counseling Psychology.* (3) I, II
Supervised experience in application of diagnostic and interviewing techniques in a counseling service. Same as Education 665. May be repeated to a maximum of 12 credits. *Rogers.*

768 *Residence Credit for the Master's Degree.* (0)
May be repeated once.

769 *Residence Credit for the Doctor's Degree.* (0)
May be repeated indefinitely.

770(201a-d) *Seminar in Psychology I.* (0) I
One two-hour discussion each week of some current systematic concepts and of research under way by graduate students and members of the staff. May be repeated indefinitely. *Staff.*

771(201e-m) *Seminar in Psychology II.* (0) II
A continuation of 770. May be repeated indefinitely. *Staff.*

779(205a,b) *Seminar in Social Psychology.* (3) II
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. Same as Sociology 779. May be repeated to a maximum of 6 credits. *Lott, and White.*

780(203a-h) *Problems in Psychology.* (2) I, II, S
Shorter research problems are registered under this number. A minimum of six hours a week is required in consultation with the instructor. May be repeated to a maximum of 12 credits. *Staff.*

790(210a-h) *Research in Psychology.* (3) I, II, S
Research or thesis work may be registered under this number. A minimum of nine hours a week is required on research conducted in consultation with the instructor. May be repeated to a maximum of 12 credits. *Staff.*

RADIO, TELEVISION & FILMS

The Department of Radio, Television and Films provides active on-the-air experience as well as a rounded educational curriculum for the student who aspires to a position in the radio-television profession. Courses and actual experience also are available for students majoring in other fields who want to learn something about broadcasting . . . and practically every field of endeavor today utilizes this medium in one way or another. Finally, provision is made for contributing to the knowledge of the student seeking a balanced liberal education.

The radio facilities, located on the top floor of McVey Hall, are among the most extensive of college operations in the country. They include five broadcasting studios with control rooms, record library, reference library, staff room, sound effects room, master control, transmitter room, and a full complement of professional broadcasting equipment. Students broadcast over the facilities of the University's own FM station, WBKY, which is operated by the Radio, Television and Films Department and covers a listening area of 40 miles around Lexington. In addition, many programs produced by students of the department go out over regular commercial stations throughout the state.

Television training, both classroom and on-the-air, is an integral part of the curriculum. Each summer a selected group of Radio majors are permitted to enroll in an eight-weeks' internship in television at WHAS-TV, Louisville, for which credit is given under Radio 525. Training in this special television course includes work in film editing, script-writing, and floor-directing.

Motion picture photography is a course and an activity of the department. Motion picture films, sound and silent, are produced for other departments of the University . . . for research, for public relations, for specialized training. Complete 16 mm equipment includes cameras, sound and lighting systems, an editing room and a complete motion picture processing center.

COURSES FOR MAJORING IN RADIO, TELEVISION AND FILMS

Open to Freshmen

	Crs.
Radio 101, 105 (1a, b), Broadcasting Today	6

Open to Sophomores

Radio 201 (2a), Radio Announcing	2
Radio 205, Studio Operations	2

Open to Juniors and Seniors

Radio 501 (101), Radio Regulations	2
Radio 505 (102), Advanced Radio Announcing	2
Radio 515 (105a), Radio Script Writing	2
Radio 510 (103), Radio and Television Advertising	2
Radio 520 (106a), Radio Production	2
Radio 525 (106b), Radio Production	2
Radio 530 (110), Pro-Seminar in Radio	1
Radio 535 (111), Cinematography	2

Note: Radio majors must take 101 and 105 as prerequisites for all other Radio courses.

Upper Division Requirements

Requirements in Field of Concentration: Forty semester hours in courses not open to freshmen, including the major work, in the field of Literature, Philosophy, and the Arts.

Requirements for a Major. Prerequisites: Radio 101, 105. *Required:* Radio 201, 205, 501, 505, 510, 515, 520, 530, and 535. Comprehensive examination.

FACULTY

O. Leonard Press, Stuart W. Hallock, Elizabeth E. Taylor, Ronald Russell-Tutty, and Richard F. Foy.

Course Descriptions

101(*1a) *Broadcasting Today.* (3) I, S
A familiarization of the set-ups of radio-TV stations and networks, their relationship with the federal body regulating them, and many of the various tools used by them in presenting radio programs. Lecture and recitation, three hours.

105(*1b) *Broadcasting Today.* (3) II
Radio and television in public service; broadcasts to schools; building the radio schedule; serving the sponsor; listener problems; the newer radio arts (FM, Facsimile, Television). Lecture and recitation, three hours.

201(2a) *Radio Announcing.* (2) I, II, S
The study and practice of radio announcing, with emphasis on studio and microphone techniques, pronunciation, inflection. Workshop on WBKY. Lecture and recitation, one hour; lab, two hours. No prerequisite.

205(3) *Studio Operations.* (2) II
Basic study of function of broadcasting equipment, and practice in fundamental operating techniques. Lecture and recitation, one hour; lab, two hours. No prerequisite.

501(101) *Radio Regulations.* (2) I
A study of the Rules and Regulations of the Federal Communications Commission; music licensing regulations; libel and slander; copyrights as applied to broadcasting. Lecture and recitation, two hours. No prerequisite.

505(102) *Advanced Radio Announcing.* (2) II
The study of news commentating, public events, man-on-the-street, the interview, round table participation and moderation, and concert announcing. Workshop on WBKY. Lecture and recitation, one hour; lab, two hours. Prereq: 201.

510(103) *Radio and Television Advertising.* (2) II
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. Lecture and recitation, two hours.

515(105a) *Radio Script Writing.* (2) I, S
Practice in script writing in the various short forms; commercials, interviews, talks, and development of ideas into drama, documentary, dramatic narrative, and other. Lecture and recitation, one hour; lab, two hours. No prerequisite.

520(106a) *Radio Production.* (2) I, S
The tools of Production Directing. General procedures, application of procedure, including program building, studio problems and projects; casting, rehearsing and acting, on-the-air practice. Lecture and recitation, one hour; lab, two hours. No prerequisite.

525(106b) *Radio Production.* (2) II, S
A continuation of 520. Advanced practice in radio production involving individual research on assigned projects for radio broadcast. Conferences and lab. Prereq: Radio 515 and 520 or consent of instructor.

530(110) *Pro-Seminar in Radio.* (1) II
Discussion and reports of current broadcasting highlights and problems. Required of all seniors in preparation for the comprehensive examination. Lecture and recitation, one hour.

535(111) *Cinematography.* (2) I
The art of making films for television, including the mechanics of motion picture photography. A study of equipment, lenses, lighting, color, editing and set design. Lecture, two hours; lab, two hours. Prereq: Consent of instructor.

SOCIAL WORK

Social Work consists of a network of services designed to meet a wide range of human needs. A career in social work offers a choice of interesting and varied activities, the challenge of community leadership, and the satisfaction of service to others as well as the security of an expanding profession.

The Department of Social Work is a member of the national Council on Social Work Education. Its curriculum, based upon the national standards in the field, leads to a degree of Bachelor of Arts with a major in Social Work. Students, upon its completion, are encouraged to continue their technical preparation in graduate professional schools responsible positions in the public social services, group work of social work. However, our graduates are currently holding activities, and in other social agencies at the level for which they are qualified. Students majoring in social work are guided in the selection of courses giving a broad liberal arts background, an understanding of human behavior, and the social, economic, and political forces shaping our society.

Courses in the Department cover the organization, operation, and history of public and private welfare services, including the developing Social Security program. Principles of relief and rehabilitation in family and children's work and the growing range of group work and leisure time activities are studied, as well as community organization and research in social work. Personal experience with agency programs in the field is planned for each student.

Early consultation with department members is urged for students considering a major in this field. Students from other departments are eligible to take many of the courses offered; SW 124, 222, and 530 are especially recommended for all students interested in social welfare.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of social studies, including the major work in the department.

Requirements for a Major. Prerequisite: Social Work 124 and 222. A basic minimum of twenty credits in social work including 500, 513, 516, 530 and 540 plus additional courses depending on the student's area of specialization, including specified courses in sociology, psychology, hygiene and economics. Tutorial and comprehensive examination in the senior year.

FACULTY

Harold E. Wetzel, Irving A. Gail, Constance P. Wilson, and Beulah Theobald.

Course Descriptions

124(*24) *Orientation to Social Welfare Practice.* (3) I, II
An introduction to the organization and function of selected social work agencies in the community. Lectures, discussions, and observational visits. *Wilson.*

222(22) *Field of Social Work.* (3) I, II, S
Function, method, and philosophy of contemporary social work. The divisions of the field (case work, group work, community organization, institutional work, social action and research) and professional status of social work will be considered. *Wetzel.*

327(127a) *Tutorial Work in Social Work.* (2) I
Wetzel.

328(127b) *Tutorial Work in Social Work.* (2) II
For senior majors in the department. *Wetzel.*

344(144a) *Field Participation in Group Work Programs.* (2) I
Wilson.

345(144b) *Field Participation in Group Work Programs.* (2) II
Supervised experience in the practice of group work in connection with a program in a local group work agency. For seniors specializing in group work. Prereq: SW 540, and consent of the instructor. *Wilson.*

346(146a) *Field Participation in Case Work. Programs.* (2) I
Wilson.

347(146b) *Field Participation in Case Work. Programs.* (2) II
Experience under supervision in a local case work setting. For senior majors in case work. Prereq or concur: SW 513, and consent of the instructor. *Wilson.*

348(131a) *Field Practice in Community Organization.* (2) I
Wetzel.

349(131b) *Field Practice in Community Organization.* (2) II
Experience, under supervision in a local community welfare setting. For senior majors in community organization. Prereq: or concur: SW 530 and consent of the instructor. *Wetzel.*

395(111a-d) *Independent Work.*
(1) May be repeated to four credits. I, II, S
Conferences, assigned readings, reports on minor research problems. Prereq: Major and a standing of 3.0 in the department. *Staff.*

500(100) *Public Welfare Administration.* (3) II
Philosophy, background, and methods of tax-supported social work. Interrelationship of federal, state and local services; standards and supervision as influenced by federal security legislation. Prereq: two courses in social work. *Wetzel.*

505(105) *Child Welfare Services.* 2-3) I, S
A study of community and national programs for child care and protection, including aid to dependent children and other social security services. *Theobald.*

510(110) *Psychiatric Information for Social Workers.* (2) I
An analysis of personality development and behavior patterns with special reference to psychiatric interpretations and their implications for social case work. For majors in the department. Prereq: two courses in social work. *Gail.*

513(113) *Introduction to Social Case Work.* (2) II
An introductory course in the generic principles of social case work. Discussions based on selected readings and case records. For majors in the department. Prereq: two courses in social work. *Theobald.*

516(116) *Social Work Research and Statistics.* (3) I
A consideration of statistical and other types of research in social work problems with illustrations drawn from current studies of government and private welfare agencies. Prereq: two courses in social work. *Wetzel.*

530(130a) *Community Organization for Social Welfare.* (3) II
Methods and techniques of social welfare planning. Analysis of needs and resources, coordination of agencies, financing and developing chest and council programs and interpretation of social work. *Wilson.*

531(130b) *Community Organization for Social Welfare.* (3) II
A continuation of 530 with emphasis on the organization and function of social welfare agencies at the national and international level. Prereq: 530 or permission of the instructor. *Wetzel.*

540(140a) *Principles of Social Group Work.* (3) I, II
A critical study of the theories and practices of social group work with reference to the work of public and private agencies in this field. *Wilson.*

541(140b) *Administration and Supervision of Group Work Agency Programs.* (3) II
The group work process as applied to agency administration, supervision of staff and volunteers, statistical and process recording, evaluation of program, personnel and committee relationships. Prereq: 540 or consent of the instructor. *Wilson.*

551(151) *Public Assistance Programs.* (3) II
The current function of public assistance upon the federal, state, and local level with emphasis on the public assistance provisions of the Social Security Act, general relief, and work relief policies. *Wetzel.*

617(217) *Generic Social Case Work.* (2) I
An introductory course for graduate students with emphasis upon the application of case work principles in problems of increasing complexity. Prereq: SW 513, or special permission. *Theobald.*

625(225) *Social Insurance.* (2) II
A study of social insurance in Europe and the United States. Emphasis will be given to the problems in administration, financing, and coverage. *Wetzel.*

SOCIOLOGY

The courses and other training offered in Sociology supplement the work of the allied social sciences and have an important part in a broad liberal education. Basic courses dealing with the fundamental processes of group relationships, social organization, and social behavior are the foundation for more advanced courses in social analysis and research. Training is offered in recognized specialties, including criminology, the family, community organization, medical sociology, demography, intergroup relations, social psychology, and rural sociology.

An undergraduate major in Sociology is particularly useful to persons planning to enter such fields as law, social work, industrial relations, the ministry, planning and zoning, high school social science teaching, and various positions in public and governmental agencies. Every effort is made to guide students toward a broad training in the social sciences and general education. Persons who aspire to professional positions in Sociology and applied fields may expect to take post-graduate training. The graduate training program in Sociology and Rural Sociology offers the M.A. and Ph.D. degrees and prepares students for college teaching, social science analyst positions in government agencies and research organizations, and positions in community development, human relations agencies, criminology and delinquency control, and the like.

The department's Bureau of Community Service conducts research and offers advisory service and survey assistance to local communities of the state. Through the activities of the Bureau students are provided field experience in research. The Social Research Service is the major research arm of the Department of Sociology and conducts a wide variety of sociological studies. Through the activities of both agencies, students are provided opportunities for research experience.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Social Studies, including the major work.

Requirements for a Major. Prerequisite :Sociology 151 and 153 or 154, or equivalent. *Required:* Minimum of 15 credits of advanced work in Sociology, including Sociology 240, 265, 551, 571, 581 and a course in introductory statistics. To be considered for graduation with honors, majors must take Independent Work and must pass a comprehensive examination.

FACULTY

A. Lee Coleman, John C. Ball, Harry Best, Daniel Claster, John T. Flint, Thomas R. Ford, James W. Gladden, George A. Hillery, Sidney Kaplan, Jiri T. Kolaja, John Mabry, Robert Straus, Willis A. Sutton, Jr., and Grant Youmans.

Course Descriptions

(For course descriptions of R.S. courses, see College of Agriculture and Home Economics, Department of Rural Sociology.)

I. INTRODUCTORY AND GENERAL SOCIOLOGY

151(*4) *Introductory Sociology.* (3) I, II
Introduction to the concepts and methods of sociology. Investigation of socialization, group processes, social institutions and social change. Meets Social Studies requirements. *Staff.*

152(*2) *Modern Social Problems.* (3) I, II
An introductory course involving an examination of selected social problems of the present day. Topics discussed are family, poverty, crime, race, housing, population, industrial development, etc. Not open to seniors in Arts and Sciences College. *Flint.*

153(*3a) *Societies Around the World.* (3) I, II, S
Meets Social Studies requirements. Comparative study of the Eskimo, Navajo, and Baganda as preliterate, primitive societies in difficult environments. (Same as Anthropology and Geography 153.) *Staff.*

154(*3b) *Societies Around the World.* (3) I, II, S
Meets Social Studies requirements. Comparative study of the Chinese Peasant, Cotton South, and British Midlands as more highly developed societies living in more moderate environments. (Same as Geography 154.) *Staff.*

R.S.156(10) *Introduction to Rural Sociology.* (3) I, II
Schwarzweller.

265(65) *History of Sociology.* (3) II
A survey of the development of the science of man in society in the Western world during the last four centuries, with emphasis on the growth of sociology as a discipline. *Kolaja.*

395(114a-d) *Independent Work.* (1) I, II, S
Study of some special topic by duly authorized students. May be repeated 3 times for a total of 4 credits. Prereq: Major and a standing of 3.0 in the department. *Staff.*

551(106) *Principles of Sociology.* (3) I, S
A survey of the basic elements of culture, collective behavior, communities, social institutions, and social change. Basic concepts required for the analysis of sociological data are systematically considered. *Staff.*

561(107) *Comparative Sociology.* (3) I
A study of the dynamics of culture as shown in a primitive, a peasant, and a modern culture system.

R.S.565(190a-c) *Special Problems in Rural Life.* (2) I, II, S
Staff.

768(500) *Residence Credit for the Master's Degree.* (0) I, II, S
May be repeated once. *Staff.*

769(500) *Residence Credit for the Doctor's Degree.* (0) I, II, S
May be repeated indefinitely. *Staff.*

II. THEORY AND METHODOLOGY

571(122) *Contemporary Sociological Theory.* (3) II
A study of the leading developments in sociological theory and methodology from Comte to the present time. Prereq: two sociology courses. *Staff.*

581(124) *Techniques of Social Investigation.* (3) I
A study of the practical applications of sociology in organizing, conducting, and interpreting social surveys and other forms of sociological research. Prereq: one sociology course. *Ball.*

651(225) *Systematic Sociology.* (3)
An intensive study of certain selected sociological theorists such as Weber, Durkheim, Simmel, Pareto, and others. *Kolaja.*

681(208) *Research Design and Analysis.* (3) II
Problem definition and delimitation, design appropriate to problem and data, and selection of appropriate analysis techniques; critical examination of representative research studies and students' designs. Prereq: Elementary Statistics and Sociology 581 or equivalents. *Ball.*

770(201a,b) *Sociology Seminar.* (3) I, II, S
Consideration mainly of methods of research and of current sociological literature. May be repeated to a maximum of 6 credits. *Flint and Kolaja.*

772(203a,b) *Topical Seminar in Sociology.* (3) I, II, S
Advanced study of topics of current importance in sociology, such as structural strain and social change, game theory, decision processes, communication and power structures. May be repeated to a maximum of 6 credits. Prereq: At least 9 hours in the social sciences, preferably in sociology. *Staff.*

R.S.773(250a,b) *Topical Seminar.* (3) I, II, S
Staff.

780(202a-j) *Special Problems in Sociology.* (1) I, II, S
May be repeated to a maximum of 10 hours. *Staff.*

R.S.790(200a-c) *Research in Rural Sociology.* (2) I, II, S
Staff.

III. SOCIAL ORGANIZATION AND PROCESS

220(40) *The Community.* (3) I, II
Social organization and process in modern communities; social techniques of community improvement. *Sutton and Kolaja.*

501(121) *Population Analysis.* (3) II
Distribution and composition, fertility and mortality, migration, ecological relationships and growth of population. *Ford.*

503(127) *Social Classes.* (3) I
A systematic treatment of the factors underlying social differentiation and stratification, with particular attention to class and caste; social mobility in American society. Prereq: one sociology course. *Kolaja.*

509(109a) *The Family.* (3) I, II, S
A study of the institutions of marriage and the family and an analysis of the various factors and forces at work in our time which are affecting the individual marital relationship. Prereq: one sociology course. *Gladden.*

510(109b) *The Family.* (3) II, S
A study of the various social situations in which children grow to early adolescence with emphasis on the primary group relationships in home, neighborhood, play group, and school. Prereq: Sociology 509 or permission of instructor. *Gladden.*

R.S.513(160) *Rural Community Analysis.* (3) I
Ford.

R.S.514(125) *Rural Movements and Social Policy.* (3)
Brown.

R.S.517(180) *Advanced Rural Sociology.* (3) II
Staff.

519(170) *Sociology of Urban Life.* (3)
This course is a study of the sociology of city life. The major emphasis is upon the ecological and social characteristics of urban life in contrast to rural community life. Prereq: an introductory sociology course or approval of instructor. *Sutton.*

520(128) *The Sociology of the South.* (3)
Analysis of the population and social organization of the south and of the factors influencing the development and utilization of the human resources of the region. Prereq: senior standing of social science majors; others by arrangement. *Staff.*

521(126) *Industrial Sociology.* (3)
A sociological analysis of the division of labor, the characteristics of occupational groupings; principal socio-economic movements, and group relationships in modern industry. Prereq: one sociology and one economics course. *Kolaja.*

525(129) *Religion and Culture.* (3) I
An analysis of the structure, function, and process of religion, using the development of the Hebrew and Christian religions to show social origins of the two faiths and the effect of cultural change on their growth. *Gladden.*

527(110) *Health and Society.* (3) II
Historical and cross-cultural analysis of human behavior in illness; medicine as a behavior system. Relates components of contemporary medicine to pertinent concepts of social process. Prereq: Permission of instructor. *Straus.*

531(131) *Sociological Analysis of American Society.* (3)
A study of the contemporary U.S.A. with emphasis upon the changing relations among various aspects of American society and culture. Prereq: one sociology course. *Staff.*

532(132a,b) *Intergroup Relations.* (3) S
Analysis of relationships between groups which differ in religious, ethnic, or sociocultural backgrounds; the development of educational and social techniques for reduction of tensions. (Same as Education 532.) May be repeated to a maximum of 6 credits. *Staff.*

536(102) *Social Pathology.* (3) II
A systematic examination of the various types of social disorganization, with particular emphasis upon the sociological explanation of underlying factors. Prereq: one sociology course. *Ball.*

537(103) *Criminology.* (3) I, II
A study of general conditions as to crime and delinquency, of measures of punishment and reform of offenders, of criminal procedure and its possible reform, and of measures for the prevention of crime. *Kaplan.*

538(108) *Juvenile Delinquency.* (3) I
Study of the extent, ecological distribution, and etiology of delinquency in contemporary American society, including a critical examination of trends and methods of treatment. *Ball.*

R.S.615(230) *Rural-Urban Relations.* (3)
Brown.

625(228) *Sociology of Religion.* (3)
Critical study of reciprocal relation of religion and culture, the function of religion in society, social sources of religious concepts, religious differentiation and institutionalization, the problem of church and state. *Flint and Gladden.*

632(224) *Minority Groups.* (3) I
A sociological scheme of analysis is applied to the special problems of adjustment arising from ethnic group relations and culture contacts. *Coleman.*

661(230) *Educational Sociology.* (3) II, S
A course in the sociological foundations of education. (Same as Education 661.) *Hartford.*

750(260) *Problems in Educational Sociology.* (3) S
An advanced course in the application of sociological findings to education, including consideration of southern regional problems and potentialities. Prereq: 12 semester hours of graduate work including Education 661 or equivalent. (Same as Education 750.) *Hartford...*

775(209) *Seminar in the Family.* (2)
A seminar for advanced students interested in family research, family counseling, or dealing with family relationships in some other professional capacity. *Gladden.*

R.S.776(210) *Seminar in Rural Organization.* (3)
Staff.

IV. PERSONALITY AND THE GROUP

240(25) *Collective Behavior.* (3) I, II
A sociological interpretation of group life and of certain aspects of social life, including the building up or shaping of public opinion or social control. *Kaplan and Claster.*

526(142) *Culture and Personality.* (3)
The cultural basis of personality. Personal character considered as the result of culturally fostered patterns. The ideal personality in several selected societies. Lectures, three hours. (Same as Anthropology 526.) *Essene.*

R.S.541(115) *Group Organization and Leadership.* (3) II
Coughenour.

542(134) *Human Relations in Administration.* (3)
Analysis of the role of social structure, leadership, authority, power, and psychological stress in the administration of large-scale enterprises. *Staff.*

544(104) *Social Psychology.* (3)
Description and explanation of social phenomena in terms of the original and acquired reaction systems of the individual. Topics given special consideration: crowds, mob behavior, propaganda, and nationalism. Prereq: Psychology 100. (Same as Psychology 544.) *Lott.*

546(112) *Social Factors in Mental Health.* (3) I
The significance of social and cultural factors in the recognition, course, and management of mental health problems; social organization of the mental hospital and cultural alternatives to hospitalization. Prereq: prior course work in sociology, anthropology, or psychology or permission of instructor. *Mabry.*

547(113) *The Sociology of Aging.* (3)
Analysis of demographic and institutional patterns, social roles, psychological and physiological changes, and rehabilitative and educational programs associated with aging. *Staff.*

R.S.778(220) *Seminar in Rural Attitudes.* (3)
Staff.

779(205a,b) *Seminar in Social Psychology.* (3) II
Each semester some topic in the field of social psychology, such attitudes and beliefs, structure and function of social groups, social determinants of behavior, leadership, and morale will be studied intensively. (Same as Psychology 779.) May be repeated to a maximum of 6 credits. *Claster and Lott.*

ZOOLOGY

Courses given in this Department are designed to offer the general student opportunity to obtain a cultural background in this field of biology and to give the student interested in this field as a livelihood the proper basic principles and training.

Students interested in careers in medicine, medical technology, wild life management, conservation, governmental work, research, teaching at the elementary, high school, and college level, as well as in many other areas, will find zoology courses which offer them the necessary training.

Courses are offered which lead to a major in zoology with emphasis in such sub-divisions of zoology as ecology, entomology, evolution, genetics, limnology, parasitology, embryology and vertebrate zoology. The proper combination of these courses enables a student to obtain the A.B. or B.S. degree with zoology as a major. The department also offers the M.S. and the M.A. degree in these various fields of zoology.

The teaching and research staff of the Department of Zoology is at the service of those students interested in careers in zoology and urges that such students confer early with the department head or another staff member in regard to training and opportunities for such careers.

Upper Division Requirements

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Biological Sciences, including the major.

Requirements for a Major. Prerequisites: Junior standing; Zoology, 6 credits in biology. *Required: Zoology* 200, 201, 500, 501, 502, 504, 506, 507, 508, 509 (2 credits); a minimum of 15 credits of advanced work; passing a comprehensive examination before graduation.

Courses Recommended for Special Curricula: Medical Sciences: 100, 200, 513, 530, 506, 504, 536, 538, 532. Teacher Training: 100, 202, 200, 518, 504, 508, 502. Pre-Conservation Training: 100, 204, 518, 534, 502, 524, 526, 522, 520.

FACULTY

John M. Carpenter, Roger W. Barbour, Alfred C. Brauer, James M. Edney, Robert A. Kuehne, and John A. Wallwork.

Course Descriptions

100(*1) *General Zoology.* (4) I, II, S
General studies on cell structure, division, gametogenesis, ontogeny, histology, physiology, homology, ecology, taxonomy, heredity, and phylogeny. Laboratory studies of typical animal types. Two lectures and two lab periods per week for one semester. *Staff.*

200(27) *Comparative Anatomy.* (4) I
Systematic consideration of chordates with emphasis on vertebrates. Comparative studies of chordate morphology, phylogeny, ontogeny, organology, physiology, and homology. Laboratory studies on typical prochordates, cyclostomes, and gnathostomes, and the cat. Prereq: Zoology 100. *Edney.*

202(*11) *Nature Study.* (4) II, S
Get acquainted studies of animals and plants and their relationships to human culture. Elementary materials for use of schools, Nature Clubs, Scouts, etc. Lectures, lab, field work. *Kuehne.*

204(21) *Natural History of the Vertebrates.* (4) I, II, S
An introduction to the natural history and taxonomy of the fishes, amphibians, reptiles, birds, and mammals. Two lectures, two field or lab exercises per week. Prereq: Zoology. 100. *Barbour.*

300(120) *Animal Cytology.* (4) I
A study of recent concepts of the organization of protoplasm and correlated activities in animal cells. Two lectures, four hours lab. Prereq: Zoology 100, 513, 515, or satisfactory equivalents.

500(157) *Invertebrate Anatomy.* (4) I
An advanced course on the comparative anatomy of invertebrate animals, with special attention paid to phylogeny, organology, and taxonomy. Prereq: Zoology 100. *Brauer.*

502(109 *Animal Ecology.* (3) I
An analysis of the environment and the respective adjustments of animal life to the environmental complex. Habitats, food, respiratory needs and mechanisms, life-histories, animal associations, adaptations. Prereq: Zoology 204 or consent of instructor. *Kuehne.*

504(107) *Heredity.* (3) I, S
Lectures and recitations on principles of heredity, variation and eugenics. Prereq: Zoology 100. *Carpenter.*

506(106) *Embryology.* (4) I, II, S
A general course in ontogeny. Studies in maturation, fertilization, cleavage, organogenesis and anomalies of development with laboratory work based on the chick and pig. Prereq: Zoology 100. *Brauer.*

508(108) *Evolution.* (3) II, S
An advanced lecture course on some of the fundamental principles of organic evolution. Prereq: Zoology 100. *Carpenter.*

509(114a-f) *Zoology Seminar.* (1) I, II
Reports on: technical papers in scientific journals, book reviews, recent developments in Zoology, scientific meetings. Required of all majors in Zoology. May be treated to a maximum of 4 credits. *Staff.*

510(110a-f) *Independent Work.* (3) I, II, S
Special problems for individual students who are capable of pursuing independent investigations. May be repeated to a maximum of 12 credits Prereq: Major and a standing of 3.0 in the department. *Staff.*

511(126) *Speciation.* (3) I, II
Mechanisms of Evolution. A discussion of modern theories and problems concerning the formation of animal and plant species. Three hours per week. Prereq: Zoology 508. *Carpenter.*

512(166) *Physiology of Development.* (3) I
A review of theories of differentiation and a consideration of the genetic environment, and correlative physiological factors in differentiation. Lectures, assigned readings and literature reports. Prereq: Zoology 200 or 506. *Brauer.*

513(101) *General Histology.* (4) I, II, S
A course in the technique of preparation of animal tissues for microscopic study. Practice in imbedding, staining, sectioning, mounting, and identification of tissues. Prereq: Zoology 100. *Brauer.*

515(104) *Special Histology.* (3) I, II, S
Histology of the organs. A continuation of Zoology 513 in which the studies are based on the organs. Prereq: Zoology 513. *Brauer.*

517(111) *Advanced Microtechnique.* (3) I, II, S
Special methods in histological technique for students of Zoology, Pathology or Anatomy. Prereq: Zoology 513, 518. *Brauer.*

518(102) *Ornithology.* (4) II, S
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; lab studies: Prereq: Zoology 100. *Barbour.*

520(141) *Mammalogy.* (4) I
Designed to acquaint the student with the mammals of eastern North America, their classification, adaptations and natural history. Lecture, two hours; lab, four hours per week. Prereq: Zoology 100. *Barbour.*

522(140) *Herpetology.* (4) II
Designed to acquaint the student with the amphibians and reptiles of eastern North America, their classification, adaptations and natural history. Lecture, two hours; lab, four hours per week. Prereq: Zoology 100. *Barbour.*

524(112) *Ichthyology.* (4) I
Taxonomy of the fishes with life-histories and biology of types. Fish structure and physiology, habits, ecology. Fish-culture and economic Ichthyology; care of fishes, aquaria, etc. Elements of fresh-water fishery administration. Prereq: Zoology 100. *Kuehne.*

526(130) *Limnology.* (4) II
Detailed analysis of fresh water environment with special emphasis upon biological productivity. Two hours lecture, four hours field and laboratory. Prereq: Zoology 100, Chem. 110, 112; Physics 211, 213; consent of instructor. *Kuehne.*

528(103a) *General Entomology.* (3) I
A beginning course in the study of this greatest group of the Animal Kingdom. Anatomy, morphology, adaptations, life-histories of representatives of the most important orders of insects and other arthropod classes. Prereq: Zoology 100.

530(103b) *General Entomology.* (3) II
Continuation of 528. More detailed study of the orders and many representative families. Methods of making and preserving insect collections. Identification; life-history, ecology of many insect species. Making an individual collection. Prereq: Zoology 528.

532(123) *Medical Entomology.* (4) I, S
Study of Arthroped vectors of disease. Structure, collection, identification, control measures and life history studies. Given alternate years. Prereq: Zoology 534 or consent of instructor. *Edney.*

534(105) *Parasitology.* (4) I, S
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: Zoology 100. *Edney.*

536(117) *Medical Protozoology.* (4) II, S
The etiology, epidemiology, pathology, diagnosis, prophylaxis and control of parasitic protozoa, with special emphasis on life cycles and detailed studies of the protozoan parasites of man. Given alternate years. Prereq: Zoology 534 or consent of instructor. *Edney.*

538(119) *Helminthology.* (4) II, S
The etiology, epidemiology, pathology, diagnosis, prophylaxis and control of trematode, cestode and nematode parasites of vertebrates, with special emphasis on those of veterinary and medical importance. Given alternate years. Prereq: Zoology 534 or consent of instructor. *Edney.*

COURSES PRIMARILY FOR GRADUATE STUDENTS

Qualified students may elect work in any special field listed below. Independent work under direction, with conferences on objectives, principles, materials, methods, analysis of data and conclusions. Progress reports required at intervals.

768(500) *Residence Credit for Master's Degree.* (0)
May be repeated once. *Staff.*

791(216a-d) *Problems in Speciation.* (3) I, II, S
May be repeated to a maximum of 12 credits. *Carpenter.*

792(209a-d) *Problems in Limnology and Ecology.* (3) I, II, S
May be repeated to a maximum of 12 credits. *Kuehne.*

793(221a-d) *Problems in Herpetology and Mammalogy.* (3) I, II, S
May be repeated to a maximum of 12 credits. *Barbour.*

794(205a-d) *Problems in Parasitology.* (3) I, II, S
May be repeated to a maximum of 12 credits. *Edney.*

795(212a-d) *Problems in Ichthyology.* (3) I, II, S
May be repeated to a maximum of 12 credits. *Staff.*

796(206a-d) *Problems in Embryology and Histology.* (3) I, II, S
May be repeated to a maximum of 12 credits. *Brauer.*

798(202a-d) *Problems in Ornithology.* (3) I, II, S
May be repeated to a maximum of 12 credits. *Barbour.*

799(220a-d) *Problems in Cytology.* (3) I, II, S
May be repeated to a maximum of 12 credits.

SCHOOL OF JOURNALISM

The School of Journalism is one of the 45 members of The American Association of Schools and Departments of Journalism. Since 1931 the school has been accredited and has been a member of the Association which is composed of the leading schools of journalism in the United States.

General reference materials, representative daily newspapers, and recognized trade journals of the publishing industry are available in the school. In the general library are hundreds of volumes dealing with all phases of the communications industry.

A daily 10-hour teletype service of the Associated Press supplies latest news dispatches for students and provides laboratory materials for news editing and radio news writing. The school, which supervises student publication activities, has standard equipment to print a modern community newspaper and to provide high-grade commercial job printing for the campus. In the extensive plant is a type laboratory for instruction in typography, make-up, photography, and the mechanics of publishing and advertising.

Various campus-based publications, such as the Kentucky Kernel (campus daily newspaper), The Kentuckian (student yearbook), The Kentucky Press (official publication of The Kentucky Press Association, which maintains its state headquarters in the school), and The KHSPA News (bulletin of the Kentucky High School Press Association), present opportunities for student practice in the publication field.

Upper division students are active in the free lance field, making sales to a wide variety of publications throughout the nation.

THE DEGREE OF A.B. IN JOURNALISM

The professional curriculum leading to the degree of Bachelor of Arts in Journalism is divided into four sequences to facilitate specialization by the student in the junior and senior years. These sequences are: The General Editorial, The Community-Publishing, Advertising, and Radio-Journalism. All sequences, except Advertising, are fully accredited by the American Council on Education for Journalism. All sequences, providing a wide range of elective courses to be chosen under the guidance of a professional adviser, have as their aim a liberal education joined with professional training for men and women seeking careers in the various phases of journalism, advertising, publishing, and radio-journalism.

Pre-Journalism Requirements: Satisfaction of lower division requirements of the College of Arts and Sciences, and Journalism 203(50), Principles of News Writing, or its equivalent.

Core curriculum for all A.B.J. sequences for Junior and Senior years:

Journalism 241-246 (90a-f)	Communications Practicum (4)
Journalism 501 (100)	News Reporting (3)
Journalism 503 (101)	Copyreading and Editing (3)
Journalism 561 (114)	Newspaper and Magazine Advertising (3)

GENERAL EDITORIAL SEQUENCE

Election of a minimum of eight credit hours from the following courses:

Journalism 531 (105)	(2)	Journalism 535 (108)	(3)
Journalism 533 (106)	(3)	Journalism 507 or 509 (123 or 125)	(3)
Journalism 511 (107)	(2)	Journalism 539 (127)	(3)

Election of a minimum of eight credit hours in advanced English courses.

Election of a minimum of eight credit hours in advanced Social Studies courses.

Minimum required for the degree, 128 credit hours, exclusive of physical education.

COMMUNITY-PUBLISHING SEQUENCE

Election of a minimum of eight credit hours from the following courses:

Journalism 571 (102)	(3)	Journalism 533 (106)	(3)
Journalism 573 (103)	(3)	Journalism 575 (109)	(2)
Journalism 531 (105)	(2)	Journalism 507 (123)	(3)
Journalism 511 (107)	(2)	Journalism 539 (127)	(3)

Election of a minimum of eight credit hours in advanced English courses.

Election of a minimum of eight credit hours in advanced Social Studies courses.

Minimum required for the degree, 128 credit hours, exclusive of physical education.

ADVERTISING SEQUENCE

Election of a minimum of eight credit hours from the following courses:

Journalism 573 (103)	(3)	Journalism 575 (109)	(2)
Journalism 531 (105)	(2)	Journalism 563 (115)	(3)
Journalism 533 (106)	(3)	Journalism 541 (118)	(3)

Election of a minimum of eight credit hours in advanced Economics and Commerce courses.

Election of a minimum of six credit hours in advanced Psychology courses.

Election of a minimum of four credit hours in advanced Art courses.

Minimum required for the degree, 128 credit hours, exclusive of physical education.

RADIO-JOURNALISM SEQUENCE

Election of a minimum of twelve credit hours from the following courses:

Radio Arts 201 (2a)	(2)	Radio Arts 520 (106a)	(2)
Radio Arts 501 (101)	(2)	Radio Arts 525 (106b)	(2)
Radio Arts 505 (102)	(2)	Radio Arts 530 (110)	(1)
Radio Arts 515 (105a)	(2)	Radio Arts 535 (111)	(2)
Radio Arts 510 (103)	(2)	Journalism 591 (150)	(2)

Election of a minimum of six credit hours in advanced English courses.

Election of a minimum of six credit hours in advanced Social Studies courses.

Minimum required for the degree, 128 credit hours, exclusive of physical education.

Electives taken in freshman and sophomore years cannot be used to satisfy electives required in the junior and senior years.

All electives in junior and senior years must be in courses not open to freshmen.

Upper Division Requirements

Requirements for the Degree of A.B. in Journalism: Prerequisite: Journalism 203 or its equivalent. *Required:* Core curriculum for all sequences: four credits hours in Journalism 241-246; Journalism 501, 503, 504, and 561. Four sequences —General Editorial, Advertising, Community Publishing and Radio-Journalism are offered, which lead to the A.B. in Journalism Degree.

Comprehensive Examinations. Majors and candidates for the degree in journalism are required to pass a final comprehensive examination at the end of the senior year.

Requirements for the Degree of Bachelor of Arts: See Director of School of Journalism.

FACULTY

L. Niel Plummer, Perry J. Ashley, Robert O. Buzbee, Elsie Cross, J. Ardery McCauley, Marguerite McLaughlin, William M. Moore, Norma W. Pace, Victor R. Portmann, and Harry O. Ritter.

Course Descriptions

101(*2) *Introduction to Journalism.* (2) I, II
A course of lectures and readings designed to introduce prejournalism students to the opportunities in journalism and advertising, the qualifications and training implicit in journalism as a profession. *Smith.*

201(21) *Etymology.* (3) I, II, S
A study of words and their fundamental values with reference to development of a writing vocabulary. *Plummer.*

203(50) *Principles of News Writing.* (3) I, II, S
Lectures and readings on the development of the modern news style. Practice in effective writing. *Moore.*

241-246(90a-f) *Communications Practicum.* (1 ea.) I, II
Supervised laboratory work in the media of mass communications, with meetings for evaluation of work, study of techniques, analyses of problems, and reports. *Staff.*

501(100) *News Reporting.* (3) I, II
A reporting course which emphasizes special fields of information, news gathering, and news evaluation. *Plummer.*

503(101) *Copyreading and Editing.* (3) I, II
Instruction and practice in newspaper deskwork. Preparation of local, state, telegraph, and radio news and features; picture editing, and page make-up. Prereq: Journalism 501. *McCauley.*

507(123) *Feature Writing.* (3) I, II
Instruction and practice in writing features. Lectures, readings, and reports directed toward discovering, gathering, organizing, writing, and marketing feature articles. Prereq: Senior standing or consent of instructor. *Moore.*

509(125) *Magazine Article Writing.* (3) II, S
Lectures, personal conferences, and practice in writing and submitting material for publication in magazines; study of the markets for this material; free-lance article writing. Prereq: Senior or graduate standing, or consent of instructor. *Moore.*

511(107) *Editorial Writing.* (2) I
A study of editorials, editorial columns, and editorial pages. Publication of copy encouraged. *McCauley.*

513(110) *Supervision of High School Publications.* (3) S
A study of the problems that confront the adviser of the high school newspaper or magazine. Open to advisers or prospective advisers with consent of the instructor. *Portmann.*

531(105) *Law of the Press.* (2) I, II, S
A study of the special laws of libel, copyright, and regulatory provisions that pertain to the press. *Plummer.*

533(106) *Influence of the Newspaper.* (3) I
A course devoted to the examination of criticism of the modern press and an evaluation of the influence of the press in the twentieth century. Prereq: Senior standing. *Moore.*

535(108) *History of Journalism.* (3) II
A study of the rise and development of American journalism and newspapers. Prereq: Senior standing. *Portmann.*

537(120) *Seminar in Public Opinion.* (3)
A detailed examination of techniques developed and used by the press in influencing public opinion. Specific cases studied. Latter part of course devoted to the preparation of newspaper campaigns dealing with current problems of society. Prereq: Senior or graduate standing. *Moore.*

539(127) *Reporting Public Affairs.* (3) II
Instruction and practice in reporting the news originating in courts and other public institutions. Prereq: Journalism 501 and senior standing. *McCauley.*

541(118) *Public Relations.* (3) II, S
Lectures and practice dealing with the aims and methods of writing news and special articles for public relations programs of business, schools, colleges, libraries, and of social service organizations. *McCauley.*

561(114) *Newspaper and Magazine Advertising.* (3) I, II, S
Relation of newspapers and magazines with advertisers with emphasis upon the preparation of local display and national advertising. *Smith.*

563(115) *Advertising Typography and Layout.* (3) II
A study of the principles of typographic families and illustrations and decorations that pertain to layout in modern advertising. Practical work with merchants included in the latter part of the course. Lecture, one hour; lab, four hours. *Portmann.*

571(102) Community Journalism. (3) I, S
A study of the problems which confront the community weekly and the small city daily. *Portmann.*

573(103) *Newspaper Administration.* (3) II
A study of the business, circulation, advertising, and accounting divisions of the newspaper with special emphasis on the community newspaper. *Portmann.*

575(109) *Typography.* (2) I
Instruction and practice in typographic composition. Use of type faces in news editing. Study of typography in the make-up of American newspapers. Lab, four hours. *Ashley.*

581(130) *Introduction to Press Photography.* (3) I, II, S
Use of cameras, printers, enlargers, and laboratory equipment in modern press photography, and a study of selected readings on photographic methods and skills. *Moore.*

591(150) *Radio News Scripts.* (2) I, II
Instruction and practice in writing news and feature material for radio presentation. *Moore.*

WILLIAM ANDREW PATTERSON SCHOOL OF DIPLOMACY & INTERNATIONAL COMMERCE

This school has been established in pursuance of the bequest of the late James K. Patterson, president of the University from 1879-1910, as a memorial to his son. The courses and facilities of the school are designed, 1) to prepare young men and women for service in the United Nations, the Department of State and other governmental agencies with overseas activities or a career in foreign trade 2) to provide training in these fields in preparation for teaching and 3) to carry on research and to provide research training in these fields.

The school offers a curriculum leading to the bachelor's degree and graduate work for the master's and doctor's degree.

FACULTY

Amry Vandenbosch, William J. Chambliss, Robert M. Rodes, and Max J. Wasserman.

Course Descriptions

520(130) *International Investment.* (3)
The long-term capital accounts in the balance of payments; investment as a means of financing surpluses and deficits on the current trading accounts. Prereq: Econ. 527.

521(131) *International Finance.* (3)
The short-term capital accounts on the balance of payments; short-term capital as a "checking account"; financing international transactions—imports and exports of goods and services. Prereq: Econ. 527.

522(133) *Underdeveloped Areas and Economic Policy.* (3)
Description and definitions of underdeveloped areas; income, resources and productivity in underdeveloped areas; capital, demographic, social and cultural factors in economic development. Prereq: Econ. 252 and 527.

523(132) *International Commercial Policy.* (3)
America's position in the world economy and its international accounts; United States financial policies, war debts, financial cooperation and investment policy. Prereq: Econ. 527.

530(160) *The Conduct of American Foreign Relations.* (3)
The formulation, conduct, and control of American foreign policy, basic principles, comparison with other countries. Prereq: P.S. 151.

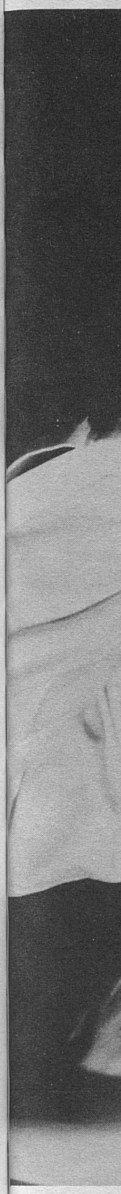
540(167) *Governments and Politics of South Asia.* (3)
A study of the political institutions of India, Indonesia and the smaller countries of South Asia and their position in world politics.

541(169) *The Soviet Union in World Affairs.* (3)
A factual survey of the Soviet record in foreign affairs and an introduction to the guiding concepts and principal techniques of Soviet foreign policy; the role of Communist ideology. Prereq: P.S. 556.

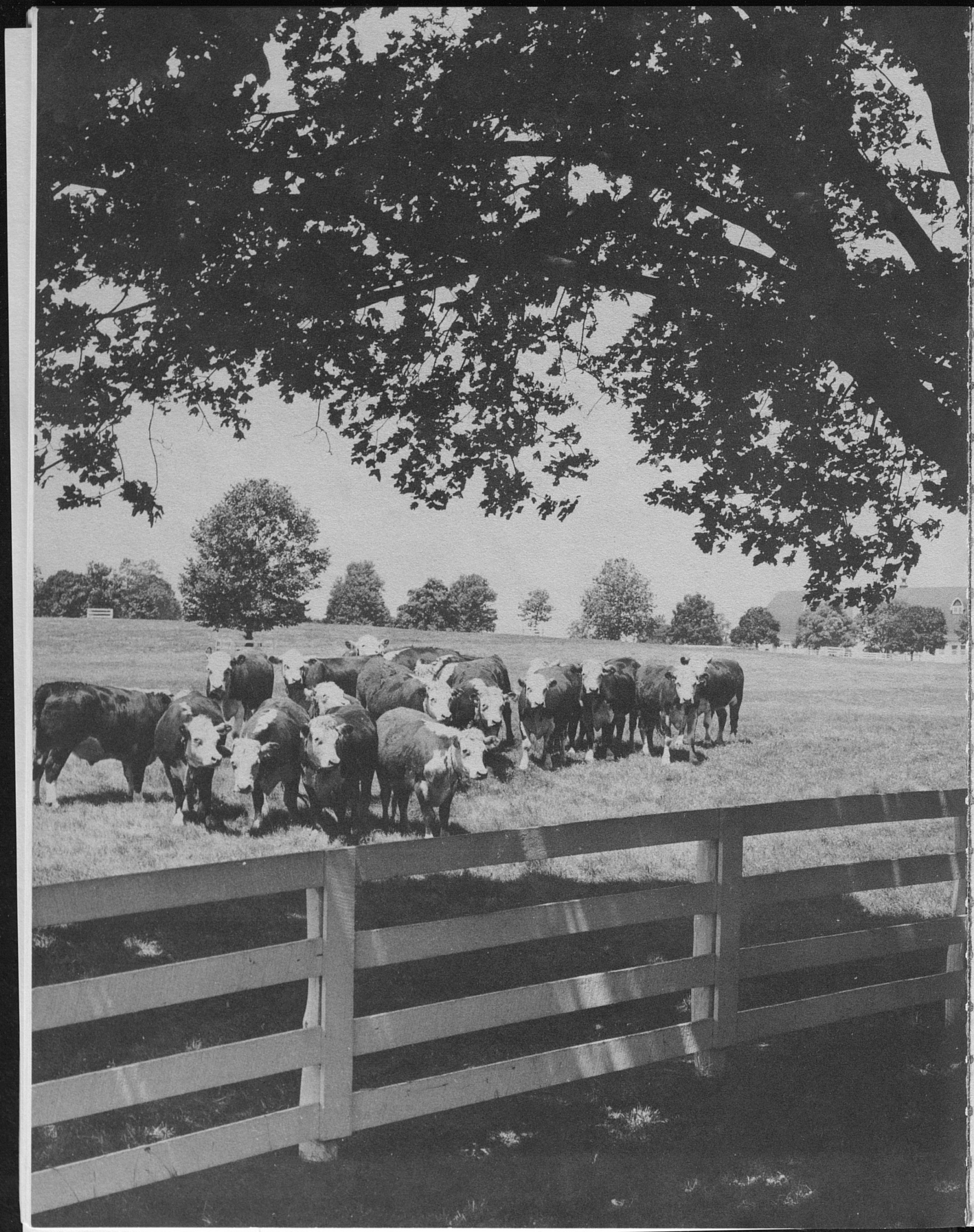
600(201) *Problems of Soviet Foreign Relations.* (3)
Subjects assigned for investigation will include such topics as the attitude of the Soviet Union toward international organizations, the relative roles of ideology and power in Soviet foreign policy. Prereq: P.S. 556, D. & I.C. 541.

601(231) *Theory of International Trade.* (3)
History of theories of international trade; theories of international equilibrium and the mechanism of equilibrium adjustments; tariff and other trade barriers; customs union. Prereq: Econ. 527.

602(232) *Analysis of International Trade.* (3)
The balance of payments and its analysis; determination of international payments equilibrium; analysis of world trade in merchandise; patterns of world trade; the computation and analysis of the terms of trade. Prereq: Econ. 527, D. & I.C. 601.







AGRICULTURE & HOME ECONOMICS

Agriculture was one of the first subjects taught in the Agricultural and Mechanical College of Kentucky. The Department of Botany, Horticulture, and Agriculture was organized in 1878 and existed as such until 1908 when it became the College of Agriculture. The Department of Domestic Economy was organized in 1906 and in 1918 became the Department of Home Economics in the College of Agriculture. In 1941 the name of the College of Agriculture was changed to the College of Agriculture and Home Economics. In 1953 the Department of Home Economics was changed to School of Home Economics. The first class in agriculture was graduated in 1898 and the first class in home economics was graduated in 1913.

The College of Agriculture occupies an unique position in public education in Kentucky. It serves the entire state. Its overall program includes research, extension, and resident teaching. The close relationship between these three programs affords educational opportunities not available to other institutions in the state. As a part of the University, the College of Agriculture has access to facilities available through other colleges of the University.

The fundamental aim or purpose of the resident teaching program of the College is to provide instruction of both a scientific and practical character which will develop individuals who are technically competent in agriculture and who are capable of assuming leadership in an increasingly complex society. This will involve the attainment of such objectives as:

1. Developing the students' ability to solve technical, economic, civic, community, and personal problems.
2. Developing the students' ability to communicate orally and in writing.
3. Advancing the students' competence within agriculture and related fields.
4. Increasing the ability of the students to live a useful and satisfying life and to contribute to others.

Frank James Welch, M.A., Ph.D., is dean of the college; Stanley Wall, M.S., Ed.D., is associate dean, and Abby Marlatt, B.S., Ph.D., is director of the School of Home Economics.

To accomplish these objectives, curricula have been arranged, courses planned, and teaching methods used that will accomplish the following:

1. Develop students' ability to think effectively.
2. Enable students' to acquire a knowledge and understanding of basic principles and to develop an effective ability to apply principles to real-life situations.
3. Develop students' ability to recognize factual relationships and to use facts in problem solving.
4. Encourage students to use the skills of communication.
5. Stimulate students' desire and enthusiasm for solving problems in agriculture or home economics and related fields.
6. Develop the students' understanding of the technical, economic, and social aspects of agriculture or home economics and a concept of how these are related in the solution of problems.

Faculty. To accomplish these aims and purposes the College of Agriculture and Home Economics has built up a scholarly, able, and forward looking faculty. The men and women who compose the faculty are selected because they are good teachers, have a thorough knowledge of their chosen fields, and have the ability to guide and inspire others in their study of these fields. Some devote part of their time to the Experiment Station or to the Extension Division. Many have national and international reputations in their respective fields. Some have brought distinction to themselves and to the College by their discoveries and investigations, others through books that they have written, and still others by their work on state and national problems of many kinds. The privilege of associating with and studying under men and women who know how to teach and who have the ability to contribute to the solution of current problems in agriculture and home economics is an important point to consider in the selection of a college.

Buildings and Equipment. Adequate, modern buildings and equipment are essential for good instruction in agriculture and home economics. In addition to the general University buildings the College of Agriculture and Home Economics has several buildings devoted specifically to the work of the various departments.

The Home Economics Building is modern and equipped with classroom and laboratory fixtures of the latest

design. In addition to offices and classrooms the building contains laboratories for foods, clothing, nutrition, dietetics, experimental cookery, costume design, and interior decoration. Two home management houses, and a child-care center are located near the Home Economics Building.

On the livestock farms are a modern dairy center, a service center, and barns for all kinds of livestock. Representatives of several of the more important types and breeds are kept for instructional purposes. These include Shorthorn, Hereford, Aberdeen Angus, Jersey, and Holstein cattle; Southdown and Hampshire sheep; Duroc Jersey and Hampshire hogs; mules; farm horses, and several varieties of poultry. Near Lexington are many large livestock and horse farms and the owners very generously permit the use of their animals for instruction.

The horticulture farms have extensive ornamental, fruit and vegetable plantings for the student to study and gain experience. Greenhouses, both plastic and glass, are also available for student use and study.

Field and greenhouse plantings of agronomic crops are used for instructional purposes. The Agronomy greenhouses are equipped to conduct cereal crop, forage crop and soil investigations.

Admission. Requirements for admission to the College of Agriculture and Home Economics, as a freshman, or with advanced standing, or as a special student, are the same as those outlined on the preceding pages for admission to the University.

Faculty Advisers. Every student entering the college is assigned a faculty adviser. The Faculty Adviser, who is a member of the teaching staff, helps the students in planning their educational goals and in planning a course of study to attain these goals. The fact that many students arrive at the University with undefined educational goals is not a serious handicap, but it can become serious if they do not begin to set up early defined goals in line with their capacities and interests soon after they arrive. As soon as a student decides on his major area of study, he is assigned an adviser in that area.

Requirements for Graduation in Agriculture

To receive the degree Bachelor of Science in Agriculture a student is required to gain a total of 140 semester credits and 280 points. These represent the minimum requirements for graduation. In all cases the student is responsible for meeting the requirements for graduation.

Transfer students, except those transferring from Eastern Kentucky State College, are required to take in the University a minimum of 68 credits, including 43 in agriculture. The College of Agriculture and Home Economics and Eastern Kentucky State College now have in operation a cooperative plan which recognizes courses in agriculture taught at Eastern as carrying course and residence credit toward the degree, Bachelor of Science in Agriculture, awarded by the University of Kentucky. Acceptance of transfer credit for courses in agriculture is limited to courses numbered 100 to 299 in the University of Kentucky catalog and all prerequisites required by the University must have been satisfied.

Certain courses are required of all students in the various curricula; others are elective.

Changes in a curriculum to meet specific needs may be made if approved in accordance with the rules of the University Faculty. The normal academic load is 17 or 18 credits per semester; the maximum load is 23 credits; the minimum load for a full-time student is 12 credits.

Curricula & Majors in Agriculture

In order to attain the aim and objectives of the college the agricultural curricula are organized in three program areas; Agricultural Technology, Agricultural Science, and Agricultural Business. In addition, there are also pre-professional programs in Veterinary Medicine, Forestry and Theology. The objectives of the three programs are:

1. *Agricultural Technology*—The curricular program in Agricultural Technology provides an opportunity for training designed to serve those students primarily interested in such fields as agricultural extension, teaching vocational agriculture, farm operation, certain U.S.D.A. services, and various other positions requiring technical proficiency in agriculture. It is expected that students electing this program would take fewer courses in the sciences and mathematics than those following the agricultural science program. However, these students would have more courses in technical agriculture and an equal number in the humanities, communications, and social sciences.
2. *Agricultural Science*—The curricular program in Agricultural Science is primarily for students interested in graduate work in their chosen subject matter fields or professions or for those interested in scientific phases of agriculture while providing a minimum background in general and liberal arts courses, emphasis in the curricula will be on the basic science relevant to the subject matter area, mathematics and research methods, and communications.
3. *Agricultural Business*—The curricular program in Agricultural Business provides an opportunity for training designed to serve those students interested in the wide range of jobs in the administrative, sales, and managerial aspects of the agricultural industry. Emphasis in the curricular program is given to general education in agriculture, liberal arts, and humanities with special emphasis on communications, economics, commerce, and a subject matter area in agriculture.

All students, other than those in the pre-professional programs will follow a basic curriculum for the first two years. The first two years are to be considered, in part, as an exploratory period during which the student would decide upon a departmental or group major. By the end of his

sophomore year a student is expected to choose between the program in agriculture technology, agricultural science, and agricultural business. The major and the program to be followed should be elected by the student on the basis of his individual interests and occupational or professional objectives. The student should be guided by his adviser and other sources of counsel and guidance.

The basic curriculum for the first two years for the programs in agricultural technology, agricultural science and agricultural business is as follows:

Required Courses or Course Groups	*Sem. Hrs.*
Military or Aerospace Science (Male students only)	8
Physical Education	2
English Composition	6
General Inorganic Chemistry	8-10
Mathematics 101 or 111	3
Biological Science—to be selected from: Microbiology 100, 102, 200; Botany 101 or 125, 103, 201; Zoology 100, 200	8
Humanities—to be selected from: Philosophy 200, 220, 230; Humanities 200, 201, 202; English 161, 251, 252; History 104, 105, 108, 109, 228, 240; Courses in Art and Music as approved by adviser; Modern Foreign Language—6 hours	6
Communications—to be selected from: English 181 or 291, 201, 203, 205; Journalism 201, 203	6
Social Studies—to be selected from: Rural Sociology 156; Sociology 240; Economics 103, 251, 252; Anthropology 153; Geography 155; Psychology 100; Political Science 151	6
Introduction to Agriculture	2
Basic Agriculture Group—(Students must select five courses from at least four of the areas listed in this group.) An introductory course in Agricultural Economics or Rural Sociology. An introductory course in Agronomy (Soils, Crops, and Plant Pathology) An introductory course in Animal Husbandry, Dairy Science, or Poultry Science. An introductory course in Agricultural Engineering, Entomology, or Animal Pathology An introductory course in Horticulture or Farm Forestry	15
Total	70-72

The general requirements for the junior and senior year for the program in Agricultural Technology, Agricultural Science and Agricultural Business are:

Courses in Group Options	*Study Program Area* Agricultural Technology	Agricultural Science	Agricultural Business
Departmental Major[1]	18[2] crs.	18 crs.	18 crs.
Specialty Support	6[3]	20[3]	26[4]
Mathematics and Statistics	....	6	....
Agricultural Plant Sciences	7	....	....
Agricultural Animal Sciences	7	....	....
Agricultural Economics & Rural Soc.	9	3	3
Electives	23[5]	23[5]	23[5]

A student may elect to follow either of the three programs, Agricultural Technology, Agricultural Science or Agricultural Business, with a major in Agricultural Economics, Agronomy, Animal Husbandry, Dairy, Horticulture or Poultry. Students interested in dairy manufacturing may elect a program in Agricultural Science or Agricultural Business. Students interested in Agricultural Extension or Agricultural Education will follow an Agricultural Technology program. Students may major in Rural Sociology in an Agricultural Science Program.

More detailed information relative to course requirements for each of the major areas of study is available in the College of Agriculture's Student and Adviser Handbook. Copies of this Handbook may be secured by writing to the Associate Dean, College of Agriculture and Home Economics, University of Kentucky.

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING

Freshman Year

First Semester	Crs.
Agr. Engr. 001—The Engr. Profession	0
English 101—English Composition	3
Math. 111—College Algebra	3
Math. 112—Plane Trigonometry	2
Chem. 106—Gen. Chem. for Engineers	4
G.E. 101—Engr. Graphics I	2
Military or Aerospace Science	2
Physical Education	1
	17

Second Semester	Crs.
Agr. Engr. 002—The Engr. Profession	0
English 102—English Composition	3
Math. 113—Analytics and Calculus I	4
M.E. 110—Engr. Problems	1
Chem. 108—Gen. Chem. for Engineers	4
G.E. 102—Engr. Graphics II	2
Agronomy 105—Introduction to Agronomy	3
Military or Aerospace Science	2
Physical Education	1
	20

Sophomore Year

First Semester	Crs.
Agr. Engr. 003—The Engr. Profession	0
Math. 211—Analytics and Calculus	1

[1] A maximum of 30 hours in a department may be offered by the students in fulfilling minimum requirements for a degree. Courses in genetics and statistics in agriculture are not to be counted in this 30 hour maximum.

[2] Include subject matter departments, agricultural extension course group and agricultural education course group.

[3] To be made up of courses in science considered to be appropriate background for the departmental area in which the student is majoring.

[4] To be made up of a group of business, economics, and agricultural economics courses.

[5] To include at least one course offered at the sophomore level or above in at least three departments in the College of Agriculture outside the one in which the student is majoring. In the Agricultural Technology program, one of these three departments should be Agricultural Engineering.

Phys. 231—General College Physics	3
Phys. 241—Physics Laboratory	2
C.E. 100—Plane Surveying	2
M.E. 250—Shop Theory	1
M.E. 251—Shop Practice	1
A.H. 100—Fm. Livestock Prod. or	3
D.S. 120—Fundamentals of Dairying	3
Military or Aerospace Science	2
	18

Second Semester	Crs.
Agr. Engr. 004—The Engr. Profession	0
Math. 212—Analytics and Calculus	4
Phys. 232—General College Physics	3
Phys. 242—Physics Laboratory	2
G.E. 221—Statics	3
Agron. 266—Soils—Lecture	4
Agron. 267—Soils—Laboratory	0
Military or Aerospace Science	2
	18

Junior Year

First Semester	Crs.
Agr. Engr. 005—The Engr. Profession	0
G.E. 431—Strength of Materials	4
G.E. 301—Testing Materials	1
**Math. 431—Differential Equations	3
Econ. 251—Principles of Economics	3
Gly. 200—Elem. Gly. for Engineers	3
*Elective	3
	17

Second Semester	Crs.
Agr. Engr. 006—The Engr. Profession	0
G.E. 311—Dynamics	2
M.E. 400—Elem. of Engr. Thermodyn.	3
Agr. Engr. 155—Machine & Struct Prac.	2
Agr. Engr. 425—Fm. Bldgs. & Eq.	4
Geog. 155—Economic Geog. Surv.	3
*Elective	3
	17

Senior Year

First Semester	Crs.
Agr. Engr. 007—The Engr. Profession	0
Agr. Engr. 417—Agr. Tractor Power	3
E.E. 301—Fund of Elec. Machinery	3
M.E. 330—Fluid Mechanics *or*	4
C.E. 350—Hydraulics *and*	2
C.E. 351—Hydraulics Laboratory	1
Agr. Engr. 415—Engineering Analysis in Farm Machinery Design	4
English 201—Business English	2
*Elective	3
	18 or 19

Second Semester	Crs.
Agr. Engr. 008—The Engr. Profession	0
Agr. Engr. 435—Soil & Water Cons. Engr.	4
Agr. Engr. 445—Electricity in Agr.	3
Agr. Econ. 514—Current Farm Management Problems***	3
English 181—Essentials of Speech	3
Hist. 109—History of the U.S. since 1805	3
*Elective	3
	19

* All electives selected must have the approval of the head of the department.

** Math. 331 may be taken with consent of head of department.

*** Agr. Econ. 518 may be taken with consent of head of department.

FORESTRY CURRICULUM

Students interested in Forestry may enter the College of Agriculture and Home Economics and take the first two years of a forestry curriculum. Kentucky is a participating member in the Southern Regional Plan for the education of Foresters and arrangements have been made by the state for North Carolina State College to accept ten students from Kentucky each year. Students may complete requirements for a degree within two academic years and one summer of residence at North Carolina State College, providing certain minimum requirements are satisfied. In order to complete the course of study leading to a Bachelor of Science Degree in Forest Management within the prescribed time, the following listed courses must be included in the first two years.

Freshman Year

	Crs.
Botany 101 and 103—General Botany	7
Chemistry 110 and 112—Gen. Chemistry or	10
Chemistry 102 and 104—Gen. Chemistry for Agri.	8
English 101 and 102—English Composition	6
Math. 101 or 111—College Algebra	3
Math. 112—Plane Trigonometry	3
Military or Aerospace Science	4
Physical Education	2
Hist. 109—History of U. S. Since 1865 or Hist. 240—History of Kentucky	3
Total	36 or 38

Sophomore Year

	Crs.
Agronomy 266—Soils	4
Physics 151—Introduction to Physics	3
Geology 100—Elementary Geology	3
Forestry 100—Elements of Forestry	3
G.E. 101—Elem. Engr. Graphics	2
English 203—Comp. for Tech. Students or English 181—Essentials of Speech	3
Chemistry 236—Organic Chemistry	3
Economics 251—Principles of Economics	3
Civil Engr. 100—Plane Surveying	3
Botany 201—Local Flora	4
Botany 219—Dendrology	2
Military or Aerospace Science	4
Elective	3
Total	40

Math 113 may be substituted for Botany 201

To be eligible to transfer to North Carolina State College, the student must achieve a grade average of C+ or better. He will not receive credit for any course in which he has received less than a C grade.

PRE-THEOLOGICAL MAJOR FOR THE RURAL MINISTRY

Many leaders in the work of the rural town and country ministry are today suggesting that some of the men who plan to enter this field of service should consider attending a college of agriculture in which a strong curriculum in rural social science is available, as an undergraduate preparation for seminary training. A student planning to enter a theological seminary and enrolling in a regular curriculum of the College of Agriculture and Home Economics may select from the general University offering a suitable group of courses in philosophy, English literature, and ancient languages. The student planning to elect this major is advised to acquaint himself with the specific requirements of the theological seminary of his choice.

PRE-VETERINARY

Students planning to become veterinarians may enter the College of Agriculture and Home Economics and take the two-year program required for admission to the study of veterinary medicine. Kentucky is a participating member in the Southern Regional Plan for the education of veterinarians and arrangements have been made by the State for the Alabama University at Auburn to accept eleven students from Kentucky each year. The State pays a stipulated amount per student per year through the Southern Regional Education Board to the institution.

Applicants for admission to the School of Veterinary Medicine at Auburn must have a grade point average of 2.25 on all courses attempted, and also a 2.25 standing on all required courses. They must be bona fide residents of Kentucky. A grade of D on any required course will not be accepted. The Committee on Admissions of the School of Veterinary Medicine may require a personal interview with any applicant and may also require an examination on any required course. If admitted, Kentucky students have the same status as Alabama students; they do not pay out-of-state tuition.

Inquiries should be addressed to the Committee on Regional Veterinary Training, Dr. F. E. Hull, Chairman, University of Kentucky, Lexington. Admission to the School of Veterinary Medicine must be gained by making formal application through the committee not less than three months in advance of the entrance date. Applications will be considered only from students who submit evidence of satisfactory completion of all requirements. Students will be admitted at the beginning of the fall quarter only.

Students who do not enter the Alabama Veterinary School after the completion of the two-year pre-veterinary program may continue in the University for the third year of study and may then be accepted by the Alabama School. Such students will be awarded the degree Bachelor of Science in Agriculture after one year of study in Alabama if they complete the prescribed 30 semester credits required in the first year of the veterinary curriculum with a standing of 2 according to the University of Kentucky grade-point system.

PRE-VETERINARY CURRICULUM LEADING TO THE DEGREE BACHELOR OF SCIENCE IN AGRICULTURE

First Year

First Semester	Crs.
Zool. 100—Prin. of Animal Biol.	4
Math. 101 or 111—College Algebra	3
Chem. 110—Genl. Chem.	5
Eng. 101—Eng. Composition	3
Mil. or Aerospace Science	2
Physical Education	1
	18

Second Semester	Crs.
*Agr. Ent. 100—Agr. Ent.	3
Pty. Sci. 140—Fm. Pty.	3
Math. 112—Plane Trig.	2
Chem. 112—Genl. Chem.	5
Eng. 102—Eng. Comp.	3
Mil. or Aerospace Science	2
Physical Education	1
	19

Second Year

First Semester	Crs.
Physics 211—Gen. Elem. Phys.	5
Chem. 230—Organic Chem.	5
A.H. 100—Farm Livestock Prod.	3
A.H. 280—Prin. of An. Nutrition	4
Hist. 108—History of U.S. or Hist. 109—Hist. of U.S. since 1865	3
Mil. or Aerospace Science—2nd year	2
	22

Second Semester	Crs.
Physics 213—Gen. Elem. Physics	5
Chem. 232—Organ. Chem.	5
Bot. 101—Gen'l Botany	4
**A.L. 131—Med. Term.	3
Mil. or Aerospace Science—2nd year	2
	19

* A second course in Zoology may be substituted on approval of adviser.

** Two semesters of Modern Foreign Languages may be substituted on approval of adviser.

Third Year

First Semester	Crs.
Agr. Econ. 100—Agr. Econ.	3
Agron. 105—Introd. to Agron.	3
Agron. 266—Soils	4
Agr. Engr. 100—Mech. of Farmstead	3
Microbiology 200—Prin. of Bacteriology	4
Humanities 200, 201, 202	2
	19

Second Semester	Crs.
D.S. 120—Fund. of Dairying	3
A.H. 260—Genetics	3
Econ. 251—Prin. of Econ.	3
Agr. Econ. 400—Agr. Mktg.	3
Humanities 203 or 204	2
Electives	3
	17

Fourth Year

(At Alabama University—Standing of 2 Required)

	Crs.
VM 101, 102, 103—Anatomy	10
VM 104, 105, 106—Histology and Embryology	10

VM 107, 108, 109—Physiology	10
	30
Minimum credits for degree	140

GRADUATE WORK

The departments in the college offer graduate work leading to the following advanced degrees in the Graduate School:

1. Master of Science in Agriculture with a major in any department or section other than Agricultural Entomology or Animal Pathology.
2. Doctor of Philosophy in the Departments of Animal Industry, Agricultural Economics, and Rural Sociology.

SHORT COURSES

Short courses, conferences, and workshops, ranging in duration from one day to one week, are held for those interested in various phases of agriculture.

FARM AND HOME CONVENTION

The annual Farm and Home Convention is held on the campus of the University of Kentucky during the last week in January. Thousands of farm men and women from all over the state find these programs interesting and inspirational and of great value to them in planning and carrying on their work. A special bulletin giving the program is issued in December.

AGRICULTURAL ECONOMICS

FACULTY

Aubrey J. Brown, Wendell Chester Binkley, John Harvey Bondurant, Lawrence Allen Bradford, George B. Byers, Dana George Card, Carl McKinley Clark, James E. Criswell, James Leslie Pearson, Paul Reynolds Johnson, Hugh Bruce Price, John C. Redman, John Bissell Roberts, Robert William Rudd, Dallas Milton Shuffett, Eldon Dee Smith, and James Forrest Thompson.

Course Descriptions

GENERAL AGRICULTURAL ECONOMICS

100(1) *Agricultural Economics.* (3) I, II, S
An examination of the agricultural industry and of farm businesses as affected by economic forces. *Bradford and Criswell.*

AGRICULTURAL MARKETING

400(100) *Agricultural Marketing.* (3) I, II, S
Principles and methods of marketing farm products with attention to systems and agencies at both country and central markets. Prereq: Econ. 251; Agr. Econ. 100. *Binkley and Pearson.*

500(101) *Agricultural Cooperation.* (3) II, S
Principles, methods, and problems involved in the cooperative marketing of farm products and in the purchase of farm production supplies through cooperatives. Prereq: Agr. Econ. 400. *Binkley.*

401(102a) *Marketing Tobacco.* (2) I, S
Special emphasis on the marketing of and the market systems for tobacco. Application of marketing principles and methods to tobacco. Prereq: Agr. Econ. 400. *Clark.*

402(102b) *Tobacco Market Grades and Grading.* (1) S
Procedures and problems in establishing market standards for tobacco, including practice in grading. Prere. or concurrent: Agr. Econ. 401, or approval of instructor. *Clark.*

403(103) *Marketing Livestock and Livestock Products.* (2) II, S
Analysis of livestock and dairy markets; market organization, agencies, institutions, and services; and public regulations. Prereq: Agr. Econ. 400. *Brown and Pearson.*

404(109) *Marketing and Processing Poultry Products.* (2) I, S
Organization and operation of markets; grading, packaging and handling poultry and eggs. Lecture, one hour; lab, two hours. Prereq: Pty 140, Agr. Econ. 400. *Roberts.*

606(206) *Advanced Agricultural Marketing.* (3) II
A critical examination of objectives and results of various types of research in market organization, marketing functions, market management, and price analysis. Prereq: Approval of instructor. *Rudd.*

620(220a) *Economics of Agricultural Production: Static Application.* (3) I
Application of economic principles to agricultural production problems of resource combination, enterprise selection, scale of operations, household-firm relationships, interregional competition, and national agricultural policies and programs. Prereq: Approval of instructor. *Thompson.*

621(220b) *Economics of Agricultural Production: Dynamic Application.* (3) II
A continuation of 620 with application to dynamic situations. Prereq: Agr. Econ. 620 and approval of instructor. *Redman.*

AGRICULTURAL STATISTICS AND MATHEMATICAL ECONOMICS

530(130) *Agricultural Statistics.* (3) I, II
Principles and methods involved in the analysis, interpretation, and use of agricultural statistics including variation, correlation, standard errors, and simple analysis of variance.

630(230) *Statistics for Agricultural Research: Social Sciences.* (3) II
Multiple and partial correlation, test of reliability, sample surveys, and other techniques for agricultural research. Prere: Agr. Econ. 530 or equivalent. *Card and Shuffett.*

631(231) *Statistics for Agricultural Research: Plant and Animal Sciences.* (3) II
Analysis of variance and covariance; statistical considerations in the design of experiments; tests of significance and confidence limits. Prereq: Agr. Econ. 530 or equivalent. *Card.*

AGRICULTURAL POLICY AND LAND ECONOMICS

540(140) *Agricultural Policy.* (3) II
Historical development of principles underlying agricultural policy; objectives of agricultural policy; appraisal of current and proposed agricultural programs. Prereq: Agr. Econ. 400. *Rudd.*

545(145) *Land Economics.* (3) I
Institutional, technological and physical forces affecting the use of land resources in agriculture. Analysis of problems connected with land tenure, land conservation and transfer of farm real estate. Prereq: Agr. Econ. 410 or approval of instructor. *Redman.*

640(240) *Advanced Agricultural Policy.* (3) I
Influences of policies upon economic progress, efficiency in resource use, distribution of income, and welfare in agriculture. Prereq: Approval of instructor. *Rudd.*

FARM MANAGEMENT

410(110) *Farm Management.* (3) I, II, S
An analysis of management and of the science of organizing and operating farms; measurements of success; developing crop and livestock programs; and record keeping in the light of maximizing returns from resources. Prereq: Agr. Econ. 100; Econ. 251. *Bradford.*

511(111) *Advanced Farm Management.* (3) II
An advanced analysis of management and managing farms. Prereq: Agr. Econ. 410. *Thompson.*

514(114) *Current Farm Management Problems.* (3) S
An analysis of the current economic problems in farming, such as costs, technological developments, demand changes, and resource use. An introductory course designed primarily for professional workers in agriculture. Prereq: Agr. Econ. 410, or approval of instructor. *Bradford.*

415(115) *Farm Accounting.* (2) II
Development and analysis of farm records and farm accounts including farm cost accounting. Prereq: Agr. Econ. 410. *Criswell.*

516(116) *Land Value and Appraisal* (Odd No. Years.) (3) I
The capitalization process, and other methods of valuing farm land; appraisal procedures of the Federal Land Banks and other credit institutions. Prereq: Agr. Econ. 410 or approval of instructor. *Bondurant.*

517(117) *Types and Systems of Farming* (Even No. Years). (3) I
Critical study of the business organization and management of Kentucky farm businesses. Field trips required. Prereq: Agr. Econ. 410, or approval of instructor. *Bondurant.*

518(118) *Farm Labor Utilization.* (3) I
Efficient work method fundamentals as applied to agricultural production, work simplification analysis of specific farm jobs and incentive payment plans for encouraging economic use of farm labor, are studied. Prereq. or concurrent: Agr. Econ. 410. *Byers.*

PRODUCTION ECONOMICS

520(120) *Production Economics.* (3) I
Economic analysis of agricultural production. A theoretical treatment of land and capital returns, costs and related functions of agricultural production at an elementary level. Prereq: Agr. Econ. 410. *Redman.*

521(121) *Cost, Price and Production Relationships in Agriculture.* (3) S
Relationship among production expenses, cost of production, prices paid, prices received, agricultural production, and farm income. Designed primarily for professional workers in agriculture. Prereq: Agr. Econ. 410, and approval of instructor. *Bradford.*

AGRICULTURAL PRICES AND FINANCE

550(150) *Agricultural Prices.* (3) II
Price behavior of agricultural products including supply-price relationships and their relation to the general price level. Prereq: Econ. 251. *Johnson.*

455(155) *Agricultural and Farm Finance.* (3) I, S
Credit needs of agriculture; problems connected with farm and market agency financing; organization and operation of agricultural credit agencies. Prereq: Econ. 251. *Clark, C. M. and Bradford.*

650(250) *Advanced Agricultural Prices.* (3) I
Advanced study of agricultural price behavior by the application of economic theory and statistical analysis. Prereq: Approval of instructor. *Rudd.*

GENERAL AGRICULTURAL ECONOMICS COURSES

560(106) *Introduction of Research Methods in Agricultural Economics.* (3) I
Survey of agricultural economics research areas, methods of initiating, preparing and conducting research projects, financing agricultural research. Applicable to problems of agricultural production and marketing. Prereq: Senior standing and consent of instructor. *Smith.*

580(160) *Special Problems in Agricultural Economics.* (3) I, II
Directed independent study of a selected problem. Prereq: Approval of instructor and head of department. *Brown and Staff.*

590(190) *Introduction to Mathematical Economics.* (3) I
A review of mathematical approaches to economic theory. Models applicable to production, marketing and pricing problems. Prereq: Math. 201 and Economics 515 or equivalents (same as Economics 590).

770(200) *Agricultural Economic Seminars.* (0) I, II
Analysis of economic problems which affect agriculture. May be repeated three times. *Staff.*

660(216) *Research Methods in Agricultural Economics.* (3) II
An analytical examination of research methods and techniques used in agricultural economics. Prereq: Approval of instructor. *Redman.*

780(260) *Special Problems in Agricultural Economics.* (3) I, II
Open to graduate students who have the necessary training and ability to conduct research on a selected problem. Prereq: Approval of head of department. May be repeated three times for a total of 9 credits. *Brown and Staff.*

690(290) *Mathematical Economics.* (3) I
Problems of economics amenable to the mathematics of differential and difference equations, vectors, complex numbers and matrix algebra. Agricultural and business applications. Prereq: Agricultural Economics 590 and Economics 618 or equivalents (same as Economics 690).

691(291) *Econometrics.* (3) II
The application of statistical methods to problems of economic analysis. Building and measuring relationships among economic variables. Econometric models of the economy as a whole and of individual sectors. Prereq: Economics 618, Ag. Econ. 630 or equivalent (same as Economics 691). *Johnson.*

768(500-1,2,3) *Residence Credit for Master Degree.* (0) *Staff.*

AGRICULTURAL ENTOMOLOGY

FACULTY

Lee Hill Townsend, Juan Guadelupe Rodriguez, Kenneth Starks, and Richard Thurston.

100(1) *Agricultural Entomology.* (3) I, II
A general consideration of the fundamentals of insect structure, biology, and classification, with frequent discussions of current topics relating to both beneficial and destructive insects. Lectures, two hours; lab, two hours. *Townsend.*

110(2) *Apiculture.* (3) II
The anatomy of the bee; the colony; location and equipment of the apiary; honey production; diseases and enemies of bees. Laboratory work includes manipulation of equipment and bees. Lectures, two hours; lab, two hours. *Townsend.*

115(3) *Economic Entomology: Household Insects.* (2) I
Life histories, habits, and control of the common insects which are injurious and troublesome in the home. Consideration is given to certain other insects which have public health importance. Lectures, two hours. *Starks.*

120(4) *Fundamentals of Insect Pollination.* (2) I
Principles of pollination as effected by insects, with emphasis on the honeybee. The common agricultural plants are considered and the pollination described. Lectures, two hours. *Townsend.*

500(102) *Economic Entomology.* (3)
For those interested in agricultural teaching and extension work. Life history, control, and identification of economic insects of Kentucky are considered. Lectures, two hours; lab, two hours. Prereq: Agr. Ent. 100. *Townsend.*

510(103) *Economic Entomology: Fruit and Garden Insects.* (3) I, S

Life histories, habits, distribution, and control of insects injurious to fruits and vegetables, with attention to those found in Kentucky. Enemies of these species are considered. Lectures, two hours; lab, two hours. Prereq: Agr. Ent. 100. *Rodriguez.*

520(104) *Economic Entomology: Farm Crop Insects and Animal Parasites.* (3) II, S

Life histories, habits, distribution, and control of insects injurious to farm crops; also insect parasites of farm animals. Enemies of these species are considered. Lectures, two hours; lab, two hours. Prereq: Agr. Ent. 100. *Thurston.*

550(105a-b) *Systematic and Technical Agricultural Entomology.* (2-3) I, II

Insect physiology, anatomy, ecology, and taxonomy, entomological literature and technique; studies of special groups of insects. Prereq: Agr. Ent. 1, and any of the following: 500, 510, 520. May be repeated once for a total of 6 credits. *Staff.*

620 *General Acarology.* (4)

Introduction to study of mites. Classification, morphology, physiology and ecology of mites important to the medical, veterinary and agricultural fields. Lecture, two hours; lab, four hours. Prereq: Zool. 100, Entomology 100, and consent of instructor.

780(201a-b) *Entomological Problems.* (2-3) I, II

Investigations of chosen insect problems, including original work. Discussion and assignment of current insect subjects. Prereq: Agr. Ent. 100, 510, 520, 550. May be repeated once for a total of 6 credits. *Staff.*

AGRICULTURE—GENERAL

100 *Introduction to Agriculture.* (2) I, II

A general analysis of the changes taking place in agriculture and their implications to a student of agriculture. *Wall.*

201(2) *Agriculture Around the World.* (3) II

A study of the agriculture of the United States and other countries in different regions of the world. Lectures, 3 hours.

301(110) *Agency Relationships.* (1) II

In this course the student learns something of the objectives of public and private agricultural agencies and organizations and how they work together for the improvement of agriculture. Lecture, one hour. *Wall.*

AGRICULTURAL EXTENSION

501(101) *Principles of Agricultural Extension.* (3) II

Philosophy, history and development of Agricultural Extension; evaluation of instructional techniques; leadership training; and practice in use of Extension methods. Three lectures per week. Open to juniors, seniors and graduate students.

768(500-1,2,3) *Residence Credit for Master's Degree.* (0 credit)

Staff.

790(202a-d) *Special Problems in Agriculture or Home Economics Extension.* (1-4) I, II, S

May be repeated three times to a total of 12 credits. *Schneider and Summers.*

AGRONOMY

FACULTY

Gilbert Theodore Webster, Harry Hudson Bailey, Richard Alexander Chapman, Stephen Diachun, Eugene Carter Doll, Ernest Newton Fergus, Thomas Barksdale Hutcheson, Jr., Frank Albert Loeffel, Herbert Massey, Roy Edward Sigafus, Granville Woolman Stokes, William Gregory Survant, and William Dorney Valleau.

General Courses

105(5) *Introduction to Agronomy.* (3) I, II

The interrelations of soil, plant diseases and crop production. Lecture, discussion and demonstration, three hours. *Chapman, Sigafus, and Survant.*

770(200a-d) *Agronomy Seminar.* (1) I, II

Reports and discussion of problems and investigations of problems in soils, crops and plant pathology. May be repeated three times. *Staff.*

768(500-1,2,3)—*Thesis.* (0) I, II, S

Staff.

COURSES IN CROPS

206(6) *Principles of Field Crops Production.* (3) I, II

A course in scientific fundamentals underlying the production of cereal, fiber, forage and tobacco crops. Lecture and discussion, two hours; lab, two hours. Prereq: Bot. 101 or consent of instructor. *Sigafus.*

395(109a-d) *Special Problems in Crops.* (1-4) I, II, S

Intensive studies of specific crop problems. Prereq: Bot. 101, Agron. 200 and consent of instructor. May be repeated to a maximum of 12 credits. *Fergus, Loeffel, and Sigafus.*

501(101) *Pasture Production and Management.* (3) II, S

The selection of pasture crops and their establishment, fertilization and management for temporary or permanent pastures. Lecture and recitation, three hours. Prereq: Bot. 101; Agron. 206 or consent of instructor. *Sigafus.*

502(102) *Field Crop Ecology.* (3) I

A study of environmental factors affecting the yield and quality of field crops. Lecture and recitation, three hours. Prereq: Bot. 101; Agron. 206, Agron. 266 and consent of instructor. *Fergus.*

503(103) *Weeds.* (2) II, S

The important characteristics, identification, and control of weeds, with emphasis on identification and control of Kentucky weeds. Lecture and discussion, two hours. Prereq: 101. *Sigafus.*

506(106) *Field Crop Improvement.* (3) II

A study of the principles involved and the techniques used in breeding crop plants. Lecture and recitation, two hours; lab, two hours. Prereq: Agron. 206 and Bot. 530 or A.I. 260 or consent of instructor. *Loeffel.*

508(107) *Advanced Crops: Tobacco.* (3) II

Origin of the nicotiana species, botany, pathology, entomology, physiology, breeding, and culture of tobacco, with special emphasis on burley. Lecture and discussion, two hours; lab or field, two hours. Prereq: Bot. 101; Agron. 206 or consent of instructor. *Stokes.*

510(104) *Advanced Crops: Forage Crops.* (3) I

A comprehensive study of forage crops with special emphasis upon their production in Kentucky. Lecture and recitation, three hours. Prereq: Bot. 101; Agron. 206 or consent of instructor. *Sigafus.*

512(105) *Advanced Crops: Cereals.* (3) II

A study of the grain crops of the world, in respect to adaptation, culture and uses. Lecture and recitation, two hours. Prereq: Bot. 101; Agron. 206 or consent of instructor. *Sigafus.*

780(204a-d) *Special Problems in Production of Forage Crops.* (1-4) I, II, S

Intensive studies of research relative to particular problems in forage crop production. Prereq: Consent of instructor. May be repeated to a maximum of 12 credits. *Staff.*

781(205a,b) *Special Problems in Production of Tobacco or Cereals.* (1-4) II, S

Prereq: Consent of instructor. May be repeated to a maximum of 8 credits. *Staff.*

COURSES IN SOILS

266(61) *Soils.* (4) I, II

A general study of soil properties and processes with emphasis upon their influence on soil management. Lecture and discussion, three hours, lab, two hours. Prereq: Chemistry 104 or equivalent or concurrent. *Survant.*

398(112a-d) *Special Problems in Soils.* (2-4) I, II, S

Directed independent study of selected soil problems. Prereq: Agron. 266 and approval of instructors. May be repeated to a maximum of 12 credits. *Staff.*

566(110) *Soil Biology.* (3) I

A study of soil organisms and biological soil proceses in relation to soil productivity. Lecture, two hours; lab, two hours. Prereq: Agron. 266 and Microb. 200.

568(11) *Soil Conservation.* (3) II, S

The scope and nature of the soil conservation problem, and the application of soil conserving methods in the planning and management of farms. Lecture and discussion, two hours; lab, two hours. Prereq: Agron. 266. *Survant.*

570(114) *Soil Fertility and Fertilizers.* (3) II, S

Soil reactions of elements essential for plant growth; sources and manufacture of fertilizer materials; use of fertilizers and lime in a sound management program. Lecture and discussion, three hours. Prereq: Agron. 266. *Hutcheson.*

571(116) *Soil Chemistry.* (4) I

Chemical methods applicable to soil fertility and productivity; determination of plant nutrients in soil; study of chemical characteristics of soil by means of modern instrumentation. Lecture and discussion, two hours; lab, four hours. Prereq: Agr. 266 or cnocurrent: Chem. 226 or 220. *Massey.*

573(119) *Soil Origin, Classification and Mapping.* (3) I

Classification of Kentucky soils, use of soil survey equipment, preparation of soils maps and development of a land use plan of an assigned area. Lecture and recitation, two hours; lab, three hours. Prereq: Agron. 266 and Geol. 100 or approval of instructor. *Bailey.*

575(120) *Soil Physics.* (4) II, S

Physical properties of soils in relation to soil management and conservation of soils. Lecture and discussion, two hours; lab, four hours. Prereq: Agron. 266 and approval of instructor. *Survant.*

712(213) *Advanced Soil Fertility.* (4) I

Utilization of native and applied plant nutrients by crops; experimental methods especially applicable to research in soil fertility. Lecture-discussion, 3 hours; lab, 2 hours. Prereq: Agron. 570, Agr. Econ. 530 or special approval of instructor. *Doll.*

797(212a-d) *Research in Soils.* (2-4) I, II, S

Directed research on selected soil problems. Prereq: Approval of instructor. *Staff.*

COURSES IN PLANT PATHOLOGY

397(123a-c) *Special Problems in Plant Pathology.* (1-4) I, II, S

Prereq: Agron. 541 or equiv., and consent of instructor. May be repeated to a maximum of 9 credits. *Diachun and Valleau.*

541(141) *Plant Pathology.* (3) I, II

Significance, nature, causes, and methods of control of plant diseases. Letcures and discussion, two hours; lab, two hours. Same as Bot. 541, Plant Pathology. Prereq: Bot. 101. *Diachun.*

543(142) *Diseases of Plants.* (3) II

Symptoms, causes, and control of some of the more common representative plant diseases. Students may select problems in their major field of interest. Discussion, one hour; lab, four hours. Prereq: Agron. 541 or equiv., and consent of instructor. *Valleau.*

656(241) *Virus Diseases of Plants.* (4) II

Characteristics and properties of viruses that cause plant diseases; host-virus relationships; identification and control of some important virus diseases; consideration of research methods. Lecture and discussion, two hours; lab, four hours. Prereq: Agron. 541 or equiv., and consent of instructor. *Diachun.*

658(242) *Nematode Diseases of Plants.* (3) I

The importance, effects, recognition and control of nematodes that cause plant diseases; physiology of plant parasitic nematodes and their relations with other nematodes and plant pathogens. Lecture, 1 hour lab, 4 hours. Prereq: Agron. 541 or Bot. 541 or Zool. 534, or consent of instructor. *Chapman.*

784(245a-d) *Research in Plant Pathology.* (1-4) I, II, S

Prereq: Agron. 541 or equiv., and consent of instructor. May be repeated to a maximum of 12 credits. *Staff.*

COURSES IN BOTANY

(May be used for agricultural credit, subject to the approval of adviser.

501(103) *Plant Physiology.* (4) I

See course description under Botany.

503(104) *Plant Physiology.* (4) II

See course description under Botany.

534(134) *Cytogenetics.* (4) II

See course description under Botany.

AGRICULTURAL ENGINEERING

FACULTY

Blaine Frank Parker, Jesse Byron Brooks, Edward Manson Smith, John Neal Walker, and Earl Robert Young.

001(1a) *The Engineering Profession* (Freshman). (0) I, II

002(1b) *The Engineering Profession* (Freshman).

003(2a) *The Engineering Profession* (Sophomore). (0) I, II

004(2b) *The Engineering Profession* (Sophomore). (0) I, II

005(3a) *The Engineering Profession* (Junior). (0) I, II

006(3b) *The Engineering Profession* (Junior). (0) I, II

007(4a) *The Engineering Profession* (Senior). (0) I, II

008(4b) *The Engineering Profession* (Senior). (0) I, II

Lectures on professional growth, conduct, and ethics. Activities of the student branches of the corresponding professional societies.

110(15) *Mechanics of the Farmstead.* (3) I, II

Fundamentals of engineering as applied to agriculture, including materials, transmission of power, farm implements, water supply, and electricity. Lecture, two hours; lab, two hours. *Brooks.*

AGRICULTURAL ENGINEERING

112(16) *Farm Engines and Tractors.* (3) I, II
A study of the fundamental principles governing the selection, construction, operation, and repair of motors, tractors, and tractor equipment adapted for farm use. Lecture, two hours; lab, two hours. *Young.*

150(17a) *Farm Shop.* (3) I, II, S
Construction, care, and repair of farm buildings and equipment. Drawing, use of lumber, farm woodworking, woodworking tools, and concrete work. Lecture, one hour; lab, four hours. *Young and Brooks.*

152(17b) *Farm Shop.* (3) I, II, S
Machinery repair, soldering, cold metal work, forging, oxacetylene and electric arc welding, pipe fitting, rope work and painting. Lecture, one hour; lab, four hours. *Young.*

155(6) *Machine and Structural Practices.* (2) II
Principles and practices of farm construction in metal, wood, and masonry. Welding, machinery repair, framing of farm structures, and farm concrete work. Lecture, one hour; lab, two hours. *Young.*

410(106) *Farm Power and Machinery.* (3) S
Selection, operation, and maintenance of farm machinery with emphasis on power-driven machines. Analysis of the machinery needs of farms, adjustments, and servicing of machines. Lecture, one hour; lab, four hours. *Young.*

415 *Engineering Analysis in Farm Machinery Design.* (4) I
A study of the professional method of dealing with engineering problems and the application of this method to problems encountered in the functional, mechanical, and economic design of farm machinery. Lecture, three hours, lab, two hours. Prerequisite: G.E. 221, G. E. 311, G.E. 431, and Math. 431. *Smith.*

417(120) *Agricultural Tractor Power.* (3) I
A study of internal combustion engine cycles; principles of construction, operation, and adjustment of engines and tractors; power and performance measurements; economics of tractor power. Lecture, two hours; lab, two hours. Prereq: Agr. Engr. 415 and M.E. 400 or M.E. 320. *Young.*

420(107) *Farm Structures.* (3) S
Planning buildings for the adequate housing of farm animals, crops, machinery and supplies. Design problems considering the efficient use of labor, space requirements, construction methods, use of various building materials and costs. Lecture, one hour; lab, four hours. *Brooks.*

425(121a) *Farm Buildings and Equipment.* (4) II
Functional requirements of farm buildings and structures; planning for plant and process efficiency; selection and utilization of materials; sanitary equipment and disposal of wastes; preparation of plans, estimates, and specifications. Lecture, two hours; lab, four hours. Prereq: G.E. 431, E.G. 102. *Walker.*

426(121b) *Farm Buildings and Equipment.* (3) I
Continuation of Agr. Engr. 425 with more advanced study devoted to several of the same topics. Lecture, two hours; lab, two hours. Prereq: Agr. Engr. 425. *Walker.*

430(105) *Farm Water Management.* (3) I, II, S
Surveying, mapping, and determining areas of farm land; designing farm drainage systems, farm reservoirs; controlling water erosion with terraces and other mechanical structures. Lectures, two hours; lab, two hours. *Brooks.*

435(122a) *Soil and Water Conservation Engineering.* (4) II
Engineering aspects of the control of surface and subsurface water to aid agricultural production. Mapping of farm land; design and construction of terraces, dams, waterways, drainage, and irrigation systems. Lecture, three hours; lab, two hours. Prereq: M.E. 330 or C.E. 350. *Smith.*

436(122b) *Soil and Water Conservation Engineering.* (3) I
Continuation of Agr. Engr. 435 with more advanced study devoted to several of the same topics. Lecture, three hours. Prereq: Agr. Engr. 435. *Smith.*

440(102) *Dairy Equipment.* (2) II
Engineering principles involved in the construction, operation, and management of machinery and equipment used in processing dairy products. Lecture, two hours. Prereq: Agr. Engr. 110. *Parker.*

442(104) *Farm Electrification.* (3) I, II
Designed to give students information on how to obtain electric service and on the problems involved in selecting and using farm and home electrical equipment. Lecture, two hours; lab, two hours.

445(124) *Electricity in Agriculture.* (3) II
Planning and design of adequate farmstead wiring systems; utilization of electricity for heat, light, power, for control of agricultural machines and processes, and for chemical, biological, or other effects in agricultural production. Lecture, two hours; lab, two hours. Prereq: E.E. 301. *Parker.*

450(101a-c) *Special Problems.* (2) I, II, S
This course is designed to permit advanced students to make an intensive study of some phases of Agricultural Engineering in which they are particularly interested. Approval of instructor required. May be repeated twice for a total of 6 credits. *Staff.*

519(203) *Advanced Farm Machinery.* (3) I, II
Analysis of agricultural machines, power units, and equipment with emphasis on functional design requirements, development procedures, safety requirements, and evaluation of performance. To be offered as a formal class or as a special problems course. Prereq: Agr. Engr. 417. *Smith and Young.*

548(207) *Advanced Agricultural Processing.* (3) I, II
Analytical study of engineering problems dealing with the handling and processing of agricultural products, such as grading, sorting, drying, and curing, and the preparation of plans for these operations. To be offered as a formal class or as a special problems course. Prereq: Agr. Engr. 425 and 445 or equivalent. *Parker and Staff.*

628(204) *Advanced Farm Buildings and Equipment.* (3) I, II
Analysis and solution of selected problems dealing with such topics as rural housing, and the maintenance of desirable environments for farm animals and for the storage of farm products. To be offered as a formal class or as a special problems course. Prereq: Agr. Engr. 425. *Walker.*

635(206) *Advanced Soil and Water Conservation Engineering.* (3) I, II
Analysis and solution of selected problems dealing with land improvement and the control and use of water for agricultural production, with emphasis on functional design requirements of water retarding, storage, and distribution systems. To be offered as a formal class or as a special problems course. Prereq: Agr. Engr. 435 or equivalent. *Brooks and Smith.*

646(205) *Advanced Rural Electrification.* (3) I, II
Analytical study of selected topics associated with electricity in agriculture. To be offered as a formal class or as a special problems course. Prereq: Agr. Engr. 445. *Parker.*

657(201) *Research Methods in Agricultural Engineering.* (3) I, II, S
A study of research techniques and methods used in agricultural engineering. Prereq or concurrent: Agr. Econ. 530 or equivalent. *Parker.*

658(202) *Instrumentation in Agricultural Engineering Research.* (3) I, II
The principles and applications of measuring instruments and devices for obtaining experimental data. Prereq or concurrent: Agr. Engr. 657. *Parker.*

775(200a-c) *Seminar.* (0) I, II, S
Weekly meetings with members of the staff for reports and discussion on research and current trends and practices in agricultural engineering. One class hour. *Staff.*

795(500-1,2,3) *Thesis.* (0) I, II, S

ANIMAL HUSBANDRY

FACULTY

Wesley Patterson Garrigus, Charles Elmer Barnhart, Neil Wright Bradley, C. Frank Buck, Ted W. Cathey, Ray Horn Dutt, Robert Hall, Jr., James Dillon Kemp, C. Oran Little, George E. Mitchell, Jr., Kob Ryen, Marvin R. Selke, Dewey Steele, William York Varney, and Patch Gregory Woolfolk.

COURSES IN ANIMAL HUSBANDRY

100(1) *Farm Livestock Production.* (3) I, S
Types, market classes, and grades of beef cattle, sheep, swine, horses, and mules; origin, development, and characteristics of breeds; importance and place of livestock in Kentucky agriculture. Lecture, two hours; lab, two hours. *Buck.*

102(5) *Light Horse Husbandry.* (3) I, II
A brief study of the breeds of light horses; selection, feeding, and management; fundamental instruction in equitation. Lecture, two hours; lab, two hours. *Ryen.*

104(9) *Breeds of Livestock.* (3) I
A study of the identification, origin, development, adaptations and present status of the breeds of beef cattle, sheep and swine. Lecture, three hours. *Barnhart and Woolfolk.*

201(2) *Livestock Judging.* (3) II
Evaluation of purebred and commercial beef cattle, sheep, and swine; both market and breeding classes. Practice in writing reasons and giving of reasons orally. Lab, six hours. Prereq: A.H. 100. Not open to freshmen.

203(4) *Livestock Management.* (1) I
Intensive training in approved livestock management practices with emphasis on the preparation of animals for show and sale. Lab, two hours.

204(6) *Farm Butchering and Meat Curing.* (4) I, II
Slaughtering and cutting of beef, veal, hog, and lamb carcasses; correlation of breeding and feeding with carcass values, meat curing. Lecture, two hours; lab, four hours. Prereq: A.H. 100. Not open to freshmen. *Kemp and Varney.*

206(7) *Selection, Evaluation, and Use of Meats.* (3) II
History and growth of packing and meat industry; physical and chemical composition and nutritive value of meat; selection and utilization of cuts; identification; grading, cutting, processing and freezing methods; wholesale and retail sales methods. Lecture, two hours; lab, two hours. *Kemp.*

208(8) *Light Horse Production.* (3) I, II
Breed history, development and pedigrees; a general study of the anatomy and physiology of the horse; diagnosis, prevention and cure of common ailments; breaking, schooling and training. Lecture, two hours; lab, two hours. Prereq: A.H. 102. *Ryen.*

301(102) *Advanced Livestock Judging.* (3) I
Primarily for judging team candidates. Open only to those who have made good standings in the prerequisite courses. Lab, six hours. Prereq: A.H. 100, 201, and approval of instructor.

302(110) *Packing House Operations.* (4) (S)
An intensive on-the-job study of various packing house operations, includes livestock buying, slaughtering operations, cutting operations, curing, smoking, lard rendering, sausage making, packaging, inedible by-products, job relations, sales, advertising, business management, and plant maintenance. Prereq: A.H. 204, A.H. 206, or equivalent, and consent of instructor. *Kemp.*

303(108) *Meat Judging.* (2) I
Intensive instruction in the evaluation of carcasses and cuts of beef, veal, pork, and lamb. Lab, four hours. Prereq: A.H. 204 or A.H. 206. *Kemp.*

370(107a,b) *Animal Husbandry Seminar.* (1) II
An insight into the problems and opportunities in Animal Husbandry. Presentation and discussion of current topics by students, staff and guests. Lecture, one hour. May be repeated once for a total of 2 credits. *Staff.*

395(109a-c) *Special Problems in Animal Husbandry.* (1-4) I, II, S
Approval of instructor required. May be repeated twice for a total of 9 credits. *Staff.*

500(100) *Animal Breeding.* (3) II
History of animal improvement; survey of heredity traits in livestock, inbreeding and outcrossing; progeny tests and herd analysis. Lecture, three hours. Prereq: A.H. 100, 260. *Steele.*

502(101) *Applied Livestock Nutrition.* (3) S
A discussion of the specific nutritional requirements of beef cattle, sheep and swine; with emphasis on recent nutritional concepts, feed formulation, and economic considerations. Prereq: A.H. 280 and approval of instructors. *Barnhart, Buck, and Woolfolk.*

504(104) *Sheep Production.* (3) II
History and importance of the sheep industry; selection, breeding, feeding, and management of sheep; production and handling of wool. Lecture, two hours; lab, two hours. Prereq: A.H. 100, 280. *Woolfolk.*

506(105) *Beef Production.* (3) II
History and importance of the beef cattle industry; selection, breeding, feeding and management of beef cattle. Lecture, two hours; lab, two hours. Prereq: A.H. 100, 280. *Bradley.*

508(106) *Pork Production.* (3) II
History and importance of the swine industry; selection, breeding, feeding, and management of swine. Lecture, two hours; lab, two hours. Prereq: A.H. 100, 280. *Barnhart.*

768(500-1,2,3) *Residence Credit for Master's Degree.* (0) I, II, S
May be repeated once. *Staff.*

769 *Residence Credit for Ph.D. Degree.* (0) I, II, S
May be repeated indefinitely. *Staff.*

771(200a-c) *Animal Industry Seminar.* (1) I, II
May be repeated twice for a total of 3 credits. *Staff.*

790(201a-c) *Research in Meats.* (3) I, II, S
Problems involving original investigation. May be repeated twice for a total of 9 credits. *Kemp.*

791(203a-c) *Research in Horse Husbandry.* (3) I, II, S
Problems involving original investigation. May be repeated twice for a total of 9 credits.

792(204a-c) *Research in Sheep Husbandry.* (3) I, II, S
Problems involving original investigation. May be repeated twice for a total of 9 credits. *Woolfolk.*

793(205a-c) *Research in Beef Cattle Husbandry.* (3) I, II, S
Problems involving original investigation. May be repeated twice for a total of 9 credits. *Bradley.*

794(206a-c) *Research in Swine Husbandry.* (3) I, II, S
Problems involving original investigation. May be repeated twice for a total of 9 credits. *Barnhart.*

COURSES IN ANIMAL NUTRITION

280(81) *Feeds and Feeding.* (4) I, II
Digestion, absorption, assimilation and utilization of nutrients by domestic animals; principal feeds, rations, and nutritive ratios. Lecture, three hours; lab, two hours. Prereq: Chem. 102 or 110. *Buck.*

580(181) *Principles of Animal Nutrition.* (3) I
The chemistry and physiology of animal nutrition and the nutritive requirements for growth, fattening, reproduction, lactation, and other body functions. Lecture, three hours. Prereq: Chem. 236 or equivalent.

680(282) *Laboratory Methods in Animal Nutrition and Meats.* (4) I
The use of laboratory techniques and equipment in the solution of fundamental problems on nutrition and meats. Lecture and recitation, one hour; lab, 6 hours.

682 *Mineral Animal Nutrition.* (3) II (Alternate Years)
The history, principles and present concepts of ruminant and non-ruminant mineral nutrition.

684 *Advanced Ruminant Nutrition.* (3) I
Introduction of principles of ruminant metabolism in the utilization of feedstuff for meat, milk, and wool production. Prereq: One course each in nutrition, physiology, and biochemistry and consent of instructor.

686 *Swine Nutrition.* (3) I (Alternate Years)
A study of the nutritional requirements of the non-ruminant animal with special reference to swine and their various stages of growth, lactation and reproduction. An evaluation of the relative value of feed ingredients and mixed feed formulation. Prerequisite: A.H. 580, Chem. 430. *Barnhart.*

768(500-1,2,3) *Residence Credit for Master's Degree.* (0) I, II, S
May be repeated once. *Animal Nutrition Staff.*

769 *Residence Credit for Ph.D. Degree.* (0) I, II, S
May be repeated indefinitely. *Staff.*

784(289a-c) *Special Problems in Animal Nutrition.* (3) I, II, S
Approval of instructor required. May be repeated twice for a total of 9 credits. *Animal Nutrition Staff.*

798(284a-c) *Research in Animal Nutrition.* (3) I, II, S
Problems involving original investigation. May be repeated twice for a total of 9 credits. *Animal Nutrition Staff.*

COURSES IN GENETICS

260(61) *Genetics.* (3) I, II, S
The elementary principles of heredity and their relationship to plant and animal breeding. Attention is directed briefly to human heredity. Lecture, three hours. Prereq: Bot. 101 or Zool. 100. *Steele.*

261(62) *Genetics Laboratory.* (1) I, II
Technic of Drosophila breeding; analysis of Mendelian ratios in corn; observation of chromosomes in mitosis and reduction. Lab, two hours. Concurrently with A.H. 260, at student's option. *Steele.*

398(169a-c) *Special Problems in Genetics.* (1-3) I, II, S
Approval of instructor required. May be repeated twice for a total of 9 credits. *Steele and Dutt.*

560(161) *Genetics.* (3) I, II, S
Lecture A.H. 260 and assigned readings. Primarily for graduate students. Lecture, three hours. Prereq: Bot. 101 or Zool. 100. *Steele.*

561(162) *Genetics Laboratory.* (1) I, II
Similar to A.H. 261 but additional work required. Primarily for graduate students. Lab, two hours. Concurrent with A.H. 560 at student's option. *Steele.*

562(163) *Advanced Genetics.* (3) II
Concerned chiefly with the physical basis of heredity, mutations, chromosomal aberrations, linkage, genetics and developments, and reports on current literature. Lecture, three hours. Prereq: A.H. 260. *Steele.*

660(260) *Physiology of Reproduction.* (3) II
Physiological processes of reproduction in farm animals; gonadal functions; endocrine relationships; fertility; and factors affecting reproductive efficiency. Lecture, three hours. Prereq: A.H. 500 or D.S. 524 or Phy. 540 and A.P. 501. *Dutt.*

662(262) *Population Genetics.* (3) I
Introduction to principles of static and dynamic populations; statistical concepts and tools applied to quantitative inheritance. Lecture, three hours. Prereq: One course each in statistics and genetics and consent of instructor. *Walton.*

768(500-1,2,3) *Residence Credit for Master's Degree.* (0) I, II, S
Steele and Dutt.

769 *Residence Credit for Ph.D. Degree.* (0) I, II, S
May be repeated indefinitely. *Steele and Dutt.*

783(169a-c) *Special Problems in Genetics.* (1-3) I, II, S
Approval of instructor required. *Steele and Dutt.*

797(261a-c) *Research in Genetics.* (3) I, II, S
Problems involving original investigation. May be repeated twice for a total of 9 credits. *Steele and Dutt.*

ANIMAL PATHOLOGY

FACULTY

Floyd Edgar Hull and Robert Frank Behlow

251(51) *Animal Hygiene.* (3) I, II
Animal Hygiene includes feed, water, housing, ventilation, yards, pastures, sanitation, and environment. All are part of the many problems to be considered in a program of animal health. Lecture, three hours. *Hull.*

395(104a,b) *Special Problems in Animal Pathology.* (3) I, II
Prereq: An. Path. 251, 501, 502, and approval of instructor. May be repeated once for a total of 6 credits. *Hull and Behlow.*

501(101) *Anatomy and Physiology of Domestic Animals.* (3) I
A study of anatomy and physiology as related to courses in livestock judging, nutrition, butchering, breeding, and infectious diseases. Lecture, three hours. *Behlow.*

502(102) *Infectious Diseases of Domestic Animals.* (3) II, S
Distribution, general nature, manner of dissemination, methods of control, prevention, and eradication of infectious and parasitic diseases of animals. Lecture, three hours. Prereq: An. Path. 251, or approval of instructor. *Hull and Behlow.*

780(201a,b) *Investigations in Animal Diseases.* (3) I, II
This course is open only to persons who have degrees in veterinary medicine. May be repeated once for a total of 6 credits. *Hull and Behlow.*

DAIRY SCIENCE

FACULTY

Dwight Moody Seath, Theodore Russell Freeman, Wilburn Glenn, Arthur Graden, Don Richard Jacobson, Durward Olds, Arthur W. Rudnick, and Robert Eugene Walton.

120(21) *Fundamentals of Dairying.* (3) I, II
Place of dairying in agriculture; factors affecting secretion, composition, physical and chemical properties of milk and cream; food value of dairy products; dairy calculations; clean milk production; farm dairy processes. Lecture, two hours; lab, two hours. *Jacobson, Rudnick, and Seath.*

221(23) *Judging Dairy Cattle.* (3) II
Selection of sires, cows, and heifers with due consideration for breed and dairy type, application of principles involved in the problem of herd improvement. Lab, six hours. Prereq: D.S. 120. *Seath.*

230(22) *Judging Dairy Products.* (2) I
A study of the accepted standards of judging market milk, butter, ice cream, cheese, and starters; scoring these products in accordance with standard methods. Lecture, one hour; lab, two hours. *Freeman.*

232(33) *Advanced Dairy Products Judging.* (2) II

Practice in judging dairy products with especial emphasis being given to commercial methods of scoring dairy products and to procedure followed in intercollegiate judging contests. Lecture, one hour; lab, two hours. Prereq: D.S. 230 or approval of instructor. *Freeman.*

235(24) *Dairy Plant Testing Methods.* (3) II

Purpose, principles, technic and interpretation of results of testing procedures essential to the control of all dairy processing operations. Lab, six hours. Prereq: D.S. 120; Chem. 104. *Rudnick.*

237(30) *Approved Dairy Practice.* (1)

A minimum of three months practical experience in an approved dairy plant, preferably to be done between junior and senior years. *Freeman.*

321(122) *Advanced Dairy Cattle Judging.* (3) I

Primarily for judging team candidates. Open only to those who have made good standings in the prerequisite courses. Lectures and lab. Prereq: D.S. 120, 221. *Seath.*

396(129a-f) *Special Problems in Dairying.* (1-4) I, II, S

Approval of instructor required. *Dairy Staff.*

520(121) *Dairy Cattle Feeding and Management.* (3) I

Application of principles of nutrition to dairy cattle feeding; current methods contributing to maximum efficiency in the production of quality dairy products on the farm. Lecture, two hours; lab, two hours. Prereq: A.H. 280. *Seath, Jacobson, and Graden.*

524(120) *Dairy Cattle Breeding.* (3) II

Application of genetics to problems of breed and herd improvement; progeny testing of sires; type classification, selective registration; prominent families and strains within the leading dairy breeds. Lecture, two hours; lab, two hours. Prereq: A.H. 260. *Seath.*

526(132) *Reproduction in Dairy Cattle.* (2) II

A study of male and female reproductive processes in dairy cattle and the application of artificial breeding to the improvement of dairy herds. Lecture, one hour; lab, two hours. Prereq: D.S. 120, A.H. 260, Zool. 100. *Olds.*

529(127) *Survey of the Dairy Industry.* (3) S

Designed to acquaint students with research problems and methods at other institutions and with commercial operations in other areas. Prereq: D.S. 120 or consent of instructor. *Staff.*

530(123) *Dairy Bacteriology.* (2) I

Application of bacteriological principles to production and processing of dairy products, entrance of micro-organisms into dairy products, effects of their growth and methods for control. Lecture, two hours. Prereq: Microb. 200 or 400. *Glenn.*

531(124) *Dairy Bacteriology Laboratory.* (2) I

Laboratory to accompany D.S. 530, Dairy Bacteriology. Lab, four hours. Prereq: or concurrent: D.S. 530. *Glenn.*

533(126) *Advanced Dairy Bacteriology.* (3) II

Bacteriological principles and problems relating to specific dairy products and processes. Lab, six hours. Prereq: D.S. 530, 531. *Glenn.*

534(134) *Principles of Dairy Technology.* (4) II

Chemical and physical characteristics of dairy products; chemical, physical, and physico-chemical principles involved in dairy processing; special methods of analysis. Lecture, one hour; lab, six hours. Prereq: Math. 101, Chem. 236, D.S. 235. *Freeman.*

536(135) *Dairy Processing and Plant Management.* (6) II

Methods used for processing milk, butter, ice cream, cheese, and concentrated milks; fundamentals of dairy plant management. Lecture, two hours; lab, eight hours. Prereq: D.S. 235. *Staff.*

572(139a-d) *Dairy Seminar.* (1) I, II

Open to Seniors and Graduate Students. May be repeated three times. *Dairy Staff.*

622(222) *Current Developments in Dairy Science.* (3) II

A course designed to acquaint the advanced student with the more significant problems and scientific developments of current interest in the dairy field. Prereq: Graduate standing and permission of major adviser. *Dairy Staff.*

662(262) *Population Genetics.* (3) I

Same as Animal Husbandry 662. *Walton.*

768(500-1,2,3) *Residence Credit for Master's Degree.* (0) I, II, S

May be repeated once. *Staff.*

769 *Residence Credit for Ph.D. Degree.* (0) I, II, S

May be repeated indefinitely. *Staff.*

771(200) *Animal Industry Seminar.* (1) I, II

May be repeated twice for a total of 3 credits. *Staff.*

795(221a-c) *Research in Dairying.* (3) I, II, S

Problems involving original investigation in either dairy production or dairy manufacturing. May be repeated for a total of 12 credits. *Dairy Staff.*

HORTICULTURE

Carl Edward Chaplin (acting head), Jan Wallace Abernathie, Donald J. Cotter, O. Malcolm Davenport, Emery Myers Emmert, James Duratt Kelly, Dean Edgar Knavel, and Clair Smith Waltman.

100(1) *General Horticulture.* (3) I, II

A study of the principles and practices basic to the production of fruit, flowers, and vegetable crops. Lectures, three hours. *Waltman.*

101(20) *Elementary Landscape.* (2) II

The elementary principles of landscape as applied to the planting of urban home grounds and farmsteads. Lectures, two hours. Offered 1961-62 and alternate years. *Abernathie.*

102(22) *Elementary Floriculture.* (2) II

The elementary principles of growing flowers and decorative plants, as house plants, and outdoor culture. Lectures, two hours. Offered 1960-61 and alternate years. *Abernathie.*

395(106a-c) *Special Problems in Pomology.* (3) I, II, S

Prereq. Hort. 100 and one of the following: 502, or 504. *Waltman.*

396(112a-c) *Special Problems in Vegetable Crops.* (1-4) I, II, S

Prereq: Hort 100, 510, and approval of instructor. May be repeated twice for a total of 9 credits. *Emmert.*

397(124a-d) *Special Problems in Ornamental Horticulture.* (1-4) I, II, S

Prereq: Hort. 100, 520, 522; Bot. 101, 103; and approval of instructor. May be repeated for a total of 12 credits. *Abernathie & Kelley.*

500(102) *Principles of Spray Practice.* (2) I

A study of the principles and practice of spraying for the control of pests of horticultural crops. Lecture, one hour; lab, two hours. Prereq: Hort. 100, Chem. 102, Ag. Ent. 100. *Waltman.*

502(103) *Pomology: Deciduous Tree Fruits.* (3) I

A course dealing with the theory and practice of commercial tree fruit production, with major emphasis on apple growing. Lectures, two hours; lab, two hours. Prereq: Hort. 100. *Waltman.*

504(105) *Pomology Small Fruits.* (2) II

A detailed study of the care and management of commercial plantings of strawberries, raspberries, and other bush fruits. Lectures, one hour; lab, two hours, first half; lectures, two hours, last half. Prereq: Hort. 100. *Waltman.*

510(110) *The Principles of Vegetable Gardening.* (3) I

A study of the fundamental principles underlying commercial production of vegetables. Lectures, two hours; lab, two hours. Prereq: Hort. 100, Agron. 266. *Cotter.*

512(111) *Growing Vegetable Plants Under Glass.* (3) II

Production of vegetable plants grown for transplanting; types of hotbeds, cold frames, and simple greenhouse structures. Lectures, two hours; lab, two hours. Prereq: Hort. 510. *Cotter.*

520(120) *Landscape Gardening.* (3) II, S

The adaptation of principles of landscape architecture; coordination of buildings with surroundings; identification and uses of decorative materials and their requirements. For ornamental majors. Lectures, two hours; lab, two hours. Prereq: Hort. 100, 101, Bot. 101, 103. Offered 1961-62 and alternate years. *Abernathie.*

522(121) *Advanced Landscape.* (3) II

A continuation of Horticulture 520, with special emphasis on design and use of materials. For ornamental majors. Lectures, two hours; lab, two hours. Prereq: 520. Offered 1960-61 and alternate years. *Abernathie.*

524(122) *Floriculture.* (2) II

A detailed study of specific groups of flowers such as bulbs, iris, and roses. Lectures, two hours. For ornamental majors. Prereq: Hort. 102. Offered 1960-61 and alternate years. *Abernathie.*

525(123) *Plant Propagation.* (3) II

A detailed study of the methods of propagating certain horticultural plants. Includes cuttings, grafting, and budding. Lectures, two hours; lab, two hours. Prereq: Hort. 100, 520; Bot. 101, 103. Offered 1961-62 and alternate years. *Kelley.*

527(125) *Plants and Planting Materials.* (2) II

A detailed study of evergreen and deciduous plants, their identification, size, shape, effects produced, the conditions required for their use and suitability for landscape uses. Lecture, one hour; lab, two hours. For ornamental majors. Prereq: Hort. 520 or approval of instructor. Offered 1960-61 and alternate years. *Kelley.*

768(500-1,2,3) *Residence Credit for Master's Degree.* (0) I, II, S

Staff.

770(200a-c) *Seminar.* (1) I, II, S

May be repeated twice for a total of 3 credits. *Staff.*

780(110) *The Principles of Vegetable Gardening.* (3) I

Prereq: Hort. 100 and one of the following: 502 or 504. May be repeated twice for a total of 9 credits. *Waltman.*

781(112a-c) *Special Problems in Vegetable Crops.* (1-4) I, II, S

Prereq: Hort. 100, 510, and approval of instructor. *Emmert.*

782(124a-d) *Special Problems in Ornamental Horticulture.* (1-4) I, II, S

Prereq: Hort. 100, 520, 522; Bot. 101, 103; and approval of instructor. May be repeated for a total of 12 credits. *Abernathie & Kelley.*

790(201a-c) *Research in Horticulture.* (1-4) I, II, S

Prereq: Approval of instructors. May be repeated twice for a total of 9 credits. *Staff.*

FORESTRY

100(1) *Elements of Forestry.* (3) I

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. Lectures, three hours. *Davenport.*

104(2) *Farm Forestry.* (3) I, II

The principles of forestry as applied to farm woodlands. Important trees of Kentucky. Tree structure and physiology. Reproduction, management and protection of farm woodlands. Measuring and utilization of wood products. Lectures, two hours; lab, two hours. *Davenport.*

200(20) *Seeding and Planting.* (3) II

Artificial regeneration for forest stands; fundamentals of forestry nursery practice; planting techniques and methods. Lectures, two hours; lab, two hours. Prereq: For. 100 or 104. *Davenport.*

300(10) *Elements of Forest Mensuration.* (3) I

The theory and application of measurements of logs, trees, and stands of timber. Lectures, two hours; lab, two hours. Prereq: For. 100 or 109; Math. 112; or approval of instructor. *Davenport.*

400(110) *Wood Identification and Technology.* (3) I

General anatomy of wood, identification of commercial species of the United States based on gross and miscroscopic features. Properties and uses. Lectures, two hours; lab, two hours. Prereq: For. 100 or 104; Bot. 101; and approval of instructor. *Davenport.*

410(111) *Lumber and Other Forest Products.* (3) II

Manufacture, grading, and seasoning of lumber. Forest products other than logs or lumber, their methods of utilization and markets. Lectures, three hours. Prereq: For. 100 or 104 and approval of instructor. *Davenport.*

415(115) *Wood Conditioning.* (3) I, S

The methods and principles involved in seasoning, changes in physical properties, and preservation of wood. Prereq: For. 100 or 104. *Davenport.*

780(120a-c) *Special Problems in Forestry.* (1-4) I, II, S

Prereq: For. 400 and 450, and approval of instructor. May be repeated twice for a total of 9 credits. *Davenport.*

POULTRY SCIENCE

FACULTY

Wyatt Marion Insko, Jr., Okra Jones Abbott, John J. Begin, Thomas H. Johnson, and Donald Wayne MacLaury.

140(41) *Farm Poultry Production.* (3) I, II

Principles of poultry husbandry, breeds and poultry improvement; selection and culling, incubation and brooding, feeding, housing and disease control. Marketing poultry products. Lecture, two hours; lab, and demonstration, two hours. *Begin.*

242(44) *Poultry Judging.* (3) II

Selection of breeding stock as a basis for flock improvement, including breed type and production values. Lecture, one hour; lab, four hours. Prereq: Pty. 140. *Johnson.*

342(145) *Advanced Poultry Judging.* (3) I

Primarily for judging team candidates. Open only to those who have made good standing in the prerequisite courses. Lecture, one hour; lab, four hours. Prereq: Pty. 140, 242. *Johnson.*

397(149a-c) *Special Problems in Poultry.* (1-3)

Approval of instructor required. May be repeated twice for a total of 9 credits. *Staff.*

540(140) *Poultry Breeding.* (3) I

Genetic principles involved in poultry breeding; disease resistance; inheritance of egg production and related characters; development ot breeding programs. Lecture, three hours. Prereq: Pty. 140, A.H. 260. *MacLaury.*

542(141) *Advanced Poultry Production.* (3) I

Studies of control measures in poultry diseases, nutrition, marketing; flock management and replacement. Lecture, two hours; lab, and dem., two hours. Prereq: Pty. 140. *Abbott.*

544(146) *Survey of the Poultry Industry.* (3) S

Designed to acquaint students with research problems and methods at other institutions and with commercial operations in other areas. Full-time for approximately three weeks. Prereq: Pty. 140 or permission of instructor. *Staff.*

546(143) *Hatchery Management.* (3) II

Principles involved in operating incubators and brooders; hatchery operation and management; factors influencing the avian embryo; operation of commercial incubators. Lecture, two hours; lab, two hours. Prereq: Pty. 140 and approval of instructor. *MacLaury.*

548(147) *Poultry Nutrition.* (3) II

A study of nutrients, feed ingredients, deficiencies, formulation, and feeding practices for broilers, replacement stock, and layers. Lecture, two hours; lab, two hours. Prereq: Chem. 236 or equivalent and Pty. 140. *Begin.*

768(500-1,2,3) *Residence Credit for Master's Degree.* (0) I, II, S

May be repeated once. *Staff.*

771(200) *Animal Industry Seminar.* (1) I, II

Staff.

796(241a-c) *Research in Poultry.* (3) I, II, S

Problems involving original investigation. May be repeated twice for a total of 9 credits. *Staff.*

RURAL SOCIOLOGY

A. Lee Coleman, Howard Wayland Beers (on leave 1960-61), James Stephen Brown, C. Milton Coughenour, Thomas Ford, George A. Hillery, Jr., Joseph J. Mangalam, and Harry Schwarzweller.

156(10) *Introduction to Rural Sociology.* (3) I, II

Agriculture and culture; family church, school, government, and trade in rural life; the person in relation to rural neighborhoods, communities, groups, and agencies; cooperation and conflict; recreation, health, and social welfare. *Mangalam.*

365(190a-c) *Special Problems in Rural Life.* (1-3) I, II

Supervised individual study in selected sub-fields of rural sociology, population, standards of living, neighborhood and community change, and rural institutions are among the available fields for investigation. May be repeated twice for a total of 6 credits. *Staff.*

513(160) *Rural Community Analysis.* (3) I, II

The nature of the town-country community, with special emphasis on the function of institutional and agency programs and their leaders in relation to the community. Same course as Home Econ. 575. *Ford.*

514(125) *Rural Movements and Social Policy.* (3) I

Social factors in selected rural movements, their organization and development, influence upon governmental policy, and the social needs met. Prereq: An introductory course or consent of instructor. *Brown.*

517(180) *Advanced Rural Sociology.* (3) II

Systematic study of the structure and function of family, informal and locality groups, social strata, religious, educational, political, and occupational groups in rural society. *Brown.*

541(115) *Group Organization and Leadership.* (3) II, S

A study of the dynamics of organized groups; leadership, membership participation and program planning in agricultural organization and other organized rural groups. Prereq: An introductory course or consent of instructor. *Coughenour.*

615(230) *Rural Urban Relations.* (3) II

Interdependence of city and country; solidarity and antagonistic relationships of city and country; the process of urbanization; problems of rural adjustment to urban influence.

773(250a,b) *Topical Seminar.* (3) I, II

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. *Staff.*

776(210) *Seminar in Rural Organization.* (3) I

Basic theories of social organization, comparative study of selected systems of rural social organization; examples of purposeful organization.

778(220) *Seminar in Rural Attitudes.* (3) II

The nature and genesis of rural attitudes and their relation to rural social control; analysis of contemporary rural attitudes and opinions.

780(190a-c) *Special Problems in Rural Life.* (1-3) I, II

Supervised individual study in selected sub-fields of rural sociology, population, standards of living, neighborhood and community change, and rural institutions are among the available fields for investigation. May be repeated twice for a total of 6 credits. *Staff.*

790(200a-c) *Research in Rural Sociology.* (1-3) I, II, S

Individual graduate research with correlated study of rural social research types and methods. May be repeated twice for a total of 6 credits. *Staff.*

Requirements for Graduation in Home Economics

To receive the degree Bachelor of Science in Home Economics a student is required to gain a total of 136 semester credits and 272 points. These represent the minimum requirements for graduation. There are seven curricula in home economics and a student who completes the requirements of any one of these qualifies for the degree. In all cases the student is responsible for meeting requirements for graduation.

Home Economics offers education for home and family living in a contemporary society. It includes liberalizing courses in the arts, humanities, and sciences as well as technical education in the subject matter of the profession. The student in home economics receives the type of education which gives an understanding of citizenship in a community and responsibility in the family. Home economics also provides education for some of the professions that deal with the home and family living. To that end, curricula are planned to serve as guides for major emphasis in specialized fields of work.

Faculty advisers are appointed by the Director of the School of Home Economics to assist students with their academic problems. These include choice of a curriculum, selection of elective courses, preparation of class schedules, and problems of employment. The normal academic load is 17 credits

Transfer students are required to take a minimum of 18 credits of home economics in the University.

Changes in a curriculum to meet specific needs may be made if approved in accordance with rules of the University Faculty. A student with a special interest not included in the six major fields may remain in the general curriculum and, in conference with her advisor, select appropriate groups of elective courses. Such special interests include community nutrition, and preparation for graduate study and research in foods and nutrition.

GENERAL CURRICULUM IN HOME ECONOMICS LEADING TO THE DEGREE BACHELOR OF SCIENCE IN HOME ECONOMICS

The general curriculum constitutes a core curriculum, and courses listed are required in all curricula.

Freshman and Sophomore Years

General	Crs.
Art 105—Forms of Art	2
Art 130—Basic Design, or	
Hum. 203—Art—The Renaissance to the Present	2
*Che. 102, 104—Gen. Chemistry for Students in Agr. & H. E.	8
Eco. 251—Principles of Economics	3
**Eng. 101, 102—Freshman Composition	6
Eng. 181—Basic Public Speaking, or Journalism, 201 or 203	3
History elective	3
Physical Education	2
Phy. 151, or 152 Introduction to Physics or	3 or
Phy. 281—General Physics for Students in Agr. & H.E.	(4)
Pgy. 206—Elementary Physiology	3
Psy. 100—Introduction to Psychology	4
R.S. 156—Introduction to Rural Sociology or	
Soc. 151—Introductory Sociology, or	
Soc. 153, or 154 Societies Around the World	3
M.A. 101, or M.A. 111—College Algebra	3
	45 to (46)

Home Economics	
H.E. 104—Foods	4
H.E. 106—Foods	3
H.E. 120—Textiles	2
H.E. 151—Health of the Family	3
H.E. 153—Courtship & Marriage	3
H.E. 224—Clothing Selection & Costume Design	3
H.E. 255—Child Development	3
H.E. 261—Housing	4
	25

Junior and Senior Years

Home Economics	
H.E. 211—Foods and Nutrition	3
H.E. 330—Interior Design	3
H.E. 402—Dietetics	3
H.E. 561—Consumer Problems	3
H.E. 562, 563—Home Management & Fam. Rel.	5
Home Economics electives	18
	35
General	
Electives	34
Total required for graduation	136

SUMMARY

Core Courses		84
General Education	42	
Home Economics	42	
Home Economics Electives		18
General Electives		34
Total required for graduation		136

General Electives are to be chosen with assistance of the student's advisor. The following areas are recommended.

Agricultural Extension	Library Science
Anthropology	Microbiology
Art	Modern Foreign Languages and Literature
Chemistry	Physical Education
Commerce	Psychology
Education	Radio Arts
English	Sociology
History	Zoology
Horticulture	
Journalism	

CURRICULA FOR MAJORS

In addition to the general curriculum, provision is made for majors in the following fields: (1) Child Development and Family Living; (2) Clothing, Costume Design, Textiles, and Interior Design; (3) Food and Equipment Demonstration; (4) Home Economics Extension; (5) Institution Management; and (6) Vocational Home Economics, (teaching).

The electives should be chosen in accordance with a definite plan, and students should consult with their advisers concerning both Home Economics electives and general electives. The courses from which Home Economics electives are to be chosen appear under each major field.

CURRICULUM IN CHILD DEVELOPMENT AND FAMILY LIVING LEADING TO THE DEGREE BACHELOR OF SCIENCE IN HOME ECONOMICS

This curriculum prepares a student for homemaking, nursery school teaching fellowships, or future specialization in the field of child development and family living.

	Crs.
Core courses (see general curriculum)	84
Home Economics electives	18
H.E. 254—Psychology of the Child	3
*H.E. 350—Child Guidance	3
H.E. 395—Guiding Children's Routines	3
H.E. 529—The Child and His Clothing	3
H.E. 555—Play and Play Materials	2
H.E. 557—Infant Development	2
H.E. 516—Food for Children	3
H.E. 595—Special Problems in Child Development and Family Living	5
*H.E. 396—Supervised Nursery School Participation	3
H.E. 552—Nursery School Organization	3
H.E. 553—The Child in His Family	3
General electives	34
Total	136

CURRICULUM IN CLOTHING, COSTUME DESIGN, TEXTILES, AND INTERIOR DECORATION LEADING TO THE DEGREE BACHELOR OF SCIENCE IN HOME ECONOMICS

This curriculum is planned for students who are interested in professional or business careers in clothing retailing, interior design, textiles and clothing research, fashion consulting and writing as well as in the teaching of clothing.

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* Students deficient in mathematics, as indicated by the freshman tests, are required to pass M.A. 1, Basic Mathematics (no credit, or M.A. 101, or M.A. 111, with a grade of C before taking Chemistry.

** The requirement in whole or in part for Eng. 101, 102 may be satisfied without credit by credit by passing a departmental proficiency examination. It is recommended that students deficient in English as indicated by the freshman tests, take Eng. 1 (no credit) before taking Eng. 101.

	Crs.
Core courses (see general curriculum)	84
Home Economics electives (starred courses are required for clothing majors)	18
*H.E. 227—Clothing Construction	4
*H.E. 328—Clothing and Pattern Designing	3
*H.E. 520—Adv. Textiles	2
H.E. 524—Costume Design	3
*H.E. 526—Adv. Clothing	3
H.E. 536—Int. Decoration Projects	2
H.E. 523—Fashion	2
*H.E. 522—Economics of Clothing	2
H.E. 534—Decorative Textiles	2
H.E. 528—Tailoring	2
H.E. 530—Adv. Interior Design	2
H.E. 529—The Child and His Clothing	3
H.E. 592—Special Problems	2
H.E. 597—Special Problems	2
H.E. 593—Special Problems in Interior Design	2
General electives	34
Total	136

CURRICULUM IN FOOD AND EQUIPMENT DEMONSTRATION LEADING TO THE DEGREE BACHELOR OF SCIENCE IN HOME ECONOMICS

This curriculum prepares the student for commercial demonstration position or for experimental work in foods and equipment.

	Crs.
Core courses (see general curriculum)	84
Home Economics electives (starred courses are required for majors in Food and Equipment Demonstration)	18
*H.E. 568—Household Equipment	3
*H.E. 505—Experimental Cookery	3
H.E. 517—Foods for Special Occasions	3
*H.E. 368—Demonstration Techniques	3
H.E. 514—Food Preservation	3
H.E. 503—Community Nutrition	3
H. E. 240—Institution Marketing	3
H.E. 242—Institution Foods	4
General electives	34
	136

CURRICULUM IN HOME ECONOMICS EXTENSION LEADING TO THE DEGREE BACHELOR OF SCIENCE IN HOME ECONOMICS

This curriculum is offered for those students who wish to enter Home Economics Extension as home demonstration agents.

	Crs.
Core Courses (see general curriculum)	84
Home Economics Electives	18
H.E. 227—Clothing Construction	4
H.E. 328—Clothing and Pattern Designing	3
H.E. 505—Experimental Cookery	3
H.E. 514—Food Preservation	3
H.E. 536—Interior Decoration Projects	2
H.E. 528—Tailoring	2
H.E. 530—Adv. Int. Design	2
*H.E. 350—Child Guidance	3
H.E. 368—Demonstration Techniques	3
H.E. 503—Community Nutrition	3
H.E. 517—Food for Special Occasion	3
H.E. 520—Advanced Textiles	2
H.E. 522—Economics of Clothing	2
H.E. 537—History of Furniture	3
H.E. 540—The School Lunch	3
H.E. 553—The Child in His Family	3
H.E. 568—Household Equipment	3
General electives	34
Total	136

CURRICULUM IN INSTITUTION MANAGEMENT LEADING TO THE DEGREE BACHELOR OF SCIENCE IN HOME ECONOMICS

This curriculum is planned to meet requirements of the American Dietetic Association for internships in hospital or administrative dietetics.

	Crs.
Core courses (see general curriculum)	84
Home Economics electives	22
H.E. 240—Institution Marketing	3
H.E. 242—Institution Foods	4
H.E. 510—Adv. Nutrition	4
H.E. 512—Nutrition in Disease	2
H.E. 546—Institution Org. and Mgt.	3
H.E. 543—Institution Equip.	3
H.E. 344—Food Service Accounting	3
Additional courses in foods, nutrition or institution management may be added if desired.	
General electives	30
Microb. 200—Principles of Bacteriology	4
Che. 236—Organic Chemistry	4
Edu. 202—Human Development and the Curriculum or	4
Edu. 548—Educational Psychology	(3)
Psy. 540—Intro. to Industrial Psychology or	
Psy. 541—Psychology of Industrial Personnel Procedure	3
Total	136

CURRICULUM IN VOCATIONAL HOME ECONOMICS LEADING TO THE DEGREE BACHELOR OF SCIENCE IN HOME ECONOMICS

This curriculum meets requirements for a provisional high school certificate in vocational home economics.

	Crs.
Core courses (see general curriculum)	84
Home Economics electives	18
H.E. 227—Clothing Construction	4
H.E. 328—Clothing and Pattern Design	3
H.E. 596—Interior Decoration Projects	2
H.E. 350—Child Guidance	3
H.E. 568—Household Equipment	3
Additional courses to total 18 credits.	
General electives	15
Literature	3
Humanities	2
Biological Science	4
Social Science	3
Free elective	3
Professional Electives	18 or 19
Edu. 202—Human Growth and the Curriculum	4
Edu. 501—School Organization	3
Edu. 586—Tech. of Teaching Home Ec.	9
Edu. 362—Student Teaching in Home Ec.	9
Edu. 588—Adult Education in Home Ec.	3
Total required for graduation	136

Graduate Work

The School of Home Economics offers graduate work leading to the degree of Master of Science in Home Economics.

SCHOOL OF HOME ECONOMICS

FACULTY

Abby L. Marlatt, Marie Rodes Barkley, Annie R. Brownlie, Anne McAdams Clemmons, Lois Blanche Combs, Rohini Amrital Doshi, Statie E. Erikson, Ruth Margaret Guenther, Jeanette Ridley Hallbeck, A. Catherine Kidd, Lucile Magruder, Shirley Newsom, Norma June Perry, Jeanette Ridley, Jessie Wilson Ringo, Roberta Seat Taylor, Gertrude M. Skerski, Claudia E. Wells, and Helen M. Wilmore.

Course Descriptions

101(1) *Principles of Nutrition.* (3) S
A non-technical course on the essentials of adequate diet for optimum health and on food plans to fit physiological and environmental factors. Lecture and discussion, three hours. Not open to home economics majors. *Taylor.*

102(2) *Nutrition and Public Health.* (2) S
Nutrition as it effects social and family problems in the field of public health. Consideration is given to family food budgets on different economic levels. Lecture, one hour; lab, two hours. *Clemmons.*

104(5) *Foods.* I, II
An introduction to the study of food. The classification and composition of foods and study of methods of preparation and principles involved. Lecture, two hours; lab, four hours. *Staff.*

106(6) *Foods.* (3) I, II
Meal planning and service. The selection, purchase and preparation of food. Practice is given in different types of food service. Lecture and lab, six hours. Prereq: H.E. 104. *Staff.*

211(11) *Foods and Nutrition.* (3) I, II
Properties and nutritive values of food. Functions of food for maintenance of body processes. Metabolism of food in the body. Lecture, two hours; lab, three hours. Prereq: Che. 104, Pgy. 206. *Skerski*

401(101) *Principles of Nutrition.* (3) I, II, S
Fundamental facts of nutrition presented as basis for planning adequate diets for people of different ages, activities and needs and at different income levels. Practical aspects are emphasized. Lecture and discussion, three hours. Not open to home economics majors. *Clemmons.*

402(102) *Dietetics.* (3) I, II, S
Daily food requirements at different age levels and different economic levels. Practice is given in setting up normal dietaries for individuals, families, and other groups. Lecture, two hours; lab, two hours. Prereq: H.E. 106, 211. *Taylor.*

503(103a,b) *Community Nutrition.* (3) I, II, S
Study of nutrition education programs on a community level. Experience is provided for presenting nutrition in health clinics, schools and state institutions. Lectures, 2 hours; lab, 2 hours. Prereq. or concurrent: H.E. 402. May be repeated once for a total of six credits. *Clemmons.*

505(105) *Experimental Cookery.* (3) II, S
Study of factors that affect results obtained in cooking and food preparation processes. Experimental work under controlled conditions. Lecture, one hour; lab, four hours. Prereq: H.E. 104, 211. *Brownlie.*

507(107) *Workshop in Applied Nutrition.* (2)
The application of scientific knowledge of nutrition to the promotion of positive health. Emphasis is given to communications techniques and their use in field work. *Clemmons.*

508(108a-c) *Seminar in Nutrition.* (1) I, II, S
Investigations of recent research in nutrition. Prereq: Senior or graduate standing. May be repeated twice for a total of three credits. *Marlatt.*

510(11) *Advanced Nutrition.* (4) I
Application of biochemistry to understanding of the utilization of nutrients for body processes. Laboratory work includes analysis of digestive juices, blood, and urine; balance experiments. Lecture, two hours; lab, six hours. Prereq: H.E. 211, Che. 236 or approval of instructor. *Marlatt and Skerski.*

512(112) *Nutrition in Disease.* (2) II
Metabolic processes of the body in normal and diseased conditions correlating the metabolic changes due to disease with diet therapy. Lecture, one hour; lab, two hours. Prereq. or concurrent: H.E. 510, 402. *Marlatt.*

514(114) *Food Preservation.* (3) I, S
Principles of home food preservation. Canning, dehydration, and freezing of fruits, vegetables and meats; pickling of fruits and vegetables; making of jams, jellies and preserves; brining. Prereq: Microb. 200, H.E. 104. *Brownlie.*

516(158) *Food for Children.* (3) II, S
Experience in selection, preparation and serving of food to your children. Emphasis is placed on the pre-school age and the factors important in establishing good food habits. Prereq: H.E. 106, 211, 255. *Staff.*

517(115) *Food for Special Occasions.* (3) I, S
Advanced work in culinary arts and skills. Preparation of attractive and appetizing dishes to help the homemaker in planning buffet suppers, receptions, picnics, wedding parties, formal meals. Lab, six hours. Prereq: H.E. 104, 106. *Barkley.*

590(106a-d) *Field Work in Nutrition.* (1) I, II, S
Nutrition problems at different age levels, correlated with surveys and experimental studies to show the relation between diet selection and its physical and mental effects. Lecture and laboratory. Prereq. H.E. 503, or approval of instructor. *Clemmons.*

591(119a-c) Special Problems in Foods and Nutrition. (2) I, II, S
Intensive work on a specific phase of the field. Senior and graduate standing. May be repeated twice for a total of six credits. *Clemmons and Marlatt.*

603(203a-b) *Advanced Community Nutrition.* (3 ea.) I, II, S
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. Prereq: H.E. 503. May be repeated once for a total of six credits. *Clemmons.*

771(208a-c) Seminar in Nutrition. (2) II, S
May be repeated twice for a total of six hours. *Erikson and Marlatt.*

781(219a-c) *Special Problems in Food and Nutrition.* (2) I, II, S
Independent advanced work on a specific problem. May be repeated twice for a total of six credits. *Clemmons, Erikson, and Marlatt.*

COURSES IN CLOTHING, TEXTILES, COSTUME DESIGN, AND INTERIOR DESIGN

120(25) *Textiles.* (2) I, II
Fundamentals of weaves, fibers, fabrics and finishes. Simple tests for recognizing fabrics, emphasis on practical aspects. Lecture, one hour; lab, two hours. *Hallbeck.*

224(26) *Clothing Selection and Costume Design.* (3) I, II
Selection of costume and management of the wardrobe. Clothing costs and values. Designing costumes to meet individual needs. Lecture, one hour; lab, four hours. Prereq: Art 105, or approval of instructor. *Kidd and Hallbeck.*

227(27) *Clothing Construction.* (4) I, II
Basic principles of clothing construction, using commercial patterns with some modification included. Lecture, one hour; lab, six hours. Prereq: H.E. 120, 224. *Hallbeck.*

328(28) *Clothing and Pattern Designing.* (3) I, II, S
Development of foundation pattern, flat pattern designing, alteration. Application of design principles to garment. Lecture, one hour; lab, four hours. Prereq: H.E. 227. *Guenther and Hallbeck.*

330(129) *Interior Design.* (3) I, II, S
A study of color, line, texture as used to create effective interiors suited to modern living. Lecture, one hour; lab, four hours. Prereq: H.E. 120, 261, Art 100 or for non-majors. *Kidd.*

520(125) *Advanced Textiles.* (2) I, S
Individual semester reports with emphasis on new developments in textile industry. Class project to determine color fastness, tensile strength, and other quality factors, of various types of textiles. Lecture, one hour; lab, two hours. Prereq: H.E. 120, 561. *Guenther.*

522(134) *Economics of Clothing.* (2) I, S
The clothing industry, its influence and economy. Field trips to study mass production, class project and individual semester reports. Lecture, one hour; lab, two hours. Prereq: H.E. 227, 561, or approval of instructor. *Guenther.*

523(133) *Fashion.* (2) II, S
How the fashion world works. Study of French, Italian and American designers who have greatest influence on current trends. Field trips to augment lectures. Lecture, two hours. Prereq: H.E. 227 or approval of instructor. *Guenther.*

524(126) *Costume Design.* (3) I, S
The arts of costume today and throughout the past. Costumes are designed to meet today's needs. Lecture, one hour; lab, four hours. Prereq: H.E. 227, Art 105. *Kidd.*

526(127) *Advanced Clothing.* (3) II, S
The making of foundation and creative pattern designs, also creative design through draping, with emphasis on accurate fittings. Lecture, one hour; lab, four hours. Prereq: H.E. 227 *Guenther.*

528(137) *Tailoring.* (2) I, S
Analysis of tailoring technique in the shop and in the home. Tailored garments are planned and constructed. Lab, four hours. Prereq: H.C. 328. *Guenther.*

529(155) *The Child and His Clothing.* (3) S
A detailed study of the selection, cost and care of the pre-school child's clothing in relation to his needs. Lectures and occasional field trips. Prereq: H.E. 255. *Staff.*

530(139) *Advanced Interior Design.* (2) II, S
The art of interior decoration throughout the past and today. Interiors are planned to meet today's needs. Lecture, one hour; lab, two hours. Prereq: H.E. 330. *Kidd.*

534(135) *Decorative Textiles.* (2) II, S
Survey of techniques used in applying color and design to fabrics. Individual problems, demonstrating techniques, developed. Lecture, one hour; lab, two hours. Prereq: H.E. 120, Art 105. *Guenther.*

536(130) *Interior Decoration Projects.* (2) I, II, S
Selected projects in furnishing the home, including furniture refinishing, upholstering and slip cover making. Costs in terms of time and money are considered. Lab, four hours. Prereq: H.C. 330, or approval of instructor. *Kidd.*

537 *History of Furniture.* (3) I
Furniture design from antiquity to the present, including effects upon design of social and economic conditions, and uses of historic furnishings in contemporary interiors. Lecture, three hours. Prereq: H.E. 330, or approval of instructor. *Kidd.*

592(128a-c) *Special Problems in Clothing and Costume Design.* (2) I, II, S
Intensive work on specific phases of the field. Senior or graduate standing. May be repeated twice for a total of six credits. *Guenther and Kidd.*

593(138a-c) *Special Problems in Interior Design.* (2) I, II, S
Intensive work on specific phases of the field. Senior or graduate standing. May be repeated twice for a total of six credits. *Kidd.*

597(136a-c) *Special Problems in Textiles.* (2) I, II, S
Intensive work on specific phases of the field. Senior or graduate standing. May be repeated twice for a total of six. *Guenther.*

772(237a-c) *Seminar in Textiles, Clothing, Costume Design, and Interior Decoration.* (2) S
Investigation of special textile, clothing, and costume design or interior decoration problems; lecture, two hours. May be repeated twice for a total of six credits. *Kidd.*

782(228a-c) *Special Problems in Clothing and Costume Design.* (2) I, II, S
Independent advanced work on a specific problem. May be repeated twice for a total of six credits. *Guenther and Kidd.*

783(238a-c) *Special Problems in Interior Design.* (2) I, II, S
Independent advanced work on a specific problem. May be repeated twice for a total of six credits. *Kidd.*

787(236a-c) *Special Problems in Textiles.* (2) I, II, S
Independent advanced work on a specific problem. May be repeated twice for a total of six credits. *Guenther.*

COURSES IN INSTITUTION MANAGEMENT

240(41) *Institution Marketing.* (3) II
Economics of food and supplies for institutions. Factors that influence selection and purchase. Field trips to wholesale houses, distribution centers and food production plants. Lecture, two hours; lab, two hours. Prereq: Eco. 251. *Brownlie.*

242(42) *Institution Foods.* (4) I
Large quantity food preparation and service. Using modern equipment in preparation of large quantities of food. Food cost accounting, job analysis, and time studies. Lecture, two hours; lab, four hours. Prereq: H.E. 104. *Brownlie.*

344(144) *Food Service Accounting.* (3) I
Application of accounting principles to food service in the cafeteria, lunch room, tea-room, restaurant, residence hall, hospital and other institutions. Lecture, one hour; lab, four hours. Prereq: H.E. 240, Eco. 251. *Brownlie.*

540(140) *The School Lunch.* (3) I, II
Designed for teachers who manage the lunch room. Consideration is given to equipment, menus, purchase, storage, preparation and service of food. Lecture, two hours; lab, two hours. Prereq: H.E. 104, Eco. 251. *Brownlie.*

542(143) *Institution Equipment.* (3) I
Selection, arrangement, cost and care of equipment; problems of lighting, heating, ventilation and refrigeration. Two field trips are taken to neighboring cities to see equipment in use in institutions. Prereq: H.E. 242. *Brownlie.*

546(141) *Institution Organization and Management.* Brownlie
Principles of institution organization, types of institution service, personnel and financial management. Legal aspects of institution management. Personal and professional qualifications of an institution manager. Prereq: H.E. 240, 242. *Brownlie.*

548(142a-c) *Institution Administration.* (3) S
Application of scientific principles of institution management. Practical principles are developed in various aspects of food service management. Approval of instructor. May be repeated twice for a total of nine credits. Prereq: H.E. 546. *Brownlie.*

594(149a-c) *Special Problems in Institution Management.* (2) I, II
Intensive work on specific problems. Prereq: Senior or graduate standing. May be repeated twice for a total of six credits. *Brownlie.*

784(249a-c) *Special Problems in Institution Management.* (2) I, II
Independent, advanced work. May be repeated twice for a total of six credits. *Brownlie.*

COURSES IN CHILD DEVELOPMENT AND FAMILY LIVING

151(51) *Health of the Family.* (3) I, II
Factors that influence family health; agencies and forces to be utilized for health improvement; applications of modern science to family health and prevention of disease; techniques of home nursing. Lecture, three hours. *Magruder and Ringo.*

153(53) *Courtship and Marriage.* (3) I, II, S
Dating, engagement, and factors affecting a successful marriage. Lecture, two hours; discussion lab, two hours. *Ringo and Magruder.*

156(56) *Workshop in Child Guidance.* (3) S
Theories and practices of guiding young children in various situations. *Staff.*

254(54) *Psychology of the Child.* (3) I, II, S
The development of behavior from birth to maturity. The problems of conduct arising during infancy, childhood, and adolescence in relation to child care and training. Prereq: Psy. 100. (Same as Psychology 200.) *Staff.*

255(55) *Child Development.* (3) I, II
Development of children from birth through primary school years with directed observation of children. Lecture two hours; lab, two hours. *Staff.*

350(150) *Child Guidance.* (3) I, II
Theories and practice in guiding children's development both at home and in the nursery school, with participation in nursery school guidance. Lecture, two hours; lab, two hours. Prereq: H.E. 255. *Newsom and Staff.*

395(151) *Guiding Children's Routines.* (3) I, II
Participation in supervised activities such as rest and food service in the nursery school. Lecture, one hour; lab, four hours. Prereq: H.E. 350. *Staff.*

396(180a,b) *Supervised Nursery School Participation.* (3) I, II
Experience in teaching a nursery school group. Lecture, one hour; lab, four hours. Prereq: H.E. 350. May be repeated once for a total of six credits. *Staff.*

552(181) *Nursery School Organization.* (3) I, S
Organization and administration, including housing, equipment, program, records, parent cooperation. Field trips to nursery schools. Lecture, three hours. Prereq: H.E. 350. *Newsom.*

553(182) *The Child in His Family.* (3) II, S
Preparation and presentation of research reports of studies of family influences on the personality and development of children. Lecture, three hours. Prereq: H.E. 153, 350 or consent of instructor. *Newsom.*

555(156) *Play and Play Materials.* (2) II, S
Play activities of young children, relation of play equipment to development, and characteristics of good play materials. Construction of toys suitable for the pre-school child. Lecture, one hour; lab, two hours. Prereq: H.E. 255. *Staff.*

557(157) *Infant Development.* (2) S
Study of development, care and guidance of the child during prenatal, natal and infant periods. Lecture, two hours. Prereq: Pgy. 206. *Newsom.*

595(159a-c) *Special Problems in Child Development and Family Living.* (2) I, II, S
Intensive work on specific problems. Prereq: Senior or graduate standing. May be repeated twice for a total of six credits. *Newsom.*

775(258) *Seminar in Child Development.* (2) I, II, S
Preparation and presentation of reports of current investigations in child development. *Newsom.*

785(259a-c) *Special Problems in Child Development and Family Living.* (2) I, II, S
Independent advanced work. May be repeated twice for a total of six credits. *Newsom.*

COURSES IN HOME MANAGEMENT

261(61) *Housing.* (4) I, II
The course deals with social and economic problems of housing American families and problems of house buying and house planning from the standpoint of the consumer. Lecture, four hours. *Wilmore and Combs.*

368(170) *Demonstration Techniques.* (3) II
Emphasis on planning and presenting food and equipment demonstrations. Lecture, one hour; lab, four hours. Prereq: H.E. 568. *Combs.*

561(161) *Consumer Problems.* (3) I, II, S
Consumer buying, its social and economic aspects. Analysis of problems of manufacturer, merchant, and consumer in order to understand the needs and responsibilities of each group. Lecture, three hours. Prereq: Eco. 251, H.E. 261. *Wilmore.*

563(162a) *Home Management and Family Relationships.* (2) I, II
Philosophy and principles of home management. Study of the mechanics of time, energy, and money management; personal development, and social and family relationships. Lecture, two hours. Prereq: Eco. 251, H.E. 261. *Wilmore.*

564(162b) *Home Management and Family Relationships.* (3) I, II, S
A residence period in the Home Management House is required of seniors in home economics. Experience in the application of principles presented in other courses. Prereq: H.E. 563; Prereq. or concurrent: H.E. 402. *Wilmore and Combs.*

568(168) *Household Equipment.* (3) I, II, S
Electric and gas household equipment and small appliances; their selection, maintenance, operation and cost. Lecture, two hours; lab, two hours. Prereq: H.E. 261. Prereq. or concurrent: Phy. 151, 152, or 281. *Combs.*

596(169a-c) *Special Problems in Home Management.* (2) I, II
Intensive work on specific phases of home management. Prereq: Senior or graduate standing. May be repeated twice for a total of six credits. *Wilmore.*

662(262) *Advanced Home Management and Family Relationships.* (3) II, S
A course affording opportunity for special study of social and economic problems affecting family life. Lecture, three hours. Prereq: H.E. 564. *Wilmore.*

786(269a-c) *Special Problems in Home Management.* (2) I, II
Independent advanced work. May be repeated twice for a total of six credits. *Wilmore.*

GENERAL COURSES

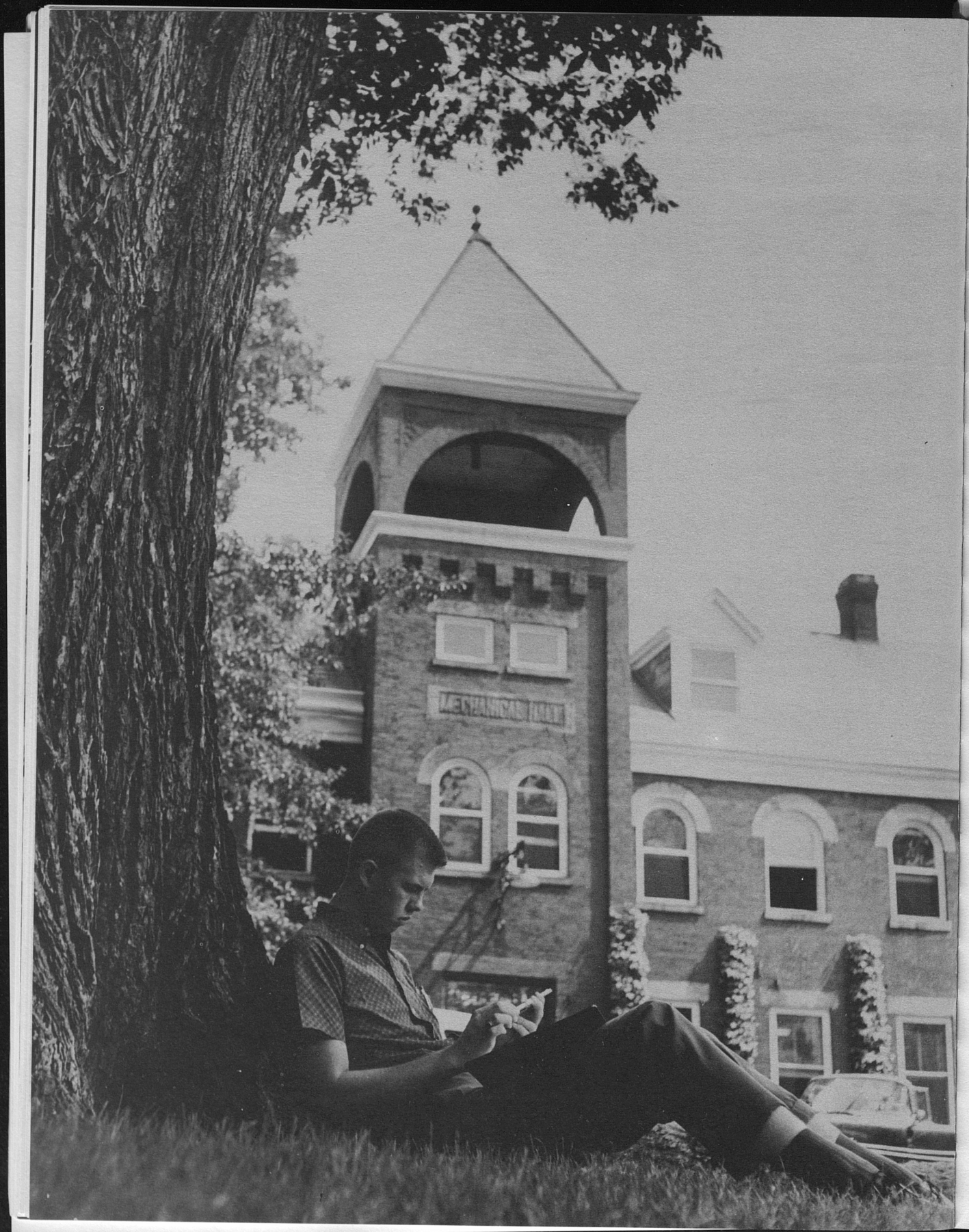
272(73) *Farm Home Problems.* (4) II
A course in agriculture for home demonstration extension agents, teachers in rural schools, and others engaged in rural work. Lecture, three hours; lab, two hours. *Agric. Staff.*

274(74) *Home Economics for Men.* (2) I, II
Study in selected areas of home economics dealing with values in personal and family living. *H.E. Staff.*

575(175) *Rural Community Analysis.* (3) I
The nature of the town-country community, with special emphasis on the function of institutional and agency programs and their leaders in relation to the community. Same course as R.S. 513. *Staff.*

768(500) *Residence Credit for the Master's Degree.* (0) I, II, S
May be repeated once.





ENGINEERING

The College of Engineering was organized in 1918 by the consolidation of the College of Civil Engineering which was established in 1889, the College of Mechanical and Electrical Engineering established in 1891, and the College of Mining Engineering established in 1901.

The purpose of the College of Engineering is, first, to provide engineering education; second, to promote the development and utilization of the state's resources through organized research and through consultation with industry.

Students receive training in the fundamental and applied sciences in preparation for careers in their chosen branches of engineering. They receive instruction intended to develop a strong professional consciousness and they are encouraged to broaden their education by including courses in the fields of the humanities and social sciences as a part of their elective work.

The College endeavors to keep before its students the latest developments in science with a practical engineering approach to new problems, and promotes engineering research which deals with basic knowledge put to useful purposes. Students are trained to meet the high standards of ethics required of the professional engineer and to appreciate the moral responsibility of the engineer for the effects caused by the uses or misuses of his scientific inventions.

The physical plant consists of Anderson Hall, the Mining, Aeronautical, Highway, and Coal Research Laboratories; and also a temporary classroom and laboratory building. The College is engaged in a number of research projects, and students interested in such investigations will have ample opportunity to engage in work along the lines of their special fields of interest.

Admission. On entering the College of Engineering, each student must select the curriculum in which he expects to do his major work and register in the appropriate department. In addition to meeting the general requirements for admission to the University, the applicant for admission to the freshman class of the College of Engineering shall include in high school credits one unit of plane geometry and one and one-half units of algebra. It is recommended that the student offer one-half unit in solid geometry, otherwise this subject will be added to the requirements of the freshman year.

Students who have had sufficient mathematics in high school and who score high on the classification test may, by special examination, be excused from College Algebra and Trigonometry and begin their college mathematics with Analytics and Calculus I.

Students whose scores on the University classification tests are in the lower one-fourth, or those lacking in the requirements for mathematics, may enter the College of Engineering. The schedules of such students will be adjusted in accordance with their placement tests as directed by a special orientation committee of the College of Engineering and the Counseling Service.

Courses of Study and Degrees. The College of Engineering offers instruction leading to the following baccalaureate degrees:

Bachelor of Science in Agricultural Engineering
Bachelor of Architecture
Bachelor of Science in Chemical Engineering
Bachelor of Science in Civil Engineering
Bachelor of Science in Electrical Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Metallurgical Engineering
Bachelor of Science in Mining Engineering

Options and Electives. In some of the curricula certain options or electives are allowed. All electives must be approved by the Head of the Department in which the student is taking his major work. In general the non-technical electives shall be selected from the following fields:—history, economics, government, literature, sociology, philosophy, psychology, and fine arts.

Co-operative Plan in Engineering. In addition to the regular four year course in Engineering, the co-operative plan is offered to those students in Engineering who have satisfactorily completed the freshman year in the College of Engineering or to those who present the equivalent as transfer students.

Students who can meet the requirements and so desire, may register, pay a suitable fee and enter the program. They will be permitted to alternate on the

Robert Ezekiel Shaver, C.E., is Dean of the College of Engineering.

semester basis between school and work. The summers will be used to the best advantage of the student for either school or work. The student must maintain a satisfactory standing to be continued in the program.

Those completing the Co-operative Plan will receive the bachelor's degree and will also gain valuable experience. The time required will depend upon the extent of the work program.

The University does not guaranteee employment to co-operative students; however, facilities are provided for locating suitable jobs. All jobs must be approved by the co-ordinator of the Co-operative Program. The students will submit to the co-ordinator a written report at the end of each work period.

The Department of Architecture does not offer a co-operative plan.

Requirements for Graduation. To receive the Bachelor of Science degree in any one of the seven branches of engineering a student must meet the following requirements:

(a) Complete a minimum of 130 semester hours with a standing of 2.0, exclusive of the basic work in military science and physical education.

(b) Complete the curriculum of the department in which he is taking his major work.

To receive a Bachelor of Architecture degree, a student must meet the following requirements:

a) Complete a minimum of 160 credits with a standing of 2.0, exclusive of the basic work in military science and physical education.

b) Complete the curriculum requirements of the Department of Architecture.

Graduate Degrees. The College of Engineering offers graduate work leading to the following advanced degrees:

Master of Science in Agricultural Engineering
Master of Science in Civil Engineering
Master of Science in Electrical Engineering
Master of Science in Mechanical Engineering
Master of Science in Metallurgical Engineering
Master of Science in Mining Engineering
Master of Science in Nuclear Engineering
Doctor of Engineering (Physical Metallurgy)

The College of Engineering offers to its own graduates the following professional degrees:

Ch.E. (Chemical Engineer)
C.E. (Civil Engineer)
E.E. (Electrical Engineer)
M.E. (Mechanical Engineer)
Met.E. (Metallurgical Engineer)
E.M. (Mining Engineer)

A student intending to pursue graduate work in another institution should inform himself regarding the requirements for entrance to that particular institution and plan his undergraduate work accordingly.

For further information regarding graduate work, see the graduate school section of this bulletin.

Agricultural Engineering

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN AGRICULTURAL ENGINEERING

Freshman Year

First Semester	Crs.
Ag. E. 001—The Engineering Profession	0
Engl. 101—Freshman Composition	3
Math. 111—College Algebra	3
Math. 112—Plane Trigonometry	2
Chem. 106—Gen. Chemistry for Engineers	4
G.E. 101—Engineering Graphics I	2
Military or Aerospace Science	2
Physical Education	1
	17

Second Semester	Crs.
Ag. E. 002—The Engineering Profession	0
Engl. 102—Freshman Composition	3
Math. 113—Analytics and Calculus I	4
M.E. 110—Engineering Problems	1
Chem. 108—Gen. Chemistry for Engineers	4
G.E. 102—Engineering Graphics II	2
Agron. 105—Introduction to Agronomy	3
Military or Aerospace Science	2
Physical Education	1
	20

Sophomore Year

First Semester	Crs.
Ag. E. 003—The Engineering Profession	0
Math. 211—Analytics and Calculus II	4
Phys. 231—Gen. College Physics	3
Phys. 241—Gen. College Physics Lab	2
C.E. 100—Plane Surveying	2
M.E. 250—Shop Theory	1
M.E. 251—Shop Practice	1
A.I. 100—Farm Livestock Production	3
or	
A.I. 120—Farm Dairying	3
Military or Aerospace Science	2
	18

Second Semester	Crs.
Ag. E. 004—The Engineering Profession	0
Math. 212—Analytics and Calculus III	4
Phys. 232—Gen. College Physics	3
Phys. 242—Gen. College Physics Lab.	2
G.E. 221—Statics	3
Agron. 166—Soils	4
Military or Aerospace Science	2
	18

Junior Year

First Semester	Crs.
Ag. E. 005—The Engineering Profession	0
G.E. 431—Strength of Materials	4
C.E. 301—Testing Materials	1
Econ. 251—Principles of Economics	3
**Math. 431—Differential Equations	3

Geol. 200—Elem. Geology for Engineers	3
*Elective	3
	17

Second Semester	Crs.
Ag. E. 006—The Engineering Profession	0
A.M. 311—Dynamics	2
M.E. 400—Elem. of Engr. Thermodynamics	3
Ag.E. 155—Machine & Structural Practice	3
Ag.E. 425—Farm Bldg. and Equipment	4
Geog. 155—Econ. Geography Survey	3
*Elective	3
	17

Senior Year

First Semester	Crs.
Ag. E. 007—The Engineering Profession	0
Ag. E. 417—Agricultural Tractor Power	3
Ag. E. 415—Engr. Analysis in Farm Machinery Design	4
E.E. 301—Fund of Electrical Machinery	3
M.E. 330—Fluid Mechanics or	4
C.E. 350—Hydraulics and	2
C.E. 351—Hydraulics Laboratory	1
Engl. 201—Business English	2
*Elective	3
	19 or 18

Second Semester	Crs.
Ag. E. 008—The Engineering Profession	0
Ag. E. 435— Soil and Water Conservation Engineering	4
Ag. E. 445—Electricity in Agriculture	3
***Ag. Econ. 514—Current Farm Management Problems	3
Engl. 181—Essentials of Speech	3
Hist. 109—History of U.S. since 1865	3
*Elective	3
	19

ARCHITECTURE

*FIVE-YEAR CURRICULUM LEADING TO THE PROFESSIONAL DEGREE OF BACHELOR OF ARCHITECTURE

Year I

First Semester	Crs.
Arch. 001—The Architectural Profession	0
Arch. 110—Basic Architecture	3
Arch. 112—Architectural Graphics	2
Math. 111 (17)—College Algebra	3
Engl. 101 (1a)—Freshman Composition	3
***—General Requirements	4
Mil.—Basic M.S. or A.S.	2
P.E.—Physical Education	1
	18

Second Semester	Crs.
Arch. 002—The Architectural Profession	0
Arch. 111—Basic Architecture	3
Arch. 113—Architectural Graphics	2
Math. 112 (18)—Plane Trigonometry	2
Engl. 102 (1b)—Freshmen Composition	3
C.E. 102—Construction Surveys	1
***—General Requirements	3
Mil.—Basic M.S. or A.S.	2
P.E.—Physical Education	1
***—General Requirements.	

1. All elective courses must have approval of Architecture.
2. A minimum of six (6) credits will be taken in humanities or social studies.
3. The remaining elective credits may be used for a "minor" of the student's choice, with approval of his advisor.
4. When an entering student does not show credit for high school chemistry, at least one semester of college chemistry will be required during the freshman year.
5. All students will be encouraged to obtain at least one summer's employment in the office of a registered architect and at least one summer's employment on a construction site.

Year II

First Semester	Crs.
Arch. 003—The Architectural Profession	0
Arch. 210—Architectural Studio I	5
Arch. 220—Materials and Construction Methods	2
Math. 113 (19)—Analytics and Calculus I	4
Physics 211 (1a)—General College Physics	5
Mil.—M.S. or A.S.	2
	18

Second Semester	Crs.
Arch. 004—The Architectural Profession	0
Arch. 211—Architectural Studio II	5
Arch. 221—Materials and Construction Methods	2
Math. 211 (20)—Analytics and Calculus II	4
Physics 213 (1b)—General College Physics	5
Mil.—M.S. or A.S.	2
	18

Year III

First Semester	Crs.
Arch. 005—The Architectural Profession	0
Arch. 330—Architectural Studio III	5
Arch. 332—Theory and History of Architecture I	3
G.E. 221 (A.M. 3)—Statics	3
M.E. 401 (141a)—Mech. & Elec. Equip. of Bldgs.	2
Art 110 (61)—Drawing and Painting	2
***—General Requirements	3
	18

Second Semester	Crs.
Arch. 006—The Architectural Profession	0
Arch. 331—Architectural Studio IV	5
Arch. 333—Theory & Hist. of Architecture II	3
G.E. 431 (A.M. c100)—Strength of Materials	3
C.E. 380 (171a)—Theory of Structures	3
M.E. 402 (141b)—Mech. & Elec. Equip. of Bldgs.	2
***—General Requirements	3
	19

* The five-year curriculum in Architecture is a requirement of the National Architectural Accrediting board.

** Math. 35 may be taken with approval of the head of the department.

*** Agr. Econ. 118 may be substituted.

The curriculum in Agricultural Engineering is administered jointly by the College of Engineering and the College of Agriculture and Home Economics. The course descriptions are listed under Agriculture and Home Economics.

Year IV

First Semester	Crs.
Arch. 007—The Architectural Profession	0
Arch. 340—Architectural Studio V	6
Arch. 342—Theory & History of Architecture III	3
Arch. 345—Planning I	2
C.E.—387 (173a)—Steel Structures I	3
C.E. 385 (175)—Timber Structures	1
***—General Requirements	3
	18

Second Semester	Crs.
Arch. 008—The Architectural Profession	0
Arch. 341—Architectural Studio VI	6
Arch. 343—Theory and History of Architecture IV	3
Arch. 346—Seminar	1
C.E. 392 (110a)—Reinforced Concrete I	3
Art 210 (63)—Drawing and Painting	2
***—General Requirements	3
	18

Year V

First Semester	Crs.
Arch. 350—Architectural Studio VII	6
Arch. 351—Thesis Research	1
Arch. 353—Theory of Architecture V	2
Arch. 356—Professional Practice I	2
Arch. 355—Planning II	2
Arch. 359—Advanced Structural Theory	2
Art 236 (64a)—Sculpture	2
	17

Second Semester	Crs.
Arch. 352—Thesis	10
Arch. 357—Professional Practice II	2
Art 510 (165a)—Advanced Painting	2
***—General Requirements	3
	17

CREDITS REQUIRED FOR BACHELOR OF ARCHITECTURE DEGREE

General Requirements	22
Profession and Related	146
Military and Physical Education	10
Total	178

FACULTY

Charles Parker Graves, Grady Edward Clay, Jr., David Porter Fogle, James Noffsinger, Richard Schubert and Jasper D. Ward.

Course Descriptions

001-002 *The Architectural Profession* (1st Year) (0) I, II
Staff.

003-004 *The Architectural Profession* (2nd Year) (0) I, II
Staff.

005-006 *The Architectural Profession* (3rd Year) (0) I, II
Staff.

007-008 *The Architectural Profession* (4th Year) (0) I, II
Lectures, seminars and discussion by visiting professionals with emphasis on the student's future responsibilities to his profession, clients and community. *Staff.*

110 *Basic Architecture.* (3) I, II
Exercises in simple architectural problems. Two and three dimensional exercises in space, form, color and materials. Lecture and studio, nine hours. *Staff.*

111 *Basic Architecture.* (3) I, II
A continuation of Architecture 110. Beginning emphasis on human need, human scale, function and structure in architecture. Lecture and studio, nine hours. Prereq: Arch. 110 and approval of instructor. *Staff.*

112 *Architectural Graphics.* (2) I, II
Descriptive drawing, Architectural projections, shades, and shadows, perspective drawing, emphasis on skills in graphic media. Lecture, one hour, studio, three hours. Concurrent with Arch. 110. *Staff.*

113 *Architectural Graphics.* (2) I, II
A continuation of Arch. 112. Lecture, one hour; studio, three hours. Concurrent with Arch. 111. *Staff.*

210 *Architectural Studio I.* (5) I, II
Architectural problems dealing with simple space and structural requirements. Instruction by problem method on an individual critic-student basis followed throughout the entire studio sequence. Lecture, one hour; studio, twelve hours. Prereq: Arch. 111. *Staff.*

211 *Architectural Studio II.* (5) I, II
A continuation of Arch 210. Residential and small building design. Lecture, one hour; studio, twelve hours. Prereq: Arch. 210 and approval of instructor. *Staff.*

220 *Materials and Construction Methods.* (2) I
Materials of construction; their sources and characteristics manufacture, use and size classification, limitations, standards of fabrication. Lecture, one hour; studio, three hours. Concurrent with Arch. 210. *Staff.*

221 *Materials and Construction Methods.* (2) II
A continuation of Arch. 220. Methods of construction and choices of systems. Lecture, one hour; studio, three hours. Prereq: Arch 220. *Staff.*

222 *Building Construction* (3) I, II
Analysis of the architectural process, investigation of materials and construction methods. Individual and group case studies in the drawing studio. Designed for Engineering Majors. Lecture, two hours; studio, three hours. Prereq. *Staff.*

330 *Architectural Studio III.* (5) I, II
Architectural problems with emphasis on materials and detail in the design process. Lecture, one hour; studio, twelve hours. Prereq: Arch. 211. *Staff.*

331 *Architectural Studio IV.* (5) I, II
A continuation of Arch. 330 with additional emphasis on building design related to site. Lecture, one hour; studio twelve hours. Prereq: Arch. 330 and approval of instructor. *Staff.*

332 *Theory and History of Architecture I.* (3) I
A study of the development of architecture in relation to world culture with emphasis on aesthetics, principles and philosophies of design, structure, use of materials and the social and political backgrounds. Illustrated lectures, parallel reading, discussion, sketching and research. *Staff.*

333 *Theory and History of Architecture II.* (3) II
A continuation of Arch 332. Roman through Gothic Architecture. Lecture, three hours. Prereq: Arch. 332. *Staff.*

340 *Architectural Studio V.* (6) I
Collaborative and individual projects in community planning and design. Lecture, one hour; studio, fifteen hours. Prereq: Arch. 330. *Staff.*

341 *Architectural Studio VI.* (6) II
Advanced architectural problems in design. Collaborative work with Civil and Mechanical Engineering students. Lecture, one hour; studio, fifteen hours. Prereq: Arch. 340 and approval of instructor. *Staff.*

342 *Theory and History of Architecture III.* (3) I
A continuation of Arch. 333. Renaissance through 19th Century Revival Architecture. Lecture, three hours. Prereq: Arch. 333. *Staff.*

343 *Theory and History of Architecture IV.* (3) II
A continuation of Arch. 342. Modern Architecture. Lecture, three hours. Prereq: Arch. 342. *Staff.*

345 *Planning I.* (2) I
Seminar in urban planning; redevelopment and rehabilitation. Research related to project in studio course. Seminar, four hours. Prereq: Concurrent with Arch. 340. *Staff.*

346 *Seminar.* (1) II
Design Seminar. A critical evaluation by each student of his principles and philosophy, prior to final year. Seminar, two hours. Prereq: Approval of instructor. *Staff.*

350 *Architectural Studio VII.* (6) I, II
Comprehensive problems in architectural design. Lecture and studio, eighteen hours. Prereq: Arch. 340. *Staff.*

351 *Thesis Research.* (1) I, II
Research and analysis for undergraduate thesis project. Thesis topic to be submitted for approval of design faculty prior to entering course. Lecture, one hour. Prereq: approval of design faculty. *Staff.*

352 *Thesis.* (10) I, II
Independent undergraduate thesis. Credit on acceptance following visual, oral and written presentation. Studio, thirty hours. Prereq: Arch. 351. *Staff.*

353 *Theory of Architecture V.* (2) I
A continuation of Arch. 343. Seminar, four hours. Prereq: Arch. 343 and approval of instructor. *Staff.*

355 *Planning II.* (2) II
The design of cities through history to present. A discussion of effect of each culture on form of city with emphasis toward future forms derived from present society. Lecture, two hours. Prereq: Approval of instructor. *Staff.*

356 *Professional Practice I.* (2) I
Office administration, specifications, cost estimating, contracts, legal problems, insurance and professional ethics. Lecture, two hours. Prereq: Arch. 331. *Staff.*

357 *Professional Practice II.* (3) II
A continuation of Arch. 356. Lecture, two hours. Prereq: Arch. 356. *Staff.*

359 *Advanced Structural Theory.* (2) I
Theory and visual study of structural reactions related to new techniques and principles. Lecture, two hours. Prereq: C.E. 110a, (C.E. 392), approval of instructor. *C.E. Staff.*

390(A.E.4a) *Architectural Design I.* (3) I, II
Principles of aesthetic design and functional planning of buildings. Drawing room, nine hours. Prereq: Junior classification and A.E. 1. *Staff.*

391(A.E.4b) *Architectural Design II.* (3) I, II
Continuation of Arch. 390. Drawing room, nine hours. Prereq: Junior classification and Arch. 390. *Staff.*

392(A.E.6a) *Advanced Architectural Design I.* (4) I, II
A study of more advanced problems in architectural composition. Drawing room, twelve hours. Prereq: Senior classification and Arch. 391. *Staff.*

393(A.E.6b) *Advanced Architectural Design II.* (4) I, II
A continuation of Arch. 392. Drawing room, twelve hours. Prereq: Senior classification and Arch 392. *Staff.*

CHEMICAL ENGINEERING

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN CHEMICAL ENGINEERING

Freshman Year

First Semester	Crs.
A.S. or M.S.—Aerospace or Military Science	2
Che. 110, 111—General Chemistry	5
Cme. 001—The Engr. Profession	0
Eng. 101—Freshmen Composition	3
G.E. 101—Engr. Graphics I	2
M.A. 111—College Algebra	3
M.A. 112—Plane Trigonometry	2
P.E.—Physical Education	1
	18

Second Semester	Crs.
A.S. or M.S.—Aerospace or Military Science	2
Che. 112, 113—General Chemistry	5
Cme. 002—The Engr. Profession	0
Eng. 102—Freshmen Composition	3
M.A. 113—Analytics & Calculus I	4
*Non-technical Elective	3
P.E.—Physical Education	1
	18

Sophomore Year

First Semester	Crs.
A.S. or M.S.—Aerospace or Military Science	2
Che. 226, 227—Analytical Chemistry	5
Cme. 003—The Engr. Profession	0
Eco. 251—Prin. of Economics	3
M.A. 211—Analytics & Calculus II	4
Phy 231—Gen. College Physics	3
Phy. 241—Gen. College Physics Lab.	2
	19

Second Semester	Crs.
A.S. or M.S.—Aerospace or Military Science	2
Cme. 004—The Engr. Profession	0
Cme. 211—Ch. E. Calculations	4
G.E. 221—Statics	3
M.A. 212—Analytics & Calculus III	4
Phy. 232—Gen. College Physics	3
Phy. 242—Gen. College Physics Lab.	2
	18

Junior Year

First Semester	Crs.
Che. 430, 431—Organic Chemistry	4
Che. 440—Physical Chemistry	3
Che. 441—Physical Chemistry Lab.	2
Cme. 005—The Engr. Profession	0
Cme. 421—Unit Operations	3
G.E. 331—Strength of Materials	3
*Non-technical Elective	3
	18

Second Semester	Crs.
Che. 432, 433—Organic Chemistry	4
Che. 442—Physical Chemistry	3
Che. 443—Physical Chemistry Lab.	2
Cme. 006—The Engr. Profession	0
Cme. 422—Unit Operations	3
Cme. 431—Unit Operations Lab.	2
*Non-technical Elective	3
	17

* All electives selected must have approval of the head of the department.

Senior Year

First Semester	Crs.
Cme. 007—The Engr. Profession	0
Cme. 341—Ch. E. Thermodynamics	3
Cme. 371—Seminar	1
Cme. 432—Unit Operations Lab.	2
Cme. 451—Ch. E. Processes	3
E.E. 305—Circuits-Machinery	3
*Non-technical Elective	3
*Technical Elective	3
	18

Second Semester	Crs.
Cme. 008—The Engr. Profession	0
Cme. 372—Seminar	1
Cme. 452—Ch. E. Processes	3
E.E. 306—Circuits-Machinery	3
Met. 301—Engr. Metallurgy	3
*Technical Elective, Ch. E	3
*Technical Elective	3
*Non-technical Elective	3
	19

FACULTY

Samuel Charles Hite, George Franklin Crewe and Warren Stanley Heath.

Course Descriptions

001(1a) *The Engineering Profession* (Freshmen). (0) I

002(1b) *The Engineering Profession* (Freshmen). (0) II

003(2a) *The Engineering Profession* (Sophomore). (0) I

004(2b) *The Engineering Profession* (Sophomore). (0) II

005(3a) *The Engineering Profession* (Junior). (0) I

006(3b) *The Engineering Profession* (Junior). (0) II

007(4a) *The Engineering Profession* (Senior) (0) I

008(4b) *The Engineering Profession* (Senior). (0) II
Lectures on professional growth, conduct and ethics. Activities of the student branches of the corresponding professional societies. Ch.E. 001-008 may be repeated indefinitely.

211(21) *Chemical Engineering Calculations.* (4) II
Calculations with emphasis on material and energy balances as applied to industrial processes. Prereq: Chem. 226, Physics 231 and Math. 211. *Hite.*

341(110) *Chemical Engineering Thermodynamics.* (3) I
Fundamentals of thermodynamics, first and second laws, properties of fluids, physical and chemical equilibria, and applications to chemical engineering. Prereq: Ch. E. 211, Math. 212, Physics. 232. *Crewe.*

371(175a) *Seminar.* (1) I
General discussion of chemical engineering subjects; preparation and delivery of papers and reports; extemporaneous speaking, and the abstracting of current literature. Two hours. Prereq: Six semesters in Chemical Engineering. *Hite.*

372(175b) *Seminar.* (1) II
A continuation of Ch. E. 371 with a survey of the technology and economics of the chemicals industry. Prereq: Ch. E. 371. *Hite.*

395(115) *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: Approval of the head of the department. *Staff.*

421(101a) *Unit Operations I.* (3) I
Principles of the unit physical operations of fluid flow, heat transfer, evaporation, and filtration with quantitative problems in the design and operation of chemical process equipment. Prereq: Ch. E. 211, Math. 212. *Hite.*

422(101b) *Unit Operations II.* (3) II
Continuation of Ch. E .421. Principles of mass transfer—distillation, gas absorption, liquid extraction, drying, etc. Prereq: Ch. E. 421. *Hite.*

431(104a) *Unit Operations Laboratory I.* (2) II
Quantitative study of fluid flow, heat transfer, evaporation, etc., comparing the operation of actual equipment with theory. Special consideration of problems in design and report writing; laboratory, six hours. Prereq: Ch. E. 421. *Heath.*

432(104b) *Unit Operations Laboratory II.* (2) I
Continuation of Ch. E. 431, covering diffusional operations such as distillation, absorption, and drying; laboratory, six hours. Prereq: Ch. E. 422, 431. *Heath.*

451(107a) *Chemical Engineering Processes I.* (3) I
Introduction to process design calculations, optimum design and operation. Prereq: Ch. E. 422, Chem. 432, Chem. 442. *Crewe.*

452(107b) *Chemical Engineering Processes II.* (3) II
An introduction to applied chemical reaction kinetics with quantitative problems concerning chemical reactor design and a comprehensive design problem. Prereq: Ch. E. 451. *Crewe.*

562(112) *Process Control.* (3) II
The theory of automatic control devices and their application in industrial chemical plants. Lecture, two hours; laboratory three hours. Prereq: Consent of the instructor. *Heath.*

565 *Petroleum Refinery Engineering.* (3) I
Application of chemical engineering fundamentals to petroleum processing methods and equipment. Prereq: Consent of the instructor. *Hite.*

CIVIL ENGINEERING

CURRICULUM LEADING TO A DEGREE OF BACHELOR OF SCIENCE IN CIVIL ENGINEERING

Freshman Year

First Semester	Crs.
C.E. 001—The Engineering Profession	0
Engl. 101—Freshman Composition	3
Math. 111—College Algebra	3
Math. 112—Plane Trigonometry	2
Chem. 106—General Chemistry for Engineers	4
G.E. 101—Engineering Graphics I	2
Mil. S.—Military or Aerospace Science	2
P.E.—Physical Education	1
	17

Second Semester	Crs.
C.E. 002—The Engineering Profession	0
Engl. 102—Freshman Composition	3
Math. 113—Analytics & Calculus I	4
Chem. 108—General Chemistry for Engineers	4
G.E. 102—Engineering Graphics II	2
C.E. 100—Plane Surveying	2

Mil. S.—Military or Aerospace Science	2
P.E.—Physical Education	1
	18

Sophomore Year

First Semester	Crs.
C.E. 003—The Engineering Profession	0
Math. 211—Analytics & Calculus II	4
Phys. 231—General College Physics	3
Phys. 241—General College Physics Lab	2
C.E. 210—Route Surveying	3
C.E. 110—Engineering Problems	1
G.E. 203—Mapping & Topographic Drawing	2
Mil. S.—Military or Aerospace Science	2
	17

Second Semester	Crs.
C.E. 004—The Engineering Profession	0
Math. 212—Analytics & Calculus III	4
Phys. 232—General College Physics	3
Phys. 242—General College Physics Lab	2
G.E. 221—Statics	3
Geol. 200—Elementary Geology for Engineers	3
Mil. S.—Military or Aerospace Science	2
Non-technical Elective	2
	19

Summer Camp (4 weeks)—5 credits

C.E. 212—General Surveying	3
C.E. 211—Route Surveying	2

Junior Year

First Semester	Crs.
C.E. 005—The Engineering Profession	0
C.E. 380—Theory of Structures	3
C.E. 350—Hydraulics	2
C.E. 351—Hydraulics Lab	1
G.E. 431—Strength of Materials	4
Math. 521—Mathematical Statistics	3
or or	
*Math. 331—Differential Equations for Engr.	2
Met.E. 303—General Elementary Metallurgy	2
Non-technical Elective	3
	17 or 18

Second Semester	Crs.
C.E. 006—The Engineering Profession	0
C.E. 301—Testing Materials	1
C.E. 480—Theory of Structures	3
C.E. 355—Water Supply & Sewerage	3
C.E. 425—Soil Mechanics	3
G.E. 311—Dynamics	2
C.E. 387—Steel Structures	3
Non-technical Elective	3
	18

Senior Year

First Semester	Crs.
C.E. 007—The Engineering Profession	0
C.E. 392—Reinforced Concrete	3
E.E. 301—Fundamentals of Elec. Machinery	3
C.E. 340—Highway Engineering	3
Non-technical Elective	3
Technical Electives	6 or 7
	18 or 19

Second Semester	Crs.
C.E. 008—The Engineering Profession	0
C.E. 371—Seminar	1
G.E. 341—Engineering Administration	3
M.E. 400—Elements of Engr. Thermodynamics	3
Arch. 222—Building Construction	3
Non-technical Electives	6
Technical Elective	3
	19

Non-technical Electives are to be selected from the Humanities and Social Studies in other colleges of the University and must be approved by the department head.

Technical Electives are to be approved by the department head and may be selected in specific fields such as structures, highways, sanitary engineering, or other planned objectives.

* Students interested in additional work in Structures should take Math. 331. Those interested in Construction Management should take Math. 521.

FACULTY

David Knox Blythe, Edwin Rupert Bennett, Lawrence Allan Boston, Alvin Lee Chambers, John Arthur Dearinger, William Bright Drake, Hans Gesund, James Hobart Havens, Robert Amis Lauderdale, Jr., Larry Donovan Luttrell, Thomas Lee McReynolds, Samuel Albert Mory, Jr., John R. Parker and Laurence Chester Pendley.

Course Descriptions

001(1a) *The Engineering Profession* (Freshman). (0) I, II

Blythe.

002(1b) *The Engineering Profession* (Freshman). (0) I, II

Blythe.

003(2a) *The Engineering Profession* (Sophomore). (0) I

Chambers.

004(2b) *The Engineering Profession* (Sophomore). (0) II

Chambers.

005(3a) *The Engineering Profession* (Junior). (0) I

Chambers.

006(3b) *The Engineering Profession* (Junior). (0) II

Chambers.

007(4a) *The Engineering Profession* (Senior). (0) I

Chambers.

008(4b) *The Engineering Profession* (Senior). (0) II

Lectures on professional growth, conduct and ethics. Activities of the student branches of the corresponding professional societies. *Chambers.*

100(12) *Plane Surveying.* (2) I, II

Principles, field practice and calculations. General use and care of surveying instruments. Class work, one hour; field work, three hours. Prereq: Math. 112. *Dearinger and Staff.*

101 *Field work for C.E. 100.*

102 *Construction Surveys.* (1) I, II

Care and use of surveying instruments; site mapping by coordinates, stadia and plane table methods; layout of buildings and utilities. Laboratory, three hours. Prereq: Math. 112. *Dearinger.*

110(5) *Engineering Problems.* (1) I, II

Analysis and solution of basic civil engineering problems, including instruction in the use of the slide rule. Two hours per week. Prereq: Math. 112. *Pendley.*

210(16a) *Route Surveying I.* (3) I, II

Curves, line, grade, earthwork and theory of location as it applied to railroads, highways and pipelines. Lecture and recitation, three hours. Prereq: C.E. 100. *Dearinger and Staff.*

211(16b) *Route Surveying II.* (2) S

Given at the Summer Camp, Noble, Kentucky. Theory, field and office practice in route-surveys including the application of aerial photographs in this work. Prereq: Approval of the head of the department. *Blythe and Dearinger.*

212(15) *General Surveying.* (3) S

Given at the Summer Camp, Noble, Kentucky. Theory, field and office practice on control surveys, mapping, photogrammetry, property surveys, hydrographic surveys and astronomical observations. Prereq: Approval of the head of the department. *Blythe and Dearinger.*

301(81) *Testing Materials.* (1) I, II, S

Experimental investigations and tests of wood, metals, cement, concrete and other construction materials to verify the laws governing their behavior under given conditions. Laboratory, two hours. Prereq. or concur: G.E. 431. *Chambers and Pendley.*

340(130a) *Highway Engineering I.* (3) I, II

Highway organization, administration and finances. Planning and geometric design of highways. Soils, drainage, earthwork, soil stabilized and low type roads. Lecture, two hours; lab, three hours. Prereq: C.E. 425. *Pendley and Dearinger.*

341 *Laboratory for C.E. 340.*

350(120) *Hydraulics.* (2) I, II, S

Mechanics and fluids under static and dynamic conditions. Fundamentals as found in any standard elementary textbook. Lecture and recitation, two hours. Prereq: G.E. 311 and G.E. 431. *Bennett.*

351(123) *Hydraulics Laboratory.* (1) I, II, S

Experimental investigation and application of some of the more important principles covered in C.E. 350. Laboratory, three hours. Prereq. or concur: C.E. 350. *Bennett.*

355(150) *Water Supply and Sewerage.* (3) I, II

For general civil engineering students. Theory and design of water treatment and sewage disposal plants. Lecture, three hours. Prereq: C.E. 350. *Lauderdale and Bennett.*

356 *Water and Sewage Treatment.* (3)

Theory of conventional and modified water and sewage treatment plants and their operation, analytical methods used in control and significance of test data. Lecture and recitation, three hours. Prereq: C.E. 355. *Lauderdale and Bennett.*

371(23) *Seminar.* (1) I, II

A study of current engineering literature as related to civil engineering, assigned reading and reports. Round-table conferences. Two hours. Prereq: Senior classification. *Staff.*

380(171a) *Theory of Structures I.* (3) I, II

Analytical and graphical analysis of stresses in simple and indeterminate structures, including beams, girders, trusses, towers and building frames. Lecture and recitation, three hours. Prereq. or concur: G.E. 431. *Staff.*

385(175) *Timber Structures.* (1) I, II

Design of structural beams, columns and trusses as related to timber structures. Drawing room, three hours. Prereq: C.E. 380. *Dearinger.*

387(173a) *Steel Structures I.* (3) I, II

Design and details for various types of riveted and welded connections, riveted and welded building frames, plate girders and trusses. Lecture, one hour; drawing room, six hours. Prereq: C.E. 380. *Mory.*

392 (110a) *Reinforced Concrete I.* (3) I, II

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. Lecture and recitation, three hours. Prereq: C.E. 480. *Gesund.*

425(107) *Soil Mechanics.* (3) I, II

A study of soil and its utilization in foundations for structures and subgrade for highways. Stabilization and improvement of bearing values. Lectures and recitations, two hours a week; lab, three hours. Prereq: Junior classification. Prereq. or concur: Geol. 202. *Pendley.*

426 *Laboratory for C.E. 425.*

440(130b) *Highway Engineering II.* (3) I, II

Materials, construction and maintenance of intermediate and high type roads including all types of bituminous surfaces, macadams and Portland cement concrete. Lecture, two hours; lab, three hours. Prereq: C.E. 340. *Chambers.*

441 *Laboratory for C.E. 440.*

459(158) *Sanitary Engineering Design.* (3) I, II

For students now majoring in Sanitary Engineering. Complete design and layout of a water plant, distribution system, storm and sanitary sewer, and sewage disposal plant. Drawing room, nine hours. *Lauderdale.*

480(171b) *Theory of Structures II.* (3) I, II

Continuation of C.E. 380, with emphasis on indeterminate structures and using the following methods: consistent deflections, moment distribution and slope-deflection. Introduction to computer programs. Lecture and recitation, three hours. Prereq. or concur: G.E. 431. *Staff.*

487(173b) *Steel Structures II.* (2) I, II

Continuation of C.E. 387 with emphasis on floor systems, trusses and plate girders for bridges. Drawing room, six hours. Prereq: C.E. 387. *Maggard, Staff.*

492(110b) *Reinforced Concrete II.* (2) I, II

Continuation of C.E. 392, with special emphasis on complete structures Lecture, one hour; drawing room, three hours. Prereq: C.E. 392. *Gesund.*

521(115) *Engineering Interpretation of Aerial Photographs.* (3) I, II

Fundamentals of aerial photography as applied to modern engineering surveys. Analysis and reports on soil pattern, geologic formations, and land use studies using photographs. Prereq: Consent of instructor. *Dearinger.*

542 *Traffic Engineering.* (3) I

Characteristics of traffic, drivers and vehicles. Traffic engineering investigations. Design and application of signs, signals and markings. Design of intersections, parking facilities and signal systems. Lecture and recitation, two hours; lab, three hours. Prereq: C.E. 340. *Dearinger.*

553(126) *Hydrology.* (2) I, II

Occurrence, control and utilization of water particularly as a problem of Civil and Sanitary Engineering. Prereq: C.E. 350. *Staff.*

566(192) *Public Health Engineering.* (3) II

Application of engineering principles to the control of the environment, as used by sanitary engineers in federal, state or international health agencies. Lecture, three hours. Prereq: Consent of instructor. *Staff.*

568 *Sanitary Engineering Laboratory.* (5) I

Lectures and laboratory practice in principles, application and interpretation of analytical tests used in sanitary engineering research and plant control. Lecture, three hours; lab, six hours. Prereq: Consent of instructor. *Staff.*

580 *Theory of Structures III.* (3) I, II

Plastic design of steel. Introduction to the theory of arches. Theory and design of continuous trusses. Lecture and recitation, three hours. Prereq: C.E. 480. *Mory.*

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.

625(221a) *Advanced Soil Mechanics.* (3) I, II

Advanced study of the engineering properties of soils including precise sampling and testing methods. Lecture, two hours; lab, three hours. Prereq: C.E. 425 or consent of instructor. *Drake.*

627(221b) *Applied Soil Mechanics.* (3) I, II

A study of advanced problems in soils engineering, including foundations, earth structures and highway subgrades. Lecture, two hours; lab, three hours. Prereq: C.E. 625 or consent of instructor. *Drake.*

640(230a) *Highway Administration, Economics and Finance.* (3) I, II

A study of highway administration, economics and finance; including organization of highway departments, sources and types of revenue, road costs, classification of roads, benefits from improvements, and program planning. Lecture, three hours. Prereq: C.E. 440 or consent of instructor. *Drake.*

642(230b) *Advanced Highway Engineering.* (3) I, II

A study of traffic, planning and geometric design including traffic surveys, traffic control, parking and design consideration. Lecture, two hours; lab, two hours. Prereq: C.E. 340 or consent of instructor. *Pendley.*

645(230c) *Highway Design, Construction and Maintenance.* (3) I, II

A study of highway design, construction and maintenance; including physical aspects of design, drainage, road types, structural pavement design, construction methods and supervision and maintenance methods Lecture, three hours. Prereq: C.E. 642 or consent of instructor. *Drake.*

646(230d) *Bituminous Paving Materials.* (3) I, II

Origin, production, use-classifications and significant engineering properties of bituminous materials; design of bituminous concrete pavements and highway wearing surfaces. Includes the most recent developments of practical and potential significance in the highway industry. Covers specifications and materials testing. Lecture, two hours; lab, three hours. Prereq: C.E. 440 or consent of instructor. *Havens.*

647(230e) *Cements, Concretes and Aggregates.* (3) I, II

Origin, production, use-classifications and significant engineering properties of portland cements, concretes and mortars. Covers: precise methods of design and control of mixes; durability considerations; pozzolans; additions and admixtures; mineral aggregates; structural, paving and mass concretes; specifications and materials testing. Lecture, two hours; lab, three hours. Prereq: C.E. 440 or consent of instructor. *Havens.*

659(252a) *Advanced Sanitary Engineering Design I.* (3) I, II

Application of theory of water treatment processes to the functional and hydraulic design of water treatment facilities. Lecture, two hours; lab, three hours. *Lauderdale, Bennett.*

660(252b) *Advanced Sanitary Engineering Design II.* (3) I, II

Application of theory of waste treatment processes to the functional and hydraulic design of waste treatment facilities. Lecture, two hours; lab, three hours. *Lauderdale, Bennett.*

662(290) *Water Works and Water Treatment.* (3) I

Theory of water supply and purification, microbiology of fresh water, design of water works and water distribution systems. Lecture, three hours. Prereq. or concur: C.E. 568, Microb. 400 and Microb. 401. *Lauderdale, Bennett.*

664(291) *Sewerage and Sewage Treatment.* (3) II

Aerobic and anaerobic methods of sewage treatment, biochemical oxygen demand, stream purification, design of sewerage and sewage treatment plants. Lecture, three hours. Prereq: C.E. 568, Microb. 400 and Microb. 401. *Lauderdale, Bennett.*

681 *Dynamics of Structures.* (3) II

Behavior of materials under dynamic stresses, dynamic response of multidegree of freedom—concentrated mass systems, dynamic response of distributed mass structures, design of structures for earthquake, wind, traffic and machinery loads. Prereq: G.E. 513 or permission of instructor. *Gesund.*

687(272a) *Advanced Steel Structures.* (3) I, II

Theory and application of the Williot and Mohr diagrams, Maxwell's law of reciprocal relations, virtual work and influence lines for determining deflections, movements and camber in design of continuous steel trusses and plate girders. Lecture, three hours. Prereq: C.E. 480 and 487. *Staff.*

688(272b) *Advanced Structures.* (2) I, II

Preparation of design drawings of structures analyzed and proportioned in C.E. 692 and C.E. 687. Lab, four hours. Prereq: C.E. 692 and C.E. 687. *Staff.*

690(272d) *Suspension Bridges.* (3) I, II

Theory and application of stress analysis and design as applied to suspension bridges. Lecture, two hours; lab, two hours. Prereq: C.E. 687. *Mory.*

692(202a) *Slab and Folded Plate Structures.* (3) I, II

Design and analysis of reinforced concrete floor slabs and folded plate roofs. Elastic and inelastic methods. Lecture, three hours. Prereq: C.E. 580, G.E. 531, Math. 331 or Math. 431, or consent of instructor. *Gesund.*

693(272c) *Shell Structures.* (3) I, II

Design and analysis of reinforced concrete shell structures, including domes, barrel shells, hyperbolic paraboloids and cylindrical tanks. Lecture, three hours. Prereq: C.E. 692 or consent of instructor. *Gesund.*

694(202b) *Continuous Frames by the Rapid Column Analogy Method.* (3) I, II

Theory and application of the column analogy method of stress analysis and design as applied to prismatic and haunched members in continuous structures with emphasis on arches. This method has proven itself unusually efficient for programming for electronic computers. Lecture, three hours. Prereq: C.E. 480 and C.E. 492. *Mory.*

695(202c) *Continuous Arches on Tall Piers and Lean-to Structures.* (3) I, II

Theory and application of stress analysis and design methods as applied to continuous unsymmetrical frames carrying horizontal loads; frames with haunched members and continuous arches on slender piers. The translatory and rotary elastic constants and stresses due to displacements are obtained by the column analogy. Lecture, three hours. Prereq: C.E. 694, or consent of instructor. *Mory.*

768(500-1,2,3) *Residence Credit for the Master's Degree.* (0) I, II, S

Thesis. May be repeated once. *Staff.*

771(283) *Seminar.* (0) I, II, S

Review of current literature in the field of Civil Engineering, general discussion and presentation of papers on departmental research. Required of all graduate students. Two hours. *Staff.*

780(282a-c) *Special Problems in Civil Engineering.* (3)

Individual work on some selected problems in one of the various fields of Civil Engineering. Laboratory, six hours. May be repeated for a maximum of nine credits. Prereq: Approval of the head of department. *Staff.*

790(282d-f) *Special Problems in Civil Engineering.* (3)

Individual work on some selected problems in one of the various fields of Civil Engineering. Laboratory, six hours. May be repeated for a maximum of nine credits. Prereq: Approval of the head of department. *Staff.*

ELECTRICAL ENGINEERING

CURRICULA LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN ELECTRICAL ENGINEERING

Freshman Year

First Semester	Crs.
E.E. 001—The Engineering Profession	0
Engl. 101—Freshman Composition	3

Math. 111—College Algebra	3
Math. 112—Plane Trigonometry	2
Chem. 106—Gen. Chemistry for Engineers	4
G.E. 101—Engineering Graphics I	2
Military or Aerospace Science	2
Physical Education	1
	17

Second Semester	Crs.
E.E. 002—The Engineering Profession	0
Engl. 102—Freshman Composition	3
Math. 113—Analytics and Calculus I	4
Chem. 108—Gen. Chemistry for Engineers	4
Military or Aerospace Science	2
Physical Education	1
*Non-technical Elective	4
	18

Sophomore Year

First Semester	Crs.
E.E. 003—The Engineering Profession	0
Phys. 231—General College Physics	3
Phys. 241—General College Physics Lab.	2
Math. 211—Analytics and Calculus II	4
Engl. 203—Comp. for Technical Students	3
E.E. 211—Intro. to Electrical Engineering	1
Military or Aerospace Science	2
*Non-technical Elective	3
	18

Second Semester	Crs.
E.E. 004—The Engineering Profession	0
Phys. 232—General College Physics	3
Phys. 242—General College Physics Lab.	2
Math. 212—Analytics and Calculus III	4
G.E. 221—Statics	3
E.E. 221—Circuits I	3
E.E. 222—Electrical Engineering Lab. I	2
Military or Aerospace Science	2
	19

Junior Year

First Semester	Crs.
E.E. 005—The Engineering Profession	0
E.E. 461—Electronics & Communications I	3
E.E. 462—Electrical Engineering Lab. II	2
E.E. 420—Engineering Analysis I	3
G.E. 313—Dynamics	3
M.E. 250—Shop Theory	1
M.E. 251—Shop Practice	1
Engl. 181—Essentials of Speech	3
E.E. 414—Circuits II	3
	19

Second Semester	Crs.
E.E. 006—The Engineering Profession	0
E.E. 415—Electrical Machinery I	3
E.E. 416—Electrical Engineering Lab. III	2
E.E. 520—Engineering Analysis II	3
E.E. 567—Fields and Waves	3
Math. 331—Differential Equations for Engr.	2
E.E. 507—Electrical Controls I	3
*Non-technical Elective	2
	18

Senior Year

First Semester	Crs.
E.E. 007—The Engineering Profession	0
E.E. 371—Seminar	1
E.E. 572—Electrical Controls II	3
E.E. 508—Electrical Engineering Lab. V	2
Met. E. 201—Engineering Metallurgy	3
**Electrical Engineering Elective	3
E.E. 535—Circuits III	3
*Non-technical Elective	3
	18

Second Semester	Crs.
E.E. 008—The Engineering Profession	0
E.E. 372—Seminar	1
M.E. 400—Elements of Engr. Thermodynamics	3
G.E. 331—Strength of Materials	3
G.E. 341—Engineering Administration (or Com. 437—Industrial Management)	3
***Electrical Engineering Electives	5
*Non-technical Elective	3
	18

FACULTY

H. Alex Romanowitz, Nathan B. Allison, Lyle Newton Back, Eugene Bradford Bradley, Frank F. Carden, Constantine George Collis, Henry Jackson Daily, Raymond Jewel Distler, Peter John Graham, John S. Jackson, Prasad K. Kadaba, Martin C. Krimm, Percy C. Magoun, Charles Thomas Maney, Silvio O. Navarro, and Russell Elwood Puckett.

Course Descriptions

001(1a) *The Engineering Profession* (Freshman). (0) I

002(1b) *The Engineering Profession* (Freshmen). (0) II

003(2a) *The Engineering Profession* (Sophomore). (0) I

004(2b) *The Engineering Profession* (Sophomore). (0) II

005(3a) *The Engineering Profession* (Junior). (0) I

006(3b) *The Engineering Profession* (Junior). (0) II

007(4a) *The Engineering Profession* (Senior). (0) I

008(4b) *The Engineering Profession* (Senior). (0) II

Lectures on professional growth, conduct and ethics. Activities of the student branches of the corresponding professional societies. May be repeated indefinitely.

211(11) *Introduction to Electrical Engineering.* (1) I, II

Classroom and laboratory study of electrical quantities and their measurement. Ohm's and Kirchoff's laws with applications. Electric service installations, code requirements, safety. Lecture and lab, two hours. Prereq: Sophomore classification. *Magoun.*

* A list of approved non-technical electives is available at the Elec. Engr. Dept. office.

** Elec. Engr. 562, 537.

*** Elec. Engr. 538, 523, 564, 565, 566, 517.

221(21R) *Circuits I.* (3) I, II

Elementary circuit analysis. Study of series and parallel R-L-C circuits with single-phase sinusoidal driving functions. Recitation, three class hours. Prereq: Math. 211, Physics 231. Concurrent: E.E. 222, Physics 232. *Staff.*

222(21L) *Electrical Engineering Laboratory I.* (2) I, II

Laboratory exercises in the use of measuring instruments. Experiments in R-L-C circuit analysis. Lecture, one class hour; lab, three hours. Concur: E.E. 221. Prereq: E.E. 211, Physics 231. *Staff.*

223 *Laboratory for E.E. 222.*

301(101) *Fundamentals of Electrical Machinery.* (3) I, II

A study of direct current and alternating current circuits, machinery controls and illumination equipment. Two class hours; two hours laboratory. Prereq: Physics 232. *Daily.*

303(103) *Electrical Laboratory for Mining Engineers.* (1) II

A laboratory study of circuits and equipment used in the servicing and operation of industrial equipment, with special emphasis on mining applications. Three hours lab. Prereq. or concurrent: E.E. 301. *Daily.*

305(105a) *Electrical Circuits and Machinery.* (3) I, II

Study of d-c circuits, machines and control; analysis of single-phase circuits. Three class hours. Prereq: Math. 212, Physics 231. *Krimm.*

306(105b) *Electrical and Electronic Circuits and Machinery.* (3) I, II

Three-phase circuits, a-c machinery, electronics principles and applications. Three class hours. Prereq: E.E. 305. *Krimm.*

371(151a) *Seminar.* (1) I, II

Weekly meetings with staff for oral reports on term papers. Discussion of modern practices in electrical engineering. Two class hours. Prereq: Engl. 181. *Staff.*

372(151b) *Seminar.* (1) I, II

Continuation of E.E. 371. Two class hours. Prereq: E.E. 371. *Staff.*

414(114R) *Circuits II.* (3) I, II

A mathematical study of magnetic effects, self- and mutual-inductance; electric fields and capacitance in both single-phase and poly-phase circuits. Prereq: E.E. 221, Math. 212, Physics 232, 242. *Back.*

415(116R) *Electrical Machinery I.* (3) I, II

A study of construction, operating characteristics (by mathematical analysis), and applications of electrical machines. Three class hours. Prereq: E.E. 414. Concur: E.E. 416. *Krimm.*

416(116L) *Electrical Engineering Laboratory III.* (2) I, II

Laboratory practice and experimental studies related to E.E. 415. Lecture, one hour; lab, three hours. Prereq: E.E. 414. Concur: E.E. 415. *Krimm.*

417 *Laboratory for E.E. 416.*

420(120a) *Engineering Analysis I.* (3) I, II

A study of engineering analysis stressing fundamental mathematical and physical principles; electrical duals, electrical-mechanical analog; series solution of differential equations; Bessel and hyperbolic functions, Fourier analysis. Lecture and recitation, two hours; problem session, two hours. Prereq. or concur: E.E. 414, 461. *Jackson, Graham.*

461(161R) *Electronics and Communications I.* (3) I, II

Thermionic emission; vacuum-tube and transistor characteristics. Graphical and mathematical analysis of audio amplifiers; rectifiers and smoothing filters as power supplies. Recitation, three class hours. Prereq: E.E. 221, Physics 232, Math. 212. Concur: E.E. 414, 462. *Daily, Puckett.*

462(161L) *Electrical Engineering Laboratory II.* (2) I, II

Experimental exercises in vacuum-tube and transistor characteristics; basic A-F circuits, as voltage and power amplifiers, oscillators and rectifiers. Lecture, one class hour; lab, three hours. Prereq: E.E. 222. Concur: E.E. 461. *Daily, Puckett.*

463 *Laboratory for E.E. 462.*

507(107R) *Electrical Controls I.* (3) I, II

Design and analysis of open-loop control components and systems. Three class hours. Prereq: E.E. 420. Prereq. or concur: E.E. 415, 416. *Maney, Puckett.*

508(107L) *Electrical Engineering Laboratory IV.* (2) I, II

Laboratory study of control methods and systems employing magnetic and electronic components; analog computers. Lecture, one hour; lab, three hours. Prereq: E.E. 507. Concur: E.E. 572. *Staff.*

509 *Laboratory for E.E. 508.*

517(117) *Electrical Machinery II.* (3) I, II

Electro-mechanical energy conversion systems studies. Development of generalized equivalent circuits for various conditions of operation. Prereq: E.E. 415, 416. *Maney.*

520(120b) *Engineering Analysis II.* (3) I, II

Investigation of transient and steady-state conditions in electrical and mechanical systems, using Laplace transform methods; network analysis and synthesis. Feedback system stability criteria. Lecture and recitation, two hours; problem session, two hours. Prereq: E.E. 420. *Graham, Allison.*

523(123) *Electrical Equipment Problems.* (2) I, II

A creative design study of comprehensive engineering problems, primarily electrical but related to engineering in general. One class hour, five hours by appointment. Prereq: Senior classification. *Maney.*

535(135R) *Circuits III.* (3) I, II

Fundamentals of network theory in communications circuits; transmission lines and wave filters. Three class hours. Prereq: E.E. 414, 462, 420. *Distler, Graham.*

537(137a) *Electric Power Transmission I.* (3) I

Transmission line parameters, generalized circuit constants; analysis of line performance. Three class hours. Prereq: 415, 416. *Maney.*

538(137b) *Electric Power Transmission II.* (3) II

Per-unit studies; symmetrical components; experimental studies on a-c network analyzer. Three class hours. Prereq: E.E. 537. *Maney.*

562(162R) *Electronics and Communications II.* (3) I, II

Feedback amplifiers, tuned and untuned amplifiers; oscillators, AM and FM transmitters. Three class hours. Prereq: E.E. 461, 462. *Bradley, Carden.*

564(164R) *Electronics and Communications III.* (3) I, II

Timing, scanning, trigger and pulse circuits; video and broad-band R-F amplifiers. Generation, transmission and radiation of V-H-F and U-H-F energy. Three class hours. Prereq: E.E. 562, 567. *Allison, Carden.*

565(164L) *Electrical Engineering Laboratory V.* (2) I, II

Laboratory practice and experiment exercises relating to studies in E.E. 564. Lecture, one hour; lab, three hours. Concur: E.E. 564. *Allison, Carden.*

566(166) *Magnetic Amplifiers.* (3) II

Wave-form analysis of circuits with nonlinear magnetic elements; saturable reactors and self-saturating magnetic amplifiers in steady-state and transient operation; some characteristics of semiconductor diodes including Zener types; effects of negative and positive feedback on magnetic amplifiers. Three class hours. Prereq: E.E. 415, 461. *Distler.*

567(165) *Fields and Waves.* (3) I, II

Fundamental theory of electrostatic and magnetostatic fields using vector methods of analysis; Maxwell's equations. Time-varying fields, wave equations. Three class hours. Prereq: E.E. 414, 420. *Romanowitz.*

568 *Laboratory for E.E. 565.*

572(172R) *Electrical Controls II.* (3) I, II
Analytical and graphical techniques applied to the design of linear feedback control systems, emphasizing a root-locus method. Non-linear systems are briefly discussed. Three class hours. Prereq: E.E. 520, 507. Concur: E.E. 508. *Jackson.*

580 *Logical Design of Analog and Digital Systems.* (3)
Computation elements; analysis and synthesis of systems, Boolean functions and applications to relay and electronic circuits; circuit logic, memory elements; design of counters, sequential devices, digital devices; brief treatment of programming. Three class hours. *Graham, Navarro.*

585 *Molecular Engineering.* (3) II
Fundamental particles; Quantum concepts, statistics; Crystal structure; Thermal properties of solids; Dielectric properties, optical properties; Free-electron model of metals; Band theory; Semiconductors; Solid state devices. Three class hours. Prereq: Math. 431, E.E. 567. Prereq. or concur: E.E. 520. *Kadaba.*

595(152a-d) *Independent Problems.* (1) I, II
For electrical engineers. A problem, approved by the head of the department, provides an objective for study and research. May be repeated twice for a total of three credits. *Staff.*

596(152d-f) *Independent Problems.* (2) I, II
Same conditions as E.E. 595. May be repeated twice for a total of six credits. *Staff.*

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.

606(206) *Electric Power Transmission.* (3)
The theory underlying the calculation and operation of long distance transmission circuits. Special attention to relay control. Prereq: E.E. 538. *Maney, Navarro.*

611(211a) *Linear Circuit Analysis I.* (3)
Laplace and Fourier transform methods of analysis of linear lumped constant systems under transient and steady state conditions; feedback amplifiers; filter networks; stability and physical realizability. Prereq: E.E. 520, 535, 572. *Jackson, Graham.*

612(211b) *Linear Circuit Analysis II.* (3)
Continuation of E.E. 611 with an introduction to non-linear systems. Prereq: E.E. 611. *Jackson, Graham.*

613(213) *Servomechanisms.* (3)
Analysis and synthesis of linear and non-linear closed-loop control system; analog computer and phase-plane techniques; root-locus and Laplace transform methods applied to linear systems. Prereq: E.E. 572. *Jackson.*

622(222) *Gaseous Conducting Electronic Devices.* (3)
Atomic energy level diagrams; photo-electric emission and devices; electric arcs and glow discharges, plasmas and boundaries, sheaths and probes; industrial devices. Prereq: E.E. 461, 567. *Romanowitz.*

623(223) *Lines and Wave Guides.* (3)
Open-wire and coaxial lines, standing waves, stub matching; impedance transformation, rectangular and circular wave guides. Prereq: E.E. 535, 564, 567. *Allison, Kadaba.*

626(226) *Microwave Engineering.* (3)
Generation, detection and measurement of microwave energy; vacuum tubes at ultra high frequencies, the klystron and the magnetron. Lecture, two hours; lab, three hours. Prereq: E.E. 564, 565, 567. *Allison, Kadaba.*

627(227) *Electromagnetic Fields.* (3)
Advanced studies in electromagnetic fields; antennas, radiation and propagation of energy. Prereq: E.E. 567. *Allison, Kadaba.*

768(500-1,2,3) *Residence Credit for the Master's Degree.* (0) I, II, S
Thesis. May be repeated once. *Staff.*

771(231a-d) *Seminar.* (1)
Review of current literature in the field of Electrical Engineering, general discussion and presentation of papers on departmental research. Required of all graduate students. Two class hours. May be repeated twice for a total of three credits. *Staff.*

781(230a-c) *Special Problems in Electrical Engineering.* (3)
Open to graduate students only. Individual work on an assignment approved by the head of the department. May be repeated twice for a total of nine credits. *Staff.*

783(230d-f) *Special Problems in Electrical Engineering.* (3)
Open to graduate students only. Individual work on as assignment approved by the head of the department. May be repeated twice for a total of nine credits. *Staff.*

GENERAL ENGINEERING

The Department of General Engineering is a service department functioning for the benefit of all the other departments offering degrees in the College of Engineering. It is made up of the following branches:

Applied Mechanics
Engineering Administration
Engineering Graphics
Fire Protection and Safety Engineering
Nuclear Engineering

FACULTY

Robert Dawson Hawkins, Staley Fields Adams, William Jackson Barber, Roy Donald Burberry, Edward Everett Elsey, Oliver William Gard, John P. Hobart, Clinton Kelly Hoffmann, George Land, Jr., James Francis Lafferty, Thomas Eugene Morgan, Walter Vincent Prop, Gordon Kenneth Sapp and George Hawley White, Jr.

Course Descriptions

APPLIED MECHANICS

G.E.211(AM2) *Mechanisms.* (3) I, II, S
(For Mechanical Engineers.) Movement of machine parts such as crank and link motions, cams, gears, straight line and quick return motions. Lecture and recitation, two hours; lab, three hours. Prereq: Phys. 211 or 231 and G.E. 201. *Hawkins, Barber, Adams, Land, Lafferty, and White.*

G.E.221(AM3) *Statics.* (3) I, II, S
A study of forces, vectors, couples, moments of areas and masses, center of gravity, and their application to engineering structures in two and three dimensions. Lecture and recitation, three hours. Prereq: Phys. 231. Prereq. or concur: Math. 211. *Hawkins, Barber, Adams, Lafferty, Land, and White.*

G.E.311(AM4) *Dynamics.* (2) I, II, S
Motion of a particle, dynamics of moving bodies, impulse and momentum, work and energy. Lecture and recitation, two hours. Prereq: G.E. 221 and Math. 211. *Hawkins, Barber, Adams, and Land.*

G.E.313(AM7) *Dynamics.* (3) I, II, S
(For Mechanical Engineers.) Motion of a particle, dynamics of moving bodies, impulse and momentum, work and energy, balancing, gyroscopy, advanced dynamics of rigid bodies. Lecture and recitation, three hours. Prereq: G.E. 221, Math. 211. *Hawkins, Barber, Adams, Land, and Lafferty.*

G.E.331(AMc100) *Strength of Materials.* (3) I, II, S
A study of stress and strain due to direct forces, shear bending, torsion, eccentric loads and combined stresses. Lecture and recitation, three hours. Prereq: G.E. 221. Prereq. or concur: Math. 212. *Hawkins, Barber, Adams, Land, and Lafferty.*

G.E.431(AM100) *Strength of Materials.* (4) I, II, S

A study of stress and strain due to direct forces, shear, bending, torsion, eccentric loads and combined stresses, riveted and welded joints, columns, and energy loads. Lecture and recitation, four hours. Prereq: G.E. 221. Prereq. or concur: Math. 212. *Hawkins, Barber, Adams, Land, and Lafferty.*

G.E.513(AM107) *Mechanical Vibrations.* (3) I, II

Vibrations of systems of one and several degrees of freedom, critical speeds and torsional and lateral vibrations of shafts. Lecture and recitation, three hours. Prereq: G.E. 431 and G.E. 311 or G.E. 313. Prereq. or concur: Math. 331. *Hawkins, Barber, and Adams.*

G.E.531(AM106) *Advanced Strength of Materials.* (3) I, II, S

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. Lecture and recitation, three hours. Prereq: G.E. 431. *Hawkins and Adams.*

ENGINEERING ADMINISTRATION

G.E.341(EA102) *Engineering Administration.* (3) I, II

A study of the methods, procedures and principles involved in engineering analyses, contracts, specifications, estimates and valuations, and administration of engineering projects. Lecture and recitation, three hours. Prereq: Senior classification. *Elsey.*

ENGINEERING GRAPHICS

G.E.101(ED1a) *Engineering Graphics I.* (2) I, II, S

Freehand sketching and lettering. Orthographic and axonometric drawings and sketches. Use and care of instruments. Use of scales. Dimensioning. Auxilliary views. Sectioning. Fasteners. Pencil and ink techniques. Charts, maps and diagrams. Three two-hour periods a week. *Hoffmann, Burberry, Morgan, Prop, Hobart, and Sapp.*

G.E.102(ED1b) *Engineering Graphics II.* (2) I, II, S

Graphical solution of space problems by the application of the principles of descriptive geometry. Prereq: G.E. 101. *Hoffmann, Burberry, Morgan, Prop, Hobart, and Sapp.*

G.E.201(ED18) *Advanced Engineering Graphics.* (2) I, II, S

Technical sketching and working drawings of machines and machine parts. Six hours. Prereq: G.E. 102, M.E. 250 and M.E. 251. *Hoffmann and Burberry.*

G.E.203(CE18) *Mapping and Topographic Drawing.* (2) I, II

Construction of maps from field notes, reproduction and changing scale of maps, topographic symbols, contours, projected location, profile, line and grade. Drafting room, six hours. Prereq: C.E. 100. *Hoffmann.*

G.E.351(FPSE101) *Fire Protection Engineering.* (2) I

A study of building materials and construction relative to fire prevention, principles of fire insurance rating, common hazards and fire protection methods. Prereq: Junior classification. *Gard.*

G.E.353(FPSE102) *Safety Engineering.* (2) II

A study of safety methods including industrial accident prevention, accident statistics and analysis, industrial safety hazards, protective equipment, transportation and general safety. Lecture and recitation, two hours a week. Prereq: Junior classification. *Gard.*

NUCLEAR ENGINEERING

G.E.481(NE101) *Nuclear Reactor Engineering.* (3)

Reactor design studies based on neutron diffusion; critical size calculation of homogeneous and heterogeneous systems. Lecture and recitation, three hours. Prereq: Phys. 232, Math. 331 or Math. 431. *Lafferty.*

G.E.482(NE102) *Nuclear Reactor Engineering II.* (3)

Engineering aspects of reactor kinetics and control; shielding and radiation protection; reactor design variables; nuclear fuels and reactor materials. Lecture and recitation, three hours. Prereq: G.E. 481. *Lafferty.*

MECHANICAL ENGINEERING

CURRICULUM LEADING TO A BACHELOR OF SCIENCE DEGREE IN MECHANICAL ENGINEERING

Freshman Year

First Semester	Crs.
M.E. 001 (M.E. 1a)—The Engineering Profession	0
P.E.—Physical Education	1
R.O.T.C.—Military or Aerospace Science	2
G.E. 101 (E.D. 1a)—Engineering Graphics I	2
Engl. 101 (Engl. 1a)—Freshman Composition	3
Chem. 106 (Chem. 2a)—General Chemistry for Engineers	4
Math. 112 (Math. 18)—Plane Trigonometry	2
Math. 111 (Math. 17)—College Algebra	3
	17

Second Semester	Crs.
M.E. 002 (M.E. 1b)—The Engineering Profession	0
P.E.—Physical Education	1
R.O.T.C.—Military or Aerospace Science	2
G.E. 102 (E.D. 1b)—Engineering Graphics II	2
Engl. 102 (Engl. 1b)—Freshman Composition	3
Chem. 108 (Chem. 2b)—General Chemistry for Engineers	3
Math. 113 (Math. 19)—Analytics and Calculus I	3
M.E. 110 (M.E. 5)—Engineering Problems	1
*Non-Technical Elective	3
	18

Sophomore Year

First Semester	Crs.
M.E. 003 (M.E. 2a)—The Engineering Profession	0
R.O.T.C.—Military or Aerospace Science	2
Phys. 231 (Phys. 3a)—General College Physics	3
Phys. 241 (Phys. 4a)—General College Physics Lab.	2
Math. 211 (Math. 20)—Analytics and Calculus II	4
Econ. 251 (Econ. 51)—Principles of Economics	3
M.E. 250 (M.E. 21)—Shop Theory	1
M.E. 251 (M.E. 22)—Shop Practice	1
M.E. 299 (M.E. 20)—Analysis of Experimental Data	2
	18

Second Semester	Crs.
M.E. 004 (M.E. 2b)—The Engineering Profession	0
R.O.T.C.—Military or Aerospace Science	2
G.E. 201 (E.D. 18)—Advanced Engineering Graphics	2
Phys. 232 (Phys. 3b)—General College Physics	3
Phys. 242 (Phys. 4b)—General College Physics Laboratory	2
Math. 212 (Math. 21)—Analytics and Calculus III	4
G.E. 221 (A.M. 3)—Statics	3
M.E. 252 (M.E. 23)—Manufacturing Methods	2
	18

Junior Year

First Semester	Crs.
M.E. 005 (M.E. 3a)—The Engineering Profession	0
Math. 331 (Math. 35)—Differential Equations for Engineers	2

* Non-Technical Electives must be selected from the Humanities and Social Studies in other colleges and must be approved by the student's advisor.

G.E. 211 (A.M. 2)—Mechanisms	3
G.E. 313 (A.M. 7)—Dynamics	3
G.E. 431 (A.M. 100)—Strength of Materials	4
*Non-Technical Elective	3
M.E. 320 (M.E. 104a)—Engineering Thermodynamics I	3
	18

Second Semester	Crs.
M.E. 006 (M.E. 3b)—The Engineering Profession	0
Met. 301 (Met. 37)—Adaptive Metallurgy for Engineers	3
*Non-Technical Elective	3
M.E. 310 (M.E. 112)—Mechanical Laboratory I	2
M.E. 321 (M.E. 104b)—Engineering Thermodynamics II	3
M.E. 330 (M.E. 107)—Fluid Mechanics	4
M.E. 340 (M.E. 100a)—Machine Design I	3
	18

Senior Year

First Semester	Crs.
M.E. 007 (M.E. 4a)—The Engineering Profession	0
E.E. 305 (E.E. 105a)—Electrical Circuits and Machinery	3
**Technical Elective	3
Mechanical Engineering Design Elective I	4
M.E. 311 (M.E. 113a)—Mechanical Laboratory II	2
M.E. 525 (M.E. 129)—Elements of Heat Transfer	3
M.E. 341, 342 (M.E. 100b)—Machine Design II	3
	18

Second Semester	Crs.
M.E. 008 (M.E. 4b)—The Engineering Profession	0
G.E. 513 (A.M. 107)—Mechanical Vibrations	3
E.E. 306 (E.E. 105b)—Electrical & Electronic Circuits & Machinery	3
*Non-Technical Elective	3
**Technical Elective	3
Mechanical Engineering Design Elective II	3
M.E. 312 (M.E. 113b)—Mechanical Laboratory III	2
M.E. 371 (M.E. 122)—Seminar	1
	18

G.E. 531 (Am. 106)—Advanced Strength of Materials
G.E. 481 (N.E. 101)—Nuclear Reactor Engineering I
G.E. 482 (N.E. 102)—Nuclear Reactor Engineering II
M.E. 566 (M.E. 105)—Power Plant Engineering
M.E. 582 (M.E. 109)—Refrigeration
M.E. 554, 555 (M.E. 133)—Tool Design
Phys. 554 (Phys. 155a)—Fundamental Atomic and Nuclear Physics
535 (Math. 102)—Vector Analysis
(Math. 432)—Applied Calculus
531 (Math. 105b)—Partial Differential Equations

Mechanical Engineering Design Elective I (Choose one)

1. M.E. 550, 551 (M.E. 137)—Motion and Time Study	4
2. M.E. 580 (M.E. 114a)—Air Conditioning, Heating and Ventilating	4
3. M.E, 530, 531—Fluid Dynamics	4
4. M.E. 560, 561 (M.E. 108)—Internal Combustion Engines	4
5. M.E. 590, 591—Elements of Aero-Space Technology	4

Mechanical Engineering Design Elective II

1. M.E. 552, 553 (M.E. 139)—Plant Layout (Prereq: M.E. 550, 551)	3
2. M.E. 581 (M.E. 114b)—Air Conditioning, Heating & Ventilating Design (Prereq: M.E. 580)	3
3. M.E. 564—Propulsion System Design (Prereq: M.E. 530, 531)	3
4. M.E. 562, 563—Reciprocating Engine Design (Prereq: M.E. 560, 561)	3
5. M.E. 592, 593—Aero-Space Component Design (Prereq: M.E. 590, 591)	3

** Technical Electives must be selected from the following list. Other courses may be substituted with the approval of the student's advisor:

FACULTY

Willis Merle Carter, Robert Christian Armstrong, III, Merl Baker, Will Kenneth Brown, James McCleland Elliott, Oliver William Gard, Herschel Oscar Knight, Karl Otto Lange, Fritz Mangelsen, Maurice Keith Marshall, Harry Louis Mason, Estel Burdell Penrod, Robert Frank Pickard, Orville Watson Stewart, Warren Ware Walton, John Bauer Whitlow and Jack Wireman.

Course Descriptions

001(1a) *The Engineering Profession* (Freshmen). (0) I
Staff.

002(1b) *The Engineering Profession* (Freshmen). (0) II
Staff.

003(2a) *The Engineering Profession* (Sophomore). (0) I
Staff.

004(2b) *The Engineering Profession* (Sophomore). (0) II
Staff.

005(3a) *The Engineering Profession* (Junior). (0) I
Staff.

006(3b) *The Engineering Profession* (Junior). (0) II
Staff.

007(4a) *The Engineering Profession* (Senior). (0) I
Staff.

008(4b) *The Engineering Profession* (Senior). (0) II
Lectures on professional growth, conduct and ethics. Activities of the student branches of the corresponding professional societies. *Staff.*

110(5) *Engineering Problems.* (1) I, II
Theory and application of the slide rule. Two recitations per week. Prereq: Math. 112. *Staff.*

250(21) *Shop Theory.* (1) I, II
This course deals with machine shop theory and covers the various machines and tools used in shop work with emphasis on their uses and limitations. Lecture and visual aids, two hours. Prereq: Sophomore standing. *Knight.*

251(22) *Shop Practice.* (1) I, II
The purpose is to introduce the student to actual machine shop practice to provide a basic background in manufacturing. Machine shop, three hours. Prereq. or concurrent: M.E. 250. *Mangelsen.*

252(23) *Manufacturing Methods.* (2) I, II
This course covers other manufacturing processes including foundry practice, forging, sheet metal work, powder metallurgy, plastic molding and cold forming of metal, production machines and processes. Lecture and visual aids, three hours. Prereq: Sophomore standing. *Knight.*

299(20) *Analysis of Experimental Data.* (2) I, II
A study of problems and methods used in deriving empirical equations from experimental data, including periodic functions. Graphical and numerical methods of integration and differentiation. Design of special slide rules and nomographs. Prereq. or concur: Physics 231. *Elliott and Mason.*

310(112) *Mechanical Laboratory I.* (2) I, II, S
Fundamentals of mechanical engineering laboratory practice. Laboratory, four hours. Prereq: M.E. 320, Engl. 102. *Staff.*

311(113a) *Mechanical Laboratory II.* (2) I, II, S
Performance tests on heating, ventilating and power plant equipment. Lab, four hours. Prereq: M.E. 321, 330, 310. *Staff.*

312(113b) *Mechanical Laboratory III.* (2) I, II, S
Continuation of M.E. 311. Lab, four hours. Prereq: M.E. 321, 330, 310. *Staff.*

320(104a) *Engineering Thermodynamics I.* (3) I, II, S
Fundamental principles of thermodynamics. Lecture and recitation, three hours. Prereq: Physics 232. Concur: Math. 331. *Elliott.*

321 (104b) *Engineering Thermodynamics II.* (3) I, II, S
Continuation of M.E. 320. Lecture and recitation, three hours. Prereq: M.E. 320 and Math. 331. *Elliott.*

330(107) *Fluid Mechanics.* (4) I, II, S
Fundamental principles of fluid flow. Lecture and recitation, four hours. Prereq: M.E. 320. *Elliott, Marshall.*

340(100a) *Machine Design I.* (3) I, II, S
Design of machine and structural elements. Lecture and recitation, three hours. Prereq: G.E. 201, G.E. 431. *Mason, Carter, and Gard.*

341(100b) *Machine Design II.* (3) I, II
Continuation of M.E. 340. Lecture and recitation, one hour. Drawing room, six hours. Prereq: M.E. 340. *Mason, Carter, and Gard.*

342 *Laboratory for M.E. 341.*

371(122) *Seminar.* (1) I, II
Studies of current engineering literature, preparation and presentation of bibliographies and reports through the use of the Engineering Index and Industrial Arts Index. Two hours a week. Prereq: Senior classification. *Staff.*

400(134) *Elements of Engineering Thermodynamics.* (3) I, II
(For Civil, Electrical and Mining Engineers). General energy equations, mixtures of gases and vajors, flow of fluids, vapor power cycles, internal combustion cycles, and refrigeration cycles. Recitation, three hours. Prereq: Physics 232 and Math. 212. *Staff.*

401(141a) *Mechanical and Electrical Equipment for Buildings I.* (3) I
A course for Architecture students. The principles of water supply, plumbing and drainage, air conditioning, electrical engineering, lighting and acoustics are studied. Lecture and recitation, three hours. Prereq: Physics 232. *Knight.*

402(141b) *Mechanical and Electrical Equipment for Buildings II.* (3) II
Continuation of M.E. 401. Lecture and recitation, three hours. Prereq: M.E. 401. *Knight.*

525(129) *Elements of Heat Transfer.* (3) I, II, S
Fundamental principles of heat transfer. Lecture and recitation, three hours. Prereq: M.E. 321. *Baker and Walton.*

530 *Fluid Dynamics.* (4) I
Thermodynamics of flow of compressible fluids. Isentropic flow, diabatic flow, flow of friction, wave phenomena, and experimental techniques and measurement. Lecture and recitation, three hours. Lab, two hours. Prereq: M.E. 321 and M.E. 330. *Marshall.*

531 *Laboratory for M.E. 530.*

550(137) *Motion and Time Study.* (4) I, II
Principles and uses of motion economy and fundamentals of time study. Lecture and recitation, three hours; lab, two hours. Prereq: M.E. 21, 22, 23. *Gard.*

551 *Laboratory for M.E. 550.*

552(139) *Plant Layout.* (3) I
Selection of processes and machines, material handling systems, and plant requirements. Lecture, two hours; drawing room, three hours. Prereq: M.E. 550. *Gard.*

553 *Laboratory for M.E. 552.*

554(133) *Tool Design.* (3) II
An introduction to Tool Engineering which embodies the fundamental principles of designing jigs, fixtures, cams, gauges, punches, dies and automatic machine tools. Lecture, two hours; drawing room, three hours. Prereq: M.E. 341. *Mason, Gard and Carter*

555 *Laboratory for M.E. 554.*

560(108) *Internal Combustion Engines.* (4) II
A study of internal combustion engine cycles and the characteristics and performance of actual engines, valve gears, and materials of construction. Lecture and recitation, three hours; lab, two hours. Prereq: M.E. 321 or M.E. 400. *Stewart.*

561 *Laboratory for M.E. 560.*

562 *Reciprocating Engine Design.* (3) I
A brief review of basic thermodynamics of internal combustion engine cycles and a comprehensive analysis of the construction of reciprocating engines. Calculation of physical data for given design requirements. Assembly drawings of components designed. Lecture and recitation, one hour. Drawing room, six hours. Prereq: M.E. 560. *Stewart.*

563 *Laboratory for M.E. 562.*

564 *Propulsion System Design.* (3) II
Design of systems for aircraft or missile propulsion. Centrifugal compressors, axial-flow compressors, turbine and exhaust systems, and combustion chambers. Lecture, one hour. Drawing room, six hours. *Marshall.*

565 *Laboratory for M.E. 564.*

566(105) *Power Plant Engineering.* (3) II
Study of the characteristics of steam and internal combustion engineering generating power stations. Lecture and recitation, three hours. Prereq: M.E. 321. *Stewart.*

580(114a) *Air Conditioning, Heating and Ventilating.* (4) I
Theory of air conditioning and the mechanical equipment of buildings. Lecture and recitation, four hours. Prereq: M.E. 321 and M.E. 330. *Walton.*

581(114b) *Air Conditioning, Heating and Ventilating Design.* (3) II
Continuation of M.E. 580 and the complete design and layout of a year-round air conditioning system. Drawing room, nine hours. Prereq: M.E. 580. *Walton.*

582(109) *Refrigeration.* (3) I, S
A course which deals with compression and absorption refrigeration machines and installations. Lecture and recitation, three hours. Prereq: M.E. 321 or M.E. 400. *Walton.*

590 *Elements of Aero-Space Technology.* (4)
Flight performance of airborne and ballistic vehicles. Space vehicle propulsion and structures. The space environment. Lecture, three hours. Lab, two hours. Prereq: M.E. 321 and M.E. 330. *Lange.*

591 *Laboratory for M.E. 590.*

592 *Aero-Space Component Design.* (3)
Preparation of formal proposal on a given requirement in the aero-space field. Execution of the design. Testing of a prototype under proper environmental conditions. Lecture, one hour. Drawing room, six hours. Prereq: M.E. 590. *Lange.*

593 *Laboratory for M.E. 592.*

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 Mechanical Engineering or its equivalent.

620(211a) *Advanced Engineering Thermodynamics I.* (4) I, II

Critical treatment of the laws of thermodynamics, temperature scales; applications of theory to compressors and internal combustion engines; frequent reference to research papers. Lecture, four hours. Prereq: M.E. 321 or consent of instructor. *Staff.*

621(211b) *Advanced Engineering Thermodynamics II.* (4) II

Continuation of M.E. 620. Prereq: M.E. 620. *Staff.*

625(213a) *Advanced Heat Transfer I.* (4) I

Application of mathematics to heat transfer, transfer of heat in heat exchangers and furnaces, heat transmission and pressure drop, discussion of research papers. Lecture, four hours. Prereq: M.E. 330, 525 or equivalent. Baker.

626(213b) *Advanced Heat Transfer II.* (4) II

Continuation of M.E. 625. Prereq: M.E. 625. *Baker.*

630(212a) *Advanced Fluid Mechanics I.* (4) I

Fundamentals of hydro- and aero-mechanics treated by the use of vector and tensor calculus. Lecture, four hours. Prereq: M.E. 330 or consent of instructor. *Staff.*

631(212b) *Advanced Fluid Mechanics II.* (4) II

Continuation of M.E. 630. Prereq: M.E. 630. *Staff.*

632 *Advanced Fluid Mechanics III.* (4)

Introduction to research in fluid mechanics. Laminar motion. Turbulence. Boundary layer theory. Free-turbulence, shear flow. Magneto-hydrodynamics. Rarefied gas mechanics. Lecture, four hours. Prereq: M.E. 630.

633 *Advanced Fluid Mechanics IV.* (1 to 4)

Conference course permitting latitude in choice of topics. Prereq: M.E. 630 and consent of the instructor.

640(204a) *Advanced Machine Design.* (3)

The application of the principles of mechanics of materials, dynamics, and kinematics to the design of complete machines. This involves a knowledge of shop practice and methods of construction. *Carter.*

641(218) *Advanced Gear Design.* (3)

Fundamentals of gearing; involute trigonometry; design of planetary gear systems and transmission; study of gear forms such as bevel, helical, worm and spiral; study of gear manufacturing methods. Lecture and recitation, three hours. Prereq: M.E. 341. *Carter.*

660(202a) *Power Plant Engineering.* (3)

Advanced work in the design, selection, layout and operation of heat-power plant equipment. *Stewart.*

661(216) *Steam Turbines.* (4)

Steam turbine cycles, flow of steam through nozzles and blades; internal losses; re-heat factor; regenerative feed-heating; turbine performance at varying loads; mixed-pressure turbines; construction of nozzles and diaphragms. Prereq: Approval of head of department. *Staff.*

662(217) *Gas Turbines and Jet Propulsion.* (4)

Momentum, energy, and thermodynamics of gas flow; performance calculations; centrifugal, axial-flow, and Lysholm compressors; gas turbine cycles and characteristics; combustion chamber; aircraft, stationary, marine, and locomotive power plants; rockets. Prereq: Approval of head of department. *Staff.*

680(203a) *Heating, Ventilating and Air Conditioning I.* (3)

Theoretical analysis of complex refrigeration cycles and treatment of advanced refrigeration topics; intermittent heating; advanced psychometrics and air conditioning techniques. *Baker.*

681(203b) *Heating, Ventilating and Air Conditioning II.* (3)

Analysis of panel heating and cooling systems; theoretical deelopmentv of exact radiation equations involving multiple reflections; configuration factor analysis; exact and simplified design techniques. *Baker.*

682(203c) *Heating, Ventilating and Air Conditioning III.* (3)

Advanced work in the design, selection, layout and operation of heating, ventilating and air conditioning equipment with emphasis on industrial application and heat pump design. *Baker.*

690(219) *Advanced Aeronautical Meteorology.* (3) II

Atmospheric thermodynamics, and dynamics. Adiabatic changes of moist air through vertical motion, effects on aircraft. Energy equations; equations of motion on rotating globe; rocket-spectographic studies. Lecture and recitation, three hours. Prereq: Consent of instructor. *Lange.*

768(500-1,2,3) *Residence Credit for the Master's Degree.* (0) I, II, S

May be repeated once. *Staff.*

771(215a-d) *Seminar.* (1)

Review of current literature in the field of Mechanical Engineering, general discussion and presentation of papers on departmental research. Required of all graduate students. Two hours. May be repeated three times for a total of four credits. *Carter.*

780(210a-f) *Special Problems in Mechanical Engineering.* (3)

For graduate students having research ability. Each course consists of individual work in one of the various fields of Mechanical Engineering. Lab, six hours. May be repeated three times for a total of twelve credits. Prereq: Approval of the head of department. *Staff.*

METALLURGICAL & MINING ENGINEERING

CURRICULUM LEADING TO THE DEGREE OF BOCHELOR OF SCIENCE IN METALLURGICAL ENGINEERING

Freshman Year

First Semester	Crs.
Met. E. 001—The Engineering Profession	0
Engl. 101—Freshman Composition	3
Math. 111—College Algebra	3
Math. 112—Plane Trigonometry	2
G.E. 101—Engineering Graphics I	2
Chem. 110—General Chemistry	5
Military or Aerospace Science	2
Physical Education	1
	18

Second Semester	Crs.
Met. E. 002—The Engineering Profession	0
Engl. 102—Freshman Composition	3
Math. 113—Analytics and Calculus I	4
Chem. 112—General Chemistry	5
Military or Aerospace Science	2
Physical Education	1
Non-technical Elective	3
	18

Sophomore Year

First Semester	Crs.
Met. E. 003—The Engineering Profession	0
Math. 211—Analytics and Calculus II	4
Phys. 231—General College Physics	3
Phys. 241—General College Physics Lab.	2
Chem. 226—Analytical Chemistry	5

Econ. 251—Principles of Economics	3
Military or Aerospace Science	2
	19

Second Semester	Crs.
Met. E. 004—The Engineering Profession	0
Math. 212—Analytics and Calculus III	4
Phys. 232—General College Physics	3
Phys. 242—General College Physics Lab.	2
Ch. E. 211—Chem. Engineering Calculations	4
Met. E. 261—Elem. of Physical Metallurgy	3
Military or Aerospace Science	2
	18

Junior Year

First Semester	Crs.
Met. E. 005—The Engineering Profession	0
Chem. 446—Physical Chemistry for Engineers	4
Math. 431—Differential Equations	3
Met. E. 363—The Science of Metals	3
G.E. 221—Statics	3
Met. E. 321—Melting, Fabrication and Testing Techniques	3
E.E. 305—Elec. Engr. Circuits and Machinery	3
	19

Second Semester	Crs.
Met. E. 006—The Engineering Profession	0
Chem. 448—*Physical Chemistry for Engineers*	4
Met. E. 351—Metallurgical Thermodynamics	3
Met. E. 361—Physical Metallurgy	3
G.E. 331—Strength of Materials	3
E.E. 306—Elec. Engr. Circuits and Machinery	3
Non-technical elective	2
	18

Senior Year

First Semester	Crs.
Met. E. 007—The Engineering Profession	0
Met. E. 451—Metallurgical Thermodynamics	3
Met. E. 461—Physical Metallurgy	3
Met. E. 371—Seminar	1
Met. E. 341—Extractive Metallurgy	3
*Technical Elective	3
*Non-technical Electives	6
	19

Second Semester	Crs.
Met. E. 008—The Engineering Profession	0
Met. E. 453—Metallurgical Kinetics	3
Met. E. 463—The Science of Metals	3
Met. E. 372—Seminar	1
Met. E. 443—Minerals Beneficiation	3
Met. E. 444—Minerals Beneficiation Laboratory	1
*Technical Elective	3
*Non-technical Electives	5
	19

CURRICULUM LEADING TO THE DEGREE OF BACHELOR OF SCIENCE IN MINING ENGINEERING

Freshman Year

First Semester	Crs.
Min. E. 001—The Engineering Profession	0
Engl. 101—Freshman Composition	3
Math. 111—College Algebra	3
Math. 112—Plane Trigonometry	2
Chem. 106—Gen. Chemistry for Engineers	4
G.E. 101—Engineering Graphics I	2
Military or Aerospace Science	2
Physical Education	1
	17

Second Semester	Crs.
Min. E. 022—The Engineering Profession	0
Min. E. 111—Problems in Mining Engineering	1
Engl. 102—Freshman Composition	3
Math. 113—Analytics and Calculus I	4
Chem. 108—Gen. Chemistry for Engineers	4
C.E. 100—Plane Surveying	2
Military or Aerospace Science	2
Physical Education	1
*Non-technical Elective	2
	19

Sophomore Year

First Semester	Crs.
Min. E. 003—The Engineering Profession	0
Math. 211—Analytics and Calculus II	4
Phys. 231—General College Physics	3
Phys. 241—General College Physics Lab.	2
Geol. 200—Elem. Geology for Engr.	3
Chem. 226—Analytical Chemistry	5
Military or Aerospace Science	2
	19

Second Semester	Crs.
Min. E. 004—The Engineering Profession	0
Math. 212—Analytics and Calculus III	4
Math. 232—General College Physics	3
Math. 242—General College Physics Lab.	2
Geol. 202—Elem. Geology for Engr.	3
Min. E. 121—Elements of Mine Surveying	2
G.E. 221—Statics	3
Military or Aerospace Science	2
	19

Junior Year

First Semester	Crs.
Min. E. 005—The Engineering Profession	0
G.E. 431—Strength of Materials	4
Min. E. 241—Elements of Mining	3
E.E. 301—Fund of Elec. Machinery	3
Econ. 251—Principles of Economics	3
Geol. 212—Mineralogy	3
*Non-technical Elective	3
	19

Second Semester	Crs.
Min. E. 006—The Engineering Profession	0
Met. E. 201—Engineering Metallurgy	3
Met. E. 443—Minerals Beneficiation	3
Met. E. 444—Minerals Beneficiation Lab.	1
E.E. 303—Elec. Lab. for Mining Engr.	1
Geol. 213—Mineralogy	3
M.E. 400—Elem. of Engr. Thermodynamics	3
C.E. 301—Testing Materials	1
*Non-technical Elective	3
	18

* All electives selected must have the approval of the head of the department.

Senior Year

First Semester	Crs.
Min. E. 007—The Engineering Profession	0
C.E. 350—Hydraulics	2
C.E. 380—Theory of Structures	3
Min. E. 461—Mineral Industries Adm.	3
Min. E. 441—Mining Methods	3
*Non-technical Elective	3
*Technical Elective	3
	17

Second Semester	Crs.
Min. E. 008—The Engineering Profession	0
C.E. 351—Hydraulics Laboratory	1
Min. E. 091—Mine Rescue & First Aid	0
Min. E. 471—Mine Ventilation	3
Min. E. 481—Mine Plant & Machinery	3
Min. E. 561—Valuation of Mineral Prop.	3
Min. E. 371—Seminar	1
*Non-technical Elective	3
*Technical Elective	3
	17

FACULTY

Richard Shelby Mateer, Douglas Winn Cox, Robert Carlisle Duncan, Jr., Davis Stewart Fields, Jr., Thomas Alexander Kendall, James Graham Morris, William Haydon Roll, Ernest Melvern Spokes and Roy Erwin Swift.

Course Descriptions

001(1a) *The Engineering Profession* (Freshmen). (0) I
Mateer.

002(1b) *The Engineering Profession* (Freshmen). (0) II
Mateer.

003(2a) *The Engineering Profession* (Sophomore). (0) I
Staff.

004(2b) *The Engineering Profession* (Sophomore). (0) II
Staff.

005(3a) *The Engineering Profession* (Junior). (0) I
Staff.

006(3b) *The Engineering Profession* (Junior). (0) II
Staff.

007(4a) *The Engineering Profession* (Senior). (0) I
Staff.

008(4b) *The Engineering Profession* (Senior). (0) II
Lectures on professional growth, conduct and ethics. Activities of the student branches of the corresponding professional societies. May be repeated indefinitely. *Staff.*

201(26) *Engineering Metallurgy.* (3) I, II, S
An elementary terminal course in the production and treatment of metals and alloys to furnish a background for the intelligent use of these materials. Lecture and recitation, three hours. Prereq: Chem. 110 or 106; concur: Sophomore Physics. *Staff.*

261 *Elements of Physical Metallurgy.* (3) II, S
Survey of metallurgical proceses, phase diagrams, alloy structures and physical properties. Lecture, three hours. Prereq: Chem. 112, Phys. 231. *Staff.*

* All electives selected must have the approval of the head of the department.

301(37) *Adaptive Metallurgy for Engineers.* (3) I, II
Principles of production and treatment of metals and alloys; correlation of structures, properties and applications for Mechanical Engineers. Lecture and recitation, three hours. Prereq: Freshman Chemistry and Sophomore Physics. *Staff.*

303(27) *General Elementary Metallurgy.* (2) I, II
An elementary course covering general metallurgical principles. Fuels, refractories, furnace pyrometry and the several type alloys are considered. Lecture and recitation, two hours. Prereq: Chem. 110 or 106 and G.E. 431. *Duncan, Staff.*

321 *Melting, Fabrication and Testing of Metals.* (3) I
Conventional foundry operations in aluminum, bronze and cast iron; sand control, arc-furnace refining of steel, vacuum melting of reactive metals; welding, rolling, forging, x-ray radiographic inspection and mechanical testing. Lecture, one hour; lab, six hours. Prereq: Met. E. 261. *Mateer.*

341(33) *Extractive Metallurgy.* (3) I
The principles and processes employed in the production, treatment and preparation of the various economic metals, both ferrous and non-ferrous, including a consideration of their strategic and economic importance. Lecture and recitation, three hours. Prereq: Chem. 446. *Spokes.*

351 *Metallurgical Thermodynamics I.* (3) II
Application of the first, second and third laws of thermodynamics to metallurgical systems. Discussion and analysis of energy, concept of equilibrium, heat capacity, enthalpy, entropy and free energy of alloys phases. Lecture and recitation, three hours. Prereq: Chem. 446. *Fields.*

361 *Physical Metallurgy I.* (3) II
Crystal structure, bonding in metal crystals, lattice movements in elastic and plastic deformation, x-ray diffraction and pole figures. Lecture, two hours; lab, three hours. Prereq: Met. E. 363. *Mateer.*

363 *Structure of Alloys I.* (3) I
Elastic and plastic deformation, recovery and recrystallization of alloys heat treatment of steel. Lecture, two hours; lab, three hours. Prereq: Met. E. 261. *Morris.*

371(175a) *Seminar.* (1) I
General discussions of metallurgical subjects; preparation and delivery of papers and reports; extemporaneous speaking, and the briefing of technical books and articles in current literature. Two hours. Prereq: Permission of instructor. *Swift.*

372(175b) *Seminar.* (1) II
General discussions of metallurgical subjects; preparation and delivery of papers and reports, extemporaneous speaking, and the briefing of technical books and articles in current literature. Two hours. Prereq: Permission of instructor. *Swift.*

443(166) *Minerals Beneficiation.* (3) II
Principles and mechanics of beneficiation involved in the preparation of mine products, principles of plant design and current developments. Lecture and recitation, three hours. Prereq: Phys. 232. *Spokes.*

444(167) *Minerals Beneficiation Laboratory.* (1) II
Application of the principles studied in Met. E. 443. Lab, two hours. Prereq. or Concur: Met. E. 443. *Spokes.*

451 *Metallurgical Thermodynamics II.* (3) I
Application of fugacity, activity and equilibrium constants to metallurgical systems. Analysis of ideal, non-ideal and regular solutions and their relation to non-metallic solutions at elevated temperatures, molten salt solutions and slags. Discussion and application of the phase rule to metal systems. Lecture, three hours. Prereq: Met. E. 351. *Fields.*

453 *Metallurgical Kinetics.* (3) II
Rate processes in heat and mass transfer, nucleation and growth. Fluid flow in molten metal systems. Lecture, three hours. Prereq: Met. E. 451. *Morris.*

461 *Physical Metallurgy II.* (3) I
High purity metals, nuclear alloys, power metallurgy techniques. Lecture, two hours; lab, three hours. Prereq: Met. E. 361. *Fields.*

463 *Structures of Alloys II.* (3) II
Age hardening and diffusion in metal systems. Lecture, two hours; lab, three hours. Prereq: Met. E. 363. *Morris.*

521(180) *The Casting of Metals.* (3) I, II

Ferrous and non-ferrous foundry practice. Theory and metallurgy of metal castings. Application of engineering principles to the design and production of castings. Lecture and recitation, three hours. Prereq: Met. E. 201 or 203 or 301. *Duncan, Swift.*

531(185) *Powder Metallurgy.* (3) I, II

The production and testing of metal powders. The theory of sintering without and with a liquid phase. The practice and theory of compacting metal powders into useful forms. Lecture and recitation, three hours. Prereq: Permission of instructor. *Swift.*

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 Metallurgical Engineering or its equivalent. The Doctor of Engineering degree is offered in the field of physical metallurgy.

633(215) *Special-Purpose Alloy Steels.* (3) I, II

Fundamental principles of the more complicated and special alloy steels and their heat treatment. Carbon, mild alloy, N.E., S.A.E., tool and super alloys are included. Alternate alloy steels for application are considered. Lecture, three hours. *Swift.*

635(223) *Metals at High Temperature.* (3) I, II

Fundamental considerations involved in high temperature behavior of metals. Test methods and equipment for elevated temperature testing. A review of the commercial alloys for high temperature use and study of current literature. Lecture, three hours. *Fields.*

637(224) *Materials Engineering.* (3) I, II

Various factors in specification and testing of materials. Materials for lightweight construction, mechanical and electrical applications, and severe service conditions are treated. Material failures, trouble shooting and testing are discussed. Lecture, two hours; lab, three hours. *Duncan, Swift.*

639(250) *Nuclear Metallurgy.* (3) I, II

The metallurgy of such materials as are used in the various components of nuclear reactors with special emphasis on their physical metallurgy. Scientific principles in their broadest sense are emphasized. Material applicable to nuclear-reactor components in the ceramics, metal-ceramics and other fields. Lecture and recitation, three hours. Prereq: B.S. in Metallurgical Engineering and permission of the instructor. *Mateer.*

641(207) *Advanced Production Metallurgy.* (3) I, II

Principles and practices used in the production of alloys; with special stress upon any particular group of alloys that the student may choose. Reference reading and laboratory work are emphasized. Lecture, two hours; lab, eight hours. *Swift.*

643(209a) *Advanced Ore Dressing I.* (3) I

Ore dressing plant design and original research in concentration problems. Lecture and recitation, one hour. Lab, four hours. *Spokes.*

645(209b) *Advanced Ore Dressing II.* (3) II

Continuation of Met.E. 643. Lecture and recitation, one hour. Lab, four hours. *Spokes.*

651(222) *Corrosion.* (3) I, II

Corrosion mechanisms, including the electro-chemical theory, fundamentals of oxidation and tarnish, passivity and effects of crystal orientation on corrosion. Corrosion of various engineering materials in various environments and testing. Lecture, two hours; lab, three hours. *Swift.*

653(218) *Diffusion and Heat Flow in Metals.* (2) I, II

Fick and Fourier equations applied to diffusion and solid state transformations, and to the heating and cooling of metals in metallurgical processes. Radiation convection, and conduction are considered in principles of furnace design. *Morris.*

657(216) *The Physical Chemistry of Steel Making.* (3) I, II

Reactions involved in steel making processes. Slag constitution, slag control, and effects of additions to liquid metal. Influences of melting, refining, and deoxidizing practices on properties of finished steel are emphasized. *Duncan, Mateer.*

659(221) *Advanced Phase Diagrams.* (3) I, II

Review of thermodynamic fundamentals and application to binary pressure-temperature-composition diagrams. Construction and interpretation of ternary temperature-composition diagrams. Review and discussion of important ternary diagrams. Lecture and recitation, three hours. Prereq: Chem. 644. *Mateer.*

663(214) *Theoretical Structural Metallurgy.* (3) I, II

Interatomic forces of crystal bonding; free electron; zone theory; equilibrium and rate of approach thereto; thermal behavior, structure and free energy of alloy phases; equilibrium diagrams; diffusion; order-disorder change; nucleation and phase growth. Lecture, three hours. *Morris.*

665(213) *X-ray Metallography.* (4) I, II

Crystallography; x-ray theory. Laue, rotation-crystal, powder x-ray diffraction methods; special cameras; structure-factor equations; reciprocal lattice; stereographic, gnomonic projections; pole figures; stress-strain analysis, phase diagrams; electron diffraction. Lecture, three hours; lab, three hours. *Mateer.*

667(220) *Crystal Plasticity.* (3) I, II

Fundamentals of plastic deformation in metals. Topics will include crystallography, slip, twinning, strain hardening, recovery, cold working, cold-worked and recrystallization textures. Heyns stresses, creep and similar subject matter. Lecture and recitation, three hours. *Fields.*

745(210) *Technology of Low Temperature Carbonization.* (6) I, II

Principles and practices employed in low temperature carbonization of carbonaceous materials such as oil shales, bituminous and cannel coals. Lecture and recitation, two hours; lab, eight hours. Prereq: Permission of instructor. *Spokes.*

757(217) *The Microscopy of Slags and Refractories.* (3) I, II

Identification of phases in slags. Emphasis is placed on the interpretation of micro-structural features as indicators of high temperature reaction tendencies among silicate and oxide systems. Lecture and recitation, one hour; lab, six hours. *Spokes.*

768(500-1,2,3) *Residence Credit for the Master's Degree.* (0) I, II, S

Thesis. May be repeated once. *Staff.*

769 *Residence Credit for the Doctor's Degree.*

May be repeated indefinitely.

771(275a-d) *Seminar.* (1) I, II

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. Two hours. May be repeated three times for a total of four credits. *Swift.*

781(240a-c) *Special Problems, Literature and Laboratory.* (3) I, II

Literature research and planning of research programs; shop problems and technical writing, including a term paper, are required. Consultation, laboratory and lecture by appointment. May be repeated for a total of nine credits. *Staff.*

MINING ENGINEERING

001(1a) *The Engineering Profession* (Freshman). (0) I, II

Staff.

002(1b) *The Engineering Profession* (Freshman). (0) II

Staff.

003(2a) *The Engineering Profession* (Sophomore). (0) I

Staff.

004(2b) *The Engineering Profession* (Sophomore). (0) II

Staff.

005(3a) *The Engineering Profession* (Junior). (0) I

Staff.

METALLURGICAL & MINING ENGINEERING

006(3b) *The Engineering Profession* (Junior). (0) II
Staff.

007(4a) *The Engineering Profession* (Senior). (0) I
Staff.

008(4b) *The Engineering Profession* (Senior). (0) II
Lectures on professional growth, conduct, and ethics. Activities of the student branch of the American Institute of Mining and Metallurgical Engineers. May be repeated indefinitely. *Staff.*

091(132) *Mine Rescue Training and First Aid.* (0) II
Required of mining engineers. Fundamental principles of mine rescue training and first aid. Given on University campus by Kentucky Department of Mines and Minerals, U.S. Bureau of Mines, or both in collaboration.

111(10) *Problems in Mining Engineering.* (1) II
An introduction to the engineering method of solving problems in mining; the use of the slide rule and the engineering library; field trips; engineering reports. Lab, three hours. *Spokes.*

121(25) *Elements of Mine Surveying.* (2) I
Surface and underground methods for coal and metal mine surveys. Tunnel surveys and shaft plumbing. Lecture and recitation, one hour; practical work, three hours. Prereq: C.E. 100. *Roll.*

241(26) *Elements of Mining.* (3) I
Fundamental mining operations, prospecting and mine development. Lecture and recitation, three hours. Prereq: Chem. 112, Phys. 231, Geol. 200. *Roll and Spokes.*

371(175a) *Seminar.* (1) I, II
The preparation and delivery of papers and reports on mining subjects, extemporaneous speaking and the briefing of technical books and articles in the current literature. Two hours. Prereq: Senior classification. *Staff.*

441(145) *Mining Methods.* (3) I
Surface and underground mining of coal, metallic ores and nonmetallic minerals. Economic, engineering and operating factors. Lecture and recitation, three hours. Prereq: Min. E. 241. *Roll and Spokes.*

461(130) *Mineral Industries Administration.* (3) I
The engineering aspects of mineral industries administration and management, including safety engineering. Lecture and recitation, three hours. Prereq: Junior classification. *Roll.*

471(136) *Mine Ventilation.* (3) II
The principles and methods of mine ventilation and air conditioning; the control of dangerous impurities. Lecture and recitation, two hours; lab, three hours. Prereq: Min. 241. *Roll and Spokes.*

481(137) *Mine Plant and Machinery.* (3) II
Theory and practice of mine haulage, hoisting, drainage, pumping and compressed air as power. Application of engineering principles to the mineral industries. Lecture and recitation, two hours; lab, three hours. Prereq: Min. 241. *Spokes.*

541(133a) *Coal Preparation I.* (3) I
Principles and practice of coal preparation and associated operations. Lecture and recitation, two hours; lab, three hours. Prereq: Met. E. 443. *Spokes.*

542(133b) *Coal Preparation II.* (3) II
A continuation of E.M. 541. Lecture and recitation, two hours; lab, three hours. *Spokes.*

561(139) *Valuation of Mineral Properties.* (3) II
Methods of appraising the value of deposits of ores, mineral fuels and non-metallics. Lecture and recitation, three hours. Prereq: Econ. 251, Min. 241. *Roll.*

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 Mining Engineering or its equivalent.

621(207) *Advanced Prospecting.* (2) I, II
Study of the principles involved in the geophysical investigation of the minerals of the earth's crust. Lecture and recitation, two hours. *Spokes.*

636(222) *Ceramic Engineering.* (3) I, II
Materials and equipment used in the ceramics industry. Physical and chemical principles relating to the manufacture of ceramic products such as pottery, tile, brick, white-ware, refractories, glass and enamels on metals. Calculations involving formulas, batches of materials and the drying and firing of ceramic ware. Lecture and recitation, three hours. Prereq: B.S. degree in Engineering. *Swift.*

645(224) *Preparation and Uses of Industrial Minerals.* (3) I, II
Sources, processing, marketing, utilization and economics of nonmetallic minerals, and product specifications. Clay, limestone, asbestos, refractories, etc. will be studied. Lecture and recitation, three hours. Prereq: B.S. degree in Engineering. *Swift.*

651(223) *Fuels and Their Combustion.* (3) I, II
Available fuels in the solid, liquid and gaseous states. Emphasis will be on the utilization of fuels in the mineral industries. Technology of fuels. Physics and chemistry of combustion. Combustion calculations. Lecture and recitation, three hours. Prereq: B.S. degree in Engineering. *Spokes.*

661(203) *Mine Organization.* (3) I, II
Detailed study of the structure and function of a mining enterprise from both the financial and the engineering standpoint. Lecture and recitation, three hours. *Roll.*

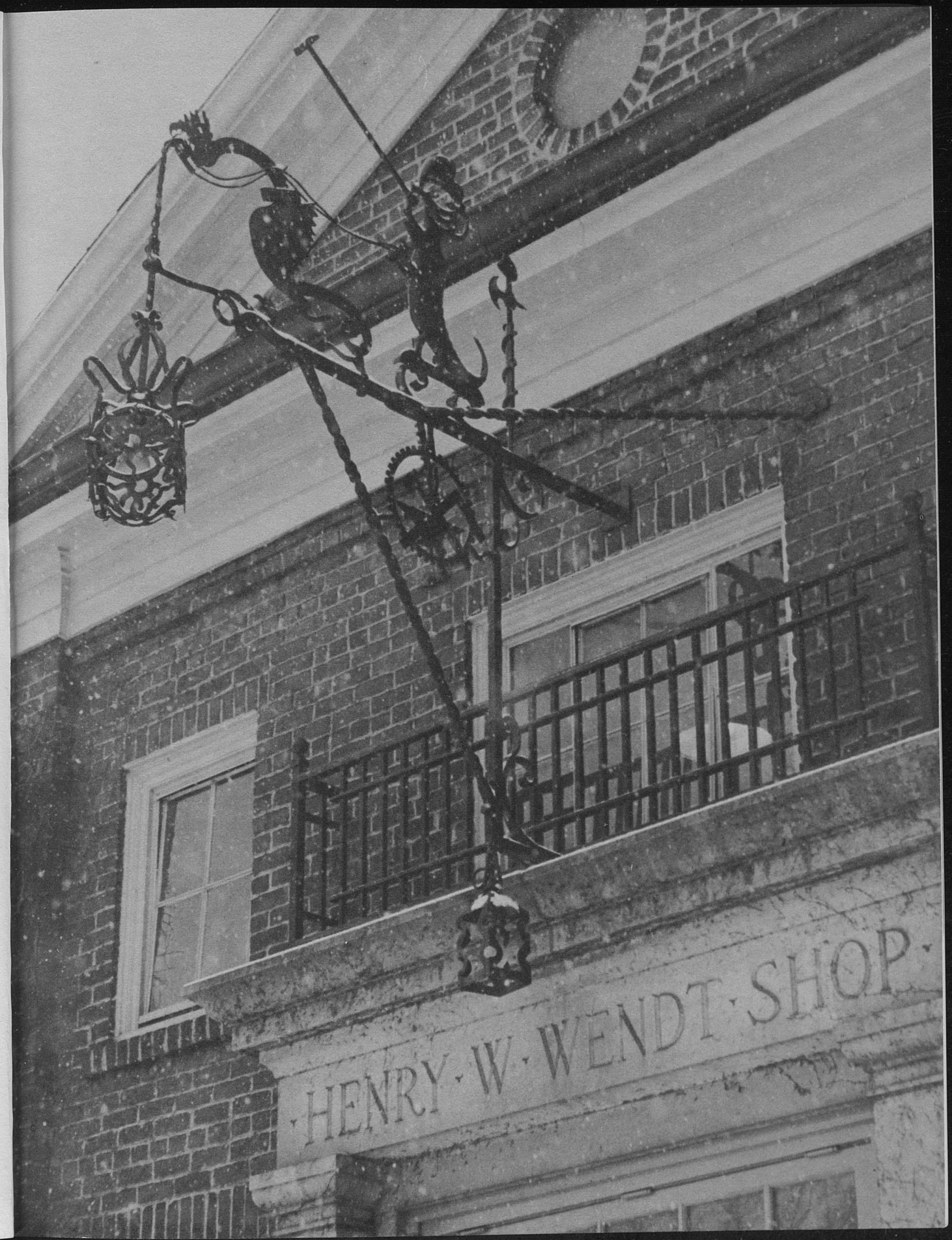
681(209a,b) *Advanced Mine Engineering.* (3) I, II
Procedure and methods of collecting and recording data for the systematic development and exploitation of a mining property. Lecture and recitation, one hour; drawing and mapping, six hours. May be repeated for a total of six credits. *Roll and Spokes.*

768 *Resident Credit for the Master's Degree.* (0) I, II, S
Thesis. May be repeated once. *Spokes.*

771(221a-d) *Seminar.* (1)
Review of current literature in the field of Mining Engineering and presentation of papers on departmental research. Required of all graduate students. Two hours. May be repeated three times. *Staff.*

780(220a-c) *Special Problems in Mining Engineering.* (3) I, II
Open to graduate students who have the ability to carry on research. Individual work in one of the various fields of Mining Engineering. Lab, six hours. May be repeated twice. *Roll and Spokes.*

790(220d-f) *Special Problems in Mining Engineering.* (3) I, II
Open to graduate students who have the ability to carry on research. Individual work in one of the various fields of Mining Engineering. Lab, six hours. May be repeated twice. *Roll and Spokes.*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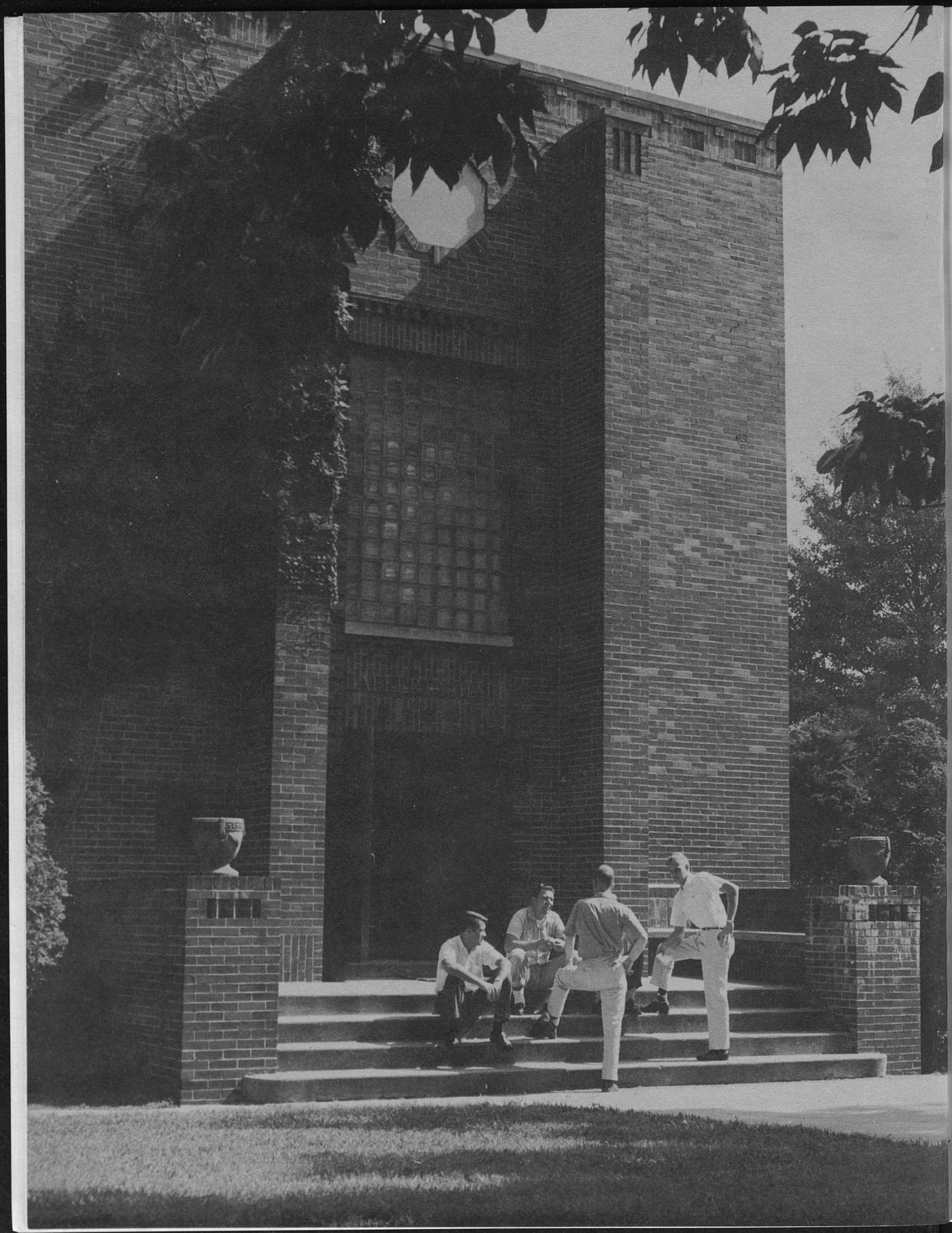

LAW

The College of Law was established September 1, 1908, and the first class graduated in 1910. Through the years, as an integral part of the University, it has served the Commonwealth by sending out many graduates who have become leaders in the profession. It is a tradition of the College, however, that its opportunity for service is not limited in scope and its program is designed so that graduates of the school can practice their profession on a local, regional and national level.

The College of Law is accredited by all agencies which establish standards for law schools, including the Court of Appeals of Kentucky, the Association of American Law Schools, the American Bar Association and the bar admission authority in all 49 states.

The instructional program centers in a three-year general law curriculum designed to be completed in six 18-week semesters. Eighty-three (83) semester hours in law are necessary to qualify for the LL.B. degree. The aim of the program is to provide the individual student with a foundation education in law of lasting quality. This involves a great deal more than the mere study of substantive legal principles; and the program is arranged to assist the student in acquiring the myriad skills that solution of modern legal problems demands, to acquaint him with related and interdependent fields of knowledge, to make certain that he has an appreciation for and understanding of the legal, social and political institutions on which the administration of justice rests, to prepare him for the policy and ethical decisions he must make on behalf of the community in practicing his profession; in short, to give him broad, practical, basic legal training of unmatched excellence that will permit unlimited development of his legal capacities throughout his career.

The Faculty. The program of the College is conducted by a full-time faculty and staff composed of ten instructors and four library and secretarial personnel. They are assisted by two part-time teaching associates and certain research associates employed periodically. Members of the teaching faculty are well qualified by formal training and experience to teach law, to guide students in the solution of legal problems and to add to legal knowledge through research. All have done graduate work in law and have practiced law successfully; a majority have taught in a number of different law schools.

The Library. The College maintains an excellent and carefully selected law library collection of more than 60,000 volumes, one of the larger law libraries in the South. It is housed in the law building as an integral part of the school and includes an especially comprehensive collection of Anglo-American case and statutory materials. It also contains more than 8,000 treatises and textbooks, all major legal reference works, and some 200 legal periodicals received annually, as well as special collections in jurisprudence and international law. The law library is growing at about 1,800 volumes per year.

The Law Building. The College of Law has its own building, Lafferty Hall, located near the center of the main University campus across the walk and to the northwest of the Margaret I. King Library. Of modern architecture and built in 1936, the building contains offices, classrooms, a court room, the law library (air-conditioned) and a student lounge.

Other Facilities and Information. The College has had a chapter of the Order of the Coif since 1931. This is the academic honorary in law to which senior students are elected because of outstanding legal scholarship. Some 40 of the 167 American law schools have been granted Coif chapters on the basis of excellence in the academic program. Since 1912 the College has published continuously the Kentucky Law Journal, a leading legal periodical and the tenth oldest American law review. The Journal is published by a student staff under faculty supervision and election to the staff is based on high academic achievement and the proved ability to write and conduct research. The Journal publishes articles, notes and comments written by legal scholars, attorneys and students, and is subscribed to by members of the bar as well as all leading domestic and foreign law libraries. Practical training in trial and appellate advocacy is provided every student in the Practice Court and the Appellate Moot Court Program. The former

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William Lewis Matthews, Jr., A.B., LL.B., LL.M., S.J.D., is dean of the College of Law.

was established as an integral part of the curriculum very soon after the College itself was created and the latter has functioned for the last ten years through four student-managed Law Clubs. Teams representing these clubs compete annually to qualify as the College representative in the National Moot Court Competition. An extensive and distinctive program of training in legal research and writing is provided for every student through regular course work (described in the course offerings listed below) and through extracurricular prize projects such as the Will Drafting Competition and the Abstract of Title Competition, for which cash prizes are awarded by various corporate sponsors. In addition to these prizes, a number of valuable law books are awarded annually by law publishing companies to students receiving the highest grade in particular courses and achieving other academic honors. The College of Law has a modest scholarship fund maintained by contributions from alumni and members of the bar. A committee of the Kentucky State Bar Association selects the recipients of these "Kentucky Law Scholarships" from among the applications made. The scholarships are awarded as funds permit on the basis of scholarship, character and need. Information concerning scholarships and how to apply for them can be obtained by writing the Dean of the College of Law.

THE SUMMER SESSION

A number of courses in law are offered in the summer session of the University. Credit in the summer session is counted toward a degree and one-half semester of credit and residence may be acquired in each summer session. No beginning students are accepted for the summer session.

ADMISSION

In addition to the general requirements for admission to the University, an applicant for admission to the College of Law must be at least eighteen years of age and have completed at least three years of acceptable college work (90 semester credit hours, at least six of which must be in English and not more than nine of which may be in nontheory courses). In addition, the applicant must have made a grade point average of at least 2.3 (on a 4-point scale: A = 4, B = 3, C = 2, D = 1, E = 0) or its equivalent on *all* prelaw college work taken, provided, however, that an applicant with a grade point average between 2.0 and 2.3 may be considered for admission and may be admitted upon demonstration of special legal aptitude. An applicant who has been previously enrolled in another law school will be admitted only if he is in good standing in a law school which is a member of the Association of American Law Schools, if he meets the requirements for beginning students at the College of Law of the University of Kentucky, and if he has made an academic average in law which, had it been made in the College of Law of the University of Kentucky, would entitle him to continue his studies here.

In considering applicants who seek admission without a grade point average of at least 2.3, the demonstration of special legal aptitude involves the following factors and is determined by the University Dean of Admissions with the advice of the Law faculty: (1) The applicant must have an undergraduate degree or have completed prelaw requirements on a combined degree curriculum; (2) The grade point average on *all* prelaw work must be at least 2.0 and the nearer it is to 2.3 the better; (3) The academic record should have improved toward the end of the prelaw work, and (4) The applicant must have taken the National Law School Admission Test and scored well on it.

Beginning law students are accepted only for the first semester of the academic year, except that admission for the second semester may be granted in rare instances if the applicant holds an undergraduate degree or is on a combined degree program and has a prelaw grade point average of at least 2.5. Any applicant seeking second semester admission should consult the Dean of the College of Law in advance.

How and When to Apply. The Dean of Admissions and Registrar of the University of Kentucky is the admitting officer for the College of Law. Application is made by submitting to his office a completed application form together with supporting transcript when final grades are available. Application should be made well in advance by writing to or obtaining the necessary forms from the Dean of Admissions, University of Kentucky.

All applications and allied papers for fall enrollment must be in the hands of the Dean of Admissions not later than August 15, and applications received after this date will not be considered for fall enrollment. All applicants who expect to enter in the fall term, 1961-62 and thereafter, should arrange to take the National Law School Admission Test and should submit a test score with their application. The score will not be determinative of admission if the applicant has a prelaw average of 2.3 or better, but will be used for educational counseling purposes. Applicants whose prelaw average is below 2.3 *must* submit a National Law School Admission Test score and the score will be a factor in demonstrating special legal aptitude as provided above. If this test has been taken prior to application, the application must be received not later than August 15. If the test has not been taken before application, the application must be received not later than July 15, in order that the applicant may arrange to take the test, *which is given at the College of Law on the first Saturday in August each year.* The National Law School Admission Test is prepared, graded and administered by the Educational Testing Service, Princeton, New Jersey. Application to take the test must be made

directly to the Educational Testing Service well in advance of the various testing dates which it arranges throughout the country each year. Information concerning these dates and applications for the test may be obtained from the Educational Testing Service, or the University of Kentucky Dean of Admissions, or the Dean of the College of Law.

PRELEGAL STUDY

No special prescribed curriculum or course (with the exception of six semester hours of English) is required for admission to this law school or to American law schools generally. However, prospective law students should keep in mind that a broad, basic and liberal education will equip one to study law and also prepare him for a vital role in the community once he has acquired his professional training. Thus he should pursue a *degree program* in prelaw in which he will learn to think clearly, will form sound study habits and will have an opportunity to master the methodology and knowledge of a particular field under the guidance of good instructors. The importance of a sound background in use of the English language cannot be stressed too greatly. The attention of prelaw students is further directed to the bulletin of the College of Law, which may be obtained from the Dean of the College of Law.

Combined Curricula Leading to the Degrees of A.B. (Arts and Sciences) or B.S. in Commerec and of LL.B. Since at least a total of six years of college work (three years' prelaw and three years' law) is required for the LL.B. degree, particular attention is called to the Arts-Law combined degree program whereby both the A.B. and LL.B. degrees can be earned in six years. In this program the first year of law work (28 semester hours) is credited to both the A.B. degree earned in the College of Arts and Sciences and the LL.B. degree earned in the College of Law. Under this program, if the prelaw student during his first three years (in the College of Arts and Sciences) earns 100 hours of required work (plus physical education) for the A.B. degree, he is admitted to the College of Law at the beginning of his fourth year and receives the A.B. degree at the end of that year. He then continues in the College of Law for two more years and receives the LL.B. degree. Entrance into the College of Law with only 90 hours of work in the first three years will not satisfy the requirements of this program, and the student receives only the LL.B. degree at the end of the six years. College of Arts and Sciences degree requirements and detailed information as to the first three years of the combined program may be found in the Arts and Sciences section of this catalogue.

A combined degree program which gives the undergraduate degree (A.B. or B.S.) and the law degree (LL.B.) in six years frequently can be worked out by the prelaw student who does not take his prelaw work at the University of Kentucky. If the undergraduate college concerned is willing, the College of Law will make available to it the 28 semesters hours of work in law which the student earns in his first year of law study here. If the other undergraduate degree requirements have been satisfied before admission to law school, the first year of law normally will furnish enough "elective" hours to complete the degree. Since the undergraduate degree is awarded by the undergraduate college and not by the College of Law, prelaw students should consult their college dean or prelaw adviser about arranging this program. The Dean of the College of Law will furnish additional information about this program to those interested upon request.

THE DEGREE OF BACHELOR OF LAWS

Students admitted to the College of Law as regular students will be eligible for the degree of Bachelor of Laws (LL.B.) upon completion of a minimum of three academic years (six semesters) of residence, and 83 semester hours of courses, in the College of Law, with an academic standing of 2.0 or better.

Courses Offered in the College of Law

The 83 semester hours for the LL.B. degrees include certain required courses, certain required courses in legal research and writing, at least 2 seminars (one from a group of 4 in the second year and one from a group of 3 in the third year) and certain elective courses. The total number of hours taken in six semesters by the degree candidate can vary from 83 to 88.

All courses (including seminars and electives) are offered each year with an occasional exception to meet special needs. The fall semester offerings and the spring semester offerings are the same each year (with rare exceptions), but the courses taught in the summer sessions will vary. Except when special permission is granted to make a particular schedule, all of the courses in the first three semesters are required courses. In the fourth and fifth semesters some of the courses are required and others are elective. Sixth semester courses are primarily elective. In general the courses should be taken in the sequence created by their classification as first year, second year, or third year courses.

A faculty committee assists all students with special schedule problems.

Below is a listing of law courses by year and semester with required and elective courses indicated. If read in order, it will show the complete course of study for the student carrying a normal load who expects to earn the LL.B. degree in six semesters.

First Year

(ALL REQUIRED)

First Semester	
Torts I	3 hours
Contracts I	3
Procedure	3
Legal Method	2
Legal Bibliography	1
Criminal Law	2
	14

Second Semester

Torts II	3 hours
Contracts II	2
Property I-II	4
Equity	3
Criminal Procedure	2
	14

Second Year

First Semester (All required)

Constitutional Law	4
Property III	3
Commercial Law	4
Trial and Appellate Procedure	3
	14

Second Semester

Corporations I	4
Taxation I	3
Evidence	4
Legal Profession	1
1 seminar of 4 offered:	2
	14

Trial Jury
International Legislation
Land Use and Planning
Jurisprudence

Third Year

First Semester

Required:

Trusts	3
Conflict of Laws	3
Practice Court	1
Legal Research and Writing or Law Journal Note Editing	2
	9

Elective:

Corporations II	3
Family Law (Domestic Relations)	2
Labor Law	3
Estate Planning II (Future Interests)	2

Second Semester

Required:

1 of 2 seminars offered: Office Practice; Current Constitutional Litigation	2

Elective:

Administrative Law	3
Estate Planning I	4
Taxation II	2
Federal Courts and the Federal System	3
Modern Social Legislation	3

NOTE: Oil and Gas, Creditors' Rights, Legislation, Insurance, Credit Transactions, Agency-Partnership, and Damages are elective courses which may be offered in the fifth or sixth semester or the summer session from time to time.

FACULTY

W. L. Matthews, Jr., Jesse J. Dukeminier, Jr., Richard D. Gilliam, Jr., Willburt D. Ham, Thomas P. Lewis, Roy Moreland, William P. Murphy, Paul Oberst, James R. Richardson, Calvert T. Roszell, Dorothy Salmon, and Frederick W. Whiteside, Jr.

Course Descriptions

(All courses are lecture and recitation unless otherwise noted.)

FIRST YEAR SUBJECTS

300(179) *Legislation.* (3) II

Nutting and Elliott's Cases.
Nature and scope of legislative power; organization of legislative bodies; legislative process; legislation and the courts; interpretation of statutes. *Dukeminier.*

301(185) *Legal Method.* (2) I

Dowling, Patterson and Powell, Materials for Legal Method (2nd ed.).
An introductory course for first year Law students, covering the sources and forms of American law, legal reasoning in judicial precedents, how to solve a legal problem, and legal writing. *Gilliam and Lewis.*

501,502(101a,b) *Contracts I-II.* (3, 2) I, II

Patterson and Goble's Cases (3rd ed.).
Formation of contracts, offer, acceptance, consideration. Statute of Frauds, parol evidence rule, contracts for benefit of third persons, assignments, performance of contracts, express and implied conditions, impossibility of performance, discharge and illegal contracts. *Ham.*

503,504(102a,b) *Torts I-II.* (3, 3) I, II

Thurston, Seavey and Keeton's Cases.
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. *Oberst.*

505,506(103) *Property I-II.* (4) II

Casner and Leach's Cases.
Basic course in property: possession, gifts, bona fide purchasers of personalty. Estates, uses, easements, and rights incident to ownership. *Matthews.*

507(106) *Procedure.* (3) I

Clark, Cases on Modern Pleading.
Keigwin, Cases on Common Law Pleading.
Common law forms, theory of the case, composition of pleadings, demurrer, aider, duplicity, traverses, pleas, motions; Code and Federal Rule pleading, Claims, answers, objection and correction of pleadings, parties and joinders of actions. *Richardson.*

509(107a) *Criminal Law.* (2) I

Hall and Glueck's Cases on Criminal Law and Its Enforcement.
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. *Moreland.*

510(107b) *Criminal Procedure.* (2) II

Hall and Glueck's Cases on Criminal Law and Its Enforcement.
Arrest, preliminary examination, bail, methods of prosecution, the grand jury, indictment and information, arraignment and pleas, *nolle prosequi* and motions to quash, trial and verdict, motions after trial. *Moreland.*

511(144) *Legal Bibliography.* (1) I

Practical problems in the use of statutes, reports, digests, encyclopedias, annotated cases, citation books, periodicals, reference tables, and indices. *Salmon.*

512(186) *Local Government Law.* (2) II

Fordham's Local Government Law.
Legislative control over municipal corporations; municipal powers—in general; licenses and franchises; appropriation of municipal funds; municipal contracts, indebtedness, torts, property, special assessments. *Lewis.*

534(191) *Equity.* (3) II

Chafee and Simpson's Cases (3d ed.)
The traditional equity materials. *Moreland.*

SECOND YEAR SUBJECTS

520(135) *Commercial Law.* (4) I

Braucher and Sutherland's Cases and Text.
The study of commercial law principles with special emphasis on the law of negotiable instruments and the law of sales, especially as governed by the Uniform Commercial Code. *Whiteside.*

521(120) *Trial and Appellate Procedure.* (3) I

Hays' Cases on Civil Procedure.
Venue, service of summons, provisional remedies, discovery and pretrial practice, summary judgment, trials, verdict, judgment and appeals, including final judgment rule, and appeal practice; *res judicata;* correction of judgments; extraordinary remedies. *Richardson.*

522(122) *Property III.* (3) I

Casner and Leach's Cases.
Titles and conveyancing. Contract for sale of land, deeds, the recording system, title registration, title insurance. Restrictions on the use of land: covenants, easements and constitutional limitations. *Dukeminier.*

523(124) *Evidence.* (4) II

Morgan and Maguire's Cases (3rd ed.).
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 parol evidence rule. *Richardson.*

524(145) *Insurance.* (2) II

Goble's Cases.
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. *Lewis.*

525(152) *Oil and Gas.* (2) I

Kulp's Cases (3rd ed.).
Oil and gas leases—infants, married women, life tenants, and others as parties; the granting clause—lessee's interest, lessee's right to ejectment; the habendum clause—duration of lease; etc. *Moreland.*

526(154) *Damages.* (2) S

McCormick's Cases.
Nature of damages, voidable consequences, counsel fees, certainty, compensation, damage for non-pecuniary injuries, interest, damages for death, and eminent domain. *Staff.*

528(156) *Agency-Partnership.* (3) I

Conard's Cases on Business Organization (2d ed.)
A study of traditional agency concepts and selected materials on partnership law, including the vicarious liability relationship in tort and contract, the fiduciary concept, the organization and liquidation of partnerships. *Ham.*

529(161) *Constitutional Law.* (4) I

Kauper's Cases and Materials.
Judicial review, relationships in the federal system, powers of Congress, powers of the President, powers of the states. Due process, procedural and substantive; obligation of contract, equal protection, civil rights, privileges, and immunities. *Oberst, Murphy.*

530(174) *Credit Transactions.* (3) I

Sturges' Cases (4th ed.).
Mortgages: creation, assignment, priority, foreclosure, redemption. Pledges, suretyship rights, suretyship defenses, Statute of Frauds. *Lewis.*

531(178) *Creditors' Rights.* (3) II

Hanna and McLachlan's Cases (4th ed.).
Enforcement of judgments; fraudulent conveyances; general assignments; creditors' agreements; receiverships; bankruptcy, assets, and distribution. *Whiteside.*

532(189) *Taxation I.* (3) II

Griswold's Cases on Federal Taxation (4th ed.).
Problems in federal and state income taxation. *Whiteside.*

536 *The Federal Courts and the Federal System.* (3) I

Hart and Wechsler.
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. *Lewis.*

543(170) *The Legal Profession.* (1) II

Cheatham's Cases and Materials (2nd ed.).
A study of professional problems including: ethics, discipline, unauthorized practice, duty to court and client, bar admission and organization, fees and office procedure. *Gilliam.*

547(187) *Corporations I.* (4) II

Baker and Cary's Cases.
A study of basic corporation law principles, including: organizing the corporation; defective incorporation; pre-incorporation transactions; control and management of the corporation (with emphasis on the special problems of the close corporation); the corporate entity concept; duties of directors and controlling shareholders; shareholders' derivative suits and right of inspection. *Ham.*

565(195) *International Legislation.* (2) II

Seminar on the development and codification of international law. History of codification; promotion of codification under League of Nations and United Nations; international law and war criminal trials; genocide pact; Universal Declaration and Covenant of Human Rights and other similar topics. Political Science 150, International Law, recommended as prerequisite. *Gilliam.*

575(197a-z) *Seminar.* (2) II

Seminar in selected legal problems. Normally, each seminar is centered upon a particular field of legal learning, such as land Planning and Development, Jurisprudence, International Law, Trial Jury, Public Utilities Problems, etc. (May be repeated four times for a total of 10 credits.) *Staff.*

THIRD YEAR SUBJECTS

302(125) *Practice Court.* (1) I

Busch's Law and Tactics in Jury Trials (students' ed.).
This course, conducted mainly under the Kentucky code (but treated to give a fair understanding of like work in other states) is designed to fit students for actual court practice following training in substantive law. *Richardson.*

303(172a-h) *Legal Research and Writing.* (2) I, II, S

Independent study of legal problems under faculty supervision, and supervised training in legal writing. (May be repeated twice for a total of six credits.) *Staff.*

304(181a,b) *Law Journal Note Editing.* (2) I, II

This course, required of all senior members of Law Journal staff, consists of study and criticism of the notes and comments prepared for publication by the student editors of the Law Journal. (May be repeated once for a total of four credits.) *Staff.*

508(108) *Domestic Relations.* (2) II

Compton's Cases.
Contracts to marry; the marriage status; annulment, divorce and separation; parent and child; infants and incompetent persons. *Whiteside.*

527(155) *Modern Social Legislation.* (3) II

Aaron's Employment Relation and the Law.
A study of statutes, administrative reports, regulations, legislative hearings and judicial decisions relating to modern social legislation, including Social Security, Workmen's Compensation, medical care insurance, unemployment insurance, wages and hours, and public assistance. *Gilliam.*

533(188) *Taxation II.* (2) I

Bittker's Cases on Federal Income Taxation.
Advanced income tax problems of business organization—of corporations and their shareholders connected with dividends and other distributions, liquidation and reorganization; of partners and partnerships; and of trusts and estates. *Whiteside.*

540(164) *Conflict of Laws.* (3) II

Cheatham, Dowling, and Goodrich's Cases (3rd ed.).
Nature of the subject, penal laws, procedure, judgments, domicile, capacity, form, particular subjects, litigation, family law, inheritance, foreign administrators. *Moreland.*

541(165) *Trusts.* (3) I

Scott's Cases, (4th ed.)
Simes' Cases (2nd ed.)
Uses and Statute of Uses; trusts creation; elements; transfer of beneficiary's interest; administration, termination, and modification; charitable trusts; resulting and constructive trusts; powers. Types of future interests; construction problems; limitations to classes, rule against perpetuities, illegal restraints and conditions. *Matthews.*

542(167) *Administrative Law.* (3) II

Gellhorn's and Byse's Cases.
Establishment of administrative tribunals, limits on discretion. Notice and hearing, orders, methods of judicial relief, scope of judicial review. *Oberst, Murphy.*

544(180) *Labor Law.* (3) I

Smith's Cases and Materials (2nd ed.).
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. *Richardson, Murphy.*

545,546(182a,b) *Estate Planning I-II.* (4,2) I, II

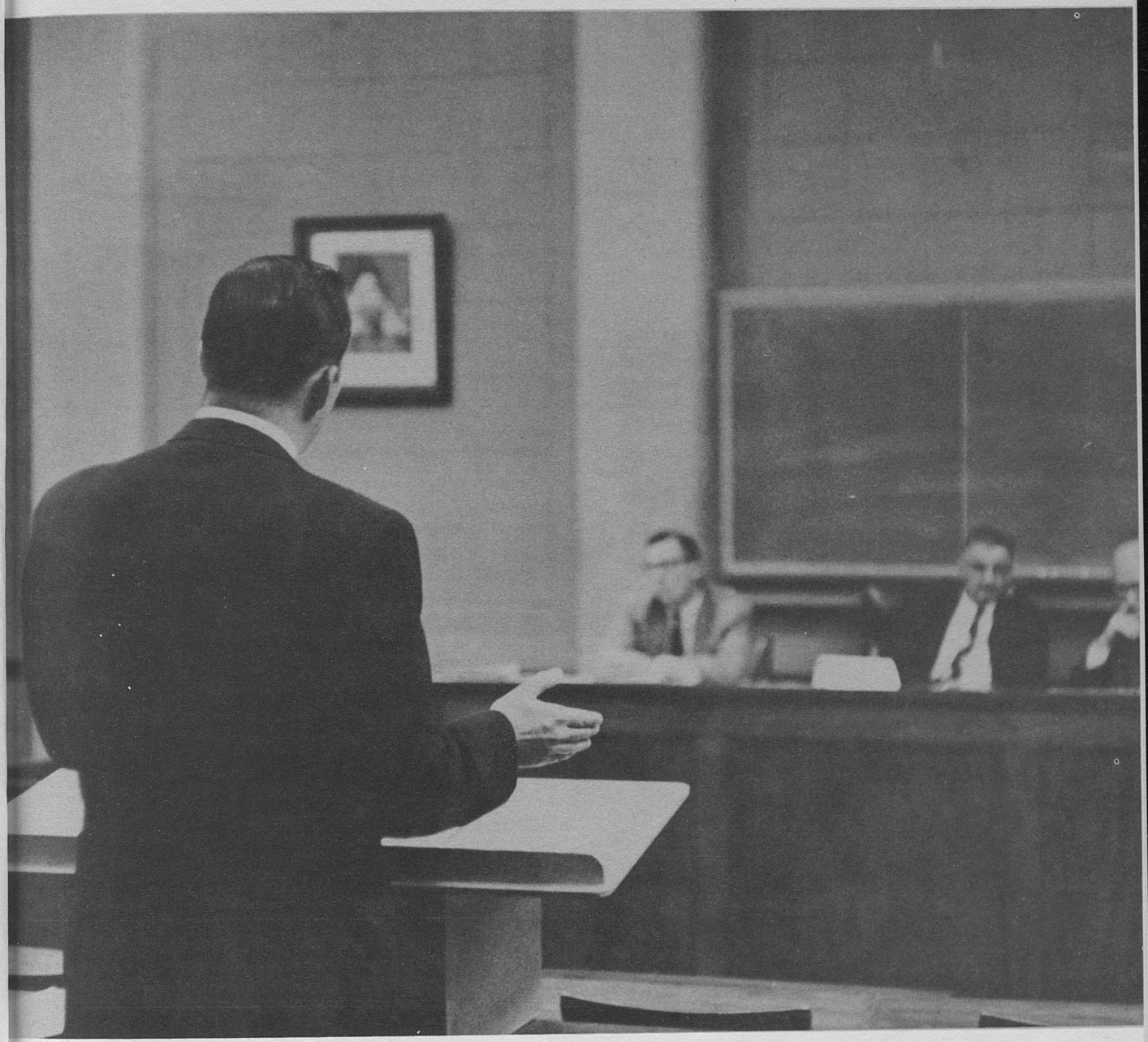
Casner's Estate Planning (2nd ed.)
Donative transfers of property, including *inter vivos* transfers and wills; income, estate and gift tax consequences of the various methods of disposition; administration of estates. Future interests in property, including an intensive study of construction problems and the rule against perpetuities. *Dukeminier.*

548 *Corporations II.* (3) I

Baker and Cary's Cases.
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). *Ham.*

575(197a-z) *Seminar.* (2 ea.) I, II

Seminar in selected legal problems. Normally, each seminar is centered upon a particular field of legal learning, such as Office Practice, Current Constitutional Litigation, etc. (May be repeated four times for a total of ten credits.) *Staff.*





EDUCATION

The College of Education was established by the University to provide for the education of teachers, administrators, and other school personnel. The curricula of the College give students an opportunity to equip themselves for the kind of educational work in which they are interested.

Students in elementary education have observation and student teaching in the University Elementary School and in the schools of nearby communities. Students in preparation for junior and senior high school teaching have observation and student teaching in the University High School and in other secondary schools. Each student is given an opportunity to learn accepted and desirable methods and to develop skill in teaching.

Through the cooperation of various county boards of education, students preparing to teach agriculture and home economics have an opportunity to observe and do their student teaching in the high schools near Lexington which offer vocational agriculture and vocational home economics. Students in both agriculture and home economics teach under skilled supervisors in their respective fields.

The University offers a fifth year of teacher education through internships in public school systems in or near Lexington. These internships are open to graduate students who have strong scholarship records and who have had successful student teaching experience.

Admission. Requirements for admission to the College of Education, as a freshman, or with advanced standing, or as a special student, are the same as those outlined on the preceding pages for admission to the University.

REQUIREMENTS FOR ADMISSION TO STUDENT TEACHING

A student may enroll in student teaching in one of the prescribed curriculums of the College of Education (elementary education, special education, junior high, senior high), provided he has spent one semester in residence on the campus, has completed at least 18 semester hours in the field in which the student teaching is to be done, and has satisfied the following requirements:

1. Has completed all prerequisites in professional education.
2. Has a standing of 2.0 or above for his entire college program.
3. Has a standing of 2.0 or above in professional education courses.
4. Has a standing of 2.0 or above in the area of concentration in which the student teaching is to be done.
5. Has applied and been accepted for enrollment in student teaching the semester prior to the one in which he plans to do student teaching.
6. Has a schedule of 15 hours maximum of college work.
7. Has presented evidence of having had a thorough physical examination by University physicians.

The student teacher is expected to follow the calendar of the school in which he is to do his student teaching.

Student teaching during the summer session is open only to students who have had previous experience in teaching in public schools.

Transient students and graduate students in agricultural education may take student teaching without having done a semester in residence on the campus. These students must have an over-all standing of 2.5 for the entire college period, but may not have had other courses in education. They take 18 semester hours of work the semester student teaching is done—in agricultural education, which includes student teaching.

In order to take student teaching in home economics, a student must have completed 3 hours in technique of teaching home economics.

CERTIFICATION

The University of Kentucky offers curricula for all certificates issued by the State Department of Education on the basis of four years of college education. Upon graduation from the College of Education the student is eligible for either the Provisional High School Certificate or the four-year Provisional Elementary Certificate. In order to obtain the certificate desired, the student must make application to the State Department of Education.

Lyman Vernon Ginger, M.A., Ed.D., is dean of the College of Education.

Application blanks may be obtained from the Dean's Office. Students desiring to teach agriculture or home economics should enroll in the College of Agriculture and Home economics and pursue curricula leading to these certificates.

ACCREDITATION

The University of Kentucky is accredited by the National Council for Accreditation of Teacher Education for the preparation of elementary and secondary teachers and school service personnel with the doctor's degree as the highest degree approved.

VOCATIONAL EDUCATION

Agriculture. The Federal Vocational Education Act, known as the Smith-Hughes Act, passed by Congress in 1917, makes provision for the education of teachers of vocational agriculture in schools below college level. The University of Kentucky has been designated as the state institution to educate white teachers for this work.

Students who complete the work for a bachelor's degree in agriculture and who present 18 semester hours in education as prescribed in the state plan for vocational education will be entitled to a state certificate to teach vocational agriculture in the public schools of Kentucky.

Home Economics. The Federal Vocational Education Act of 1917 also provides for the education of teachers of vocational home economics in schools below college level.

Students who complete the work for a bachelor's degree in home economics and who present 18 semester hours in education as prescribed in the state plan for vocational education will be entitled to a state certificate to teach vocational home economics in the public schools in Kentucky.

Industry. The Federal Vocational Education Act of 1917 also provides for the education of teachers for unit-trade and part-time programs in industrial education and for general continuation school classes. The University of Kentucky has been designated as the state institution responsible for the education of teachers for this work.

A five-year program of preparation for educational training directors and other educational training personnel for schools, business, and industry is offered in the College of Education. The last three years of this program are on a "cooperative" basis with students spending alternate semesters at the University and in work-training situations on the job in business or industry.

Distributive Occupations. The George-Barden Act of 1946 provides for the education of teachers of distributive occupations. The University of Kentucky has been designated as the state institution responsible for this service.

GRADUATION REQUIREMENTS

The College of Education grants the Bachelor of Arts in Education degree to students who major in education and select their group work from art, biological sciences, business education, chemistry, English, foreign languages, library science, mathematics, music, physical education, physics, social sciences, or education for teaching exceptional children. Students who complete the curriculum for elementary teachers are also eligible for the degree of Bachelor of Arts in Education.

In order to graduate from the College of Education, the student must complete 128 semester hours (exclusive of the required physical education) with a standing of 2.0. He must also satisfy the University's requirement in physical education, military science, and residence before he may be graduated.

The student may pursue his work on either the elementary, junior high or senior high level. The requirements for each are given below:

Curricula

ELEMENTARY SCHOOL CURRICULUM

	Sem. Hrs.
Professional Education Requirements—Total hours required	33
Educ. 100—Planning a Career in Education	1
Educ. 101—The Teacher in American Schools	2
Educ. 202—Human Development and The Curriculum	4
Educ. 324—Teaching Science and Social Learnings in the Elementary School	4
Educ. 329—Teaching Communicative Skills in the Elementary School	4
Educ.331—Teaching Arithmetic in the Elementary School	3
Educ. 333—Student Teaching in the Elementary School	12
	33
Educ. 543—Teaching in the Kindergarten (required of Kindergarten majors)	3
Electives in Professional Education (May be taken upon recommendation of adviser)	
Educ. 320—Arts and Crafts in the Elementary School	2
Educ. 325—Teaching in the Elementary School	3
Educ. 544—Visual Teaching	3
Educ. 548—Educational Psychology	3
Educ. 550—The Role of the Teacher and the Principal in Guidance	3
General Education Requirements—Total hours required	81-89
Art	6
Art 170, 172—Public School Art (3 hours each) Suggested elective: Humanities 203	
English (Communications and Humanities)	18
Engl. 101, 102—Freshman Composition (3 hrs. ea.) Twelve hours selected from the following. One course above 300 is strongly recommended.	
Engl. 161—Introduction to Literature	3
Engl. 573—General Introduction to Folklore or	3
Engl. 574—American Folklore	
Engl. 556—Contemporary American Poetry or	3
Engl. 555—The Modern American Novel	

Engl. 181—Basic Public Speaking or	3	
Engl. 291—Voice Development		
Engl. 560, 561—Comparative Literature (3 hours each)		
Engl. 597—Survey of Theatre Principles	3	
Foreign Language (Consult adviser)		
Humanities 200—Classicism: Graeco-Roman; Modern European	2	
Humanities 201—Renaissance: Romanticism	2	
Humanities 202—Realism and Naturalism: The Contemporary	2	
Humanities 203—Art: The Renaissance to the Present	2	
Humanities 204—Music: The Renaissance to The Present	2	
Humanities 205—Aspects of Oriental Culture	2	
Humanities 206—Aspects of Middle Eastern Culture	2	
Health and Physical Education		8-9
P.E. Service Courses (1 hour each)	2	
Home Ec. 401—Principles of Nutrition	3	
P.E. 360—Physical Education in the Elementary School	2	
Hygiene 101—Personal and Community Health or	1	
Hygiene 109—Fundamentals of Health	2	
Library Science		3
L.S. 537—Children's Literature and Related Materials	3	
Mathematics		3
M. & A. 201—Fundamentals of Elementary Mathematics	3	
Military Science (men)		8
Music		6
Music 260—Music Education in the Primary Grades	3	
Music 261—Music Education in the Intermediate Grades	3	
Suggested elective: Humanities 204		
Psychology		4
*Psych. 100—Introduction to Psychology	4	
Suggested electives: Psych. 200—Psychology of the child		
Psych. 520—Mental Hygiene		
Science (12 hours to be selected from the following)		12
Biological Sciences		
Botany 125—General Plant Biology	3	
Zoology 202—Nature Study	4	
Anthro. 100—Introduction to Physical Anthropology	3	
Physical Sciences		
Physics 151, 152—Introduction to Physics	3	
Geology 104, 105—Outlines of Geology	3	
Astron. 191—Descriptive Astronomy (One laboratory course required)	3	
Social Science		21
History and Political Science (American)	6	
Two of the following:		
Hist. 108—History of U.S. through 1865 or	3	
Hist. 525—Soc. and Cult. History of the U.S. to 1865		
Hist. 109—History of the U.S. Since 1865 or	3	
Hist. 525—Soc. and Cult. History of the U.S. since 1865		
P.S. 151—American Government	3	
Geography (two of the following)	6	
Geog. 151—Elements of Geography	3	
Geog. 152—Regional Geography of the World	3	
Geog. 153—Societies Around the World	3	
Sociology and Anthropology (one of the following)	3	
Soc. 220—The Community	3	
Soc. 151—Introductory Sociology	3	
Soc. 551—Principles of Sociology	3	
Anth. 121—Cultural Anthropology	3	
Any 6 hours from the following: (One course should be above 400 in number.)	6	
P.S. 311—Current Public Affairs	2	
Hist. 240—History of Kentucky	3	
Hist. 104, 105—European History	3 each	
Hist. 590—Modern Europe	3	
Hist. 586—Russia Since 1900	3	
Hist. 596—U.S. in the Pacific and Far East Since 1898	2	
Soc. 509 or 510—The Family	3	
Soc. 525—Religion and Culture	2	
An advanced regional geography course		
For correct use of elective hours, consult adviser.		
Needed to graduate (including all elective and required courses)		130

* Not required, but strongly recommended.

JUNIOR HIGH SCHOOL CURRICULUM

	Sem. Hrs.
Professional Education Requirements—Total hours required	20
Educ. 100—Planning a Career in Education	1
Educ. 101—The Teacher in American Schools	2
Educ. 202—Human Development and the Curriculum	4
Educ. 340—Teaching in the Junior High School	4
Student Teaching and Seminar	9

General Requirements

	Men, 14-15 Women, 6-7
Math, 201—Fundamentals of Mathematics	3
Health, P.E.	3-4
Hygiene 109 or 101	1-2
P.E. Activities 1 and 2	2
Military Science (men)	8

It is recommended that all Junior high majors have one course in the teaching of reading. Students are requested to consult their advisers for the proper course.

General Education Requirements—Total hours required		60
English, Speech, and Journalism	15	
Humanities and Fine Arts	15	
Physical and Biological Sciences	15	
Social Sciences	15	
English, Speech, and Journalism		15
Required		9
Engl. 101, 102—English Composition	6	
Engl. 181—Essentials of Speech or	3	
Choose 6 hours from the following:		9
Choose 6 hours from the following:		9
Engl. 205—Advanced Composition	3	
Engl. 509—Composition for Teachers	3	
Journalism 101—Introduction to Journalism	2	
Radio 101 or 102—Radio Today	3	
Humanities and Fine Arts		15
Required		10
Humanities 200—Classicism	4	

201—Renaissance 202—Realism and Naturalism 205—Aspects of Oriental Culture	Choose 2 courses	
Engl. 574—American Folklore	3	
Art 170—Public School Art	3	
Choose 5 hours from the following		5
Art 130—Basic Design	2	
Art 242—or 243—Graphic Design	2	
Art 563—Art in America	2	
Engl. 161—Introduction to Literature	3	
Engl. 539—Victorian Literature	3	
Engl. 568 or 569—Principles of Literary Criticism	3	
Engl. 560 or 561—Comparative Literature	3	
Engl. 221 or 222—Survey of English Lit.	3	
Engl. 540—19th Century British Novel	3	
Engl. 563—Contemporary Drama	3	
Engl. 555—The Modern American Novel	3	
Humanities 203—Art: The Renaissance to the Present	2	
Humanities 204—Music: The Renaissance to the Present	2	
L.S. 536—Materials and Books for Young Adolescents	3	
Mus. 260—261—Public School Music	3	
Languages (maximum of 6 hours)		
Physical and Biological Sciences		15
Required: (Choose 2		8
Bot. 101—General Botany	4	
Phys. 281—General Physics	4	
Phys. 211 or 213—General Elementary Physics	5	
Zool. 100—Principles of Animal Biology	4	
Choose at least 7 hours from the following		7
Astron. 191 or 192—Descriptive Astronomy	3	
Bot. 125—General Plant Study	3	
Bot. 530—Introduction to Heredity	3	
Chem. 110, 112—General Chemistry	4	
Chem. 106, 108—General Chemistry for Engineers	4	
Geol. 100—Elementary Geology or	3	
Geol. 104, 105—Outlines of Geology		
*Psych. 100—Introduction to Psychology	4	
Zool. 200, 201—Comparative Anatomy	3	
Zool. 202—Nature Study	4	
Social Sciences		15
Required:		9
Anthro. 153—Societies Around the World	3	
Pol. Sci. 151—Amreican Government	3	
Soc. 220—The Community	3	
Choose 6 hours from the following:		6
Anthro. 121—Cultural Anthropology	3	
Econ. 251 or 252—Principles of Economics	3	
Geog. 151—Elements of Geography	3	
Geog. 152—Regional Geography of the World	3	
Geog. 522—Geography of Kentucky	3	
Geog. 538—Conservation of Natural Resources	3	
Hist. 240—History of Kentucky	3	
Hist. 524 or 525—Social and Cultural History of the U.S.	3	
Hist. 586—Russia Since 1900	3	
Hist. 590—Modern Europe	3	
Hist. 596—U.S.—In the Pacific and Far East Since 1898	3	
Pol. Sci. 311—Current Public Affairs	3	
Soc. 151—Principles of Sociology	3	
Soc. 240—Collective Behavior	3	
Soc. 509 or 510—The Family	3	
Soc. 525—Religion and Culture	3	
Soc. 532 or 533—Intergroup Relations	3	

For correct use of elective hours, consult adviser.

Needed to Graduate (including all elective and required courses) 130

Each student is required to have a teaching major and a teaching minor. Appropriate courses taken in the general education field may be used in the teaching major and minor. Consult list of majors and minors. Required seminars for all students in the Junior High School curriculum are being planned. Please consult your adviser for information about the seminars.

SENIOR HIGH SCHOOL CURRICULUM

	Sem. Hrs.
Professional Education Requirements—Total hours required	23
1. Students may follow one of two sequences, A or B.	
A. *Regular Sequence* for students who enter the program as freshmen or sophomores	
Educ. 100—Planning a Career in Education (Second semester freshmen)	1
Educ. 101—The Teacher in American Schools (Second semester freshmen or sophomores who have not had Educ. 100)	2
Educ. 202—Human Development and the Curriculum	4
Educ. 344—Teaching in the Senior High School	4
*—Student Teaching in High School and Seminar	12
It is recommended that one of the following electives be chosen after the completion of Educ. 202:	
Educ. 505—Role of the Teacher and Principal in Guidance	3
Educ. 548—Educational Psychology	3
Educ. 544—Visual Teaching	3
B. *Sequence* for those who enter the program as juniors, seniors, or graduate students:	
Educ. 501—School Organization followed by	3
Educ. 202—Human Development and the Curriculum followed by	4
Educ. 344—Teaching in the Senior Senior High School	4
*—Student Teaching and Seminar	12

* (Student teaching requirement is 9 semester hours for majors in Art, Physical Education, and Music.)

The minimum time recommended for Sequence B is 4 semesters. However, Educ. 501 and Educ. 202 may be taken concurrently if the student has only 3 academic periods for the completion of his work.

Note: In either sequence Educ. 344 should be taken the last semester prior to student teaching. No course from the required sequence can be taken with Educ. 344 or with student teaching.

Professional Courses for Business Education Majors

The following courses should be taken in sequence during the junior and senior years.

* Psychology 1 should be taken if the student plans further work at the undergraduate or graduate level requiring a back ground in psychology.

Educ. 510—Foundations of Business Education in the High School—taught during the fall semester 3
Educ. 202—Human Development and the Curriculum 4
Educ. 512—Teaching Bookkeeping and Accounting—taught during the fall semester 3
Educ. 514—Teaching General Business Subjects in the Secondary Schools—taught during the spring semester 3
Educ. 393—Supervised Student Teaching and Seminar hours—9 or 12
Educ. 511—Teaching Secretarial Subjects—(elective) 3

Twelve-grade Certificate in Music, Art or Physical Education

In addition to Professional Sequence A or B, students seeking a twelve-grade certificate in Music, Art, or Physical Education must take Educ. 325—Teaching in the Elementary School—after they have earned Junior classification. This means that Educ. 325 may be taken concurrently with other courses in Professional Sequence, but the course should be completed prior to student teaching in Music, Art, or Physical Education. Also required is a course in materials and methods in the special subject at the elementary and/or 12-grade level. Half of student teaching *must be done* in an elementary school and half in a secondary school.

II. Dual System of Advising

Every student who expects to be certified in a teaching field in the senior high school is required to have two official advisers—an Arts and Sciences Academic Adviser to plan his program in his major field; an Education Adviser to plan his program in professional Education, check his program in general education, and make sure that all certification requirements are being satisfied.

Students apply to the Dean of the College of Education who appoints the Education Adviser and informs the student of the Academic Adviser who has been appointed for his major field by the Dean of the College of Arts and Sciences.

If a student is majoring in two fields, he must have an academic adviser in each field, to plan each major.

The curriculum for the minor should be carefully selected from the curriculum designed for a major in that field.

(Plans or curricula should be on file by the end of the second semester of the sophomore year. Two copies of the plans for areas of concentration and for majors must be filed with the Dean of the College of Education who will route the programs to the Education advisers. If a student enters late, his plans must be filed immediately.)

Any changes in planned curriculum for teaching field must be approved by the academic adviser. Any change in the planned program of professional education or general education must be approved by the Education adviser.

This plan of dual advising should be put into operation just as soon as the student indicates he may become a teacher.

GENERAL EDUCATION REQUIREMENTS

	Sem. Hrs.
Total hours required	45
I. *Communications and Humanities*	18
English Composition (required)	6 hours
Literature (3 hours required)	3 to 6 hours
(The Literature requirement may be met by taking either Literature courses, approved by the adviser, or Humanities. If the Humanities are offered, select two from 200, 201, and 202, plus either 203 or 204.)	
Electives	6-9 hours
Foreign Languages (one year of any language)	6 hours
Philosophy 200	3 hours
Philosophy 230	3 hours
English 291 or 181	3 hours
English 283, 288, or 540	3 hours
Journalism 201	3 hours
Journalism 203	3 hours
Religion	3 hours
Fine Arts: Art 554 or 556, Music 280 or 281	3 hours
II. *Mathematics and Natural Science* (6 hours must have lab)	12
A minimum of 6 semester hours must be chosen from the following:	
M. & A. 191, 192, Descriptive Astronomy	3 hours each
*Chemistry 110, 112, General Chemistry	5 hours each
Geology 104, 105, Outlines of Geology	3 hours each
*Geology 110, Laboratory Work in Geology	1 hour
*Geology 100, Elementary Geology	3 hours
(Credit will not be given for *both* Geology 104 and 100)	
M. & A. 101 *or* 111, College Algebra	3 hours
M. & A. 201, Fundamentals of Mathematics	3 hours
*Physics 211, 213, General Elementary Physics	5 hours each
Physics 151, 152, Introduction to Physics	3 hours each
At least 6 semester hours must be chosen from the following:	
Anthropology 100, Introduction to Physical Anthropology	3 hours each
*A. & P. 210, General Physiology	5 hours
Microbiology 100, 102, Elementary Microbiology	8 hours
Microbiology 200, Principles of Bacteriology	4 hours
*Botany 101, General Botany	4 hours
Botany 125, General Botany	3 hours
*Zoology 100, General Zoology or Zoology 200, Nature Study	4 hours
III. *Social Science*	12
Group I: Select any 6 hours: Freshmen courses)	
Anth., Geog. or Soc. 153, Societies Around the World	3 hours
Geog. or Soc. 154, Societies Around the World	3 hours
Anth. 121, Cultural Anthropology	3 hours
Hist. 108, 109, American History	3 hours
Pol. Sci. 151, American Government	3 hours
Group II: Select any 6 hours: Advanced courses)	
Econ. 251, 252, Principles of Economics	3 hours ea.
Soc. 220, The Community	3 hours
Anth. or Soc. 526, Culture and Personality	3 hours
Hist. 202, 203, History of the British People	3 hours
Pol. Sci. 571, 572, Political Theory	3 hours ea.
Art 554, Ancient Art	3 hours
Art 556, Medieval Art	3 hours
Music 280, 281, History of Music	3 hours ea.
IV. *Health and Physical Education*	3
Hygiene 101—Personal and Community Health	1 hour
Physical Education 100-125	2 hours
(Only 2 hours of Physical Education 100-125 may count in the minimum of 130 credits required for a degree.)	

*Courses with laboratory

PRE-PROFESSIONAL PREPARATION

It is desirable that the student select a sequence of 12 to 18 hours from the courses listed below if he has not taken them as a part of the General Education pattern. Other courses may be substituted with approval of the adviser.

Choose *one* group:	Sem. Hrs.
1. Psychology 100—General Psychology	4
Psychology 200—Child Psychology	3
Psychology 520—Mental Hygiene	3
Psychology 544—Social Psychology	3
Psychology 201—Individual Differences	3
Psychology 507—Psychology of Learning	4
Psychology 535—Individual Testing	3
2. Sociology 151—Principles of Sociology	3
Sociology 220—The Community	3
Sociology 509, 510—The Family	6
Sociology 537—Juvenile Deliquency	3
3. Anthropology 121—Introduction to Cultural Anthropology	3
Anthropology 524—Mythology	3
Anthropology 525—Applied Anthropology	3
Anthropology 526—Culture and Personality	3
4. Philosophy 200—Introduction to Philosophy	3
Philosophy 220—Elementary Logic	3
Philosophy 230—Ethics	3
Philosophy 500—History of Philosophy—Ancient and Medieval	3
Philosophy 510—History of Philosophy—Modern	3
Philosophy 515—Contemporary Philosophy	3
Philosophy 512—Representative Modern Philosophers	3
Philosophy 511—The Making of the Modern Mind	3
Philosophy 540—Great Religions	3

REQUIREMENTS FOR MAJORS, MINORS, AND AREAS OF CONCENTRATION

Senior High School Curriculum majors must prepare themselves by intensive study in selected areas. They have the following options in the choice of curricula leading to certificates for teaching in special subject fields: (1) an area of concentration, (2) two majors, (3) one major and two minors, or (4) one major and one minor when the credit in both totals 48 semester hours. The majors, minors, and areas of concentration recognized by the State Department of Education for certification, as well as the general requirements and professional preparation required, follow:

Teaching Majors, Minors, and Areas of Concentration

A major shall consist of 24 semester hours except that a major in English or in any combination of subjects shall require 30 semester hours.

A minor shall consist of 18 semester hours, except that a minor in English or in any combination of subjects shall require 24 semester hours.

An area of concentration varies with the subjects. Usually it shall be 48 semester hours unless otherwise specified.

Subject fields in which majors may be chosen:

In a combination of subjects for majors, not less than 8 semester hours shall be in each subject within the major.

Agriculture	Health and Physical Education (30 hours)
Art	History
Biological Sciences	History and Political Science (30 hours)
Business Education	Latin
*Accounting	**Library Science
*General Business	Mathematics
*Secretarial Practice	Physical Education
Chemistry	Physics
English (30 hours)	Political Science
French	Spanish
Geography	Speech and Dramatics (30 hours)
German	

Subject fields in which minors may be chosen:

In a combination of subjects for minors, not less than 6 semester hours shall be in each subject within the minors.

Agriculture	History
Any Foreign Language	History and Political Science (24 hours)
Art	Geography and Geology
Biological Sciences	Home Economics
Business Education	Journalism
*Accounting	**Library Science
*General Business	Mathematics
*Secretarial Practice	Physical Education (men only)
Chemistry	Physics
Economics	Political Science
Economics and Sociology (24 hours)	Psychology
English (24 hours)	Sociology
Geography	Speech
	Speech and Dramatics (24 hours)

Subject fields in which areas of concentration may be chosen:

(1) Art Education (48 semester-hour area)

Prerequisites	Sem. Hrs.
Art 100—Introduction to Art	2
Art 110—Beginning Drawing and Painting	2
Art 130—Basic Design	2
Art 210—Intermediate Drawing and Painting	2
Art 237—Beginning Sculpture	2
	10
Advanced Courses	
1. History and Theory:	
Art 500—Criticism of Art	3
Two period courses chosen from 554, 556, 558, 560, 562, and 564	6
Art 509—Seminar in Art	1
	10
2. Painting and Printmaking:	
Art 310—Intermediate Painting	3
Art 312—Printmaking	2
	5

* A major in each subject in business education shall require 24 semester hours or a major in a combination of two of these subjects shall require 30 semester hours. A minor in each subject shall require 18 semester hours or a minor in a combination of two of these subjects shall require 24 semester hours.

** A major or minor in library science shall require, in addition to the required semester hours, a minimum of 3 semester hours in library practice as a part of student teaching or in addition to student teaching.

3. Sculpture and Ceramics:	
Art 236—Beginning Sculpture (wood)	2
Art 336—Ceramics	3
	5
4. Design	
Art 230—Intermediate Design	3
Art 242—Graphic Design	2
	5
5. Art Education:	
Art 170, 171—Public School Art	6
Art 577—Art in Secondary Schools	3
	9
6. Electives:	
Four additional credits to be chosen within one of three studio areas	4

(2) Business Education;

A teaching area in Business Education includes all courses which are listed for a major in Business Education plus 14 additional hours in Commerce to be selected by the student with the approval of his adviser.

(3) English:

A teaching area in English shall consist of 48 semester hours, 30 of which shall be in the following fields: Grammar, Composition, and Literature. The remaining 18 hours may be distributed among the following fields: Speech and Dramatics.

(4) Health, Physical Education, and Recreation:

A teaching area in health, physical education and recreation shall consist of 48 semester hours.

(5) Languages:

A teaching area in foreign languages shall consist of at least 48 semester hours, distributed among the languages as follows: 18 semester hours in the leading language, 12 semester hours in each of two other languages, and 6 semester hours elective. (The 6 hours should be in one of these languages.)

(6) Music:

A teaching area in music shall consist of at least 48 semester hours, distributed as follows:

Applied music, including enough piano to insure competency to play simple accompaniments	16 sem. hrs.
Music theory, to be selected from harmony, sight-singing, dictation, counterpoint, or form and analysis	16 sem. hrs.
Conducting, instrumental and/or choral	2 sem. hrs.
Musicology, including history and appreciation	6 sem. hrs.
Music Education, including materials and methods on elementary and high-school levels	6 sem. hrs.
Electives to include participation in vocal or instrumental ensembles such as glee club, choir, orchestra, band, chamber groups	2 sem. hrs.

Music students in the College of Arts and Sciences should consult the adviser in music to determine the area of concentration.

(7) Sciences:

A teaching area in science may consist of at least 48 semester hours, 15 (or more) of which shall be in Biology, Chemistry or Physics, 12 (or more) in each of the other two of these fields (Biology, Chemistry, Physics), 3 semester hours (or more) in Geology. The remainder shall be selected from the sciences.

A teaching area in science may consist of 48 semester hours which includes chemistry, physics, and mathematics, with no fewer than 15 semester hours in each.

(8)Social Studies:

A teaching area in social studies shall consist of at least 48 scmester hours, distributed as follows: 18 semester hours in history, including 6 semester hours in American History and 6 semester hours in European History; and at least 6 semester hours in each of the following subjects: Political Science, Economics, Sociology, and Geography.

Subject fields in which majors and minors may be taken:

There are many combinations of majors and minors that may be selected by majors in the senior high school curriculum; it is, therefore, difficult to set up a definite pattern of courses for all students. Below are certain suggested patterns of courses to be followed by students. Majors and minors must be taken from these curriculums. Substitutions may be made in exceptional cases upon recommendation of the academic adviser and with the approval of the Dean of the College of Education.

ART

A major shall consist of 26 semester hours, distributed as follows:

	Sem. Hrs.
Art 110—Beginning Drawing and Painting	2
Art 130—Basic Design	2
Art 105—Forms of Art	2
Art 170, 171—Public School Art	6
Six semester hours from the following:	
Art 230—Intermediate Design	
Art 242—Graphic Design	
Art 210—Intermediate Drawing and Painting	
Art 312—Printmaking	6
Art 310—Intermediate Painting	
Art 236—Beginning Sculpture (wood)	
Art 237—Beginning Sculpture (clay)	
Six semester hours from the following:	
Art 500—Criticism of Art	
Art 554—Ancient Art	
Art 556—Medieval Art	6
Art 558—Renaissance Art in Italy	
Art 560—Baroque Art	
Art 562—Nineteenth Century Art	
Art 564—Twentieth Century Art	
Art 577—Art in Secondary Schools	2

BIOLOGICAL SCIENCES

Botany 101 and Zoology 100 or Biology 101 and 102 are required.	
Student cannot take for credit Biology 101, 102 *and* Botany 101 and Zoology 100.	
*Anatomy & Physiology 204, Elementary Anatomy	4
and	
*Anatomy & Physiology 206, Elementary Physiology	3
or	

* Physical Education majors must take Anat. 204 and Phyg. 206, *Not* Phyg. 210.

EDUCATION

Physiology 210—Introduction to Physiology 5
Microbiology 100, 102—Elementary Microbiology 8
Microbiology 200—Principles of Bacteriology 4
Biology 101, 102—Biology 8
Botany 101—General Botany 4
Botany 103—Plant Kingdom 3
Botany 201—Local Flora 3
Botany 219—Dendrology 2
Botany 125—General Plant Biology 3
Botany 530—Introduction to Heredity 3
Zoology 100—General Zoology 4
Zoology 202—Nature Study 4
Zoology 200—Comparative Anatomy 4
Zoology 504—Heredity 3
Zoology 508—Evolution 3

BUSINESS EDUCATION

Commerce 107—Accounting Principles 3
Commerce 108 or 109—Secretarial Accounting 3
Commerce 112, 113, and 114—Secretarial Practice: Shorthand 9
Commerce 117, 118—Typewriting 4
Commerce 119—Office Appliances 3
Commerce 251—Principles of Economics 3
Commerce 252—Principles of Economics 3
Commerce 260—Marketing
or 3
Commerce 509—Business Law
Commerce 445—Office Management 3

CHEMISTRY

Chemistry 110, 112—General Chemistry 10
Chemistry 225—Analytical Chemistry 5
Chemistry 220, 222—Analytical Chemistry 10
Chemistry 236—Organic Chemistry 5
Chemistry 430, 432—Organic Chemistry 10
Chemistry 444—Physical Chemistry 5

ECONOMICS AND SOCIOLOGY

(Required: 15 hours of Economics and 15 hours of Sociology)
Econ. 251, 252—Principles of Economics 6
Econ. 402—Labor Economics 3
Econ. 504—Public Finance 3
Econ. 505—Money and Banking 3
Sociology 153, 154—Societies Around the World 6
Sociology 509, 510—The Family 6
Sociology 220—The Community 3
Sociology 551—Principles of Sociology 3
Sociology 538—Juvenile Delinquency or 3
Sociology 521—Industrial Sociology 3

ENGLISH

Composition and Language Study:
Required Semester House 9-12
English 101,* 102*—Freshman Composition 6
English 205—Advanced Composition 3
English 512—The Grammar of Structure and Usage 3
English 510—Modern British and American Usage 3
English 509*—English Composition for Teachers 3
Literary Survey Courses: Required Semester Hours 12-15
English 221,* 222*—Survey of English Literature 6
English 161—Introduction to Literature 3
English 551,* 552*—American Literature 6
English 560, 561—Comparative Literature 6
Literary Type Courses: Required Semester Hours 3-6
English 568—Principles of Literary Criticism 3
English 527—The Nineteenth Century British Novel 3
English 563—The Contemporary Drama 3
English 574—American Folklore 3
English 532—The Drama of the Restoration and and Eighteenth Century 3
English 556, 542—Contemporary Poetry (American and British) 6
English 555—The Modern British Novel 3
Period and Author Courses:
Required Semester Hours 6-9
English 535—English Romantic Poetry 3
English 526*—Shakespeare: The Comedies 3
or
English 527*—Shakespeare: The Tragedies 3
English 523—English Literature: 1600-1660 3
English 531—Age of Johnson 3
English 530—The Age of Pope 3
Speech and Dramatic Arts:
Required Semester Hours 3-6
English 181—The Essentials of Speech 3
English 291—Voice Development 3
English 288—Oral Interpretation 3
English 597—Stage Productions in School and Community 3
English 584—Teaching of Speech 3
English 582—Persuasion 3

* Starred courses normally to be regarded as required.

GEOGRAPHY

Twenty-four semester hours are required from the following courses:
Geography 152—Regional Geography of the World 3
Geography 153, 154—Societies Around the World 6
Geography 155—Economic Geography Survey 3
Geography 544—Climatology 3
Geography 520—Regional Geography of Anglo-America 2
Geography 522—Geography of Kentucky 2
Geography 521, 523—Special Problems 2
Geology 104, 105—Outlines of Geology 6

HISTORY

History 104, 105—European History 6
History 108, 109—History of the United States 6
History 228—The Ancient World 3
History 240—History of Kentucky 3
History 202, 203—History of the British People 6
History 583—Europe in the Twentieth Century 3
History 590—Modern Europe 3
History 505—American Colonial History 3
History 525—Social and Cultural History of the United States Since 1865 3
History (147) 549—Recent History of the United States 3

LANGUAGES, ANCIENT

A.L. 101—Beginning Latin 3
A.L. 102—Elementary Latin Reading 3
A.L. 203—Cicero and Selections 3
A.L. 204—Vergil 3
A.L. 205—Latin Prose Selections 3
A.L. 206—Horace 3
A.L. 209, 210—Selections from Latin Literature 6
A.L. 217—Medieval Latin 3
A.L. 217—Medieval Latin 3
A.L. 509, 510—Latin Literature 6
A.L. 514, 515—Latin Composition 2
A.L. 530—The Teaching of Latin 3
A.L. 530—Demonstration Class in Beginning High School Latin 3

LANGUAGES, MODERN FOREIGN

French 101, 102—Elementary French 6
French 201, 202—Intermediate French 6

French 203—French Conversation and Composition (Repeat for total of 4 credits) ea. 2
French 204, 205, 206—French Novel and Drama 9
French 207, 208—French Phonetics 6
French 502, 503—French Literature of the Nineteenth Century 6
French 506, 507—Advanced French Grammar 6
French 510, 511—French Literature of the Twentieth Century 6
French 512—Advanced French Conversation (Can be repeated for total of 4 credits) ea. 2
German 121, 122—Elementary German 6
German 221, 222—German Translation and Rapid Reading 6
German 123—Elementary Aural-Oral Practice in German 1
German 230, 231—Introduction to Classical and Nineteenth Century German Literature 6
German 524, 531—Proseminars ea. 3
German 538—Advanced German Conversation and Composition 3
Spanish 141, 142—Elementary Spanish 6
Spanish 241, 242—Intermediate Spanish 6
Spanish 143—Elementary Aural-Oral Practice in Spanish 1
Spanish 243, 244—Spanish Novel and Drama 6
Spanish 246—Spanish Conversation and Composition (Can be repeated for total of 6 credits) ea. 3
Spanish 247—Civilization of Spain and Spanish America 2
Spanish 541, 542—Advanced Spanish Grammar and Composition 6
Spanish 545, 546—Spanish Literature of the Twentieth Century 6
Spanish 549, 550—Spanish Literature of the Nineteenth Century 6

LIBRARY SCIENCE

L.S. 313—Organization & Administration of the School Library 3
L.S. 529—Classification and Cataloging 3
L.S. 533—Reference and Bibliography 3
L.S. 536—Literature & Related Materials for Young People 3
L.S. 537—Children's Literature and Related Materials 3
L.S. 539—Library Practice 3
L.S. 521—Libraries and Librarianship 3
L.S. 586—Visual Teaching 3

MATHEMATICS

Twenty-four semester hours are required from the following:
Math. & Astr. 101—College Algebra 3
Math. & Astr. 111—College Algebra 3
Math. & Astr. 112—Plane Trigonometry 3
Math. & Astr. 113—Analytics & Calculus I 3
Math. & Astr. 121—Math. of Finance 3
Math. & Astr. 211—Analytics & Calculus II 4
Math. & Astr. 212—Analytics & Calculus III 4
Math. & Astr. 201—Fundamentals of Elementary Math. 3
Math. & Astr. 202—Fundamentals of Elementary Math. 3
Math. & Astr. 301—Advanced Anal. Geometry 3
Math. & Astr. 361—Advanced Algebra 3
Math. & Astr. 407—College Geometry 3
Math. & Astr. 421—Elementary Computational Methods 3
Math. & Astr. 431—Differential Equations 3
Math. & Astr. 471—Advanced Calculus 3
Math. & Astr. 561—Introduction to Higher Algebra 3
Math. & Astr. 565—Introduction to Matrices 3

PHYSICAL EDUCATION

In addition to the requirements of all students in the Senior High School curriculum, the following courses are required of students specializing in Physical Education:

Freshman year:
Zoology 100—General Zoology 4
(May be used to meet group requirements in General Education and/or in Biological Science major or minor)

Sophomore Year:
Anat. 204—Elementary Anatomy 4
Phys. 206—Elementary Physiology 3
(May be used either in major or minor or to meet General Education requirement)
English 181—Essentials of Speech
or 3
English 291—Voice Development
(English 181 or English 291 may be used to meet general requirements and/or in English major or minor)
Sociology 240—Collective Behavior
or 3
Sociology 220—The Community
(May be used to meet group requirements in General Education and/or in major or minor)

Junior Year:
Home Economics 401—Principles of Nutrition 3
(May not be used to meet group requirements in General Education or a major or minor in Biological Science)
Physiology 520—Physiology of Exercise 3
(May be used to meet requirements in General Education. May not be used in major or minor in Biological Sciences)

Requirements for Majors, Minors, and Areas of Concentration in Physical Education

Men P.E. Course, No. and Title	Year	Sem. Hrs.	P.E. Minor 18 Hrs.	P.E. Major 24 Hrs.	30 Hrs. Health & P.E. Major	Health, P.E., & Recreation Area 48 Hrs.
061—Field Trip	Jr.	0	R	R	R	R
141, 142, 143, 144—Football, Basketball, Track, Baseball		6				R*
150—P.E. & Rec. Activities	Fr.	2	R	R	R	R
151—P.E. & Rec. Activities	Fr.	2	R	R	R	R
152—Tech. of Swimming	Sr.	2			R**	R**
250—P.E. & Rec. Activities	So.	2	R	R	R	R
251—P.E. & Rec. Activities	So.	2	R	R	R	R
280—Recreation Leadership	Sr.	2				R
281—Camp Leadership	So.	2			R	R
343—Hist. and Prin. of P.E.	Jr.	3		R	R	R
344—P.E. in Sec. School	Jr.	3	R	R	R	R
356—Sports Officiating	Sr.	1			R***	R
360—P.E. in Elem. School	Jr.	2	R	R	R	R
370—Safety, Training, First Aid	Jr.	2	R	R	R	R
540—Org. & Adm. of P.E.	Sr.	3		R	R	R
545—Introd. to Tests & Meas.	Sr.	3				R
572—Kinesiology & Its Application	Sr.	4				R
Totals			15 Hrs.	21 Hrs.	26 Hrs.	42 Hrs.
Electives (Approved by Adviser)***			3 Hrs.	3 Hrs.	4 Hrs.	6 Hrs.
Grand Totals			18	24	30	48

* One 2-hour athletic coaching may be omitted.
** Or P.E. 252.
*** Or P.E. 357.
**** Selected from 300-courses or above.

Women P.E. Course, No. and Title	Year	Sem. Hrs.	P.E. Major 24 Hrs.	Health & P.E. Major 30 Hrs.	Health, P.E., & Recreation Area: 48 Hrs.
061—Field Trip	Jr.	0	R	R	R
150—P.E. & Rec. Activities	Fr.	2	R	R	R
151—P.E. & Rec. Activities	Fr.	2	R	R	R
152—Tech. of Swimming or 252	Sr.	2	R	R	
250—P.E. & Rec. Activities	So.	2	R	R	R
251—P.E. & Rec. Activities	So.	2	R	R	R
252—Water Safety Leadership	Sr.	2			
280—Recreation Leadership	Sr.	2			R
281—Camp Leadership	So.	2		R	R
343—History and Principles	Jr.	3	R	R	R
344—P.E. in the Sec. Sch.	Jr.	3	R	R	R
344—P.E. in the Sec. Sch.	Jr.	3	R	R	R
358—Sports Officiating for Women	Sr.	1		R	R
359—Sports Officiating for Women	Jr.	1			R
360—P.E. in the Elem. Schools	Jr.	2	R	R	R
370—Safety, Training & First Aid	Jr.	2	R	R	R
491—Dance in Education	Jr.	4	R	R	R
540—Organization & Administration	Sr.	3	R	R	R
545—Introd. to Tests & Measurements	Sr.	3			R
572—Kinesiology & Its Application	Jr.	4			R
Electives selected from courses 300 or above	Jr., Sr	5			R

PHYSICS

	Sem. Hrs.
Physics 211, 213—General Elementary Physics	10
Physics 231, 232; 241, 242—General College Physics	10
Physics 151, 152—Introduction to Physics	6

POLITICAL SCIENCE

Pol. Sci. 151—American Government	3
Pol. Sci. 552—Municipal Government	3
Pol. Sci. 280—State Government or Pol. Sci. 574—Kentucky Government & Constitution	
Pol. Sci. 559—American Constitutional Development or Pol. Sci. 560—American Constitutional Development	3
Pol. Sci. 572—Modern Political Theory or Pol. Sci. 575—Contemporary American Political Thought	3
Pol. Sci. 555—Comparative Government-Parliamentary Democracies	3
Pol. Sci. 566—The United Nations	3
Pol. Sci. 570—Political Parties	3
Pol. Sci. 571—Early Political Theory	3
Pol. Sci. 576—Legislation	3
Pol. Sci. 577—Introduction to Public Administration	3
Economics 251—Principles of Economics	3

SPEECH AND DRAMATIC ARTS

Nine to 15 hours from this group:	
English 181—The Essentials of Speech	3
English 287—Speeches for Special Occasions	3
English 283—Argumentation and Debate	3
English 183—Parliamentary Usage	2
English 288—Oral Interpretation	3
English 285—Applied Phonetics	3
English 580—Discussion or English 584—Teaching of Speech or English 582—Persuasion	3
Nine to 15 hours from this group:	
English 291—Voice Development	3
English 191—Stagecraft or English 192—Staging Techniques	2
English 596—History of the Stage	3
English 597—Stage Productions in School & Community	3
English 590—Theory and Technique of Acting	3
English 591—Theory and Technique of Directing	3
English 592—Theory and Technique of Theatre Production	3
English 593—Scenic Design	3
Six to nine hours from this group:	
English 526—Shakespeare: The Comedies or English 527—Shakespeare: The Tragedies	3
English 563—The Contemporary Drama	3
English 525—Elizabethan Drama, Exclusive of Shakespeare	3
English 532—The Drama of the Resoration & Eighteenth Century	3
Psychology 550—Speech Pathology: A Survey	3
Psychology 553—Speech Mechanisms	3

SPECIAL EDUCATION CURRICULUMS

The College of Education offers programs designed to prepare teachers to work with the mentally retarded, the orthopedically disabled (including the cerebral palsied), the hard-of-hearing, the deaf, and the speech deviate. prospective special education teachers are required to meet the general education requirements of all teachers in the elementary, junior high, or senior high school field. Those preparing to be teachers of the orthopedically handicapped, the hard-of-hearing, the deaf, and the mentally retarded are required to meet the professional-education requirements of the elementary, junior, or senior high school program. Those programs are designed to enable the undergraduate student to obtain a broad base upon which the special education preparation can be built. Opportunity is provided for a combining of student teaching in a regular class and in a special class. Thus, within the framework of the undergraduate program the student can earn certification in elementary, junior, or senior high school *plus* certification in a special field.

All students in Special Education with the exception of Speech Correctionists must meet the general requirements for certification as elementary, junior high, or senior high school teachers.

Additional courses in Special Education are being planned. Consult with the adviser in Special Education for the compiete list.

Curriculum for Teachers of the Orthopedically Disabled, Including the Cerebral Palsied

	Sem. Hrs.
Educ. 375—Introduction to Education of Exceptional Children	3
Educ. 540—Problems in Diagnostic & Remedial Reading	3
Educ. 525—Methods and Materials in Teaching the Orthopedically Handicapped, Including the Cerebral Palsied	3
Psy. 550—Speech Pathology: A Survey	3
P.E. 572—Kinesiology	3
Educ. 527—Survey of Physical Defects	3
Educ. 358—Observation and Practicum in Special Education	3
Educ. 359—Student Teaching (Special Education; remainder in Elementary, Junior or Senior High School)	3 to 6

Curriculum for Speech Correctionists

Educ. 375—Introduction to Education of Exceptional Children	3
Psy. 550—Speech Pathology: A Survey	3
Psy. 551—Speech Correction: An Introduction to Therapy	3
Psy. 553—Speech Mechanisms	3
Psy. 552—Stuttering and its Correction	3
Educ. 358—Observation and Practicum in Special Education	3
Educ. 359—Student Teaching	3 to 6

Curriculum for Teachers of the Mentally Retarded

Educ. 375—Introduction to Education of Exceptional Children	3
Educ. 540—Problems in Diagnostic and Remedial Reading	3
Educ. 522—Educational Tests & Measurements	3
Educ. 526—Methods and Materials of Teaching the Mentally Retarded	3
Psy. 114—Abnormal Psychology	3
Educ. 358—Observation and Practicum in Special Education	3
Educ. 359—Student Teaching	3 to 6

(3 to 6 semester hours may be in Special Education field; remainder in Elementary, Junior, or Senior High School)

Curriculum for Teachers of the Hard-of-Hearing

Educ. 375—Introduction to Education of Exceptional Children	3
Psy. 550—Speech Pathology: A Survey	3
Psy. 135—Clinical Audiometry	3
Psy. 136—Adv. Clinical Methods for Aurally Handicapped	3
Psy. 133—Introduction to Clinical Audiology	3
Educ. 358—Observation and Practicum in Special Education	3
Educ. 359—Student Teaching	3 to 6

(3 to 6 semester hours may be in Special Education; remainder in Elementary, Junior, or Senior High School)

Electives: Psy. 134
Psy. 553

Note: A balanced sequence of courses in the area of the Deaf and the Partially Sighted is not now offered. The courses listed under the above headings, however, are applicable toward partial fulfillment of the state requirements.

Curriculum for Teachers of the Deaf

Educ. 325—Introduction to Education of Exceptional Children	3
Psy. 134—Audiometry	3
Psy. 135—Clinical Audiometry	3
Psy. 133—Clinical Audiology	3
Educ. 358—Observation and Practicum in Special Education	3
Educ. 359—Student Teaching	3 to 6

(3 to 6 semester hours may be in Special Education; remainder in Elementary, Junior, or Senior High School)

Electives: Psy. 136
Psy. 550

Curriculum for Teachers of the Partially Sighted

In addition to meeting the requirements for elementary, junior, or senior high school certification, the student must complete the following courses:

Educ. 375—Introduction to Education of Exceptional Children	3
Educ. 540—Diagnostic & Remedial Reading	3
Psy. 550—Speech Pathology: A Survey	3

VOCATIONAL AGRICULTURE CURRICULUM—(SUMMARY)

COLLEGE OF AGRICULTURE AND HOME ECONOMICS

Prescribed courses in agriculture	20
Group requirements in agriculture	38
Electives in agriculture	9
Total agriculture	(67)
Prescribed courses in other subjects (not education)	28-30
Group requirements in other subjects (not education)	26
Specialty support (education or related science)	6
Electives in other subjects	13
Total other subjects	(73-75)
Total required for graduation	140-142

a) Agricultural Education 580-581 and 672 are required for certification. They should be taken as a graduate student; however, 580 and 581 may be taken as an undergraduate in rare cases.

b) When Agricultural Education 580 and 581 are taken as an undergraduate, the 18 credits are to be taken from electives in agriculture and electives in other subjects.

c) The student should complete at least 9 credits in agricultural engineering and 3 credits in agricultural entomology as an undergraduate.

VOCATIONAL HOME ECONOMICS CURRICULUM

COLLEGE OF AGRICULTURE AND HOME ECONOMICS

	Sem. Hrs.
Effective entering freshman, 1960	
General requirements (See *General Catalog*, general curriculum) in core	42-48
Core in home economics (see *General Catalog*)	42
Prescribed additional courses in home economics	12-13
*H.E. 227—Clothing Construction	
H.E. 228—Clothing and Pattern Design	
H.E. 550—Child Guidance	
H.E. 536—Interior Decoration Projects	
or	
H.E. 568—Household Equipment	
General requirements beyond general requirements in core	12
Literature, humanities, foreign languages Philosophy, religion—5 sem. hrs.	
Anthropology, geography, government, history—3 sem. hrs.	
Microbiology, botany, zoology—4 sem. hrs.	
Professional Education	18-19
Educ. 202—Human Develop and the Curriculum	
or	
Educ. 501—School Organization	
Educ. 586—Techniques of Teaching Home Economics	
†Educ. 588—Adult Education in Home Economics	
†Educ. 362—Student Teaching in Home Economics	
General electives	2-10
Total required for graduation	136

STUDENT TEACHING IN VOCATIONAL AGRICULTURE AND HOME ECONOMICS

Transient students and graduate students in agricultural education may take student teaching without having done a semester in residence on the campus. All students who take student teaching must have an over-all standing of at least 2.5 for the entire college period but are not required to have had courses in education. Those transferring to the University must also have a standing of at least 2.5 for the work done at the University. They take 18 semester hours of work the semester student teaching is done—in agricultural education, which includes student teaching.

In order to take student teaching in home economics, a student must have completed 3 hours in techniques of teaching home economics and have an average standing of 2.5. Student teaching and adult education are carried on in off-campus teaching centers. Students live in the community for

* May be omitted by passing test.

† Should be scheduled the same semester—either semester in senior year.

approximately one-half semester and carry on the activities of a teacher of the community under the guidance of a trained supervising teacher.

GRADUATE PROGRAMS LEADING TO THE MASTER'S DEGREE

Each student's graduate curriculum must be a well-rounded program of courses related to the student's major interest and approved by his adviser. In cases of deficient preparation the committee, with the approval of the Dean, determines prerequisite undergraduate courses to be taken.

The following persons have been designated to guide graduate students in their work toward the master's degree in education.

Area	Persons
Elementary Teachers—	Kuhn, Lusk, Moore, and Sudduth
Secondary Teachers	
General—	Cierley, Hartford, Lurry, Manker, Ravitz, Reed, and Sorenson
Agriculture—	Hammonds and Binkley
Art—	Haines and Wiggs
Business Education—	Musselman, Thomas, and Humphreys
Home Economics—	Gorman
Industrial Education—	Baker
Music—	Lewis and Osborne
Physical Education—	Seaton, Clay, Carr, Gilb, and Huff
Elementary Principal—	Eckel and Moore
Guidance Counselors—	Chenault, Martin, and Trabue
Secondary Principal—	Cierley, Eckel, and Meece
Supervisor—	Meece and Ogletree
Attendance Officer—	Eckel and Meece
Superintendent—	Eckel, Meece, and Ogletree
Higher Education—	Trabue, Meece, and Hartford

The candidate for the master's degree must complete the requirements for this degree under one of the two plans which follow. The second plan is permissible only with the approval of the Dean of the Graduate School, the Dean of the College of Education, and the student's adviser.

PLAN I

1. A minimum of 24 semester hours of graduate work must be completed and a thesis must be presented.
2. At least 12 semester hours of graduate work must be in education.
3. At least 15 semester hours of graduate work must be in courses numbered 600 or higher.
4. At least 12 semester hours must be outside the field of education, except for majors in Educational Administration and Vocational Agriculture. It is expected that students in Educational Administration and Vocational Agriculture will have six hours outside education. (Note: This requirement is effective for all students entering the Graduate School the second semester 1954-55 or after and for all students after September 1, 1957.)
5. At least 36 weeks of residence must be acquired as a University of Kentucky graduate student.
6. No student may satisfy more than one-half of the residence requirements for advanced degrees by part-time work. This limitation does not apply to intensive courses.
7. The total number of semester hours presented in education, undergraduate and graduate, must be at least 30.
8. A standing of 3.0 (an average of B) or better must be made on all graduate work.
9. Six semester hours (if approved by the graduate adviser) may be completed in off-campus study (that is, extension work). In such case, however, a minimum of 30 weeks of *resident-on-campus* work is required for the Master's degree.
10. The Graduate Record Examination is required of all candidates for graduate degrees. It is to be taken the first semester the student is enrolled as a full time student in the Graduate School. The National Teachers Examination will be required of all candidates for the degree of Master of Arts in Education or Master of Science in Education. The student should consult with his adviser to determine the proper time to take this Examination. In exceptional cases an additional examination, either written or oral, may be required. In this case, these examinations are to be taken just prior to or during the session in which the degree is to be conferred.
11. All graduate students must meet the requirements for a teaching certificate in Kentucky as established by the State Department of Education of Kentucky. These requirements are outlined under the undergraduate program. If deficiencies are found, they should be overcome before proceeding with graduate work. The work required to overcome these deficiencies is in addition to the minimum graduate requirements for the degree.

PLAN II

1. A minimum of 30 semester hours of graduate work must be completed.
2. At least 12 semester hours of graduate work must be in education.
3. At least 15 semester hours must be in courses numbered 600 or higher.
4. At least 12 semester hours must be outside the field of education, except for majors in Educational Administration and Vocational Agriculture. It is expected that students in Educational Administration and Vocational Agriculture will have six hours outside education. (Note: This requirement is effective for all students entering the Graduate School the second semester 1954-55 or after and for all students after September 1, 1957.)
5. At least 36 weeks of residence must be acquired as a University of Kentucky graduate student.
6. No student may satisfy more than one-half of the requirements for an advanced degree by part-time work. This limitation does not apply to intensive courses.
7. The total number of semester hours presented in education, undergraduate and graduate, must be at least 30.
8. A standing of 3.0 (an average of B) or better must be made on all graduate work.
9. Six semester hours and nine weeks of residence may be done in extension classes, off-campus study, or independent work courses with the permission of the student's adviser and the Dean of the Graduate School.
10. The Graduate Record Examination is required of all candidates for graduate degrees. It is to be taken the first semester the student is enrolled as a full time student in the Graduate School. The National Teachers Examination will be required of all candidates for the degree of Master of Arts in Education or Master of Science in Education. The student should consult with his adviser to determine the proper time to take this examination. In exceptional cases an additional examination, either written or oral, may be required. In this case, these examinations are to be taken just prior to or during the session in which the degree is to be conferred.
11. All graduate students must meet the requirements for a teaching certificate in Kentucky as established by the State Department of Education of Kentucky. These requirements are outlined under the undergraduate program. If deficiencies are found, they should be over-

come before proceeding with graduate work. The work required to overcome these deficiencies is in addition to the minimum graduate requirements for the degree.

Suggester Graduate Curricula*

Consult the College of Education bulletin and your College of Education adviser for your final course plan.

FOR SUPERINTENDENTS, PRINCIPALS, AND SUPERVISORS

Required:

Ed. 550 (150)—The Role of the Teacher and the Principal in Guidance
or
Ed. 756—Fundamentals of Guidance 3
Ed. 712 (212)—The Elementary School 3
Ed. 714 (214)—The Secondary School 3
Ed. 633 (233)—The Administration of the Teaching Personnel 3
Ed. 634 (276)—Administrative Problems in Today's Education 3
Ed. 639 (225)—Supervision of Instruction 3

The remainder of the program will usually be chosen from the courses listed below. In some instances, additional courses may be required.

Ed. 640 (200)—Philosophy of Education 3
Ed. 656 (222)—Methodology of Educational Research 3
Ed. 657 (223)—Educational Statistics 3
Ed. 730 (226)—Problems of the School Curriculum 3
Ed. 732 (227)—Principles of Curriculum Construction 3
Ed. 651 (218)—History of Education in the United States 3
It is suggested that one course in curriculum development be taken (with the approval of the adviser).

PROGRAM FOR THE MASTER'S AND ED.S. DEGREES IN GUIDANCE AND COUNSELING

General degree requirements, as outlined in the Graduate School Bulletin and the College of Education Bulletin, are applicable to students in the guidance and counseling curricula.

Curriculum for Master's degree (30 hours required)

Required:

Ed. 755—Human Development and Behavior (3 hours)
Ed. 756—Fundamentals of Guidance (3 hours)
Ed. 522 (122)—Educational Tests and Measurements (3 hours)
or
Psy. 535—Psychological Testing
Ed. 758—Group Guidance Problems and Practices (3 hours)
Ed. 760—Counseling Theory and Practice (3 hours)
Ed. 761—Supervised Practice in Counseling (3 hours) May be repeated to a maximum of 9 hours)
Ed. 661 (230)—Educational Sociology (hours)
or
Ed. 640 (200)—Philosophy of Education

Electives: 9 hours from the following

Ed. 759 (250)—Identifying and Providing for Individual Students Needs (3 hours)
Psy. 505—Experimental Psychology (3 hours)
Psy. 507—Psychology of Learning (3 hours)
Psy. 520—Mental Hygiene (3 hours)
Psy. 521—Abnormal Psychology (3 hours)
Psy. 522—Counseling Psychology (3 hours)
Psy. 544—Social Psychology (3 hours)
Soc. 538—Juvenile Delinquency (3 hours)
Anth. 526—Culture and Personality (3 hours)

Curriculum for the Ed.S. degree (30 hours required)

Required: 15-21 hours from the following

Ed. 657 (223)—Educational Statistics (3 hours)
Ed. 759 (250)—Identifying and Providing for Individual Students Needs (3 hours)
Ed. 761—Supervised Practice in Counseling (3 hours) May be repeated to a maximum of 9 hours)
Ed. 762—Organization and Administration of Guidance Services (3 hours)
Ed. 763—Research and Evaluation in Guidance (3 hours)
Ed. 764 (236)—Using Occupational and Educational Information in Guidance and Counseling (3 hours)
Ed. 777—Seminar in Guidance and Counseling (3 hours) May be repeated to a maximum of 6 hours) To be written.
Psy. 640—Practice in Testing: Intelligence Tests (3 hours)
Electives: 6-9 hours outside of Education (to be approved by adviser)
Research: 3-6 hours in independent research as approved by adviser.

For Critic Teachers on the Elementary Level

Ed. 550 (150)—The Role of the Teacher and the Principal in Guidance
or
Ed. 756—Fundamentals of Guidance 3
Ed. 629 (229)—The Elementary Principal 3
Ed. 639 (225)—Supervision of Instruction 3
*Ed. 645 (201)—Foundations in Education 3
Ed. 661 (230)—Educational Sociology 3
Ed. 712 (212)—The Elementary School 3
Ed. 724 (224)—Organization and Supervision of Student Teaching 3
Ed. 732 (227)—Principles of Curriculum Construction 3
Ed. 739 (239)—A Survey of Research in Human Development and Education 3

For Elementary Teachers Majoring in Education

Ed. 550 (150)—The Role of the Teacher and the Principal in Guidance 3
Ed. 712 (212)—The Elementary School 3
Ed. 732 (227)—Principles of Curriculum Construction 3
Ed. 739 (239)—A Survey of Research in Human Development and Education 3
Electives in Education chosen with the approval of the adviser 6
Electives outside of Education chosen with the approval of the adviser 12

For Critic Teachers on the Secondary Level

Ed. 550 (150)—The Role of the Teacher and the Principal in Guidance
or
Ed. 522 (122)—Educational Tests and Measurements 3
or
Ed. 756—Fundamentals of Guidance
Ed. 630 (232)—High School Administration 3
Ed. 639 (225)—Supervision of Instruction 3
*Ed. 645 (201)—Foundations of Education 3
Ed. 658 (254)—Problems in Educational Psychology 3
Ed. 661 (230)—Educational Sociology 3
Ed. 714 (214)—The Secondary School 3
Ed. 732 (227)—Principles of Curriculum Construction 3

For Secondary Teachers Majoring in Education

Choose one from the following:

Ed. 522 (122)—Educational Tests and Measurements 3
Ed. 550 (150)—The Role of the Teacher and the Principal in Guidance 3
Ed. 756—Fundamentals of Guidance 3
Choose one from the following:

*Ed. 645 201)—Foundations of Education	3
Ed. 658 (254)—Problems in Educational Sociology	3
Ed. 661 (230)—Educational Sociology	3
Required:	
Ed. 714 (214)—The Secondary School	3
One course chosen with the approval of the adviser	3
Electives outside of Education chosen with the approval of the adviser	12-18

For Business Education Majors

Choose one from the following:	
Ed. 513 (184)—Teaching Office Practice, Clerical Practice, and Office Appliances	3
Ed. 514 (192)—Teaching General Business Subjects in the High School	3
Ed. 618 (256)—The Social Business Subjects in High School	3
Choose two from the following:	
Ed. 615 (208a-d)—Problems in Business Education	3
Ed. 622 (270)—Business Education in Colleges and Universities	3
Ed. 623 (271)—Administration and Supervision of Business Education	3
Ed. 626 (273)—Classification and Possible Use of Community Resources in Business Education	3
Ed. 774 (257a,b)—Seminar in Business Education	1
Ed. 786 (272a,b)—Independent Work in Business Education	3
Choose two from the following:	
Ed. 544 (186)—Visual Teaching	3
Ed. 661 (230)—Educational Sociology	3
Ed. 714 (214)—The Secondary School	3
Ed. 724 (224)—Organization and Supervision of Student Teaching	3
Ed. 732 (227)—Principles of Curriculum Construction	3
Ed. 756—Fundamentals of Guidance	3
Elective	3
Electives outside of Education	12

These are to be selected from Commerce, or the secondary teaching major or minor, or from areas of need as shown by scores on the Graduate Record Examination.

For Agricultural Education Majors

Ed. 645 (201)—Foundations of Education	5
Ed. 714 (214)—The Secondary School	3
Ed. 732 (227)—Principles of Curriculum Construction	3
Ed. 670 (280)—Method in Teaching Vocational Agriculture	3
Ed. 678 (287b)—Selecting Teaching Materials	3
Ed. 679 (287c)—Adult-Farmer Schools	3
Ed. 680 (287d)—Directing Farm Practice	3
Ed. 682 (287f)—Young-Farmer Schools	3

For Home Economics Education Majors

Ed. 687 (261)—Supervision in Home Economics Education	3
(For Supervisors of Student Teachers)	
Ed. 683 (263)—Current Problems in Home Economics Education	3
Ed. 684 (264)—Modern Trends in Home Economics Education	3
Ed. 685 (268)—Home Economics Curriculum Construction	3
Ed. 686 (269)—Evaluation in Home Economics Education	3

* When Ed. 645 cannot be offered, students are advised to substitute Ed. 661 and Ed. 658.

Ed. 787 (265a, b) or 656 (222)—Research in Home Economics Education	3

For Industrial Education Majors

Ed. 411 (171a,b)—Principles and Philosophy of Industrial Education	(each) 3
Ed. 419 (123)—Vocational Guidance	3
Ed. 409 (183a,b)—Methods in Industrial Education	(each) 3
Ed. 418 (134)—Organization and Operation of Part-Time and Evening Classes	3
Ed. 714 (214)—The Secondary School	3
Ed. 645 (201)—Foundations of Education	5
Ed. 630 (232)—High School Administration	3
Ed. 732 (227)—Principles of Curriculum Construction	3

GRADUATE PROGRAMS LEADING TO THE DOCTORAL DEGREE

For information concerning the degree of Doctor of Philosophy with education as a major, or the degree of Doctor of Education, students should consult the Dean of the Graduate School and the Dean of the College of Education.

DIVISION OF COUNSELING & GUIDANCE

FACULTY

Lyman V. Ginger, Joann R. Chenault, Ernest McDaniel, Leslie L. Martin, George Rogers, M. R. Trabue.

Course Descriptions

755 *Human Development and Behavior.* (3) I, II, S

The physiological, sociological, and psychological bases of human behavior with emphasis upon the normal school child in his environment. Findings of research in the behavioral sciences and their implications for the guidance of young persons.

756 *Fundamentals of Guidance.* (3) I, II, S

A survey of the educational, sociological, and psychological foundations of guidance in schools and colleges. Study of the basic philosophy and nature of guidance services, organization and administration of guidance programs, the role of the guidance counselor, and the relationship of guidance services to the total curriculum.

758 *Group Guidance Problems and Practices.* (3) I, II, S

Providing for the common needs of groups of students in making more effective educational, occupational, social, and personal adjustments. Special emphasis is given to the selection, organization, and effective use of group guidance materials and techniques.

759(250) *Identifying and Providing for Individual Student Needs.* (3) I, II, S

Research studies and reports on individual differences in the physical, intellectual, social, and emotional development of students, and of ways that have proved effective in meeting individual needs, especially in secondary schools.

† When Ed. 645 cannot be offered, students are advised to substitute Ed. 661 and Ed. 658.

* These curricula are merely suggested. The student should work out his graduate program with his adviser during his first semester or summer of work.

760 *Counseling Theory and Practice.* (3) I, II, S
A study of the basic theories, principles, and techniques of counseling and their applications to counseling in schools and colleges. Practice in the techniques of interviewing, and the use of psychological tests, observations, records, case studies, and other procedures in the counseling process. Prereq: Ed. 755, 756.

761 *Supervised Practice in Counseling.* (3) I, II, S
(May be repeated twice to a maximum of 9 credits.
Supervised practice in counseling in the educational setting in which the student plans to work. Requires 8 hours a week in actual counseling plus a minimum of 2 hours weekly in seminar. Prereq: Ed. 755, 756, 760, and at least 2 hours weekly in seminar.

762 *Organization and Administration of Guidance Services.* (3) I, II, S
A study of the problems of supervision, staffing, finances, effective inter-personal relationships, community participation, in-service education, and evaluation of the guidance program. Includes supervised experience in the planning and administration of guidance services. Prereq: Master's degree in counseling and guidance.

763 *Research and Evaluation in Guidance.* (3) I, II, S
Research methodology applied to the evaluation and interpretation of guidance services. May include analysis and interpretation of test data from schools and school systems, emphasizing the application of test data to local school problems and the organization of reports.

764(236) *Using Occupational and Educational Information in Counseling and Guidance.* (3) I, II, S
Collection, evaluation, organization, filing and use in counseling of current data. Supply and demand, working conditions, trends, entrance requirements, job families, and career fields. Schools, colleges and other agencies that prepare for advancement in productive careers.

DIVISION OF ADMINISTRATION & SUPERVISION

FACULTY

Leo Chamberlain, Morris B. Cierley, Herman Donovan, C. Howard Eckel, Charles Elton, Lyman V. Ginger, L. E. Meece, J. R. Ogletree, Doris M. Seward, and M. R. Trabue.

Course Descriptions

502(198) *The Administration of Pupil Personnel.* (3) S
Administrative problems relating to child accounting, including school census, attendance records and reports, social and economic factors affecting school attendance, and duties and responsibilities of school and non-school personnel and agencies. *Eckel.*

602(202) *Local School Administration.* (3) I, II, S
The organization, management, and control of a local school system, including such problems as federal, state, and local relationships, board of education, pupil personnel, employed personnel, public relations, finance and business management, and school services. *Meece.*

603(203) *Constitutional and Legal Basis of Public School Administration.* (3) II, S
A study of court decisions to discover the legal principles involved in practical problems of school administration. Prereq: Ed. 602, 636, or 630. *Meece.*

604(207) *School Buildings and Equipment.* (3)
Measurement and evaluation of existing school building facilities, planning new buildings, determining suitable equipment, and financing the building program. Prereq: Ed. 636 or its equivalent. *Eckel.*

608(209a,b) *Internship in Educational Administration.* (3) I, II, S
Field experiences are provided for prospective administrators under the cooperative supervision of University personnel and principals, supervisors, and superintendents in Kentucky public school systems. May be repeated once to a maximum of 6 credits.) *Staff.*

628(292a,b) *Field Problems in Curriculum Supervision.* (3) I, II
A course designed to provide direct experience in dealing with educational problems in field situations. Observations, readings, and research also required. Registration only with consent of instructor. (May be repeated once to a maximum of 6 credits.) *Ogletree.*

629(229) *The Elementary Principal.* (3) I, S
Problems involved in the organization and administration of a modern elementary school. *Staff.*

630(232) *High School Administration.* (3) I, II, S
This course deals with organization, administration, and problems of the modern secondary schools, including such specific problems as school staff, program of studies, records and reports, school-community relationships, school plant, finance, and scheduling. *Eckel.*

633(233) *The Administration of the Teaching Personnel.* (3)
The course emphasizes principles and practices in teacher preparation, selection, and placement. Includes a study of salaries, tenure, retirement, teaching loads, sick leave, personnel records, and teacher participation in school administration problems. *Staff.*

634(276) *Administrative Problems in Today's Education.* (3)
A study of present-day administrative problems. The course is designed to be of assistance particularly to superintendents. *Meece.*

635(231) *Business Administration and Finance of Public Education.* (3) II, S
A course for prospective superintendents. Emphasizes school support, including state, local, and federal revenues; budgetary policy; procedures for purchasing, accounting, and reporting costs; management of funds, property, equipment, and supplies; payroll procedures, records and reports. *Meece.*

636(213) *State School Administration.* (3) S
Organization, administration, and control of education at the state level, including state-federal and state-local school relationships, state support, control of the material environment, training and certification of teachers, teachers' contracts, tenure, retirement. *Staff.*

639(225) *Supervision of Instruction.* (3) II, S
Development, purposes, and organization of supervisory programs. Special emphasis on the nature of educational leadership. Consideration of various approaches to supervision with special attention to current in-service education programs. *Ogletree.*

718(238) *Trends 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. *Chamberlain, Donovan, and Trabue.*

719(206) *Problems of College Teaching.* (3)
Methods commonly used in college teaching, bases for measuring instruction, marking systems, qualifications for college teaching, and efforts being made to improve college instruction. *Trabue.*

733(290a,b) *Technique and Professional Wrok of the Registrar.* (3) I, II, S
A comprehensive study of the work of the registrar in institutions of higher education, including the history, literature, and present-day tendencies; rules of the University; recommendations of the American Association of Collegiate Registrars. (May be repeated once to a maximum of 6 credits.) *Elton.*

771(221a,b) *Seminar in Administration.* (3) II, S
A critical study of selected problems in school administration. The course is designed primarily for students who have had some administrative experience. Prereq: Ed. 602 and 639. (May be repeated once to a maximum of 6 credits.) *Meece.*

772(228a,b) *Seminar in Education.* (1) I, II, S
A course planned for graduate students majoring in education, given under the direction of the faculty of the College of Education. (May be repeated once to a maximum of 2 credits.) *Staff.*

785(210a,b) *Independent Work in School Administration.* (3) I, II, S
Includes research on a practical problem in school administration. Open only to students with at least one semester of graduate work in education. Approval of instructor necessary before registration. (May be repeated once to a maximum of 6 credits.) *Staff.*

792(301a,b) *Research Problems in Educational Administration.* (3) I, II, S
An independent research course for the study of special problems in educational administration. Prereq: One year of graduate work. *Meece.*

793(305a,b) *Research Problems in Curriculum and Supervision.* (3) I, II, S
An independent research course. Students confer individually with the instructor. Prereq: One year of graduate work. (May be repeated once to a maximum of 6 credits.) *Ogletree.*

799(321a,b) *Research Problems in Higher Education.* (3) I, II, S
An independent research course for the study of special problems in higher education. Prereq: One year of graduate work. (May be repeated once to a maximum of 6 credits.) *Chamberlain, Donovan, and Trabue.*

DIVISION OF FOUNDATIONS OF EDUCATION

FACULTY

Ellis F. Hartford, Ernest McDaniel, Charles Manker, Leonard Ravitz, and Herbert Sorenson.

Course Descriptions

99(400X) *Graduate Seminar.* (0)
An orientation course for students who are entering the Graduate School for the first time. *Hartford.*

100(50) *Planning a Career in Education.* (1) I, II
General orientation to the teaching profession; emphasis is given to choosing the level or field of teaching and developing plans for meeting certification requirements.

101(51) *The Teacher in American Schools.* (2) I, II, S
Topics include: the school in a democratic society, the teacher, the learner, the educative process, legal aspects of education, and history of education.

202(52) *Human Development and the Curriculum.* (4) I, II, S
Major emphasis on basic principles of human growth and development of children from Kindergarten age through high school. Consideration is given to the interaction of children and youth with their social and school environment; and the total school program as it relates to principles of human development. Laboratory work is a basic part of the course. *Ravitz.*

317(117a) *History of Education.* (3)
(Correspondence only)
A survey of historical foundations of education to modern times. *Hartford.*

318(117b) *History of Education.* (3)
(Correspondence only)
A study of historical foundations of education in modern times. (Continuation of 317.) *Hartford.*

501(101) *School Organization.* (3) I, II, S
Scope and general character of the American public school system and organizational and administrative problems as they relate to the work of the classroom teacher.

519(119) *The Elementary School Pupil.* (2) I, S
The psychology of the child in the primary and intermediate grades. Prereq: One course in Psychology.

520(147) *The Secondary School Pupil.* (3) II, S
The psychology of the pupil in junior and senior high school. Prereq: One course in Psychology. *Reed.*

522(122) *Educational Tests and Measurements.* (3) I, S
The problems of measurement in the school program, with special emphasis on standardized tests. The construction and use of new-type tests, use and limitations of traditional examinations, marking systems, etc., are also considered. *McDaniel.*

532(132a,b) *Intergroup Relations.* (3) S
Analysis of relationships between groups which differ in religious, ethnic, or sociocultural backgrounds; the development of educational and social techniques for reduction of tensions. (Same as Sociology 132a, b.) 532. (May be repeated once to a maximum of 6 credits.) *Staff.*

548(148) *Educational Psychology.* (3) I, II, S
Application of psychology to the problems of learning and teaching. *Sorenson.*

550(150) *The Role of the Teacher and the Principal in Guidance.* (3) I, II, S
A first course for non-specialists, basic principles and practical approaches to guidance for prospective teachers and principals in service.

551(151) *The Teaching of Higher Level Study Skills.* (3) I, S
A course designed to demonstrate the teaching of study skills (including remedial work) in secondary schools. One approach to teaching these skills will include the study problems of college students.

640(200a,b) *Philosophy of Education.* (3) I, II
An advanced course dealing with the philosophy of democratic education and applications to some of the larger educational problems of today. Prereq: twelve semester hours in ed. (May be repeated once to a maximum of 6 credits.) *Hartford.*

645(201) *Foundations in Education.* (3) I, S
An intensive study in various fields which contribute to the development of educational theory and practice. (May be repeated once to a maximum of 6 credits.) *Hartford and Sorenson.*

649(205) *Review of Current Educational Literature.* (3) II, S
An extensive study of current educational literature as found in educational periodicals. Prereq: twelve semester hours in education. *Hartford.*

650(217) *General History of Education.* (3)
A survey of the history of education from the Greek period to the present. *Hartford.*

651(218) *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. *Hartford.*

652(219) *History of Educational Thought.* (3) I, S
A study of the lives and writings of the world's great educators to acquaint the student with their major contributions to society and education. *Hartford.*

655(220) *Comparative Education.* (3) II
Comparisons of modern national systems of education. *Hartford.*

656(222) *Methodology of Educational Research.* (3) II
A course intended to acquaint the student with the various techniques of research and to aid him in methods of attack on his own particular research problems. Prereq: twelve semester hours in education. *Sorenson.*

657(223) *Educational Statistics.* (3) I
A non-mathematical study of the applications of statistical and graphical methods to educational data. *Sorenson.*

658(254) *Problems in Educational Psychology.* (3) II, S
A critical survey of the psychological theories and research applicable to educational practices. Prereq: One year of Psychology. *Sorenson.*

661(230) *Educational Sociology.* (3) II, S
A course in sociological foundations of education. *Hartford.*

665(311a-h) *Practicum in Counseling Psychology.* (3) I, II, S
Nine hours of supervised work each week in counseling psychology in the University Counseling Office. Same as Psychology (311a-h.) 665. (May be repeated three times to a maximum of 12 credits.) *Staff.*

725(275) *Advanced Problems in Philosophy of Education.* (3)
A critical study of philosophical problems which relate to present-day education. Prereq: Teaching experience and six semester hours in philosophy of education. *Hartford.*

739(239) *A Survey of Research in Human Development and Education.* (4) II
A study of the research and principles of education and allied fields which are appropriate to a consideration of education as a developmental process. Prereq: Masters degree or by permission. *Staff.*

750(260) *Problems in Educational Sociology.* (3) S
An advanced course in the application of sociological findings to education including consideration of Southern regional problems and potentialities. Prereq: twelve semester hours of graduate work including Education 661 or equivalent. *Hartford.*

773(241a) *Seminar in Foundations of Education.* (3) S
A critical study of selected problems in the foundations of education areas. *Hartford.*

778(241b) *Seminar in History of Education.* (3) I, II, S
A study of selected problems in the history of education. *Hartford.*

782(258a,b) *Independent Work in Educational Psychology.* (3) I, II, S
An independent work course for students who have done a minimum of twelve semester hours of graduate work including Education 522 (122), 520 or 658. (May be repeated once to a maximum of 6 credits.) *Elton, McDaniel, and Sorenson.*

783(247a,b) *Independent Work in Philosophy of Education.* (3 ea.) I, II, S
An independent work course for students who have done a minimum of twelve semester hours of graduate work, including Education 640 (200a, b), 652 (219) and 661 (230.) (May be repeated once to a maximum of 6 credits.) *Hartford.*

784(237a,b) *Independent Work in History of Education.* (3) I, II, S
Independent work problems and topics for advanced students in history of education. (May be repeated once to a maximum of 6 credits.) *Hartford.*

DIVISION OF CURRICULUM

FACULTY

James T. Moore, Jr., O. E. Bissmeyer, Alma Carl, Emily Dawson, May K. Duncan, C. R. Hager, R. D. Johnson, Jeanne M. Kuhn, Albert S. Levy, Lucile L. Lurry, Howard D. Lusk, Vernon Musselman, James Powell, Blenda Proudfoot, Helen Reed, Martha Shipman, Denver Sloan, and Martha Sudduth.

Course Descriptions

305(105) *Fundamentals of Secondary Education.* (3) I, II, S
A consideration of problems which develop in connection with student teaching at the secondary level. This course is to be taken during the same semester in which the student is engaged in student teaching. *Reed.*

320(20) *Arts and Crafts in the Elementary School.* (3) I, II, S
Designed to give experiences with materials for arts and crafts related to classroom activities such as the playhouse, panoramas, dioramas, puppet shows, friezes, mural painting, map making, booklets, and colonial crafts. *Haines.*

324(124) *Teaching Science and Social Learnings in the Elementary School.* (4) I, II, S
Content areas of social studies and science. Developing understandings and skills relative to unit teaching. Social skills and scientific concepts will be developed through professional laboratory experiences. Consideration will be given to organizing science and social learnings in the elementary school. *Moore.*

325(120) *Teaching in the Elementary School.* (3) I, II, S
A course designed to develop understandings relative to program planning, daily schedule, record keeping, evaluation, reporting to parents, professional organizations, and teacher ethics. The unit approach as a method of organizing learning experiences in the elementary school is introduced. *Moore.*

329(129) *Teaching Communicative Skills in the Elementary School.* (4) I, II, S
A study of major factors in teaching reading, writing, spelling, speaking, listening, and creative language activities. Consideration will be given to the use of materials, and diagnostic and corrective procedures for each area. *Kuhn.*

331(131) *Teaching Arithmetic in the Elementary School.* (3) II
A study of children's interests in, and needs for arithmetic; evaluation of practice and materials, organization of subject matter, activities involving arithmetic drill, problem solving, diagnosis and remedial instruction, and testing. *Boone.*

340(140) *Teaching in the Junior High School.* (4) I, II, S
A course designed, with laboratory experiences, to consider the philosophy and organization of the modern junior high school; approaches to teaching in the subject field areas: selection of materials and books for young adolescents, and the guidance role of the junior high school teacher. *Lurry.*

344(144) *Teaching in the Senior High School.* (4) I, II, S
Description: A course emphasizing methods of teaching; utilization of resources; evaluation, selection, preparation, and use of teaching materials. Some time will be devoted to a study of services available to teachers and the professional responsibilities of teachers. *Shipman.*

372(172) *The Teaching of Reading.* (3) II
A study of major factors in learning to read. Objectives, readiness, abilities needed for silent and oral reading. Methods of word attack, diagnostic and corrective techniques. Testing and materials for each level. *Kuhn.*

375(25) *Introduction to Education of Exceptional Children.* (3) I, II, S
A survey of education and treatment of children having inferior or superior intellectual abilities; defects of vision, hearing, speech, or physical and neurological defects. Examination of research dealing with the exceptional child. *Levy.*

507(107) *Safety Education.* (3) S

A course designed to aid in developing skills and techniques essential to improving automotive and pedestrian safety. Psycho-physical tests, classroom work, behind-the-wheel driving, and other basic safety education are presented. *Gardner and Huff.*

525(125) *Methods and Materials in Teaching the Orthopedically Handicapped, Including the Cerebral Palsied.* (3) I, II, S

Analysis of the special problems involved in teaching the orthopedically handicapped children and those who are cerebral palsied. Emphasis upon team relationships, planning the school day, adjustment and adaptation of curriculum methods and materials to meet the children's individual and group needs. Interpretation and use of professional records and research. *Levy.*

526(126) *Methods and Materials of Teaching the Mentally Retarded.* (3) I, II, S

Basic organization and planning of school programs for the classroom teacher of the "educable" and "trainable" mentally retarded. Major emphasis on curriculum development and teaching techniques. Observation in classes for the mentally retarded arranged. *Levy.*

527(130) *Survey of Physical Defects.* (3) I, II, S

A survey of causes, treatment, and educational implications of crippling conditions of school age children. Attention given to rehabilitation and life adjustment problems of individuals with single or multiple handicaps. Field trips to various facilities concerned with meeting the needs of the physically disabled. *Levy.*

538(110) *Advanced Arts and Crafts in the Elementary School.* (3) I, II, S

Planned to give the elementary teacher an understanding of teaching methods involved in, and construction of, art activities which would enrich the classroom program. *Haines.*

539(127) *The Elementary Curriculum.* (3)

The philosophy and techniques of curriculum construction and some practical work in construction. *Kuhn, Moore, and Lusk.*

540(141) *Problems in Diagnostic and Remedial Reading.* (3)

Prevention, diagnosis, and corrective measures for reading difficulties. Study of investigations and literature in this field. *Kuhn.*

541(111) *The Teaching of Reading in the Junior and Senior High School.* (2)

Diagnosis and corrective measures for junior and senior high schools. Study of plans of organizing a corrective program and suitable materials. *Shipman.*

542(173) *Children's Literature.* (3) II

Planned to acquaint students with literature for children, kindergarten through grade 8. Review of interests at different ages. Discussion of types of literature—folklore, modern fairy tales, myths and legends, realistic stories, biography, and poetry. *Staff.*

543(174) *Teaching in the Kindergarten.* (3) I

The nature, development, and education of the child of kindergarten age. Organization, equipment, curriculum, and procedures used with children of this age. Regular periods are scheduled for observing and participating in the kindergarten. *Burke.*

558(175g) *Modern Educational Problems: Education of Handicapped Children.* (3)

Procedures to be used in the education of children who are handicapped physically, mentally, or emotionally. Attention is given to work with individual children as well as with groups. *Levy.*

563-576(175m-z) *Modern Educational Problems.* (3 ea.)

A brief survey of some of the problems in modern education. Subtitles for each course follow:

563(175m) *Modern Educational Problems.* (General, Elementary Curriculum)

564(175n) *Modern Educational Problems.* (General Secondary Curriculum)

565(175o) *Modern Educational Problems.* (General Curriculum)

566(175p) *Modern Educational Problems.* (General Language Arts Problems)

567(175q) *Modern Educational Problems.* (Art Education)

568(175r) *Modern Educational Problems.* (Reading Problems)

569(175s) *Modern Educational Problems.* (Moral and Spiritual Values in Education)

570(175t) *Modern Educational Problems.* (Guidance)

571(175u) *Modern Educational Problems.* (General Social Studies Problems)

572(175v) *Modern Educational Problems.* (Vocational Education)

573(175w) *Modern Educational Problems.* (Testing Program Development)

574(175x) *Modern Educational Problems.* (General Development of School Philosophy)

575(175y) *Modern Educational Problems.* (Unclassified)

576(175z) *Modern Educational Problems.* (Unclassified)

544(186) *Visual Teaching.* (3) I, II, S

A course in methods and techniques of visual instruction. Emphasis is on the effective use of films, film strips, pictures, maps, graphs, slides, field trips, by means of lesson plans. Surveys are made of visual materials. *Bissmeyer.*

596(196) *Science in the Elementary School.* (3) I

A background of elementary science usable with children in the first six grades. Includes planning units of work, organizing and using materials and references, making bibliographies for teachers and children, use of illustrative materials, and excursions. *Lusk and Sloan.*

712(212) *The Elementary School.* (3) II

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. *Moore, Lusk, and Kuhn.*

714(214) *The Secondary School.* (3) I, II, S

A course designed to acquaint the secondary teacher and the administrator with the nature and function of the secondary school. *Cierley.*

717(216) *The Junior High School.* (3) I, II, S

A study of the unique functions of the junior high school. Scope and sequence of the curriculum, school organization and guidance as related to the young adolescent will be considered. A course for principals, supervisors, teachers. *Lurry.*

730(226a-f) *Problems of the School Curriculum.* (3) I, II, S

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 to a maximum of 6 credits.) *Staff.*

732(227) *Principles of Curriculum Construction.* (3) I
Study of basic principles of curriculum development. Relationship of social and psychological factors to curriculum change. Survey of current approaches to curriculum organization. Consideration of means of curriculum development in school systems. *Musselman and Moore.*

735(235) *The Core Program in the Secondary Schools.* (3) I, II, S
Deals with the philosophical and psychological bases of the core program and gives major emphasis to problems of teaching in the core class. A course designed for teachers, principals, supervisors. *Lurry.*

740(240) *Teaching Reading and Related Language Arts in the Elementary School.* (3) I, II, S
A study of major factors in teaching reading, writing, spelling, speaking, listening and creative language activities. Consideration of materials, diagnostic, corrective and evaluative procedures for each area. *Kuhn.*

742(242) *Administration and Supervision of Public School Music.* (3)
A study of current trends in school music, curricula, testing programs, and other supervisory procedures. *Worrel.*

743(243) *Advanced Methods and Materials in Music Education.* (2)
Survey and evaluation of new public school music methods and materials. *Worrel.*

744(244) *History and Philosophy of Music Education.* (2)
A course designed to acquaint the student with the historical developments and basic philosophies in public school music. *Worrel.*

745(245) *Organization of Audio-Visual Aids.* (3) II
Operation of an audio-visual program considering budgeting, training of personnel, duties of staff, sources of materials, and use of equipment. Previews are made of many audio-visual materials.

746(246) *Motion Pictures in Education.* (3)
The history of the educational motion picture, technique in the use of films, educational scenario writing, grading and scoring films, and motion picture appreciation.

749(249) *Extra-Curricular Activities.* (3) S
The underlying principles and common practices of the co-curricular activities programs as developed in public schools. Home room activities, assembly programs, and clubs are the three major sections of the course; other activities included when necessary. *Cierley and Burkeen.*

770(325) *Seminar in Education of Exceptional Children.* (3) I, II, S
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 exceptional child.

780(215a,b) *Independent Work in Elementary Education.* (2) I, II
An independent work course for students who have done a minimum of twelve semester hours of graduate work including Education 712 (212) or 629 (229). (May be repeated once to a maximum of 6 credits.) *Duncan, Moore, and Kuhn.*

781(248a,b) *Independent Work in Secondary Education.* (3) I, II, S
An independent work course for students who have done a minimum of twelve semester hours of graduate work including Education 714 (214) or 630 (232). (May be repeated once to a maximum of 6 credits.) *Cierley, Lurry, and Reed.*

790(307a,b) *Research Problems in Secondary Education.* (3) I, II, S
An independent research course. Students confer individually with the instructor. Prereq: One year of graduate work. (May be repeated once to a maximum of 6 credits.) *Cierley, Lurry, and Reed.*

791(308a,b) *Research Problems in Elementary Education.* (3) I, II
An independent research course. Students confer individually with the instructor. Prereq: One year of graduate work. (May be repeated once to a maximum of 6 credits.) *Duncan, Moore, and Kuhn.*

BUSINESS EDUCATION

510(104) *Foundations of Business Education in the High School.* (3) I, II, S
The origin, the status, and the objectives of business education in the secondary school. Required of business education majors. *Musselman.*

511(158a) *Teaching Secretarial Subjects.* (3) II, S
Special techniques and devices for teaching shorthand, typewriting, and secretarial office practice. Required of business education majors. *Musselman.*

512(158b) *Teaching Bookkeeping and Accounting.* (3) I, S
Methods, materials, and techniques used in the teaching of bookkeeping and accounting. Required of business education majors. *Musselman.*

513(184) *Teaching Office Practice, Clerical Practice, and Office Appliances.* (3) I, II, S
Methods and materials in teaching office practice and procedures, clerical practice and the various machines commonly used in business offices. *Musselman.*

514(192) *Teaching General Business Subjects in the Secondary Schools.* (3) S
The aims and purposes of the general business course are studied. Analysis is made of the objectives of the general subjects, and methods and materials used in teaching them are emphasized. *Musselman.*

605(194) *Teaching Consumer Courses in the High School.* (3) I, S
Methods, materials, and techniques of teaching high school pupils the various aspects of consumer education. Emphasis is placed on procedures and the student should have a background of training in economics before taking the course. *Musselman.*

615(208a-d) *Problems in Business Education.* (3) I, II, S
A study of advanced problems of interest to business teachers such as testing in business subjects, guidance, job studies, placement and follow-up, equipment, and supervision. May be repeated three times to a maximum of 12 credits.) *Musselman.*

618(256) *The Social Business Subjects in High School.* (3) I
An examination of the various social business subjects, to determine their contribution to the objectives of business education. *Musselman.*

621(259) *The Commerce Curriculum.* (3) II, S
A study of business subjects offered in the high school to determine their content and the place each should occupy in high school curricula. A course of study is developed for each subject. *Musselman.*

622(270) *Business Education in Colleges and Universities.* (3) S
Consideration of the problems pertaining to the teaching of business subjects at the college level. Consideration is also given to the development of curricula to meet teacher certification requirements in various states. *Musselman.*

623(271) *Administration and Supervision of Business Education.* (3) II, S
Duties and responsibilities of city and state supervisors, department heads, and others engaged in directing business education. *Musselman.*

626(273) *Classification and Possible Use of Community Resources in Business Education.* (3) I
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. *Musselman.*

774(257a,b) *Seminar in Business Education.* (1) I, II, S

A study of current literature in business education with special reference to trends in this field. (May be repeated once to a maximum of 2 credits.) *Musselman.*

786(272a,b) *Independent Work in Business Education.* (3) I, II, S

An independent work course for students who have done a minimum of 12 semester hours of graduate work, one-half of which must have been in business education. (May be repeated once to maximum of 6 credits.) *Musselman.*

DIVISION OF INSTRUCTION

FACULTY

Estelle Adams, Grace Anderson, Olive Barrett, Anna Bruce Boone, Vivian Burke, Emmett Burkeen, Joanne Coconougher, Jess Gardner, Ruth Haines, Eugene Huff, Ada P. Jobert, Icie Johnson, D. C. Kemper, Juanita Kurtz, Ruth S. Osborne, Anna B. Peck, Leon Porter, Margaret Roser, William Steiden, Richard Stofer, Joe Wise, Sara Thomas, Mary West, and Alleyne Whitehead.

Course Descriptions

333(133) *Student Teaching in the Elementary School.* (3-12) I, II, S

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. *Lusk.*

342(142) *Student Teaching in Art.* (3-12) I, II

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. *Haines.*

353(153) *Student Teaching in English.* (3-12) I, II, S

Observation and practice in teaching high school English. Included are objectives and content of English courses in high school, planning and methods of teaching, testing, textbook analysis, audio-visual material and equipment, and safety education. *Carl, Chrisman, and Shipman.*

354(154) *Student Teaching in Languages.* (3-12) I, II, S

Aims and objectives, courses of study, materials, methods, and testing in French, Spanish, and Latin. Includes observation and practice in the content field, safety education, audio-visual aids, and planning conferences with the supervising teacher. *Staff.*

355(155) *Student Teaching in the Sciences.* (3-12) I, II, S

Aims and objectives, courses of study, methods, tests, equipment, general science, biology, physics, and chemistry. The course includes observation and practice, safety education, audio-visual aids, and planning conferences with the supervising teacher. *Kemper.*

356(156) *Student Teaching in Mathematics.* (3-12) I, II, S

Aims and objectives, courses of study, materials, methods, and testing in algebra, geometry, and trigonometry. Includes observation and practice in the content field, safety education, audio-visual aids, and planning conferences with the supervising teacher. *Porter.*

357(157) *Student Teaching in the Social Studies.* (3-12) I, II, S

Includes a study of the development and present status of social studies programs, classroom methods and activities, teaching materials, testing and evaluation, professional aids to teachers, safety education, and observation and participation in actual classroom experiences. *Peck, Carl, and Shipman.*

358 *Observation and Practicum in Special Education.* (3) I, II, S

Basic orientation to student teaching in special education including observation of and practical experience with public school children who are receiving special education. Approximately two hours lecture-discussion and two-three hours observation and/or practicum. *Levy.*

359(159a-c) *Student Teaching in Special Education.* (3) I, II, S

Supervised practice teaching in the use of special techniques used in working with individuals with exceptional education problems; speech handicapped, physically handicapped, visually retarded, hearing disability, mentally retarded, and the gifted. (May be repeated once to a maximum of 6 credits.) *Tucker.*

369(169a,b) *Student Teaching in Physical Education.* (3-12) I, II

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. *Huff and Pyle.*

377(177a,b) *Student Teaching in Music.* (3-12) I, II

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. *Osborne and Steiden.*

393(193) *Student Teaching in Business Education.* (3-12) I, II, S

Student teaching in business subjects such as general business, shorthand, typewriting, and bookkeeping. Observation and practice in the content field. Safety education, audio-visual aids, and planning conferences with the supervising teacher. *Staff.*

724(224) *Organization and Supervision of Student Teaching.* (3) S

A course designed for teachers preparing to become supervising teachers. The basic principles apply to both elementary and secondary education. Includes a presentation of the experiences deemed important in developing students into effective teachers. *Lusk and Reed.*

DIVISION OF VOCATIONAL EDUCATION

FACULTY

Carsie Hammonds, W. Maurice Baker, William R. Bingham, Herbert Bruce, Floyd Cox, Bernard Fagan, Anna Gorman, Inez Haile, William Judge, Evangeline S. Kelsay, Carl Lamar, George Luster, Leonard C. McDowell, Ethel L. Parker, J. P. Truitt, and Harlan Veal.

Course Descriptions

580(181) *Teaching Vocational Agriculture.* (15) I, II

Preparation for teaching of agriculture. About one-half of the course is practice. *Hammonds, Binkley, Lamar, and Supervising Teachers.*

DIVISION OF VOCATIONAL EDUCATION

581(182) *Adult-Farmer Schools and Young-Farmer Courses in Agriculture.* (3) I, II

A general introduction to adult-farmer schools and young-farmer courses with some observation of work in both of these fields. *Hammonds, Binkley, Lamar, and Supervising Teachers.*

582(185a-d) *Problems in Agricultural Education.* (3) I, II, S

Class work on current problems in agricultural education common to special groups of students (not individual-problem work). (May be repeated once to a maximum of 6 credits.) *Hammonds, Binkley, and Lamar.*

585(188) *Farm Practice Supervision.* (1) I, II, S

Practice and directed study in supervising farming programs in vocational agriculture. *Hammonds.*

670(280) *Method in Teaching Vocational Agriculture.* (3) S

The principles of method applied to the teaching of agriculture. Prereq: Experience in teaching vocational agriculture. *Hammonds.*

671(281) *Teaching Prevocational Agriculture.* (3)

Aims, purposes, and methods of teaching prevocational agriculture. Each student works out the content of a course, including selecting the teaching materials. *Hammonds.*

672(283) *Determining Content in Vocational Agriculture.* (3) S

Interpretation of local data as a basis for course building. Each student works out the content of a four-year course in vocational agriculture. *Hammonds and Supervising Teachers.*

675(285a-d) *Modern Problems in Agricultural Education.* (3) I, II, S

Class work (not individual-problem work) on modern problems in agricultural education. (May be repeated twice to a maximum of 9 credits.) *Hammonds.*

677(287a) *Advanced Problems in Agricultural Education.* (3) I, II, S

Specific problems selected according to the needs of the individuals. *Staff.*

678(287b) *Selecting Teaching Materials.* (3) S

Selection of specific references and other teaching materials to be used in the teaching of vocational agriculture. *Luster.*

679(287c) *Adult-Farmer Schools.* (3) S

Preparation for teaching adult farmers; organization of adult-farmer schools, curriculum content, method of teaching, and follow-up work. *Lamar.*

680(287d) *Directing Farm Practice.* (3) S

Supervised farming as a method of teaching; standards, planning, supervision, and records. *Binkley.*

681(287e) *Teaching Farm Shop.* (3) S

A study of necessary content for shop, plans for securing and equipping the shop, and methods of teaching farm shop. *Cox.*

682(287f) *Young-Farmer Schools.* (3) S

Content and method of teaching young-farmer courses in vocational agriculture. *Cox.*

795(289a,b) *Research Problems in Agricultural Education.* (3) I, II, S

Individual problems of importance to agricultural education. (May be repeated twice to a maximum of 9 credits.) *Staff.*

DISTRIBUTIVE EDUCATION

315(115a,b) *Problems in Distributive Education.* (3) I, II, S

Problems in teaching vocational distributive education in day, part-time, and evening schools. The problems are selected in accordance with the needs and desires of the students. Prereq: Ed. 400(112) and 405(128). (May be repeated once to a maximum of 6 credits.) *Baker and McDowell.*

516(116a,b) *Problems of the Coordinator in Industrial and Distributive Education.* (2) I, II, S

A course for coordinators of Industrial and Distributive Education, including planning of local programs, use of advisory committees, selection and arrangement of teaching materials, and over-all planning and operation of the program. (May be repeated once to a maximum of 6 credits.) *Baker and McDowell.*

517(112) *Determining Teaching Content in Distributive Education.* (3) I, II, S

Course construction in the field of distributive education. This course is planned to meet the needs of persons engaged as instructors in the field of distributive education. *Baker and McDowell.*

528(128) *Technique of Teaching Distributive Education.* (3) I, II, S

A study of the methods of teaching as applied to distributive education. The purpose of the course is to train prospective teachers to teach in the field of distributive education. *Baker and McDowell.*

HOME ECONOMICS EDUCATION

362(162) *Student Teaching in Home Economics.* (9) I, II

Practical application of methods in teaching various phases of home economics. Prereq: Ed. 586 (160). *Parker and Smith.*

586(160) *Technique of Teaching Home Economics.* (3) I, II

A study of methods of teaching as applied to home economics. *Callihan and Parker.*

588(165) *Adult Education in Home Economics.* (3) I, II, S

Problems in teaching vocational homemaking in day, part-time, and evening schools. Prereq: 586 (160); parallel 362 (162). *Callihan, Parker, and Smith.*

590(166a-d) *Problems in Home Economics Education.* (3) S

Problems in teaching home economics for high school students and adults. The course may include such subjects as teaching in, and supervision of, the school community cannery and the teaching of housing. (May be repeated twice to a maximum of 9 credits.) *Parker and Smith.*

683(263) *Current Problems in Home Economics Education.* (3) II, S

Recent developments in home economics education. Prereq: Ed. 586 (160) and 362 (162); experience in teaching. *Parker and Smith.*

684(264) *Modern Trends in Home Economics Education.* (3) I, S

A basic course for students in home economics education. The course includes the development of home economics education and modern trends in curriculum, methods of teaching, and evaluation. *Gorman and Parker.*

685(268) *Home Economics Curriculum Construction.* (3) S

A study of the underlying principles of curriculum building for junior and senior high school and adult education in home economics. Prereq: Ed. 586 (160) and 362 (162). *Gorman and Parker.*

686(269) *Evaluation in Home Economics Education.* (3) I, S

A course to acquaint teachers of home economics with techniques used in measuring attainment in home economics in the junior and senior high school and college. *Gorman and Parker.*

687(261) *Home Economics Supervision.* (3) I, S

A course planned primarily to help prepare teacher-trainers and supervisors of home economics education. Prereq: Ed. 586(160) and 362(162); experience in teaching; approval of instructor. *Staff.*

693(267) *Directed Supervision in Home Economics Education.* (3) I, II

This course includes practice in teaching for observation by others, student teaching, and school visiting. Prereq: Two years of teaching experience and Ed. 687 (261). *Staff.*

775(266a-c) *Seminar in Home Economics Education.* (3) I, II, S

Individual investigations and reports on special problems in home economics education. (May be repeated twice to a maximum of 9 credits.) *Gorman and Parker.*

787(265a,b) *Independent Work in Home Economics Education.* (3) I, II, S

An independent work course for students who have done at least 12 semester hours of graduate work, one course of which must have been in home economics education. (May be repeated once to a maximum of 6 credits.) *Gorman and Parker.*

INDUSTRIAL EDUCATION

106(71) *Trade Analysis.* (2) S

A course planned to meet the needs of vocational teachers in the fields of coordination, shop instruction, and related subjects in connection with day, part-time, and evening schools. *Baker and McDowell.*

107(77) *Shop Management Problems.* (2) S

Industrial education in the school shop. The course evaluates all types of activities in connection with this part of the educational program and gives due weight to each factor. *Baker and McDowell.*

108(78) *Conference Leader Training.* (2)

Methods of presenting subject matter so as to allow free and constructive thinking. The conference method does this by developing situations and case studies which are handled by the Box-Head Analysis system of control. *Baker and McDowell.*

109(82) *Instructional Material in Industrial Education.* (2) I, II, S

Selecting and arranging course material in trade and industrial subjects. Preparation of instruction and check sheets with emphasis on their uses. Prereq: Ed. 106 (71). *Baker and McDowell.*

110(83) *Principles of Trade Teaching.* (2) I, II, S

This course deals with the fundamentals of learning and teaching that have special significance in trade and technical subjects. *Baker and McDowell.*

116(30) *Audio-Visual Aids, Their Use in Teaching Industrial and Distributive Education.* (2) I, II, S

This course is designed to meet the needs of industrial and distributive education teachers. The theory of demonstration teaching will be discussed, and practice will be done by the students in the class. The course will include instruction in the use of these aids in teaching: film projectors, mock-ups, cutaways, flannelboard, bulletin board, sample specimens, tape recorders, and field trips. Instruction will be given in the selection of various aids as a part of the teaching program. *Baker, Fagan, and McDowell.*

352(152) *Student Teaching for Industrial and Educational Training Directors.* (9) I, II

Designed to give the student practical experience through observation, planning, teaching, and evaluating procedures. *Baker and McDowell.*

422(190) *Organization and Operation of Business and Industrial Education Programs.* (3) I, II, S

Training in the organization and operation of business and industrial education training programs, including theory and practice. *Baker and McDowell.*

423(191a-f) *Supervised Work Experience in Industry or Business.* (3) I, II, S

For students planning for careers as vocational industrial educational training directors. Includes education and training practices under the supervision of college and plant personnel. (May be repeated three times to a maximum of 12 credits.) *Baker and McDowell.*

518(183a,b) *Methods in Industrial Education.* (2) I, II, S

The most approved methods in instructional management, including lesson planning, in the field of vocational industrial education. (May be repeated once to a maximum of 4 credits.) *Baker and McDowell.*

523(123) *Vocational Guidance.* (2) I, II, S

Course content includes units on aims and purposes, individual inventory, and counseling techniques. Emphasis is placed on occupational information and guidance, placement, follow-up, and organization and administration of a guidance program. *Baker and McDowell.*

524(143) *Modern Industrial Analysis.* (2) I, II, S

Modern industrial organizations; trends in industrial educational policies; the proper approach to and analysis of these problems as they affect the industrial vocational teacher. *Baker and McDowell.*

534(134) *Organization and Operation of Part-time and Evening Classes.* (2) I, II, S

A course for administrators, coordinators, and teachers in part-time and evening industrial education. Covers the duties of a coordinator in cooperative training programs. *Baker and McDowell.*

535(171a,b) *Principles and Philosophy of Industrial Education.* (2) I, II, S

A course planned primarily for the advanced student in industrial education. It covers the general philosophy of vocational education as it relates to the problems and principles of industrial education. (May be repeated once to a maximum of 4 credits.) *Baker and McDowell.*

536(136) *Surveys in Industrial Education.* (2) I, II, S

This course deals with the basic methods and techniques used in making a survey to determine the needs for trade and industrial education. Emphasis is placed on gathering, evaluating, and interpreting the data. *Baker and McDowell.*

537(137) *Special Problems in Industrial Education.* (2) I, II, S

The supervised study of approved problems in industrial education on a research basis. *Baker and McDowell.*

694(211) *The Administration of Vocational Education.* (3) I, II

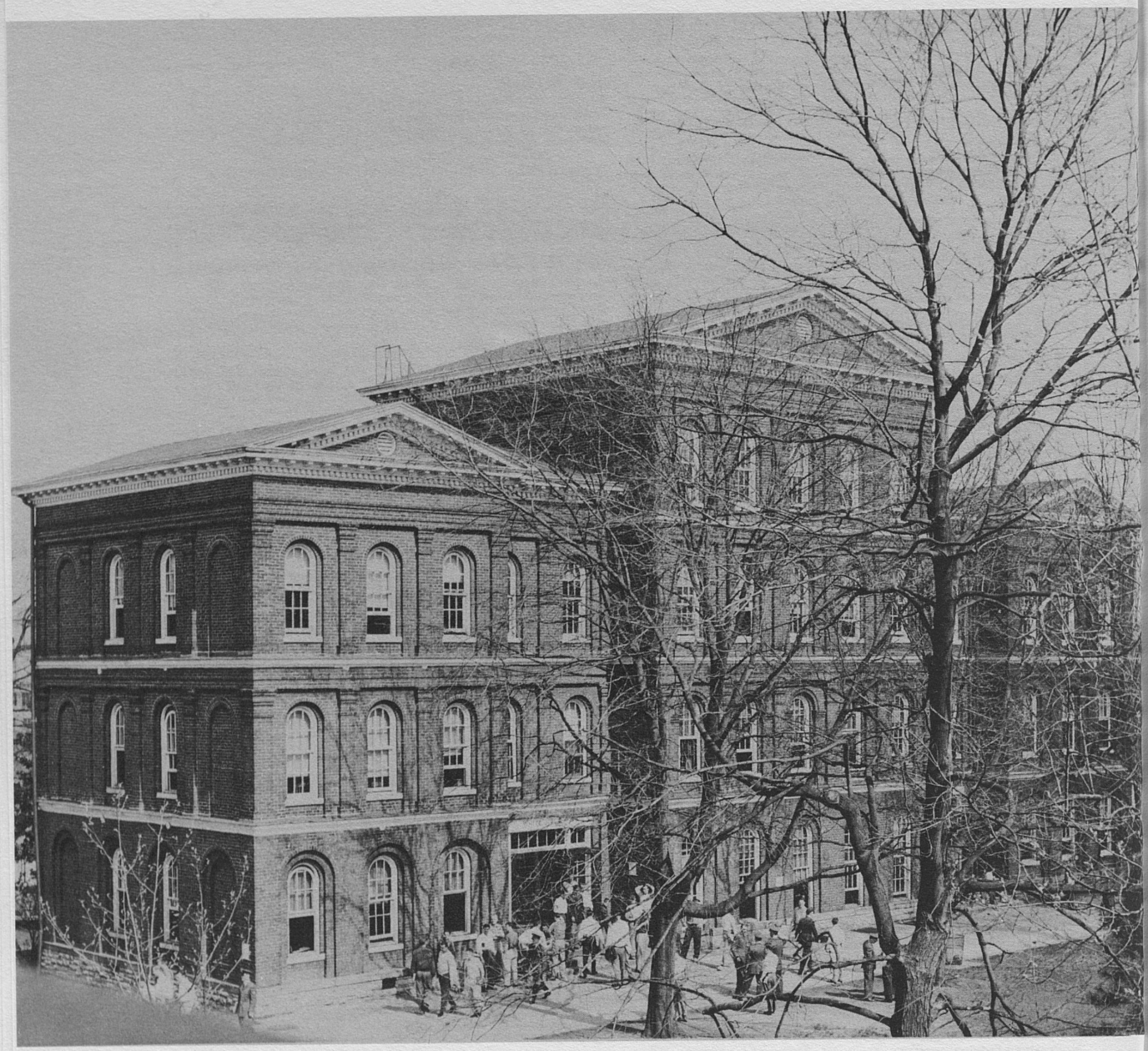
A course designed for superintendents, high-school principals, and other administrators. Its purpose is to train for administering and supervising vocational education in schools. *Hammonds and Ginger.*

695(282) *Special Problems in Vocational Education.* (3) I, II, S

An independent work course for students interested in vocational education. Students make individual investigations and report on special problems. *Hammonds and Staff.*

776(286a,b) *Seminar in Vocational Education.* (2) I, II, S

A critical study of selected problems in vocational education. The course is open only to students with experience in the field. (May be repeated once to a maximum of 4 credits.) *Hammonds, Parker, and Baker.*





COMMERCE

The College of Commerce at the University of Kentucky was established in 1925. It grew out of Economics which formerly was offered in a Department of the College of Arts and Sciences. For a number of years the four subjects of Economics, Political Science, History, and Sociology were all offered in the same Department. In 1918 the Department of Economics and Sociology was established and this Department from its inception began to offer also courses in Business Administration. In the spring of 1925 all courses in Economics and Business Administration were assigned to the newly established College of Commerce. The College occupies White Hall and parts of other buildings on the Lexington campus.

In the spring of 1928 the Board of Trustees authorized the organization and maintenance of a Bureau of Business Research. The chief purposes of this Bureau are to provide definite contacts with practical economic problems in order to vitalize the subject matter dealt with in the classroom and to serve the interests of business and of the state upon invitation.

Aims and Purposes of the College. The aims of the College of Commerce are twofold. In the first place the offerings in the field of Economics, together with some of the offerings in the fields of Commerce or Business Administration, provide an understanding of that segment of human behavior which is concerned with securing a living. Economic activity is not only a large proportion of all human activity but it is also basic in the sense that it must be adequate before artistic and other idealistic wants can be satisfied. An analysis of human wants, utilities of goods and services, costs and sacrifices of production, values and prices of commodities, and the distribution of wealth, necessarily constitutes an essential part of a liberal education.

In the second place the offerings in the two fields of Economics and Business Administration provide professional and vocational training for a great variety of positions in business and governmental bureaus. Students are afforded the opportunity of preparing themselves as professional economists or as specialists in taxation, industrial relations, finance, statistics, accounting, management, marketing, advertising, secretarial work, or as managers of their own businesses.

In the first two years of the several curricula setting forth the requirements for the degree of Bachelor of Science in Commerce, the student is called upon to take a number of basic liberal arts courses with a view to providing breadth of education and a foundation for the more specialized training that is allowed in the last two years.

A more definite understanding of the objectives of professional training will come from an examination of the various curricula and fields of specialization outlined below. It should be noted that the large amount of elective work allowed in some of the curricula makes it possible to combine a business program with other professional fields or with groups of liberal arts courses.

Admission. To be admitted to the freshman class of the College of Commerce students must meet the general admission requirements of the University.

Students transferring to the College of Commerce from another college on the campus or from another institution must have a scholastic standing of "C" or better.

Student Organization and Placement Activities. The Commerce Employment Association is an aggressive organization and operates under the supervision of a permanent secretary who is a member of the faculty. Its chief purpose is to find employment for graduates and better positions for alumni. It has been very successful.

The College Chamber of Commerce provides opportunity for planning and discussing community programs and in addition sponsors social activities. Its meetings are open to all Commerce students. Beta Alpha Psi, a professional Accounting fraternity, and the Secretarial Club are available to students in these fields.

Beta Gamma Sigma, a national honorary scholarship fraternity, was organized at the University of Kentucky in the spring of 1928. Seniors must rank in the upper ten per cent in scholarship to be eligible for membership.

Cecil Clayton Carpenter, M.S., Ph.D., is dean of the College of Commerce.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Science in Commerce is conferred upon students who meet the requirements of any one of the curricula offered by the College of Commerce. The minimum number of semester credits required for graduation is 128 (exclusive of the required Physical Education), except under the Industrial Administration Curriculum, which requires 140 (exclusive of the required Physical Education). With the required Physical Education the student is required to complete 130 credits and 142 credits respectively. The scholarship standing must be at least 2.0. All commerce students are urged to take some foreign language.

The courses listed in the General Business Curriculum constitute a core curriculum, because with minor exceptions, these courses are required in all curricula.

Curricula

GENERAL-BUSINESS CURRICULUM

The aim of this curriculum is (1) to provide some breadth of education and the functional knowledges necessary to deal with specialized business courses (2) to assure an understanding of the fundamental subject matter of economics and business administration, and (3) to provide a liberal amount of elective work so as to enable the student (a) to pursue a specialized business program, (b) to elect courses from several fields of business, or (c) to pursue courses in fields other than economics and commerce. The electives should be taken in accordance with a definite plan, and students should, therefore, seek advice of faculty members in formulating a satisfactory program.

Freshman and Sophomore Years

	Sem. Hrs.
English 101 (1a) and 102 (1b) English Composition	6
Economics 102 (2) Economic History of Europe *or* Economics 103 (3), Economic History of the U. S.	3
Mathematics 111 (17), College Algebra	3
Commerce 107 (7a) and 108 (7b) Principles of Accounting	6
History, American or European	3
Mathematics 121 (15), Mathematics of Finance	3
Political Science	3
Philosophy, Psychology, Sociology	6
Natural Science	6
Economics 251 (51) and 252 (52), Principles of Economics	6
Commerce 260 (60), Principles of Marketing	3
English 201 (30), Business English	2
Military or Aerospace Science (Men)	8
Physical Education	2
Electives (Women 14)	6
	66

Junior and Senior Years

Economics 402 (102), Labor Economics	3
Economics 505 (105), Money and Banking	3
Economics 507 (107), Statistical Method	3
Commerce 517 (117), Corporation Finance	3
Commerce 509 (109a), and 510 (109b), Business Law	6
A course in Accounting	2 or 3
Economics 504 (104), Public Finance	3
Commerce 437 (137), Industrial Management	3
Economics 516 (110), Business Cycles	3
Electives including three courses in Economics or Commerce and three courses in other departments	35 or 34
	64

THE ECONOMICS CURRICULUM

The following program is offered for students wishing to become research economists, economic analysts or graduate students in economics. It is appropriate for those wanting to enter state and federal government service or private industry. It is recommended especially for those wishing to become teachers.

Freshman and Sophomore Years

	Sem. Hrs.
English 101 (1a) and 102 (1b), English Composition	6
Economics 102 (2), Economic History of Europe, *or* Economics 3, Economic History of the United States	3
Economics 104, (4) Resources and Industries *or* Geography 155 (10), Economic Geography Survey	3
Commerce 107 (7a) and 108 (7b), Principles of Accounting	6
Mathematics 111 (17), College Algebra	3
Natural Science or Mathematics	6
Philosophy	3
History	3
Political Science	3
Psychology or Sociology	6
Economics 251 (51) and 252 (52), Principles of Economics	6
Commerce 260 (60), Principles of Marketing	3
Military or Aerospace Science (Men)	8
Physical Education	2
Electives	4
	65

Junior and Senior Years

Economics 402 (102), Labor Economics	3
Economics 504 (104), Public Finance	3
Economics 505 (105), Money and Banking	3
Economics 507 (107), Statistical Method	3
Commerce 509 (109a), Business Law	3
Economics 516 (110), Business Cycles	3
Economics 515 (115), Intermediate Economic Analysis	3
Economics 527 (127), International Economics *or* Economics 565 (165), Comparative Economic Systems	3
Economics 386 (186), Economic Research	3
A course in Management	3
An additional course in accounting or statistics	3
Non-Commerce groups, 12 hours in each of 2 departments *or* 18 hours in 1 department outside the College of Commerce Courses to be selected upon the recommendation of the department involved and with the approval of the student's faculty adviser	18 or 24
Electives including one course in Economics and Commerce	14 or 8
Total Semester Hours: 130	65

BANKING AND FINANCE CURRICULUM

This Curriculum provides an arrangement of courses useful to those who seek employment in financial institutions. It emphasizes the economics of finance rather than the routines and procedures. Management decisions in this area require a knowledge of the subject matter listed below.

Freshman and Sophomore Years

Courses as required in the General Business Curriculum except electives	60
Commerce 296 (96a) and 297 (96b) Intermediate Accounting	6
	66

Junior and Senior Years

Economics 402 (102), Labor Economics	3
Economics 505 (105), Money and Banking	3
Economics 507 (107), Statistical Method	3
Commerce 517 (117), Corporation Finance	3
Commerce 509 (109a) and 510 (109b), Business Law	6
Commerce 437 (137), Industrial Management	3
Economics 504 (104), Public Finance	3
Economics 516 (110), Business Cycles	3
Commerce 531 (131), Investments	3
Commerce 543 (143), Life Insurance *or* Commerce 544 (144), Property and Casualty Insurance	3
Economics 554 (154), Urban Real Estate	3
Electives including 3 hrs. in upper division courses outside the College	28
	64

Suggested Electives

Economics 503 (103), Transportation	3
Commerce 529 (129), Credit and Statement Analysis	2
Commerce 547 (133), Income Tax Procedure	3
Commerce 556 (156), Business Reports	2
Economics 560 (160), Business Combinations	2

Total Semester Hours: 130

PERSONNEL MANAGEMENT CURRICULUM

An arrangement of courses to be taken by students wishing to enter the professional field of Personnel Management and Industrial Relations. This aspect of management requires an understanding of human values and personal objectives. The courses listed represent a minimum foundation for those wishing to qualify for the various personnel positions in industry and government. Typical positions in this field are: job wage analyst, interviewer, personnel director, industrial relations manager, job evaluator, wage and salary administrator.

Freshman and Sophomore Years

	Sem. Hrs.
English 101 (1a) and 102 (1b) English Composition	6
Economics 102 (2), Economic History of Europe *or* Economics 3, Economic History of the U. S.	3
Mathematics 111 (17), College Algebra	3
Commerce 107 (7a) and 108 (7b), Principles of Accounting	6
History, American or European	3
Mathematics 121 (15), Mathematics of Finance	3
Political Science	3
Psychology	4
Natural Science	6
Economics 251 (51) and 252 (52), Principles of Economics	6
Commerce 260 (60), Principles of Marketing	3
English 201 (30), Business English	2
Military or Aerospace Science (Men)	8
Physical Education	2
Electives (Women 16)	8
	66

Junior and Senior Years

Economics 402 (102), Labor Economics	3
Economics 505 (105), Money and Banking	3
Economics 507 (107), Statistical Method	3
Economics 530 (130), Labor Legislation	3
Economics 555 (155), Industrial Relations	3
Economics 566 (166), Personnel Problems	2
Economics 579 (179), Collective Bargaining	3
Commerce 509 (109a) and 510 (109b), Business Law	6
Commerce 517 (117), Corporation Finance	3
Commerce 437 (137), Industrial Management	3
Commerce 445 (145), Office Management	3
Psychology 540 (127), Introduction to Industrial Psychology	3
Electives including two courses in Commerce	26
	64

Suggested Electives:

Economics 515 (115), Intermediate Economic Analysis	3
Philosophy 230 (51), Ethics	3
Political Science 578, (177b), Public Pers. Adm.	3
Psy. 201 (8), Individual Differences	3
Psy. 544 (104), Social Psychology	3
Psy. 541 (128), Psych. of Indust. Pers. Proc.	3
Psy. 521 (114), Abnormal Psychology	3
Sociology 240 (25), Collective Behavior	3
Sociology 220 (40), The Community	3
Commerce 543 (143), Life Insurance	3

Total Semester Hours: 130

MARKETING, MERCHANDISING, ADVERTISING CURRICULUM

In addition to courses in these fields offered by the College of Commerce, courses offered by the Departments of Psychology, Journalism, Art, and Home Economics, are either required or suggested as electives. The student is required to select either the Marketing and Merchandising option or the Advertising option in the junior year.

Freshman and Sophomore Years

	Sem. Hrs.
Courses as required in the General Business Curriculum	66

Junior and Senior Years

Economics 402 (102), Labor Economics	3
Economics 505 (105), Money and Banking	3
Economics 507 (107), Statistical Method	3
Commerce 517 (117), Corporation Finance	3
Commerce 509 (109a), and 510 (109b), Business Law	6
Commerce 437 (137), Industrial Management	3
Commerce 262 (62), Principles of Advertising	3
Commerce 263 (63), Salesmanship	2
Commerce 519 (119), Retail Merchandising	3
Commerce 549 (149), Market Research	3
Marketing and Merchandising *option*	
Commerce 361 (61), Marketing Management	3
Commerce 518 (118), Cost Accounting	3
Commerce 529 (129), Credit and Statement Analysis	2
Commerce 536 (136), Sales Management	3
Electives	21
	64

Suggested Electives:

Commerce 539 (139), Industrial Purchasing	3
Commerce 541 (141), Industrial Marketing	3
Economics 503 (103), Transportation	3
Economics 516 (110), Business Cycles	3
Home Economics 120 (25), Textiles	2

Advertising *option*

Journalism 563 & 564 (115), Advertising Typography and Layout	3
Journalism 201 (21) Etymology	3
English 205 (60), Advanced Composition	3
Art 247 (67), Art in Advertising	2
Commerce 540 (140), Problems in Advertising	2
Electives	19
	64

Suggested Electives:

Journalism 561 (114), Newspaper Advertising and Promotion	3
Journalism 541 (118), Public Relations	3
Commerce 361 (61), Marketing Management	3
Commerce (136), Sales Management	3
Commerce 541 (141), Industrial Marketing	3

Total Semester Hours: 130

ACCOUNTING CURRICULUM

This Curriculum is intended to prepare students for either industrial or public accounting. Students wishing to take the C.P.A. examination should consult the various state laws in order to comply with experience and residence requirements.

Freshman and Sophomore Years

	Sem. Hrs.
Courses as required in the General Business Curriculum except electives	60
Commerce 96a and 96b, Intermediate Accounting	6
	66

Junior and Senior Years

Economics 402 (102), Labor Economics	3
Economics 505 (105), Money and Banking	3
Economics 507 (107), Statistical Method	3
Commerce 517 (117), Corporation Finance	3
Commerce 509 (109a) and 510 (109b) Business Law	6
Commerce 437 (137), Industrial Management	3
Economics 504 (104), Public Finance	3
Commerce 513 (113), Auditing	3
Commerce 518 (118), Cost Accounting	3
Commerce 547 (133), Income Tax Procedure	3
Commerce 546 (146), Special Accounting Problems	3
Electives including 3 hrs. in upper division courses outside the College	28
	64

Suggested Electives:

Commerce 508 (108), Accounting Theory	2
Commerce 529 (129), Credit & Statement Analysis	2
Commerce 532 (132a) and 533 (132b), C.P.A. Prob.	6
Commerce 531 (131), Investments	3
Commerce 559 (159), Governmental Accounting	2
Commerce 544 (144), Property & Casualty Ins	3
Commerce 556 (156), Business Reports	2
Commerce 570 (170), Controllership	3
Economics 524 (124), State and Local Taxation	3

INDUSTRIAL ADMINISTRATION CURRICULUM

This Curriculum is designed to prepare students for positions in production management. The list of required courses recognizes the necessity of providing an understanding of the primary subject matter of business administration, the principles of management, and in addition the basic principles and characteristics of the materials with which industry deals. Hence the curriculum includes courses concerned with engineering and the physical sciences in addition to those required in the Business Management Curriculum.

Freshman and Sophomore Years

	Sem. Hrs.
English 101 (1a) and 102 (1b), English Composition	6
Mathematics 111 (17), College Algebra or Math. 101 (5)	3
Psychology 100, 101, (1) Introduction to Psychology	4
Commerce 107 (7a) and 108 (7b), Principles of Accounting	6
Mathematics 112 (18), Plane Trigonometry	3
Mathematics 113 (19), Analytics and Calculus	3
Chemistry, one year course with laboratory	8-10
Physics, one year course with laboratory	8-10
Engineering 101 (1a), Engineering Graphics	2
Economics 251 (51) and 252 (52), Principles of Economics	6
Commerce 260 (60), Principles of Marketing	3
English, Philosophy, Humanities	7-3
Military or Aerospace Science (Men)	8
Physical Education	2
	69

Junior and Senior Years

English 203 (50), Composition for Technical Students	3
Economics 402 (102), Labor Economics	3
Economics 505 (105), Money and Banking	3
Economics 507 (107), Statistical Method	3
Commerce 509 (109a), Business Law	3
Commerce 517 (117), Corporation Finance	3
Commerce 518 (118), Cost Accounting	3
Economics 534 (134), Advanced Economic History	3
Commerce 437 (137), Industrial Management	3
Commerce 495 (195), Business Policy	3
Selected upper division courses in Political Science, Philosophy, Psychology, Sociology	6
Four courses from the following:	12
Commerce 296 (96a), Intermediate Accounting 3	
Economics 516 (110), Business Cycles 3	
Commerce 541 (141), Industrial Marketing 3	
Economics 555 (155), Industrial Relations 3	
Commerce 571 (171), Statistical Quality Control 3	
Commerce 572 (172), Sampling Techniques 3	
Commerce 573 (173), Automatic Data Processing 3	
Economics 579 (179), Collective Bargaining 3	
Electives in Economics or Commerce	9
Electives in Engineering, Mathematics or Physical Sciences	16
	73

Total Semester Hours: 142

SECRETARIAL CURRICULUM

The Secretarial Curriculum is designed to prepare the student for various types of office positions including secretarial, stenographic, filing, general clerical, machine operation, typewriting, and office supervision. In addition to specialized training in office techniques and skills, it provides a liberal education which is desirable in the types of work enumerated

above. The electives enable a student to pursue his special aptitudes and interests.

While the curriculum is designed primarily for the training of office workers, opportunity is provided also for the training of commerce teachers. Enough electives are available to include in the program education and other courses usually required for certification. It will be necessary, however, for the student to check certification requirements in the state in which he expects to teach. The Head of the Department of Business Education and the Dean of the College of Education will counsel with him on certification requirements in the various states. Attention is specifically called to a program for commerce teachers offered by the College of Education.

Freshman and Sophomore Years

	Sem. Hrs.
English 101 (1a) and 102 (1b), English Composition	6
Commerce 107 (7a), Principles of Accounting	3
Commerce 109 (6), Secretarial Accounting	3
English: Speech, Composition, or Literature	3
Commerce 112 (13a) and 113 (13b), Secretarial Pract., Shorthand	6
Commerce 117 (17a) and 118 (17b), Secretarial Pract., Typewriting	4
American or European History	3
Political Science	3
Philosophy, Psychology, Sociology	6
Commerce 114 (14a) and 115 (14b), Advanced Secretarial Practice	6
Economics 251 (51) and 252 (52), Principles of Economics	6
English 201 (30), Business English	2
Military or Aerospace Science (Men)	8
Physical Education	2
Electives (Women 13)	5
	66

Junior and Senior Years

Natural Science or Mathematics	6
Economics 505 (105), Money and Banking, *or* Commerce 517 (117), Corporation Finance	3
Commerce 260 (60), Principles of Marketing	3
Economics 507 (107), Statistical Method	3
Commerce 263 (63), Salesmanship	2
Commerce 119 (19), Office Appliances and Procedures	3
Commerce 301 (101a), Secretarial Job Training	1
Commerce 437 (137), Industrial Management	3
Commerce 556 (156), Business Reports	2
Commerce 509 (109a), Business Law	3
Electives including 21 credits outside the College (13 for men)	35
	64

Suggested Electives:

Commerce 108 (7b), Principles of Accounting	3
Mathematics 111 (17), College Algebra	3
Mathematics 121 (15), Mathematics of Finance	3
Commerce 262 (62), Principles of Advertising	3
Economics 504 (104), Public Finance	3
Commerce 445 (145), Office Management	3
Journalism 201 (21), Etymology	3
English 512 (101), Current English Usage and Grammar	3
Economics 102 (2), Economic History of Europe	3
Economics 103 (3), Economic History of the U.S.	3
Foreign Language	3

Total Semester Hours: 130

ECONOMICS

FACULTY

Cecil C. Carpenter, Wendell Everett Beals, Robert O. Brown, Carl Cabe, Lucian Carter, Virgil L. Christian, Merrill DeVoe, William W. Ecton, Herman A. Ellis, Carlos C. Erwin, Harold W. Guthrie, John W. Hamblen, Herbert W. Hargreaves, Robert D. Haun, William W. Haynes, Charles W. Hultman, Margaret Bell Humphreys, Clyde Irwin, Martin L. King, Homer C. Lewis, Robson Duncan McIntyre, David McMurtry, James Walter Martin, Joseph Logan Massie, John T. Masten, Walter H. Pearce, Frank D. Peterson, Ralph R. Pickett, Don B. Soule, Robert H. Stroup, Rodman Sullivan, Lawrence X. Tarpey, Paul Rex Tarpey, Ruth E. Thomas, William Allen Tolman, and Laszlo Zsoldos.

Course Descriptions

102(2) *Economic History of Europe.* (3) I, II
A survey of conditions preceding the modern period with a more intensive study of the subsequent development of agriculture, industry, and finance. Open only to freshmen and sophomores. *Erwin.*

103(3) *Economic History of the United States.* (3) I, II
A brief sketch of economic life in the colonies, followed by a more detailed account of the national evolution in agriculture, manufacture, transportation, commerce, and finance. Open only to freshmen and sophomores. *Erwin.*

104(4) *Resources and Industries.* (3) I, II
The economic factors which govern the utilization of world resources and the exchange of products. *Erwin.*

107(7a,b) *Principles of Accounting.* (3) I, II
Instruction in the science and adaptation of the accounts of going concerns, together with sufficient practice to acquire proficiency. *Brown and others.*

108 *Principles of Accounting.* (3) I, II
Continuation of Com. 107. *Brown and others.*

240(40) *Personal and Family Finance.* (2) I
Uses and abuses of credit, insurance on persons and property, investing what you save, wills, trusts, taxes, social security, buying versus renting, consumer information, wise buying. *Sullivan.*

251(51) *Principles of Economics.* (3) I, II
An introductory course: The Theory of Income and Employment and Value Theory. Not open to freshmen. *Hargreaves and others.*

252(52) *Principles of Economics.* (3) I, II
The major emphasis is on distribution theory and public policy. Prereq: Econ. 251. *Hargreaves and others.*

386(186) *Economic Research.* (3) II
The sources, uses and application of statistical information in the analysis of economic problems. Prereq: Econ. 252 and 507. *Stroup.*

395(112a-f) *Individual Work in Economics.* (1-6) I, II
Students confer individually with the instructor. *Staff.*

396(167) *Tutorial Work in Economics.* (1) I, II
Open only to Arts and Sciences majors. *Masten.*

402(102) *Labor Economics.* (3) I
Insecurity, wages and income, substandard workers, industrial conflict; wage theories, the economics of collective bargaining; unionism in its structural and functional aspects; recent developments. Prereq: Econ. 252. *Carter and Cabe.*

503(103) *Transportation.* (3) I
Railways, waterways, highways, and airways. Rates, service, management, and regulation. Prereq: Econ. 252. *Tolman.*

504(104) *Public Finance.* (3) I
A study of public receipts; public expenditures; the principles of taxation with special reference to their application to the tax systems, federal and state. Prereq: Econ. 252. *Martin and Sullivan.*

505(105) *Money and Banking.* (3) II
Nature and functions of money; the importance of credit; relation of money and credit to prices, bank deposits, and loans; complete study of our national banking system. Prereq: Econ. 252. *Masten.*

507(107) *Statistical Method.* (3) I
Introduction to the sources of business data, the use of calculating machinery, tabulation, simple charts and graphs, the averages, dispersion, correlation, and the time series analysis. *Christian and Stroup.*

515(115) *Intermediate Economic Analysis.* (3) I
The output, price and factor proportion problems of firms in different market situations; some problems in industry behavior coordination of basic economic processes. *Sullivan.*

516(110) *Business Cycles.* (3) II
The nature and characteristics of the economic factors which underlie the cyclical fluctuations in business conditions and the methods of business and investment forecasting. Prereq: Econ. 252. *Haynes.*

524(124) *State and Local Taxation.* (3) II
Classified property taxes; separation of sources of revenue; taxation of banks, forests, public utilities, mines, and rural and urban real estate; income, inheritance, and sales taxes. *Martin.*

525(125) *Economic Development.* (3) II
A comparative study of economic progress in selected countries; growth patterns, theories of development and capital formation, interaction of social and economic change. Prereq: Econ. 252. *Erwin.*

527(127) *International Economics.* (3) II
Free trade, protectionism, preferential tariffs, colonial tariff policies, dumping, commercial treaties, control of raw materials, internatinal investments and the movement of capital, international debts, and reparation. Prereq: Econ. 252. *Sullivan.*

530(130) *Labor Legislation.* (3) II
The status of labor law, mediation, conciliation, arbitration, the minimum wage, the eight-hour day, unemployment relief, safety and health legislation, and social insurance. Prereq: Econ. 252. *Cabe.*

534(134) *Advanced Economic History of the United States.* (3) II
Population growth, immigration, territorial expansion, agriculture, manufactures, tariff, labor, industrial combinations, commerce, transportation facilities, money and banking, and conservation. *Erwin.*

550(150) *Advanced Business and Economic Statistics.* (3) II
Advanced time series analysis, multiple and partial correlation, elementary analysis of variance and experimental design. Prereq: Econ. 507. *Christian.*

554(154) *Urban Real Estate.* (3) II
Urban land economics; the real estate business; essentials of real estate law and contracts; financing of real estate transactions, property valuation and appraisal, the management of real estate properties. Prereq: Econ. 252. *Pickett.*

555(155) *Industrial Relations.* (3) II
Historical development of industrial relations; the economic implications of job analysis, recruitment, selection and training for industry; wages, hours, promotion and health policies; employee representation, collective bargaining; union-management cooperation. Prereq: Econ. 252. *Carter.*

560(160) *Business Combinations.* (2) II
Forms of combination; the problem of monopoly; federal and state anti-trust legislation and court decisions. Prereq: Econ. 252. *Tolman.*

565(165) *Comparative Economic Systems.* (3) I
A study of capitalism, socialism, fascism, communism, and co-operation, with attention to current experiments in economic planning. Prereq: Econ. 252. *Masten.*

566(166) *Personnel Problems.* (2) II
A case course in the problems of supervision of employees, and the personnel policies which promote productive efficiency. Prereq: Econ. 555. *Carter.*

579(179) *Collective Bargaining.* (3) II
The principles and procedures of bargaining and dispute settlement studied in detail. Includes a review of the content of labor contracts and provisions for administration. Union and management techniques are considered. *Cabe.*

590(190) *Introduction to Mathematical Economics.* (3) I
A review of mathematical approaches to economic theory. Models applicable to production, marketing and pricing problems. Prereq: Math. 201, 202, 515. (Same as Agr. Econ. 590.) *Christian.*

600(200) *Business Economics.* (3) I
The interrelations of economic laws with the social, political and legal framework of business, especially from the point of view of the industry and of the firm. *Sullivan.*

603(203) *History of Economic Thought.* (3) I
A survey of the history of economic thought from the ancient period to about the end of the classical school. Prereq: Econ. 252. *Hargreaves.*

604(204) *Survey of Economic Theory Since the Austrian School.* (3) II
This course is virtually a continuation of course 603. *Hargreaves.*

606(206a,b) Municipal Finance. (3) I, II
City and county budget and related problems; debt, purchasing, treasury and revenue problems are studied in reports and seminar. *Martin.*

607(207a) *Problems in Public Finance.* (2) I
Depending on varying needs of public finance students from time to time, specific subject matter will be selected for study. Each student's report will indicate the class of problems intensively examined. *Martin.*

608(207b) *Problems in Public Finance.* (2) II
This course is a continuation of course 607. *Martin.*

609(209) *History and Theory of Money and Prices.* (3) II
The evolution of money, the rise of banking processes, and the causes of fluctuations in the general price level. *Masten.*

611(211) *Advanced Money and Banking.* (3) II
A theoretical study of contemporary money and banking institutions with emphasis on central bank functions. *Masten.*

618(218a) *Economic Theory.* (3) I
An intensive course covering contemporary micro-economic theory and the various analytical techniques used therein. Prereq: Econ. 252. *Haynes.*

619(218b) *Economic Theory.* (3) II
Macro-economic theory. National income analysis and employment theory. The theory of inflation and an introduction to theories of economic development. Prereq: Econ. 252. *Haynes.*

650(210) *Research Statistics.* (2) I
The place of statistics in research method, the theory of statistical average, the application of advanced statistical methods to economic data, and the testing of economic theory. Prereq: an elementary course in statistics. *Stroup.*

655(255) *Advanced Personnel Management.* (3) II
A critical examination of the principles, methods, policies and procedures related to the effective utilization of human resources in business concerns, consideration being given to mutual relationships. *Carter.*

656(256) *Research and Report Writing.* (3) II
Investigations of business problems; sources, procedures, analysis, and presentation. *Haynes.*

657 *Theory of Wages.* (3) I
A critical analysis of contemporary wage theories, trade-union wage policy, wage differentials, wage adjustment to technological change, and wages and employment. Prereq: Econ. 252. *Cabe.*

685(285) *Government Finance Administration.* (3) II
Government budget, accounting, debt, purchasing, treasury, revenue, and auditing administration are examined; illustrations are drawn from federal, state, and local experience. Each student makes a special report on finance-management or experience. *Martin.*

690(290) *Mathematical Economics.* (3) II
Problems of economics amenable to the mathematics of differential and difference equations, vectors, complex numbers and matrix algebra. Agricultural and business applications. Prereq: Econ. 618, Econ. 590 or equivalent. *Christian.*

691(291) *Econometrics.* (3) I
The application of statistical methods to problems of economic analysis. Building and measuring relationships among economic variables. Econometric models of the economy as a whole and of individual sectors. Prereq: Econ. 618 and Agricultural Econ. 630 or Econ. 550, or equivalent. *Christian.*

770(202a-f) *Seminar.* (1-6) I, II
An extended 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. *Carpenter.*

780(212a-f) *Research Problems in Economics.* (1-6) I, II
Students confer individually with the instructor. *Staff.*

COMMERCE

107(7a) *Principles of Accounting.* (3) I, II
Instruction in the science and adaptation of the accounts of going concerns, together with sufficient practice to acquire proficiency. *Brown and others.*

108(7b) *Principles of Accounting.* (3) II
Continuation of Com. 107. *Brown and others.*

109(6) *Secretarial Accounting.* (3) II
A continuation of the practice afforded in Commerce 7a; also a study of accounting systems for the professions, small business, and institutions in which the secretary ordinarily keeps the records. Prereq: Com. 107. *Thomas.*

112(13a) *Secretarial Practice, Shorthand.* (3) I, II, S
The theory of Gregg shorthand with sufficient practice to develop skill in writing. Emphasis is placed upon a good foundation for transcription. Credit for this course will not be given until 13b is completed. Prereq. or concur: English 101. *Humphreys and Thomas.*

113(13b) *Secretarial Practice, Shorthand.* (3) I, II, S
A continuation of Gregg shorthand with sufficient practice to develop a speed of approximately 100 words a minute in dictation. Transcription is introduced and developed to a usable skill. Prereq: Com. 112 or its equivalent. *Humphreys and Thomas.*

114(14a) *Advanced Secretarial Practice.* (3) I, II, S
This course continues the transcription of shorthand notes and developes secretarial proficiency. Dictation speed of approximately 120 words a minute is reached. Prereq: Com. 113, 118, or their equivalent. *Humphreys and Thomas.*

115(14b) *Advanced Secretarial Practice.* (3) I, II, S
A continuation of Commerce 114 with special emphasis on secretarial duties and traits. A speed of 140 words a minute in dictation and of 40 to 50 words a minute in transcription is developed. Prereq: Com. 114 or its equivalent. *Humphreys and Thomas.*

117(17a) *Secretarial Practice, Typewriting.* (2) I, II
Theory and techniques in typewriting are included with a thorough study of form, style and arrangement of typewritten material. A speed of 40 words a minute is required. Prereq. or concur: English 101. *Humphreys and Thomas.*

118(17b) *Secretarial Practice, Typewriting.* (2) I, II
A continuation of Commerce 117 with emphasis on the development of speed and accuracy sufficient for vocational use. A speed of 60 words a minute is required. Prereq. Com. 117. *Humphreys and Thomas.*

119(19) *Office Appliances and Procedures.* (3) I, II, S
Operation and care of dictating, duplicating, addressing, and calculating machines and other appliances; the general principles, procedures, and systems of filing. Prereq. Com. 117. *McMurtry.*

260(60) *Principles of Marketing.* (3) I, II
The general store, chain store, department store, and mail order house. Market finance, market risk, market news, competition and prices, market price, unfair competition, and the cost of marketing. Prereq: Econ. 251. *DeVoe and King.*

262(62) *Principles of Advertising.* (3) I, II
The function of advertising in its relation to the broad field of marketing. The scope and organization of advertising and its economic implications. Advertising media and various testing devices are examined. Prereq: Com. 260. *McIntyre.*

263(63) *Salesmanship.* (2) I, II
Among the problems considered are the formulation of selling policies, the actual selling process, the creation of effective demands, sales campaigns, selecting and training salesmen, and kindred subjects. Prereq: Econ. 252. *McIntyre.*

296(96a) *Intermediate Accounting.* (3) I
Detailed study of valuation procedures for asset and liability items. Principles of financial statement arrangement and content. Corporation formation, and treatment of capital stock and surplus items. Prereq: Com. 108. *Beals and Ecton.*

297(96b) *Intermediate Accounting.* (3) II
Statements from incomplete data, comparative statements, partnerships, installment sales, consignments and agency and branch accounting. Application of funds statements. Prereq: Com. 296. *Beals and Ecton.*

301(101a-c) *Secretarial Job Training.* (1) I, II
This course is designed to provide laboratory and office experience for senior secretarial students. Prereq: Com. 115. *Thomas.*

302 *Secretarial Job Training.* (1) I, II
This course is designed to provide laboratory and office experience for senior secretarial students. Prereq: Com. 115. *Thomas.*

303 *Secretarial Job Training.* (1) I, II
This course is designed to provide laboratory and office experience for senior secretarial students. Prereq: Com. 115. *Thomas.*

335(135) *Internship in Accounting.* (3) I, II
Students are placed with cooperating firms for on-the-job training in accounting. Written reports to be submitted by the firm and the student to the instructor. Prereq: junior standing and consent of instructor. *Haun.*

361(61) *Marketing Management.* (3) II
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: Com. 260. *DeVoe.*

364 Data *Processing for Business.* (3) I, II
Introduction to machine systems of data processing and storage; theory and application of electrical punched cards equipment in the preparation of accounting and statistical reports. Prereq: Com. 108. *Tarpey.*

437(137) *Industrial Management.* (3) I, II
Management of manufacturing operations including organization theory, physical aspects of the plant, quality control, time and motion study, production control, industrial safety and industrial relations. *Massie and Haynes.*

445(145) *Office Management.* (3) II
Planning and scheduling of work; employment procedures; supervision of employees, re-training, promotion, and equipment. *McMurtry.*

462(162) *Small Business Operation.* (2) II
Application of management principles and techniques to the special problems of establishing and operating a small business enterprise. Prereq: Senior standing in the College of Commerce. *Massie.*

477(177a) *College Business Management.* (2) S
Elements of management, organization, budgetary procedure, financial accounting, procurement techniques and property management as applied in the business administration of colleges. *Peterson.*

478(177b) *College Business Management.* (2) S
Elements of personnel management, public relations, investments and finance as related to college business management. *Peterson.*

479(177c) *College Business Management.* (2) S
Case problems in plant operation, purchasing, insurance, bookstore operation and legal aspects of college management. *Peterson.*

495(195) *Business Policy.* (3) II
Analysis of management problems, formulation of alternative courses of action, determination of policy decisions. Open to Commerce seniors only. *Massie.*

508(108) *Accounting Theory.* (2) I
The function of accounting, asset valuation, recognition of revenue and expenses, and classification of equities, will be studied with a view to presenting a co-ordinated body of accounting theory. Prereq: Com. 297. *Haun.*

509(109a) *Business Law.* (3) I, II
A survey of the principles of contracts, sales, bills and notes, and that portion of the law of torts applicable to business practices. Prereq: two years of Commerce Curriculum. *Haun and Lewis.*

510(109b) *Business Law.* (3) I, II
A continuation of Commerce 509. *Haun and Lewis.*

513(113) *Auditing.* (3) II
The theory of auditing, the valuation of assets, analysis of accounting procedure, and the presentation of statements. Special problems applicable to particular businesses will also be presented. Prereq: Commerce 297. *Ecton.*

517(117) *Corporation Finance.* (3) I, II
Principles concerning the issue of securities, the management of the corporate income, the disbursement of dividends, the creation of sinking funds, and reorganization procedure. Prereq: Econ. 252 and Com. 108. *Pickett.*

518(118) *Cost Accounting.* (3) II
The place of cost accounting in the general field of accounting, special records and cost statistics, and application to particular businesses. Prereq: Commerce 108. *Beals.*

519(119) *Retail Merchandising.* (3) II
Selecting a business location, internal layout, departmentalization, merchandising control, store policies toward the public, training and management of personnel, and related subjects. Prereq: Commerce 260. *King.*

528(128) *Advanced Cost Accounting.* (3) II
The use of standard costs, estimated cost systems and procedures, non-manufacturing costs, budgetary control, and management uses of cost data. Prereq: Commerce 518. *Beals.*

529(129) *Credit and Statement Analysis.* (2) I
The theory underlying credit-granting, credit administration, and analysis and interpretation of financial statements. Prereq: Commerce 107. *Haun and Beals.*

531(131) *Investments.* (3) II
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: Econ. 252. *Pickett.*

532(132a,b) *C.P.A. Problems.* (3) I, II
The course is designed to prepare students for C.P.A. examinations. Advanced accounting theory is stressed through the study of a wide range of problems. Prereq: Commerce 297. *Haun and Beals.*

533 *C.P.A. Problems.* (3) I, II
A continuation of Com. 532. *Haun and Beals.*

536(136) *Sales Management.* (3) I
The case method is used, supplemented with outside reading and written reports. Prereq: Commerce 260. Open only to seniors in the College of Commerce. *King.*

538(138) *Cases in Management.* (3) II
Emphasizes production, plant layout, wage payments, personnel management, production control, and related problems. Prereq: Commerce 437. *Haynes.*

539(139) *Industrial Purchasing.* (3) II
Organization of purchasing; relations with other departments; qualifications and training of buyers. Purchasing procedures; sources of supply; price negotiation; stores control; value analysis. Prereq: Econ. 252.

540(140) *Advertising Management.* (3) I
A study of advertising from the point of view of marketing and advertising executives, problems in integrating advertising with marketing, the advertising appropriation, and advertising campaigns. Prereq: Com. 262. *DeVoe.*

541(141) *Industrial Marketing.* (3) I
The marketing of goods for business consumption. The structure of the industrial market with special problems in marketing raw materials, parts and machinery relative to manufacturing, agricultural, mining, construction and other industries. Prereq: Econ. 252. *DeVoe.*

543(143) *Life Insurance.* (3) I
Economics of life insurance, organization and control, special forms of life insurance, and fundamental principles of rate-making. Prereq: Econ. 252. *Hargreaves.*

544(144) *Property and Casualty Insurance.* (3) II
Public control; nature of contracts; analysis of reserve functions, and rate-making processes. Prereq: Econ. 252. *Pickett.*

546(146) *Specialized Accounting Problems.* (3) II
Accounting records for consolidations and mergers, preparation of consolidated statements. Insolvency and receivership records and statements. Accounting for estates and trusts. Prereq: Commerce 297. *Ecton.*

547(133) *Income Tax Procedure.* (3) II
The preparation of income tax returns for individuals and corporations of all classes and a practical application of principles of accounting. Prereq: Commerce 297. *Haun.*

549(149) *Market Research.* (3) II
Training in the application of scientific method to research in fields of marketing. A major marketing investigation will be conducted by the class. Prereq: Commerce 262 and a course in statistics. *King.*

556(156) *Business Reports.* (2) II
Major emphasis is placed upon sources of data, compilation and arrangement of data, documentation, bibliographies, and effective presentation of reports. Problems will be assigned in the various areas of interest. *Thomas.*

559(159) *Governmental Accounting.* (2) II
The requirements of adequate accounting systems for various governmental units, including the recording of usual transactions and the form and content of reports. Prereq: Commerce 108. *Beals.*

570(170) *Controllership.* (3) I
The organizational position of the Comptroller, his functions and objectives; his methods and procedures. *Haun.*

571(171) *Statistical Quality Control.* (3) I

Elementary probability theory, control charts, acceptance sampling plans including single, double and sequential sampling. *Christian.*

572(172) *Sampling Techniques.* (3) II

Application of sampling theory and significance testing in economic research, practical problems in sample design. *Christian.*

573(173) *Automatic Data Processing.* (3) I

Examination of the role of high speed data processing equipment in the solution of business and economic problems. The study of computer fundamentals; input, arithmetic and logical units, control, storage, and output. Includes digital computer programming. Prereq: Junior standing. *Stroup.*

585(185) *Bank Management.* (3) II

A study of the principles and cases in commercial banking practice. Bank management practices are studied within the economic, monetary, fiscal and legal framework of the American economy. Prereq: Econ. 505 or consent of instructor. *Masten.*

708(208) *Advanced Accounting Theory.* (3) II

Critical examination of accounting concepts and standards. Study of current problems and contemporary developments reflected in accounting literature and reports. Prereq: Commerce 296 or consent of instructor. *Haun.*

717(217) *Corporate Financial Policy.* (3) I

A study of financial management from the viewpoint of the corporate financial officer. Problems of planning the capital structure, issuing securities, the management of working capital, and policies with reference to reserve, surplus, and dividends. *Pickett.*

722(222) *Tax Accounting Problems.* (3) II

Advanced tax accounting problems of a complex nature involved in income taxes, gift taxes, and death taxes under the federal and state laws. Prereq: Commerce 547. *Haun.*

731(231) *Investment Management.* (3) II

Evaluation of sources of information and advice concerning securities, methods of analysis and policies of individuals and institutions in the management of investment funds. *Pickett.*

737(237) *Advanced Business Management.* (3) II

A functional study of business management. Control devices and procedures for carrying out and testing policies. *Haynes.*

738(238) *Production Management.* (3) I

A study of procedures and techniques employed in manufacturing plants. An analysis of actual cases in production planning and control, time and motion study, quality control, plant layout, and budgetary control. Visits to industrial plants. *Haynes.*

760(260) *Advanced Marketing Management.* (3) II

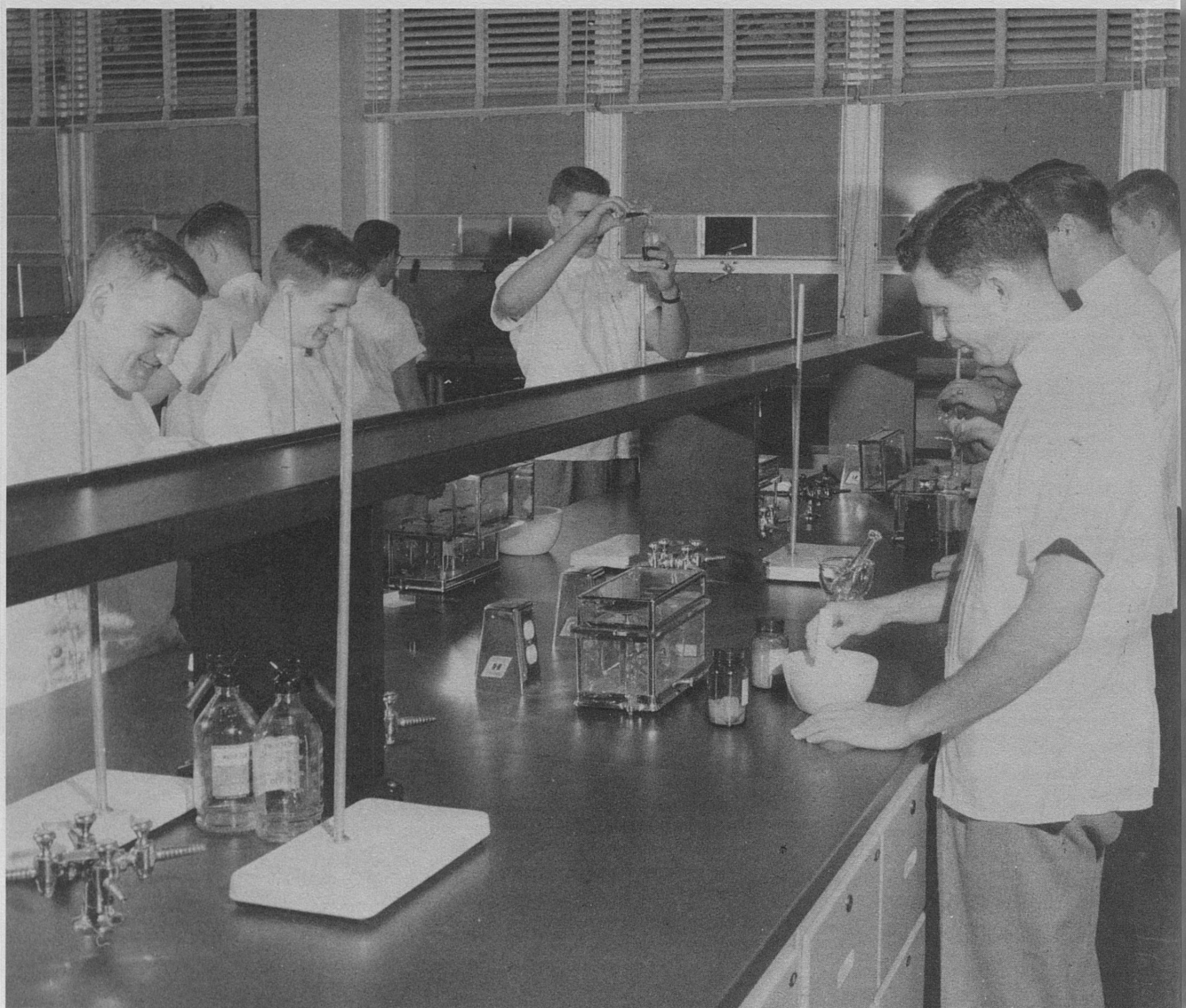
A critical study of significant trends, controversial issues and advanced techniques in the fields of marketing. *DeVoe.*

768 *Residence Credit for the Master's Degree.*

Mey be repeated once.

769 *Residence Credit for the Doctor's Degree.*

Courses in Mathematics of Finance, Psychology of Advertising, Industrial Psychology, and Business English are offered by departments of the College of Arts and Sciences.
May be repeated indefinitely.



PHARMACY

The University of Kentucky College of Pharmacy was established August 16, 1870, as the Louisville College of Pharmacy. It was incorporated by an Act of Legislature, February 6, 1873. Organized as an outgrowth of the apprentice and preceptorial system, it was operated as a non-profit organization from its inception. On July 1, 1947, the College became one of the divisions of the University of Kentucky. It opened in its new building on the campus in the fall of 1957. This building embodies the latest ideas in arrangement and equipment for the teaching of Pharmacy. It is a highly fire-resistant structure incorporating every new device for the safety, convenience and comfort of the students and staff. The site is sufficiently large to provide space for a drug garden and adequate parking.

The College is accredited by the American Council on Pharmaceutical Education as a Class A college and was admitted to membership in the American Association of Colleges of Pharmacy in 1917.

Placement Activities—In addition to full cooperation with the University Placement Service, the College maintains a complete file for prospective employment. Personnel representatives of the large pharmaceutical houses visit the College twice yearly scheduling interviews with the graduates. Each year the College has a greater demand for its graduates than it can supply.

Library—The student has the complete use of the University of Kentucky Library, fourth largest library in the south, plus the College library of 3,000 volumes and pharmaceutical journals.

High School Requirements—The most important high school requirement is the student's position in his class. If he is near the top, he has demonstrated his ability to do good work in school. He should be at least in the upper half of his class scholastically, and should have a reputation of good character. It is most essential that he have a good command of the English language, being able to read, speak, and write well. A good understanding of mathematics is most useful, with one or more years of laboratory science, especially chemistry. Foreign languages are not required and Latin is not necessary, but would be most useful.

Prepharmacy Requirements—The equivalent of two years of liberal arts and basic sciences is required for admission to the professional program. This preprofessional work may be taken at the University of Kentucky, or at any accredited institution.

Minimum Requirements for Admission to the College of Pharmacy

1 year English Composition
1 year Biology with laboratory (General Botany, General Zoology)
1 year Mathematics (Algebra, Trigonometry)
1 year Physics with laboratory
Chemistry,
(a) General Inorganic, including qualitative analysis
(b) Quantitative Analysis
Electives sufficient for Junior classification.
(67 semester hours).

The electives are chosen from such areas as—

Ancient and Modern Languages	History
Anthropology	Humanities
Art	Mathematics
Commerce	Music
Economics	Philosophy
Education	Psychology
English and Speech	Sociology
Geography	

RECOMMENDED PRE-PHARMACY PROGRAM

First Year

Course	Cr.
Chem. 110 (1a)—General Chemistry	5
Eng. 101 (1a)—English Composition	3
Bot. 101 (1)—General Botany	4
Math. 101 (5)—College Algebra, or Math. 111 (17)—College Algebra	3
Military or Aerospace Science, or Elective	2
Physical Education	1
	18
Chem. 112 (1b)—General Chemistry	5
Eng. 102 (1b)—English Composition	3
Zool. 100 (1)—Principles of Animal Biology	4
Math. 112 (18)—Trigonometry	3
Military or Aerospace Science, or Elective	2
Physical Education	1
	18

Earl Platt Slone, Ph.G., M.A., is Dean of the College of Pharmacy.

Second Year

Physics 211 (1a)—General Physics	5
Chem. 226 (22)—Analytical Chemistry	5
Military or Aerospace Science, or Elective	2
Electives	5
	17

Physics 213 (1b)—General Physics	5
Economics 251 (51)—Principles of Economics	3
Microbiology 200 (52)—Principles of Bacteriology	4
Military or Aerospace Science, or Elective	2
Electives	3
	17

It is suggested that the student distribute his electives among several disciplines, rather than concentrate in any particular area.

All students must demonstrate a minimum proficiency in typing, must offer it as an elective, or must be concurrently registered in an elementary typing course to be eligible to begin the professional course.

Admission to the College of Pharmacy is limited to sixty students.

All male freshmen and sophomores who are citizens of the United States, and who conform to the physical requirements as prescribed by the Department of Defense for units of the Reserve Officers' Training Corps are required to take the basic course in Military Science or Aerospace Science. Those who are not physically qualified, those taking prepharmacy at an institution not requiring Military or Aerospace Science, and all women prepharmacy students, must present 8 hours of additional electives in lieu of the Military requirement.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Science in Pharmacy is offered on completion of a minimum of 177 semester hours of credit, including Military or Aerospace Science and Physical Education, with a quality point standing of 2.0 out of a possible 4.0.

The pre-pharmacy program of 67 semester hours of credit as tabulated on page 4 followed by the three years of professional training with 110 semester hours of credit as shown, constitute the requirements for graduation.

PROFESSIONAL PROGRAM

Third Year

Course	Cr.
Phar. Chem. 300 (31a)—Organic Pharmaceutical Chemistry	5
Phar. 310 (21)—Theoretical Pharmacy	4
Phar. 305 (26)—Pharmaceutical Calculations	3
Phar. 300 (22)—History and Ethics of Pharmacy	3
Electives*	3
	18

Course	Cr.
Phar. Chem. 302 (31b)—Organic Pharmaceutical Chemistry	5
Phar. 320 (24a)—Pharmaceutical Technology	4
Phar. Chem. 304 (32)—Inorganic Pharmaceutical Chemistry	3
M.M. 220—Biological Pharmaceuticals	3
Electives*	3
	18

Fourth Year

Phar. Chem. 400 (102)—Biochemistry	4
M.M. 334 (11a)—Physiology and Pharmacodynamics	4
M.M. 330 (27a)—Pharmacognosy	3
Phar. 330—Theoretical Pharmacy	4
Phar. 335 (35)—Pharmaceutical Law	3
	18

Phar. Chem. 402 (103)—Drug Assay	4
M.M. 346 (11b)—Physiology and Pharmacodynamics	4
M.M. 342 (27b)—Pharmacognosy	3
Phar. 340 (24b)—Pharmaceutical Technology	4
Electives	3
	18

Fifth Year

Phar. Chem. 404 (104) Chemistry of Medicinal Products	3
M.M. 450 (138a)—Pharmacology and Toxicology	5
Phar. 350 (111a)—Pharmaceutical Dispensing	5
Phar. 356 (31)—Drug Store Management	3
Phar. 355 (122a)—Modern Therapeutic Agents	3
	19

Phar. Chem. 406—Chemistry of Medicinal Products	3
M.M. 462 (138b)—Pharmacology and Toxicology	5
Phar. 360 (111b)—Pharmaceutical Dispensing	5
Phar. 366 (32)—Drug Store Merchandising	3
Phar. 365 (122b)—Modern Therapeutic Agents	3
	19

REQUIREMENTS FOR PHARMACY LICENSURE IN KENTUCKY

In order to qualify for licensure in Kentucky, the aspirant should thoroughly familiarize himself with the registration specifications. Prior to the passing of the Kentucky Board of Pharmacy examination, the final step in the licensure requirements, one must complete the curriculum requirements and obtain a degree from an accredited college of pharmacy. In addition, he must be 21 years of age, must be of good moral character, must satisfy the internship requirement of fifty-two average work weeks under the direct personal supervision of a registered pharmacist, and must present to the Kentucky Board of Pharmacy, a notebook covering the details of his practical training properly certified by the pharmacists who have supervised his internship. The applicant will bring his notebook to the examination and turn it in to be checked and become a part of the grade in practical work.

Boards of pharmacy will allow credit for claims of internship required under the pharmacy laws provided:

a. The period of internship is earned after completing one year of the pre-pharmacy curriculum in an accredited college.

b. The period of internship is not concurrent with college attendance. (Internship is not recognized that is obtained during Christmas, Easter, or mid-semester vacations. However, internship obtained during summer months will count when properly filed.)

c. The claim is corroborated by records on file in the Kentucky Board of Pharmacy office showing the beginning

* Electives must be chosen from Phil. 200, 220, 230.

and the ending of the internship claimed as supplied by the applicant during his training period, and by the pharmacist who supervised the internship during the training period. In every instance the applicant must notify the Kentucky Board of Pharmacy of the beginning and the end of his employment under the supervision of a registered pharmacist within ten days of the beginning and ending of such employment. It is also necessary for the pharmacist supervising the internship to similarly notify the Kentucky Board of Pharmacy of the commencement and termination of an intern's employment.

d. The period of internship was earned in a pharmacy acceptable to the Board.

NATIONAL PROFESSIONAL FRATERNITIES AND SORORITIES

Chapters of three national, professional Greek letter fraternities are on the campus in Lexington; Alpha Zeta Omega, Kappa Psi, and Phi Delta Chi. Membership in these is open to those students having attained high scholarship with qualities of leadership.

The women of the College are represented by a national pharmaceutical sorority, Lambda Kappa Sigma, Alpha Nu Chapter.

Rho Chi Honorary Pharmaceutical Society has established a chapter at this institution. This is an honor society.

PHARMACEUTICAL CHEMISTRY

FACULTY

Arthur C. Glasser, William S. Johnson, and Ronald E. Orth.

Course Descriptions

300(31a) *Organic Pharmaceutical Chemistry.* (5) I
A comprehensive course in the preparation and properties of aliphatic compounds with emphasis on those compounds which are related to pharmacy. Lecture, three hours; lab, six hours. Prereq: Chemistry 110 and 112. *Orth.*

302(31b) *Organic Pharmaceutical Chemistry.* (5) II
A course similar to Chemistry 300 in which the aromatic compounds are studied. Official products are emphasized in their proper sequence as the course progresses. Lecture, three hours; lab, six hours. Prereq: Pharmaceutical Chemistry 300. *Orth.*

304(32) *Inorganic Pharmaceutical Chemistry.* (3) II
A review of inorganic chemistry in which a comprehensive study is made of the physical and chemical properties of all official inorganic chemicals. Lecture, two hours; lab, three hours. Prereq: Chemistry 110 and 112. *Johnson.*

400(102) *Biochemistry.* (4) I
A fundamental course in the chemistry and interrelationships of carbohydrates, lipids, and proteins, as well as the role of enzymes, vitamins, and hormones in physiological process. Laboratory exercises parallel the lecture material. Lecture, three hours; lab, three hours. Prereq: Pharmaceutical Chemistry 302. *Glasser.*

402(103) *Drug Assay.* (4) II
Modern methods of analysis of medicinal products including synthetic drugs, fixed and volatile oils, alkaloids, glycosides, vitamins, and enzymes. Laboratory exercises selected on basis of application to pharmaceutical products. Lecture, two hours; lab, six hours. Prereq: Chemistry 226 and Pharmaceutical Chemistry 400. *Glasser.*

404(104) *Chemistry of Medicinal Products.* (3) I
A study of the official and more important non-official medicinal agents with respect to their physical and chemical properties, relationships of chemical structure to physiological activity, as well as their potential incompatabilities. Lecture, three hours. Prereq: Phamaceutical Chemistry 400. *Glasser.*

406 *Chemistry of Medicinal Products.* (3) I
Continuation of Pharmaceutical Chemistry 404 to include considerations of such topics as alkaloids, glycosides, steroids, and other agents. Lecture, three hours. Prereq: Pharmaceutical Chemistry 404. *Glasser.*

*500(101a) *Advanced Organic Pharmaceutical Chemistry.* (3) I
A study of the classification, source, properties, synthesis, and uses of organic medicinal chemicals used as therapeutic agents. Lecture, one hour; lab, four hours. Prereq: Pharmaceutical Chemistry 300 and 302. *Orth.*

*502(101b) *Advanced Organic Pharmaceutical Chemistry.* (3) II
A continuation of Chemistry 500. Lecture, one hour; lab, four hours. Prereq: Pharmaceutical Chemistry 300 and 302. *Orth.*

PHARMACY

FACULTY

Norman H. Franke, Howard Hopkins, Charles T. Lesshafft, Jr., Paul Parker, W. F. Rehberg, and Harry A. Smith.

Course Descriptions

300(22) *History and Ethics of Pharmacy.* (3) I
A study of the development of the profession of pharmacy, emphasizing the historical background and ethical principles upon which the profession rests. The nature and place of pharmaceutical services in society are considered. The moral standards and professional conduct required of a pharmacist are emphasized. Lecture, three hours. *Franke.*

305(26) *Pharmaceutical Calculations.* (3) I
A systematic study of arithmetical problems encountered in Pharmacy. Lecture, three hours. *Rehberg.*

310(21) *Theoretical Pharmacy.* (4) I
A study of the fundamental principles and processes used in pharmacy and the development of proper pharmaceutical technic in the laboratory. Lecture, three hours; lab, three hours. *Franke.*

320(24a) *Pharmaceutical Technology.* (4) II
The applications of physicochemical principles to pharmaceutical systems. The course is intended to provide a basis for analyzing and interpreting the physical and chemical aspects of pharmaceutical systems. The lectures and laboratory experiments concern the theory and technology of dispersed systems and surface properties, stability and preservation of pharmaceuticals, and rate processes as they apply to pharmaceutical preparations. Lecture, 3 hours; lab, three hours. Prereq: Pharmacy 305 and 310. *Hopkins.*

330 *Theoretical Pharmacy.* (4) I
A continuation of Pharmacy 310 at a more advanced level. Lecture, three hours; lab, three hours. Prereq: Pharmacy 320; Pharmaceutical Chemistry 302, 304; Materia Medica 220. *Franke.*

335(35) *Pharmaceutical Law.* (3) I
A study of legislation, regulations, and rulings governing the practice of Pharmacy and the sale of drugs, poisons, cosmetics and devices. Lecture, three hours. Prereq: Pharmacy 300. *Smith.*

340(24b) *Pharmaceutical Technology.* (4) II
A continuation of Pharmacy 320 at a more advanced level. Lecture, three hours; lab, three hours. Prereq: Pharmacy 330. *Rehberg.*

* May be elected only by permission of instructor and with consent of the Dean. Hours to be arranged.

350(111a) *Pharmaceutical Dispensing.* (5) I

All aspects of prescription compounding and dispensing are studied. Emphasis is placed on the application of fundamental principles and technics to the compounding of prescriptions. The first semester's work is chiefly concerned with the compounding of solid-type prescriptions such as bulk powders, capsules, powder papers, ointments, and suppositories. Lecture, three hours; lab, four hours. Prereq: Pharmacy 335, and 340. *Lesshafft.*

355(122a) *Modern Therapeutic Agents.* (3) I

A comprehensive study of those drugs most extensively encountered in professional practice. Their uses, properties, and proprietary forms are considered. Lecture, three hours. Prereq: Pharmacy 340; Pharmaceutical Chemistry 304, 400; Materia Medica 346. *Hopkins.*

356 *Drug Store Management.* (3) I

A study of the management and operation of a retail drug store including the position of retail pharmacy in the marketing process, location, layout, organization, policies, personnel problems, public and inter-professional relations, and the financial control applicable to retail pharmacy. Lecture, three hours. Prereq: Pharmacy 335 and Econ. 251. *Smith.*

360(111b) *Pharmaceutical Dispensing.* (5) II

A continuation of Pharmacy 350. The second semester's work is chiefly concerned with liquid prescriptions. Lecture, three hours; lab, four hours. Prereq: Pharmacy 350. *Lesshafft.*

365(122b) *Modern Therapeutic Agents.* (3) II

A continuation of Pharmacy 355. Lecture, three hours. Prereq: Pharmacy 355. *Hopkins.*

366(32) *Drug Store Merchandising.* (3) II

A study of merchandising policies and technics applicable to retail pharmacy with emphasis on special and professional departments; includes such topics as buying motives, buying of merchandise, stock control, display, advertising, salesmanship, and professional promotion. Lecture, three hours. Prereq: Pharmacy 356. *Smith.*

370(130) *Pharmaceutical Manufacturing.* (2-5)

Methods of larger scale manufacture of compressed tablets, solutions, mixtures, ointments and creams, and suppositories. The use and care of equipment involved. Field trips to medium sized pharmaceutical manufacturing concerns. Prereq: Permission of department head. *Staff.*

395 *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. Prereq: Permission of the instructor. May be repeated to a maximum of six credits. *Staff.*

MATERIA MEDICA

FACULTY

Richard M. Doughty and Charles A. Walton.

Course Descriptions

220(31b) *Biological Pharmaceuticals.* (3) II

Practical applications of microbiological techniques and principles as related to pharmacy and medicine. Special consideration is given pathogenic organisms, biological products and antibiotics. Lecture, two hours; lab, two hours. Prereq: Microb. 200. *Doughty.*

330(27a) *Pharmacognosy.* (3) I

A study of official and non-official drugs of vegetable and animal origin. Macroscopic and microscopic examinations are made. Newer drugs and synthetics related to natural products are included. Lecture, two hours; lab, three hours. Prereq: Pharmaceutical Chemistry 300 and 302 and Botany 101. *Doughty.*

334(11a) *Physiology and Pharmacodynamics.* (4) I

Basic human anatomy and physiology with primary emphasis on the functioning of the nervous, muscular, endocrine, excretory, respiratory, circulatory, digestive and reproductive systems, including principal anomalies of these systems and the pharmacodynamics of typical drugs. Lecture, three hours; lab, two hours. *Walton.*

342(27b) *Pharmacognosy.* (3) II

A continuation of M.M. 330. Lecture, two hours; lab, three hours. *Doughty.*

346(11b) *Physiology and Pharmacodynamics.* (4) II

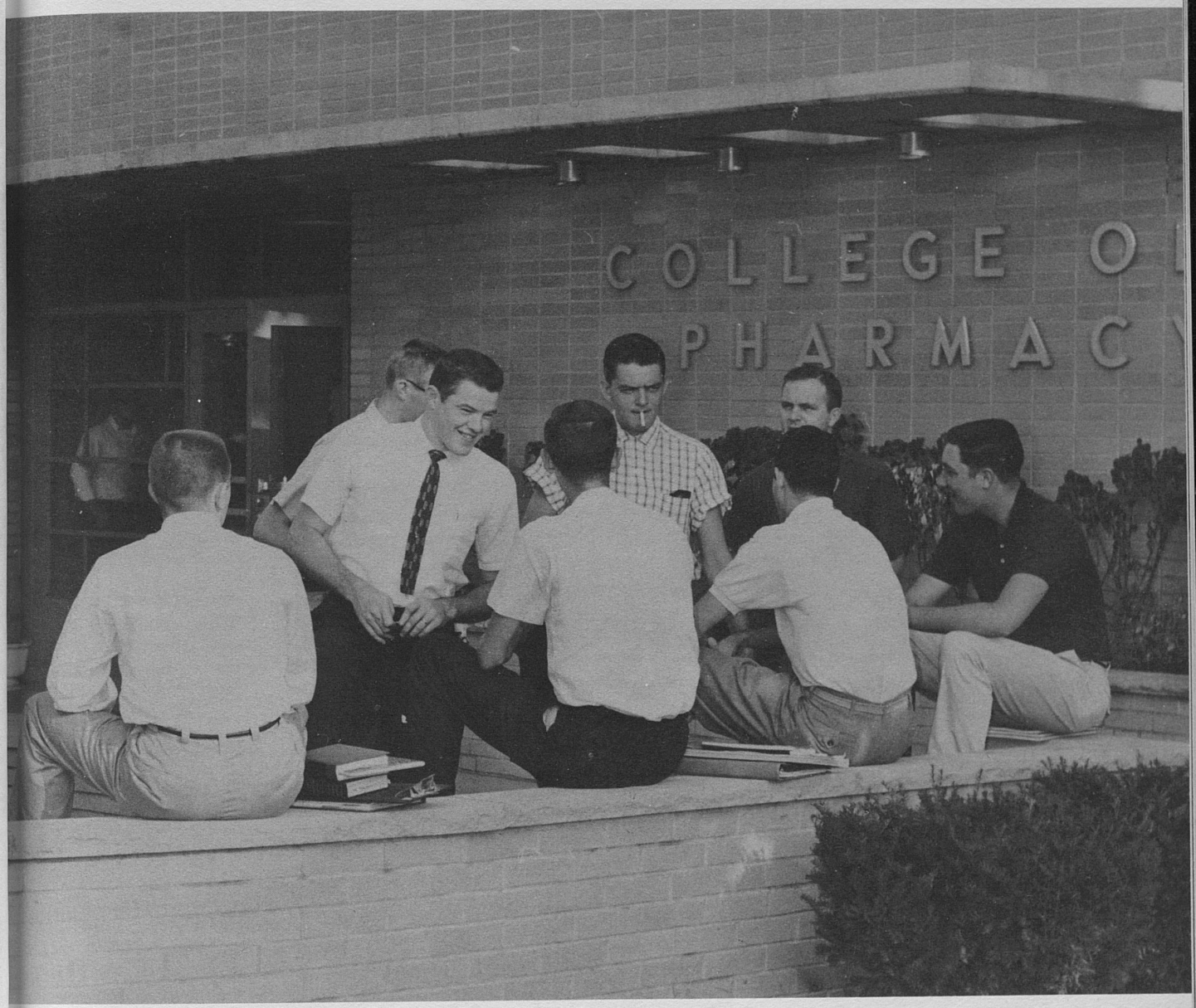
A continuation of M.M. 334. Lecture, three hours; lab, two hours. Prereq: M.M. 334. *Walton.*

450(138a) *Pharmacology and Toxicology.* (5) I

A presentation of the pharmacodynamic actions, modes of administration, toxic manifestations of drugs, and the relationship of pharmacodynamic action to therapeutic use. Lecture, four hours; lab, two hours. Prereq: M.M. 334, 346, and Pharmaceutical Chemistry 400. *Walton.*

462(138b) *Pharmacology and Toxicology.* (5) II

A continuation of 450. Lecture, four hours; lab, two hours. Prereq: M.M. 450. *Walton.*


COLLEGE O
PHARMACY



MEDICINE

The College of Medicine at the University of Kentucky was authorized in 1954 by action of the Board of Trustees of the University. An initial appropriation for construction was made by the State Legislature in 1956, and definitive planning of the facilities and program was then initiated. The first class was admitted in the fall of 1960. The College will be fully accredited, according to regularly established procedure, before the first class is graduated. In full operation the College will admit 75 students per year.

The College of Medicine is a unit of the University's new Medical Center, which also includes a College of Dentistry, a College of Nursing, and a 500 bed University Hospital. The Medical Center is located on a 39-acre site on the campus of the University.

The Medical Science Building includes instructional, laboratory, and administrative space for the College of Medicine, the College of Dentistry, the College of Nursing and the Medical Library. Contiguous and connecting are the University Hospital, the Outpatient Service, clinical facilities of the College of Dentistry, the University Health Service, the Rehabilitation Service, and facilities for ambulant hospital patients and other community health services.*

The Medical Library collections have been under development for four years. The Library houses an outstanding collection of medical literature, with approximately 1,200 journals under subscription and about 60,000 volumes now on hand.

PHILOSOPHY AND PROGRAM

A major objective of the College of Medicine is to prepare students who will be well educated in the sciences and the art of medicine, and capable, with further training and experience, to engage in the practice of general medicine or any of its specialties. Specialty training will be provided through internships and residency programs. The educational program and facilities are designed to provide opportunities for integrated instruction within and among the basic and clinical sciences.

The educational philosophy of the College encompasses the concepts of comprehensive medicine. In addition to providing a thorough grounding in the principles of each major scientific and clinical subject, the curriculum will emphasize the relationships between medical problems and total health; the role of emotional, social, and environmental factors in human response to illness and health needs; the importance of continuity in medical supervision and health maintenance; and opportunities for independent work in areas of special interest. The schools bear a special responsibility to prepare physicians who can meet the health needs of the people of Kentucky, especially those in small towns and rural areas. Training will also be available for those who wish to pursue special interests in medical education, research, or administration.

REQUIREMENTS FOR ADMISSION

Applicants for medical college will be expected upon matriculation to have completed a liberal arts degree program in an accredited college of arts and sciences. Applicants with only three years of college will be considered if they present outstanding qualifications, indicating personal maturity as well as academic competence. Some colleges give credit for medical school work, thus enabling three-year applicants to qualify for the baccalaureate degree upon completion of the first year in medical college. Applicants from a non-accredited program may be considered if their academic background and other credentials demonstrate superior ability.

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 preparing for medical school, fundamental undergraduate college training in physics, chemistry, biology, and English is essential. Minimal requirements are satisfied with the equivalent of two semesters of study in physics; two semesters in the biological sciences; four

William R. Willard, B.S., M.D., Dr.P.H., D.Sc., is dean of the College of Medicine.

* The clinical facilities are scheduled to open about January 1, 1962.

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 natural science areas should include laboratory work. Advanced work in mathematics is highly recommended, as are courses in the psychological and social sciences. Students are also encouraged to follow special interests which they may have in philosophy, literature, or the fine arts.

The student should demonstrate his capacity for advanced work through the concentrated study of at least one subject in a major area of his interest by completing courses beyond the introductory level which provide an opportunity for independent work. Courses in subjects such as human anatomy, medical biochemistry, medical bacteriology, and mammalian physiology will be covered in medical school, and are not essential in premedical education.

Candidates who meet admission requirements and demonstrate excellence will be given equal consideration whether they major in one of the natural sciences, the social sciences, or in the humanities.

CRITERIA OF SELECTION

In admitting students to the College of Medicine, the University will endeavor to select those students who show promise of making the best possible future physicians. Applicants will be judged on the basis of their total qualifications and in comparison with other applicants.

As a State-supported school, the College of Medicine will give preference to qualified residents of Kentucky. A number of well-qualified out-of-state candidates will be admitted each year, however, and they are urged to apply.

Selection from among applicants who meet the requirements for admission to the University and the general premedical education requirements of the College of Medicine will be based on a number of criteria.

A high level of academic performance in an undergraduate college is important. It is recognized, however, that a meaningful evaluation of student performance must consider many factors in addition to the grades which a student has received. It is anticipated that successful applicants will have a grade point average for all premedical work of 2.75 or higher, based on a 4 point scale. Exceptions may be made for students whose performance in college shows consistent and impressive improvement.

Scholastic aptitude as measured in certain objective tests also will be considered. All applicants will be required to take the Medical College Admission Test. It has been demonstrated that the scores obtained in this test provide some basis for prediction of a student's relative ability to cope with the medical sciences.

Consideration will be 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. Applicants will also be judged according to the personality characteristics which they demonstrate. Friendliness, warmth, compassion, and integrity are all essential traits in the physician. The practice of medicine involves the physician in continual relationships with people—with his patients, and with other members of the health team. Often the physician's ability to communicate effectively will determine his degree of success in the diagnosis or management of a patient's health problem and in his other professional activities.

Because the practice of medicine and the life of the medical student require a great investment of energy and are demanding of time and interest, it is essential that a prospective medical student be in good health and that his motivation to study medicine be sufficiently strong to sustain him in the face of difficulties. The Committee on Admissions will be interested in factors influencing the applicant's choice of medicine as a career and in his depth and strength of motivation.

THE FACULTY

The College of Medicine is organized into 13 departments and will have, in full development, more than 100 full time faculty members and additional part time clinical faculty. Departments are as follows:

BASIC SCIENCE	CLINICAL SCIENCE
Anatomy	Medicine
Behavioral Science	Obstetrics and Gynecology
Biochemistry	Pediatrics
Pathology	Psychiatry
Pharmacology	Radiology
Physiology	Surgery
	Community Medicine

Curriculum

During the first year, students will receive basic instruction in Anatomy, Biochemistry, Physiology, and Behavioral Science. There will also be multidiscipline teaching in the Neurological Systems, Human Growth and Development, Genetics, Statistics, and an introduction to Clinical Medicine.

Second year students will continue their work in the sciences basic to medicine with major concentration in Pharmacology, Infectious Disease, and Pathology. They will also study Physical Diagnosis, Laboratory Diagnosis, Pathophysiology, Psychiatry, Epidemiology, Community Health, and an introduction to several of the clinical specialties.

The curriculum in the first two years will be organized to provide both concentration in the specific disciplines basic to medicine and an opportunity to integrate the concepts and principles of the basic and the clinical sciences.

During the third and fourth years, major concentration will be in the areas of clinical medicine with continuing opportunities for appropriate study of the basic sciences. Primary clinical experience will be obtained in the University Hospital and its related facilities.

Opportunities will also be available for graduate study in the sciences basic to medicine and for postgraduate intern and residency study in the clinical specialties.

First Year Courses

Courses	Crs.
Anatomy 511—Introduction to Anatomy	4
Anatomy 512—Microscopy and Ultrastructure	3
Anatomy 513—Developmental Anatomy	2
Behavioral Science 511—Health and Society	2
Biochemistry 511—Biochemistry	7
Physiology 511—Medical Physiology	7
Conjoint 512—Human Growth and Development	4
Cojoint 518—Conjoint Sciences, Systems and Genetics	4
Conjoint 516—The Nervous System	5
Conjoint 514—Introduction to Clinical Medicine	2

ANATOMY

FACULTY

William H. Knisely, Robert S. Benton, William B. Cotter, Lois A. Gillilan, Robert E. McCafferty, Miroslava Winer.

206 *Elementary Anatomy.* (4) I

The objectives of the course include: A familarization with the terminology applying to the major parts of the body; the organs, systems and regions, and the terminology applying to motion in the various parts of the body. Information is given on the constituents of cells, the ways in which cells are united with each other and with intercellular substances to form tissues, organs and regions of the body. Students will be informed about the structure of the body in such a way that the functions of the body can be better understood. Lectures, three hours; lab-discussion, one hour. Prereq: An introductory course in Biology, Zoology or Botany and consent of the Chairman. Freshmen admitted by special permission. *Staff.*

503 *Independent Work in Anatomy.* (3) I, II, S

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 lab work by individual arrangement. Prereq: An introductory course in Biology, Zoology, or Botany and permision of the Chairman. *Staff.*

PHYSIOLOGY

FACULTY

Loren D. Carlson, Richard S. Allen, James W. Archdeacon, Louis L. Boyarsky, Robert D. Galvin, David Megirian, Judith Pratt and Michael F. Wilson.

206,207 *Elementary Physiology.* (3) I, II, S

Emphasis is placed upon the physiology of muscle, circulation, respiration, digestion, absorption, energy metabolism, and excretion. Lectures, two hours; lab, demonstration, two hours. Open to freshmen by instructor's consent. *Archdeacon and Galvin.*

504 *Independent Work in Physiology.* (3) I, II, S

A study of some advanced problems in physiology under the direct supervision of the instructor. Discussion period, one hour; lab, four hours. Prereq: Instructor's consent. *Staff.*

505,506 *Architecture of the Human Skeleton.* (4) II, S

A course for students of Anthropology and Art. A detailed study of the architecture, function, joint combination, and muscular relations of bone. Lectures, two hours; lab, four hours. *Allen.*

507 *Introduction to Endocrinology.* (3) I, S

Introductory study of the development, structure, and fundamental functions of endocrine glands. Lectures, three hours. Prereq: General Chemistry; instructor's consent. *Archdeacon, Allen, Carlson.*

508,509 *Comparative Neurophysiology.* (4) I

A comparative study of anatomy and physiology of the nervous system. Lectures, two hours; lab, four hours. Prereq: Instructor's consent. *Allen and Boyarsky.*

511 *Medical Physiology.* (7)

Instruction in physiology for medical students. *Staff.*

512,513 *Cellular Physiology.* (3) I, S

An intensive study of general physiological principles with emphasis on the chemistry and physics of the cell. Lectures, two hours; lab, two hours. Prereq: Physics and General Chemistry. *Boyarsky.*

516,517 *Principles of Mammalian Physiology.* (5) I

A comprehensive discussion of mammalian physiology using advanced texts and library reading; includes function as related to major body system and laboratory experience with major experimental techniques. *Staff.*

602 *Physiological Technique.* (2) II

Training in techniques used in physiological research. Lecture, one hours; lab, two hours. *Staff.*

604 *Experimental Endocrinology.* (2) II

Experimental study of endocrine functions. Lecture, one hour; lab, two hours. Prereq: Physiology 507. *Allen, Archdeacon and Carlson.*

606,607 *Advanced Neurophysiology.* (3) II

Electrical analysis of nerve fibres and synapse; nerve impulse theories, reflexes, metabolism and central nervous function are considered from the cybernetic viewpoint. Lectures, two hours; lab, two hours. Prereq: Physiology 508, 509 and 512, 513; instructor's consent. *Boyarsky and Megirian.*

704 *Graduate Seminar in Anatomy and Physiology.* (1) I, II

791 *Research in Physiology.* (3) I, II, S

Staff.



NURSING

The College of Nursing is a unit of the totally new Medical Center being developed on the main campus of the University. The Center will also include a College of Medicine, a College of Dentistry, and University Hospital facilities. Both the College of Medicine and the College of Nursing admitted their first class of students in September, 1960.

Nursing is one of the most exciting, rewarding and demanding professions a young person can choose. A nurse learns to minister to the sick and give counsel for health. The settings in which nursing is practiced have become numerous, providing different rewards and making different demands on the nurse. Nurses work in cooperation with physicians, dentists, physical therapists, nutritionists, social workers and others to help people grasp that precious thing called health.

Unlimited opportunities exist for the well qualified nurse in care of the sick, public health preventive programs, health education and nursing education. To meet Kentucky's nursing needs and those of society at large, many young men and women are needed who will prepare themselves through sound, basic and advanced education to assume leadership positions in all areas of nursing.

Nursing Education. The baccalaureate degree program will seek to prepare nurses who will become capable of effective participation with the health team, of giving comprehensive nursing care requiring a high degree of professional judgment, of assuming leadership in the planning of comprehensive care for patients, and for coordination and supervision of the activities of auxiliary nursing personnel. It must be emphasized that the degree of professional competence implied in this statement may not be fully developed within the given period of formal education.

The baccalaureate degree program has as its main objective the preparation of students to perform general nursing functions. The philosophy of the total Medical Center is that the beginning professional program should prepare for "undifferentiated" service to patients rather than provide preparation for the specialties. In the case of nursing, this means that nurses will not be prepared at the baccalaureate level for such specialties as head nursing, obstetrical nursing, psychiatric nursing, etc. Students will be provided opportunities for the acquisition of an educational background and for the development of ability which will enable them to perform the leadership roles in nursing care as they acquire further experience.

For the four years nursing students will attend classes —in many cases with students enrolled in other colleges of the University—where the sheer excitement of learning will be discovered.

While certain general education subjects such as English and biological and social sciences are a necessary part of any college education, they serve as a foundation for nursing and constitute approximately one half of the semester hours required in the program. Additional subjects may be elected because of the student's personal interest.

The majority of courses during the first year will be in the area of general education. Nursing courses, which will start in the first year, will gradually increase during the four years. Along with classroom instruction students will have the opportunity to learn and to apply knowledge and skills in hospitals, schools, and other community agencies as members of the health team. Some of these agencies will be in the Lexington area and some learning opportunities will be planned in more rural areas of Kentucky. Along with doctors, medical students, social workers, physical therapists and nurses, students will be working in an attempt to defeat disease and improve health.

Nursing students learn about people; why they feel and act as they do and how to work with them. Most important of all will be the opportunity to learn more about one's self.

A student entering the program from high school will, upon successful completion of the total program, be qualified to write the required State examination for license as a registered nurse.

Accreditation—The National League for Nursing is the professional accrediting organization for schools of nursing. A college cannot request an accrediting survey until the first class of students has reached its fourth

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Marcia A. Dake, M.A., Ed.D., is dean of the College of Nursing.

year in the program. The College of Nursing will apply for accreditation at the earliest feasible date. Accreditation, when granted, is retroactive.

FACULTY

Marcia A. Dake, Charlotte C. Denny, Mildred M. Hill, Jane Anne Kennedy, Virginia Lane, Marion Pearsall, Judith D. Pratt, Marion Pool, Suzanne F. Prough, Mildred M. Seyler, and Cecelia Zyniewski.

Curriculum Plan

The program currently under development requires a minimum of 128 semester hours and fulfillment of the area requirements set up by the college before becoming eligible for the B.S.N.

The area requirements are:

Physical and Biological Sciences	16 s.c.
Liberal and Fine Arts	15 s.c.
Behavioral Sciences	12 s.c.
English and Communication	12 s.c.
Electives	9 s.c.
Nursing	64 s.c.

The plan of study for the first year includes:

First Semester	
Foundations of Nursing	4 s.c.
General Zoology	4 s.c.
Sociology	3 s.c.
English	3 s.c.
Physical Education	1 s.c.
Elective	2 s.c.
Second Semester	
Foundations of Nursing	4 s.c.
Chemistry	4 s.c.
Introduction to Psychology	4 s.c.
English	3 s.c.
Physical Education	1 s.c.

REQUIREMENTS FOR ADMISSION

1. Application forms may be secured from the Dean of Admissions and Registrar, University of Kentucky.
2. Completed applications must be returned to the above office by April 15, 1961.
3. The following materials will be reviewed in selecting students for admission to the College of Nursing.
   a. Transcript including at least the first three years of high school work.
   b. The applicant's rank in his high school class at the end of sixth semester.
   c. Results of the College Qualification Test. (Results of other tests will be accepted only by special permission of the Dean of Admissions.)
   d. High school principal's recommendation of the student.
   e. Health form, completed by the family physician.

Notice regarding admission will be made by the Dean of Admissions by May 15, 1961.

TRANSFER STUDENTS

The College of Nursing will be prepared in 1961 to offer only the first and second years of the basic degree program in nursing. The stage of development of both faculty and clinical facilities will be such that questions of transfer to the nursing program must be considered on an individual basis. Students desiring information relative to transfer are advised to contact the Dean, College of Nursing.

RESIDENCE

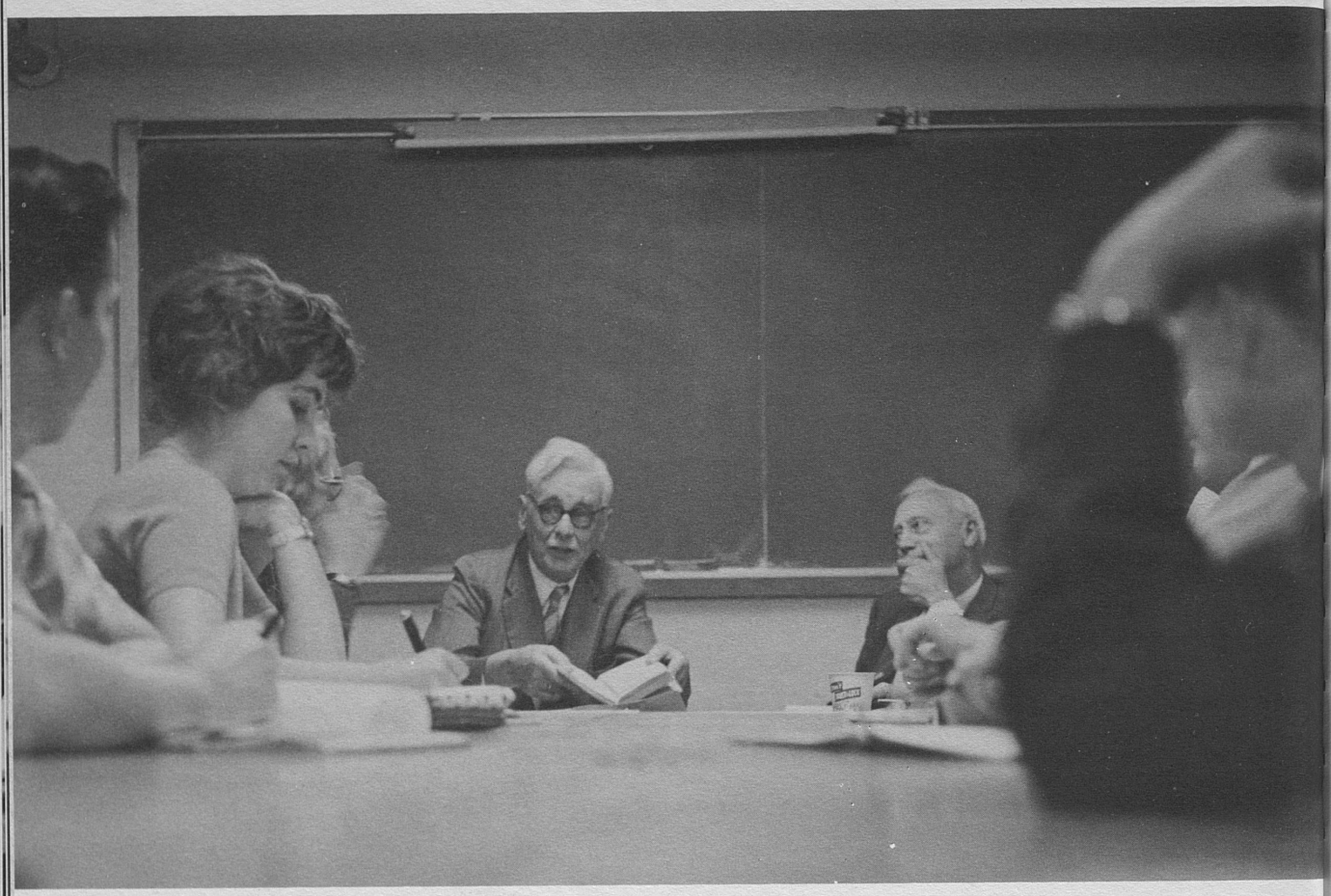
Students entering the College of Nursing, as all other students of the University, will live in regular University housing facilities.

EDUCATION FOR REGISTERED NURSES

Graduates of State approved hospital schools of nursing may be admitted to the College of Nursing to complete requirements for the degree Bachelor of Science in Nursing. All students must satisfy academic area requirements as listed above.

Registered nurses should plan to complete a minimum of 30 credit hours in non-nursing subject matter prior to registering for upper division nursing courses. Courses in non-nursing may be pursued in any accredited institution of higher education. Registered nurses beginning such work are urged to seek consultation from the College of Nursing in the selection of course work which would be acceptable in fulfilling requirements for the degree.





GRADUATE SCHOOL

Graduate work is offered in all colleges in the University. Approximately a thousand courses acceptable for graduate credit are listed in the catalog, under the various departments.

The following advanced degrees are conferred by the University:

MASTER OF ARTS
MASTER OF SCIENCE
MASTER OF SCIENCE IN LIBRARY SCIENCE
MASTER OF SCIENCE IN PUBLIC HEALTH
MASTER OF SCIENCE IN AGRICULTURE
MASTER OF SCIENCE IN AGRICULTURAL ENGINEERING
MASTER OF SCIENCE IN HOME ECONOMICS
MASTER OF SCIENCE IN CIVIL ENGINEERING
MASTER OF SCIENCE IN ELECTRICAL ENGINEERING
MASTER OF SCIENCE IN MECHANICAL ENGINEERING
MASTER OF SCIENCE IN METALLURGICAL ENGINEERING
MASTER OF SCIENCE IN MINING ENGINEERING
CHEMICAL ENGINEER (Ch.E.)
CIVIL ENGINEER (C.E.)
ELECTRICAL ENGINEER (E.E.)
MECHANICAL ENGINEER (M.E.)
METALLURGICAL ENGINEER (Met.E.)
MINING ENGINEER (E.M.)
MASTER OF ARTS IN EDUCATION
MASTER OF SCIENCE IN EDUCATION
MASTER OF BUSINESS ADMINISTRATION
MASTER OF MUSIC
SPECIALIST IN EDUCATION
DOCTOR OF EDUCATION (Ed.D.)
DOCTOR OF ENGINEERING (Engr.D.)
DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy is offered with major work in the following fields: Agricultural Economics, Animal Husbandry, Biology, Chemistry, Dairy Science, Diplomacy and International Commerce, Economics, Education, English, History, Mathematics, Microbiology, Physics, Psychology, Political Science, Guidance and Counseling, and in the combined fields of Sociology and Rural Sociology. Minor work may be carried in any department offering graduate courses.

The degree Doctor of Engineering is offered in Metallurgical Engineering.

Admission. A student who is a graduate of a fully accredited institution of higher learning and has an overall standing of 2.5 on a basis of 4.0 may apply for admission to the Graduate School by submitting to the Registrar of the University two official transcripts of undergraduate courses and a written application. Blanks for the latter may be obtained from the Registrar or from the office of the Graduate School. A student without an average of 2.5, if admitted, is designated as an "unclassified" student and may attain candidacy for a degree only upon conditions stated in the section "Application for Full Graduate Standing", below.

Albert Dennis Kirwan, M.A., LL.B., Ph.D., is dean of the Graduate School.

It should be clearly understood that a graduate student may not be able to begin immediately a full graduate program leading to the degree he desires. It may be necessary for him to satisfy certain prerequisites which he omitted in his undergraduate curriculum. These will be determined by the department in which the major work is to be done. In brief it may be stated that a graduate student may begin a full program in the fields in which he has the equivalent of a balanced undergraduate major; in some cases the equivalent of an undergraduate minor is adequate.

Admission to the Graduate School by the Registrar entitles a student to take such courses as he or she desires, provided the necessary preparatory courses have been taken. *However, admission does not automatically make a student an applicant for a graduate degree.*

ADVANCED DEGREES FOR FACULTY MEMBERS

Members of the faculty of the University of Kentucky having a rank higher than that of instructor may not be considered as candidates for advanced degrees from this institution.

THE GRADUATE RECORD EXAMINATION

All students working for graduate degrees must take three parts of the Graduate Record Examination (the Area Tests, the Aptitude Test, and the Advanced Test in the major subject). This should be done during the first term of graduate work.

APPLICATION FOR FULL GRADUATE STANDING

A graduate student desiring to earn a graduate degree must be approved as an applicant and as a candidate for a degree by the department in which he intends to major and by the Graduate School. This application should be made as soon as scores on the Graduate Record Examination are available and in any case prior to the beginning of the semester or term in which the degree is sought.

To be admitted as a candidate for a master's degree or an applicant for a doctor's degree a student must

have met the following requirements: (1) an average of at least 2.5 (midway between B and C) on a scale of 4.0 on all previous college work; (2) satisfactory scores (in the opinion of the department concerned and the Dean of the Graduate School) on three parts of the Graduate Record Examination (the Area Tests, the Aptitude Test, and the Advanced Test, if there is one, suitable to the student's major); and (3) a B average or better on all work taken while registered as a graduate student at the University of Kentucky. A student not having a 2.5 average on all previous college work may be admitted as a candidate for a master's degree or an applicant for a doctor's degree provided: (1) his performance on the Graduate Record Examination (in the opinion of the major area and the Dean of the Graduate School) is sufficiently high; or (2) in the judgment of the major area and the Dean of the Graduate School, he has demonstrated his competence in graduate work. (The Graduate Record Examination may be taken either before admission or during the first semester after admission.)

Graduate work taken before students are admitted as "applicants for degrees" will be evaluated by the major area and the Graduate School at the time the application for full graduate standing is considered, and the remaining requirements for the degree will be indicated, insofar as is feasible.

GRADUATING SENIORS AS PART-TIME GRADUATE STUDENTS

Seniors of the University of Kentucky lacking no more than six semester hours for graduation may register in the Graduate School with the consent of their college deans and the Dean of the Graduate School. Approval of the appropriate director of graduate study is required if the students are to be applicants for degrees. The total load of such a student shall not exceed twelve credits. The graduate residence assigned shall be one and one-half weeks for each semester hour of graduate work beyond the six or less credits needed to complete undergraduate requirements. The incidental fee shall be that of a full-time student in the school in which more than half of the work is taken. In cases where the load is evenly divided between the schools, the larger fee, if any, shall be assessed. Requirements for the undergraduate degree must be completed during the semester in which the student is allowed to register for part-time graduate work.

General Requirements for All Advanced Degrees

COURSES AND GRADES

All courses listed in the Graduate School Bulletin (both those numbered 500-599 and those numbered 700-799 may be counted as credit toward a graduate degree provided they are approved as an appropriate part of the student's graduate program by his graduate adviser or committee. An overall average of B on graduate work must be attained before an advanced degree may be awarded. An "incomplete" (I) must be converted within one calendar year after the close of the term in which the I is assigned.

No work is given graduate credit unless the student was enrolled in the Graduate School at the time during which the work was taken.

REGISTRATION AND CLASSIFICATION

Before registering each semester a graduate student should confer with the director of graduate study in his major subject. If convenient, this conference should come in advance of the day of registration and classification; in any case it must come prior to the completion of classification and the beginning of classes. For all regular graduate students the Graduate Office will require for each registration the signature of the director of graduate study indicating approval of the proposed program.

STUDENT LOADS AND SHORT COURSES

The normal load of a graduate student during any semester is twelve semester hours if he is working for a master's degree under Plan A, or if he is working for a doctor's degree. In no case may this load for a semester exceed fifteen semester hours. In the summer session the normal load is six hours and the maximum nine. Graduate students serving in the University as assistants or part-time instructors should register for less than the normal load, as determined by their advisers. Persons holding full-time working or professional assignments, whether employed by the University or not, may not take for graduate credit toward a degree in any single semester or term more than 3 or 4 credits. Two short courses of four weeks or less in length, or one short course of four weeks or less in length and two full term courses (except when the two full-term courses do not exceed a total of three credit hours) shall not be carried concurrently. A short course may not carry credit greater than the number of weeks it is offered.

RESIDENCE

A load for full-time residence comprises a minimum of 9 semester hours of graduate course work, or the equivalent in thesis research. In the summer session the corresponding load is 6 semester hours. Part-time residence during any semester is computed on the basis of one and one-half weeks of residence for each semester hour earned. Part-time students in the summer session receive one and one-half weeks per semester hour except for short courses of less than eight weeks, in which case residence shall not exceed the actual number of weeks involved.

Masters' candidates who wish to do research on their thesis problems do not need to register for a "thesis course" at all unless they need additional residence during their final semester, in which case they register simply for "Thesis" in order to obtain six weeks of residence—but no course credit. If in order to be eligible for veteran's subsistence they must register for more course work than they wish to, or if they are working on masters' theses which give no residence or credit, they may register for the 768 non-credit course.

Doctoral candidates workig on their dissertations and in need of residence should register for 769, with a note of the amount of residence recommended by their graduate supervisors.

TIME LIMIT FOR DEGREES

No course or residence credit is given for graduate study completed more than eight years prior to the date of the commencement at which the student expects to take his degree unless such credit or residence is specifically validated by the Graduate Council on written recommendation of the director of graduate study. No course or residence credit may be validated in this manner if completed more than twelve years prior to the commencement date.

PROFICIENCY IN ENGLISH

No student shall be approved for a graduate degree until he has demonstrated his ability to write accurate and effective English. A decision on this matter shall be based on the student's rating on the Graduate Record or equivalent examination and such other evidence as the director of graduate study or special committee and Graduate Council shall deem necessary.

GRADUATION

Advanced degrees may be conferred at the close of any semester or summer session, although commencement exercises are held only at the close of the academic year. *A student who is scheduled to receive his degree at the close of the academic year is expected to attend the commencement exercises unless he is excused in writing by the Dean of the Graduate School.* Students who are eligible to receive degrees at the end of a first semester or a summer session may elect to defer their graduation and participate in commencement exercises. Appropriate academic costume must be worn. The graduation fee covers the cost of the diploma, the hood, and, in the case of the master's degree (with thesis), the binding of the thesis.

Students intending to graduate at a given commencement must make formal application (at the Office of the Dean of the Graduate School) for the degree within the first two weeks of the semester or term of the commencement.

FEES

Registration fees per semester are $81.00 for residents of Kentucky; $181.00 for non-residents. Part-time graduate students who are legal residents of the state pay $9.00 per semester hour; non-residents pay $20.00 per semester hour. Students carrying full loads in the summer sessions pay one-half the regular semester fee. Those taking less than full loads pay the regular semester credit-hour fee.

Graduate students holding University fellowships and scholarships, graduate assistants, and instructors pay the fees assigned to Kentucky residents.

General Requirements for All Masters' Degrees

TRANSFER OF CREDITS

With the approval of his graduate adviser, the dean, and the registrar, a student may transfer up to six credits (but no residence) toward the satisfaction of the minimum requirements for masters' degrees, provided the work in question was taken while enrolled in a Graduate School.

To be eligible for such transfer, the student must have taken the courses in residence (rather than by extension) as an enrollee of an accredited graduate school.

EXTENSION AND CORRESPONDENCE WORK

Under certain conditions, up to six of the credits and nine weeks of the residence required for any master's degree in course may be satisfied by extension courses given in person by University of Kentucky instructors. No graduate credit is given for courses taken by correspondence.

M.A. OR M.S. DEGREE

Whether a candidate selects a Master of Arts or Master of Science degree is left to the option of the candidate and his major department. In general it may be said that a candidate with major work in the natural sciences should take the M.S. degree; others, the M.A.

COURSES AND CURRICULA

All courses listed in the Graduate School Bulletin are open to graduate students if approved by their directors of graduate study.

Graduate students are eligible to take (1) regular courses which meet as organized classes and (2) independent-study or research courses in which each student carries on investigations independent of class meetings; but at least one-half, and preferably three-fourths, of the minimum requirements for the master's degree shall be in regular courses.

All candidates for masters' degrees shall earn at least nine semester hours in courses numbered 600 or above. Exceptions to this rule may be made only with the approval of the Graduate Council.

SUSTAINED RESIDENCE

Normally candidates for masters' degrees shall spend at least two full summer terms or one semester in full-time study at the University. The minimum full load for a summer term is 6 semester hours and for a semester 9 semester hours. For individual superior students this requirement may be waived if recommended by the director of graduate study in the student's major subject and approved by the graduate dean. Minimum eligibility for being so recommended includes: (1) the satisfactory completion of 12 semester hours of graduate work, (2) the attainment of national average (or better) scores on the Aptitude and Advanced Test portions of the Graduate Record Examination, and (3) appropriateness of employment facilities and conditions which make feasible satisfactory completion of degree requirements while fully employed. A total graduate program may not be made up entirely of courses offered in short terms of 3 or 4 weeks each, or in classes which meet only once a week.

EXAMINATIONS

A final oral examination is given all candidates for masters' degrees in course, not later than eight days before the close of the semester. The Dean of the Graduate School appoints examining committees of at least three members each for the purpose, electing the members from the major and minor professors under whom the work was done. The Dean is ex-officio, a member of all such examining committees. The candidate is asked to defend his thesis, if one has been written, and is examined on any subject matter related to his field.

APPLICATION FOR THE DEGREES

Within the first two weeks of the final semester or term the student must make formal application in the Office of the Dean of the Graduate School for his degree.

FEES

Before any master's degree is conferred, a commencement fee of $20.00 must be paid at the Bursar's Office of the University.

REQUIREMENTS FOR THE DEGREES OF MASTER OF ARTS AND MASTER OF SCIENCE

THE TWO PLANS

The Graduate School authorizes all departments which are approved for graduate work and which wish to do so to permit students to satisfy the requirements for the M.A. and the M.S. degrees by either of two plans. The option rests with the department.

Plan A

CREDITS AND COURSES

The candidate must complete at least 24 semester hours of graduate course work with a standing of 3.0 (B) or better. At least 9 of these hours (except when excused in rare individual cases by special permission of the Graduate Council) must be in courses limited to graduate students (in courses numbered 600 or above).

The candidate shall have a major field which shall comprise at least two-thirds of the course work; the other one-third may be taken in that field or in fields which have graduate relationship with it. In education and agriculture only one-half of the work must be in the major field.

RESIDENCE

The minimum residence required is one academic year of 36 weeks. This residence may be fulfilled by any combination of semesters or summer sessions which totals the required number of weeks, provided at least one full semester or two complete summer terms are spent in residence. (See "Courses and Curricula," paragraph 4, above)

This does not mean that the work prescribed for each individual can always be completed in the minimum length of time. Inadequate preparation or assistance in departments very frequently makes a longer period necessary.

THESIS

Two typewritten, unbound copies of the thesis, approved by the thesis director and the appropriate director of graduate study, and in a form acceptable to the Graduate School, must be presented to the Graduate School Office not later than two weeks before the last day on which grades may be reported to the Registrar's Office. The candidate must also submit an abstract of his thesis not exceeding two hundred words and suitable for publication. The final oral examination may not be taken before the thesis has been accepted by the Graduate School Office. Information about this thesis deadline may be obtained from the Graduate School Office.

Theses and dissertations must be developed under the direction of a member of the Graduate Faculty.

Each thesis or dissertation is to be judged by the final committee on its merits as presented to it at the examination.

Collaborative group effort by two or more graduate students is not forbidden; but there must be enough independent effort to enable each one to make a separate contribution and to prepare an individual thesis or dissertation.

Masters' theses must have the signed approval of the thesis director and the appropriate director of graduate study. If these are the same person, the thesis must be signed by another professor in the major department.

The University protects the rights of thesis and dissertation authors by placing certain restrictions upon borrowers' use of them as long as they are unpublished. Before the title-page of every thesis and dissertation a copy of the following *Rules for the Use of Theses* is placed. The student prepares this page for each copy of his thesis and submits it as part of the thesis.

RULES FOR THE USE OF THESES

Unpublished theses submitted for the masters' and doctors' degrees and deposited in the University of Kentucky Library are as a rule open for inspection, but are to be used only with due regard to the rights of the authors. Bibliographical references may be noted, but quotations or summaries of parts may be published only with the permission of the authors, and if granted, proper credit must be given in subsequent written or published work.

Extensive copying or publication of the thesis in whole or in part requires also the consent of the Dean of the Graduate School of the University of Kentucky.

This thesis has been used by the following persons, whose signatures attest their acceptance of the above restrictions. A library which borrows this thesis for use by its patrons is expected to secure the signature of each user.

Name and Address	Date
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LANGUAGE REQUIREMENTS

A reading knowledge of at least one modern foreign language is required. This language should be pertinent to the program of the student and approved by his adviser. The language requirement must be satisfied by an examination given by the foreign language department of the University offering instruction in the language concerned. The passing of this examination may satisfy one of the two language requirements for the doctorate if approved by the student's special committee.

Plan B

Plan B (which is not necessarily available in all departments that have Plan A) has the same minimum requirements as Plan A except that six or more semester hours of course work may be substituted for a thesis and that in a few departments a reading knowledge of a foreign language may not be required. A student may follow this plan only with the approval of the department concerned. Additional requirements, if any, set up by an area of study may be found in the area announcements in the Graduate School Bulletin.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN EDUCATION

See College of Education and general requirements for all advanced degrees.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURE, MASTER OF SCIENCE IN AGRICULTURAL ENGINEERING, AND MASTER OF SCIENCE IN HOME ECONOMICS

(See also general requirements.)

A student holding a bachelor's degree from a standard agricultural college may obtain the degree of Master of Science in Agriculture or Master of Science in Home Economics by satisfying the following requirements:

1. The completion of 24 semester hours of graduate work with an average standing of 3.0 or better, 36 weeks in residence, and a thesis, or (except in Agricultural Engineering) the completion of 36 semester hours of graduate work with a standing of 3.0 or better, 45 weeks in residence, and no thesis. At least 9 hours must be on the 600 level or above.
2. Under either plan no grade below C may be counted.
3. One-half of the work must be in one department, the remainder in any other department or departments approved by the major professor.
4. There is no language requirement for either of these professional degrees.

In either case a final oral examination is given the candidate not later than 8 days before the close of the semester in which the degree is to be secured. The candidate is expected to show a comprehensive knowledge of the subject matter related to the field of his major work and in case a thesis has been prepared to defend it.

REQUIREMENTS FOR THE DEGREE OF MASTER OF MUSIC

MASTER OF MUSIC WITH A MAJOR IN APPLIED MUSIC

A minimum of twenty-four graduate hours.

Eight to twelve graduate hours in Applied Music.

In the event the student is not sufficiently prepared to do graduate work in Applied Music, or if there is a deficiency in repertoire, he must study without credit until fully prepared to do graduate work. Candidates in Applied Music (Voice) must have completed one year of study in each of two modern foreign languages.

Twelve to sixteen hours from at least two of the following: Music literature, music theory, music education, or non-music subjects.

A public recital of music major proportion passed upon by the music faculty and a comprehensive examination in the area of concentration.

MASTER OF MUSIC IN MUSIC EDUCATION

A minimum of twenty-four graduate hours and an acceptable thesis, or a minimum of thirty hours and no thesis requirement.

Twelve hours in the field of music education and closely allied areas.

A minimum of four hours in graduate theoretical subjects.

A minimum of six hours in music literature.

Electives in music education, education, applied music, theory or non-music areas.

Comprehensive examination.

MASTER OF MUSIC IN COMPOSITION

A minimum of twenty-four hours and an acceptable composition of major proportion.

Ten hours of Composition and Counterpoint.

Four hours of Advanced Musical Analysis.

Six hours of music literature electives.

A minimum of four hours of approved electives.

Comprehensive examination.

MASTER OF MUSIC IN THEORY

A minimum of twenty-four hours and an acceptable thesis.

Four hours of Pedagogy of Theory.

Four hours of Advanced Musical Analysis.

Six hours of music literature electives.

Two hours of Sixteenth Century Counterpoint.

A minimum of eight hours of approved electives.

Comprehensive examination.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN LIBRARY SCIENCE

(See also General Requirements for Advanced Degrees.)

A student holding a bachelor's degree from a fully accredited institution may obtain the degree of Master of Science in Library Science by satisfying the following requirements:

1. Nine hours of prerequisite work in library science.
2. Thirty semester hours in graduate courses.
3. An average standing of 3.0 or better on all work taken as a graduate student.
4. Thirty-six weeks in residence.
5. At least one year of college credit (six semester hours with a grade of C or better) in a modern foreign language or a reading knowledge as demonstrated by the usual graduate examination.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN PUBLIC HEALTH

A student holding a bachelor's degree from a fully accredited institution or the M.D. degree from a recognized Medical School may obtain the degree of Master of Science in Public Health by satisfying the following requirements:

1. Twenty-four semester hours in graduate courses with an average standing of 3.0 or better.
2. No grade below C may be counted.
3. Thirty-six weeks in residence.
4. An acceptable thesis.
5. There is no language requirement for this degree.

REQUIREMENTS FOR ADVANCED DEGREES IN ENGINEERING

Two classes of advanced degrees are offered in the College of Engineering, the masters' degrees and the professional degrees.

The Masters' Degrees in Engineering. The master's degree in engineering may be obtained by satisfying the following requirements:

1. Twenty-four semester hours in graduate courses with an average standing of 3.0 or better.
2. No grade below C may be counted.
3. Thirty-six weeks in residence.
4. An acceptable thesis.
5. Two-thirds of the work must be in the major subject.
6. There is no language requirement for these degrees.

The candidate must hold the corresponding Bachelor of Science degree in engineering or the equivalent from this institution or from another engineering school of recognized standing. The degrees offered are Master of Science in Agricultural Engineering, Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Mechanical Engineering, Master of Science in Metallurgical Engineering, and Master of Science in Mining Engineering.

THE PROFESSIONAL DEGREES IN ENGINEERING

The professional degrees of Chemical Engineer (Ch.E.), Civil Engineer (C.E.), Electrical Engineer (E.E.), Mechanical Engineer (M.E.), Metallurgical Engineer (Met.E.), or Mining Engineer (E.M.) will be granted only to graduates of the University of Kentucky, College of Engineering, who present satisfactory evidence of professional work of creditable quality in the engineering fields of their choice, extending over a period of five years, and who submit satisfactory theses as further evidence of their professional attainments.

A candidate holding a master's degree in engineering shall be considered to have fulfilled two years of the five-year requirement for the corresponding professional degree.

An application for a professional degree must be made to the Dean of the Graduate School and have the approval of the director of graduate study in his engineering field not less than one academic year before the degree may be granted.

The Graduate Committee will pass on the qualifications of each applicant. It may, at its discretion, require an oral examination. The applicant is expected to submit a record of his engineering experience, which should include a complete list of his professional engagements, showing in each case the length of time employed and the position held. He should give for reference the names of at least three persons who are familiar with his engineering work. Preferably these persons should be connected with the organizations by whom he has been employed.

A thesis is required of each candidate. It may be in the field of research, design, invention, or engineering processes and methods. It must contain some original thought and be the product of the individual submitting it. Quotations and references with proper credit may be used. In general, the thesis should be of such a nature that it will be of value to the engineering profession.

A candidate holding a bachelor's degree in one field of engineering may apply for a professional degree in another field of engineering if he has attained unusual prominence and success in that field.

FEES

The fees for a professional degree in engineering are $15.00 for registration and $20.00 for graduation.

REQUIREMENTS FOR THE DOCTOR OF ENGINEERING DEGREE

These are the same as those for the Doctor of Philosophy. (See below.)

Requirements for the Degree of Doctor of Philosophy

The degree of Doctor of Philosophy is conferred upon a candidate who, after completing not less than three years of graduate work devoted to the study of a special field of knowledge, presents a satisfactory dissertation and passes a comprehensive examination, thus qualifying for recognition as a scholar of high attainments in his chosen province.

The doctor's degree is intended to represent not a specified amount of work covering a specified time, but the attainment, through long study, of independent and comprehensive scholarship in a special field. Such scholarship should be shown by a thorough acquaintance with present knowledge in a particular field of learning and a marked capacity for research.

ADMISSION

For information concerning admission see opening page, this section.

ADVISERS AND THE SPECIAL COMMITTEE

The director of graduate study in the student's major area will be the student's adviser until he has selected his dissertation director and has been accepted by him. When the dissertation director has been chosen, the student's special committee will be set up by the Dean after he has conferred with the student, the director of graduate study, and the dissertation director. This committee should be set up as soon as the student has adjusted himself to the University environment and has found a suitable dissertation problem. Until the special committee is formed, the director of graduate study will advise the applicant as to his schedule of study, and he must initial each schedule before it is presented to the Dean.

The special committee will consist of the dissertation director as chairman, two or three other members from the major area, and one or two members from the minor academic area—in all, five members. This committee will advise the applicant and will set the requirements which the student must meet before he will be admitted to the final examination.

The special committee keeps minutes of all meetings and sends abbreviated copies to the Dean's Office to be made a part of the student's record. This committee determines when the qualifying examination is to be administered, and the chairman schedules the examination in writing, sending a copy of the announcement to the Dean. The appointed special committee will be the final judge on a majority basis of the questions to be asked on the qualifying examination and of the result of the examination. This committee may be advised by colleagues when it thinks it is desirable.

COURSES OF STUDY AND STUDENT LOADS

Every applicant for the degree must select one major area of study and no more than two minor subjects, at least one of which must be outside the major area. The major subject shall be one in which he intends to concentrate his efforts; the minor subjects must be approved by the major area and by the representative of the minor on the special committee.

The applicant's principal work must be in the major sub-

ject. Although the regulations are somewhat elastic respecting the time to be devoted to the major and minor subjects, the major subject should represent approximately two-thirds of the student's entire time. The other one-third should be devoted to the minor subject(s). At least one-sixth of the total time must be devoted to a minor outside of the major academic department, and at least one member of the special committee from outside the major area must represent this outside minor. Only the Graduate Council may authorize, departures from this rule.

A full-time course load for any semester ranges from 9 to 15 semester hours of credit; in the summer, from 6 to 9 semester hours.

RESIDENCE

A minimum of three collegiate years of resident graduate work above the bachelor's degree (two above the master's, or its residence equivalent) is required for the doctorate. At least two semesters, exclusive of summer sessions, of the required residence above the master's (or its residence equivalent) must be earned at the University of Kentucky in full-time devotion to graduate study, or to a combination of graduate study, research, and part-time teaching at the University. "Residence equivalent" to the master's degree is interpreted as thirty-six weeks of official residence. The amount of residence to be transferred on account of prior graduate work at some other institution is determined jointly by the Special Committee, the Registrar, and the Dean of the Graduate School.

A doctoral student's schedule may include an assignment to work on his dissertation, and appropriate residence may be allowed for such study, but in no case shall the residence allowed exceed the number of weeks spent in such dissertation research.

A year of residence is required after the qualifying examinations before the degree is conferred. If a student has completed his full minimum residence requirements (i.e., seventy-two weeks beyond the master's degree or its equivalent and thirty-six weeks beyond the qualifying examinations) and his course requirements, and wishes to complete his dissertation in absentia, he may petition the Graduate Council for permission to do this out of residence and without payment of the usual registration fees. In rare individual cases, if material to complete a dissertation must be sought away from this University, the student may petition the Council to receive residence credit during the last eighteen weeks while registered here but working on his dissertation elsewhere. Even if such permission is granted, at least a year must elapse between the qualifying examinations and the awarding of the degree.

While it is expected that a well-prepared student of good ability may secure the degree upon completion of three years of full-time study, it should be understood that this requirement is a minimum and is wholly secondary to the matter of scholarship. Time spent in study, however long, the accumulation of facts, however great in amount, and the completion of courses, however numerous, cannot be substituted for independent thinking and original research.

LANGUAGE REQUIREMENTS

The applicant must give evidence of having a good reading knowledge of, and of being able to translate at sight, at least two modern foreign languages. This proficiency is determined by examinations conducted by the respective language departments at the University of Kentucky. While ordinarily French and German are acceptable, the final choice should be made under the guidance of the student's special committee, which will recommend what languages are to count. The language requirements must be satisfied before the applicant can be admitted to the qualifying examination.

QUALIFYING EXAMINATIONS

Qualifying examinations are required of all applicants for the doctorate to determine whether the applicant should be admitted to candidacy. The examinations probably should be taken during the student's fourth semester of full-time graduate study, or the equivalent, but in no case later than the thirtieth day of the academic year in which the degree is expected. These examinations shall be both written and oral and shall cover both major and minor subjects. The Special Committee shall report to the dean the result of the examinations, including the time schedule. If the result is failure, the committee shall recommend the conditions to be met before the examinations may be repeated. The minimum time before repeating the examinations is six months. The same committee, or as many of the members as are available, plus those added by the dean to fill vacancies, shall give the second series of examinations. Additional examinations shall not be allowed.

DISSERTATION

Each candidate must present a dissertation covering his thesis work. This dissertation must give evidence of the candidate's ability to carry on independent investigation and must be satisfactory in style and composition. It must represent a definite contribution to the knowledge of his subject, must be the result of independent work, must include original research, and must in some way add to or otherwise modify what was previously known on the subject. Unless the director of the dissertation specifically recommends departures from the instructions in the thesis manual recommended by the Graduate School, the thesis must be in conformity with advice in this manual.

Before the dissertation is formally submitted, the student should bring it to the Graduate Office to have it checked for form. Two typewritten copies of the dissertation (along with a check for the binding fee) and two typewritten copies of an abstract, usually of not less than 400 words nor more than 600 words, must be presented to the Dean of the Graduate School at least two weeks before the final date on which the Registrar's Office will receive grades of candidates for degrees at the next commencement. An approval sheet signed by a majority of the special committee (including the director of the thesis) must accompany the dissertation. When dissertations are submitted a standard form containing *The Rules for Use of Theses* must be prepared and submitted with the manuscript, before the title page.) (See *Rules* elsewhere in this section.)

It is expected that every doctoral dissertation will be worthy of publication either in its entirety in book form or as articles in the leading journals and periodicals of the field, and the candidate is urged to use every reasonable effort to obtain such publication for his own sake and in the interest of the Graduate School. In order to insure availability of such contributions, the following arrangements are provided:

1. A candidate may elect in writing to have his dissertation published, either as a whole or in acceptable part (if

approved by the director of graduate study in the area concerned and by the Dean of the Graduate School), in a book or an approved journal. A candidate must make a deposit of $50 to guarantee publication. If within four years after the commencement at which the degree was received the candidate demonstrates that he has a contract with a recognized publisher or an acceptance by an editor of a recognized journal, he will be allowed one more year to submit the required number of copies to the Graduate School and recover his deposit. Failing of either step he will forfeit his deposit and arrangement No. 2 will be followed. The printed dissertation must have a cover and a title page, and the latter, in addition to the title and the name of the author, must bear an appropriate inscription as follows:

A portion of a dissertation / A dissertation } presented to the Faculty of the Graduate School of the University of Kentucky in candidacy for the degree of Doctor of Philosophy (Education)

2. A candidate may elect in writing to let his dissertation be microfilmed and copyrighted by the University. The copyright will be taken in the name of the author. One positive microfilm copy will be deposited in the University Library and will be available for inter-library loan. Microfilm copies of dissertations may be purchased at cost. The abstract of each dissertation will be printed in an issue of *Microfilm Abstracts* (published by University Microfilm, Ann Arbor, Michigan), which is distributed to leading libraries here and abroad. University Microfilm will also have the microfilm copy of the dissertation catalogued by an expert, and this information sent to the Library of Congress, for printing and distribution of cards to depository catalogues and libraries.

   To cover the costs involved, a candidate is required to pay at the Business Office a fee of $50 before taking the final examination. Even if the candidate elects to use this arrangement for publication he should understand that it is still desirable for him to have his work printed in a recognized way.

FINAL EXAMINATION

After the acceptance of the dissertation by the special committee and the Dean of the Graduate School the candidate shall be given a final oral, or, if the examining committee elects, an oral and a written examination. The examining committee shall consist of a minimum of five persons, appointed by the Dean of the Graduate School, after he has conferred with the director of graduate study for the area. (The President of the University and the Dean of the Graduate School are ex-officio members of all examining committees.) The director of graduate study (or his delegate) shall be chairman of the committee. Other members shall include the major professor, a third representative of the department, a representative of the minor, and one member of the Graduate Faculty associated with neither the major nor minor areas. The final examination shall include a defense of the dissertation and shall be as comprehensive in the major and minor areas as the committee desires to make it.

If the student passes this examination, he will be recommended for the degree at the next commencement provided one academic year has elapsed since the qualifying examination.

The completion of three years of residence work confers no right upon the student to be examined.

RECOMMENDATION

After the final examination has been passed, the name of the candidate will be presented for recommendation to the Board of Trustees for the degree of Doctor of Philosophy in course.

FEES

Before any doctor's degree is conferred, a commencement fee of $25.00 must be paid at the Business Office of the University.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF EDUCATION

The requirements for the degree of Doctor of Education are the same as those for the degree of Doctor of Philosophy with the following exception:

1. No foreign languages are required for the Ed.D. degree.
2. A total of 72 semester hours is required of which at least one-third and not more than one-half must be in departments outside the College of Education.

Applicants for the Ed.D. degree, who are required to do at least one-third of the minimum requirements outside of areas in the College of Education, shall declare at least one area other than Education when their special committees are appointed. Two members shall be chosen from these areas.

The Registrar, the Graduate committee of the College of Education, and the Graduate Dean will evaluate credits and residence to be allowed transfer students. It is understood, however, that the special committee may accept only such courses as fit into the graduate program of the student.

JOINT EDUCATION-PSYCHOLOGY DOCTORAL PROGRAM IN COUNSELING AND GUIDANCE

A doctoral program in counseling and guidance is provided through the cooperation of the College of Education and the Department of Psychology. A faculty committee administers this program and serves as the student's adviser until the Special Committee is appointed by the Dean of the Graduate School. A doctoral candidate may apply for the degree of Doctor of Education or the degree Doctor of Philosophy. In either case the candidate must complete the Graduate School requirements for his intended degree. For information concerning admission to the program, course requirements, and the like, write to the Dean, College of Education.

REQUIREMENTS FOR THE DEGREE OF SPECIALIST IN EDUCATION

The degree of Specialist in Education is conferred upon a candidate who satisfactorily completes a sixth-year planned program in Education under the general requirements of the Graduate School and the following special requirements.

ADMISSION

The student, prior to admission to the program, (1) must have a master's degree, (2) have a standing of 3.4 or higher on his graduate work, except in special cases, (3) meet the

requirements for a teaching certificate or have credentials appropriate to his field of specialization, and (4) have completed at least 30 semester hours of courses in education (undergraduate and graduate).

A student must file an application with the Dean of the College of Education. The application will be considered by an admissions committee of the College of Education and each student must be recommended to the Graduate School by the division or department in which he plans to major.

PROGRAM

The student must earn a minimum of 24 semester hours of graduate work beyond the master's degree (of which at least 12 semester hours must be in 600-799 level courses) with a limit of 12 semester hours per semester for a full-time student, 6 semester hours per summer session, and 3 semester hours for a three-week intensive course.

The division or department in which the student majors shall be responsible for assisting the student plan a program to meet his needs. The program should contribute to specialization in a field but should not neglect the broader development of the individual. The total disciplinary resources of the University of Kentucky will be recognized in planning a program to meet the student's needs.

An independent research problem (equal to 3 but not to exceed 6 semester hours) must be done by the student and a satisfactory written report prepared, a copy of the report to be filed with the division or department directing the research.

With the approval of the Graduate Dean and of the division or department in which he is to major, the student may transfer a maximum of 6 semester hours of residence credit earned beyond the master's degree from an institution which is approved to offer work above the master's level.

FINAL EXAMINATION

A final examination shall be required of all candidates.

An examining committee, consisting of at least three qualified members, is recommended by the adviser and director of graduate study and appointed by the Dean of the Graduate School.

ELIGIBILITY

This program is instituted as of June, 1957, and all post-master's requirements pertaining to the degree must be met after this date, except for those who in 1956 began an organized and supervised plan of post-master's work at the University of Kentucky, while the final details of this program were being discussed by the faculty.

GRADUATE STUDENTS NOT APPLICANTS FOR DEGREES

Graduate students who are not working toward advanced degrees are not required to designate major or minor subjects, but may elect their work with a view to the special purposes for which they are in attendance at the University.

Any course of study announced for advanced undergraduates and graduates is open for election by such students under the same conditions as apply to candidates for degrees.

Should a graduate student, who has not arranged for his work with a view to obtaining a degree, subsequently desire to become an applicant for a degree, the number of semester hours he is to receive for work already done will be determined at the time he applies for admission as applicant for the degree.

CHECK LIST FOR GRADUATE STUDENTS SEEKING ADVANCED DEGREES

1. Send to the Registrar application for admission; request Registrars of former institutions to send transcripts of work previously completed; and request references to send letters of recommendation—all at least four weeks prior to first admission.
2. On or before date of first registration consult appropriate director of graduate study and plan tentative course of study. (At registration the director's signature on the classification card approving the registration is required.)
3. *Early in the first term or semester apply for the Graduate Record Examination* (Area Tests, Aptitude Test, and Advanced Test in your major field), if you have not previously taken this standardized test. Apply at the University Testing Service, Administration Building. Take test at time designated. (*Scores on this test are necessary before admission to full graduate standing.*)
4. Early in the first term or semester begin preparations for the language examination(s) required for the degree and arrange to take the necessary language examination(s) early in graduate career.
5. *After first term or semester apply for full graduate standing* (secure forms from the Graduate Office), if a graduate degree is sought.
6. Before the beginning of each succeeding semester or term consult the appropriate director of graduate study concerning program for the new term.
7. If doctoral applicant, during or before the fourth semester of graduate study confer with director of graduate study and Graduate Dean concerning Special Committee. After the appointment of the Special Committee, the chairman becomes graduate adviser. At least once each year request the chairman of the Special Committee to hold a meeting to review the course program and the research, in retrospect and (especially) in prospect.
8. If doctoral applicant, arrange with Special Committee for Qualifying Examination at least one academic year before the degree is expected.
9. Before beginning thesis or dissertation, secure from the Campus Bookstore Kate Turabian's *A Manual for Writers of Dissertations* and follow instructions therein, unless specifically directed otherwise by your director of graduate study.
10. *Within the first two weeks of the semester or term when the degree is expected, file application for the degree* (Office of the Dean of the Graduate School).
11. Submit to the Graduate Office the thesis (if required) or dissertation in final form (after it has been read and approved by the director of graduate study and the committee) by or before the thesis deadline indicated in the University Calendar at the front of the Graduate School Bulletin.
12. Arrange for the final oral examination (consult the director of graduate study and the Graduate Office) at least two weeks before the end of the term or semester when the degree is expectd.

13. Pay the commencement fee and (if applicable) the dissertation fee as soon as the final oral examination is scheduled.
14. Secure commencement instructions from the Graduate Office.

RESEARCH PROGRAM AT OAK RIDGE INSTITUTE OF NUCLEAR STUDIES

The University is one of the Sponsoring Universities of the Oak Ridge Institute of Nuclear Studies located at Oak Ridge, Tennessee. Through this cooperative association with the Institute the University of Kentucky Graduate Research Program has at its disposal all the facilities of the National Laboratories in Oak Ridge and of the research staffs of these laboratories. When masters' and doctoral candidates have completed their residence work it is possible, by special arrangement, for them to go to Oak Ridge to do their research problems and prepare their theses. In addition, it is possible for the staff members of this university to go to Oak Ridge for varying periods, usually not less than three months, for advanced study in their particular fields. Thus, both staff and students may keep abreast of the most modern and up-to-date developments in atomic and nuclear research that is in progress at the Oak Ridge laboratories.

The students will go to Oak Ridge on Oak Ridge Graduate Fellowships which have varying stipends determined by the number of dependents they have and the level of work that they are doing. Staff members may work in Oak Ridge on stipends commensurate with their present salary and rank.

For further information inquire at the office of the Graduate School or write directly to the Chairman of the University Relations Division of the Oak Ridge Institute of Nuclear Studies, Box 117, Oak Ridge, Tennessee.

SOUTHERN REGIONAL TRAINING PROGRAM IN PUBLIC ADMINISTRATION

Since 1945 the University of Kentucky, Alabama, and Tennessee have conducted a joint program in public administration leading to a master's degree. Part of the course work is completed at each institution and three months of successful internship are required. For detailed information, anyone interested should inquire of the Political Science Department at the University of Kentucky.

ADVANCED STUDY AND RESEARCH BY GUESTS OF THE UNIVERSITY

When the appropriate resources are available at the time desired, the President of the University, upon the recommendation of the Dean of the Graduate School and the department affected, will welcome advanced scholars as guests of the University, with the privilege of auditing seminars and research courses and of carrying on research in laboratories and libraries. Normally there will be no charge except for laboratory expenses. Negotiations for such arrangements should be conducted in advance through the Graduate Office.

Fellowships & Scholarships

HAGGIN FELLOWSHIPS AND SCHOLARSHIPS

These fellowships and scholarships, which were endowed by Margaret Voorhies Haggin in memory of her father, George Voorhies, carry a stipend of $750 each (fellowships) and $600 each (scholarships).

Fellows and Scholars are expected to devote their entire time to graduate work, and no teaching or other departmental work may be required of them; nor are they permitted to perform any duties for extra pay. Fellows and Scholars must carry a full schedule unless work on a thesis is substituted for part of the load. In this case recommendation must be made by the adviser and approved by the Graduate Council. The award is paid in nine equal monthly installments. Fellows, scholars, graduate assistants, and instructors pay the fees assessed residents of Kentucky. The appointments are made for one year only but may be renewed if it can be shown that the study and research should be continued.

These fellowships and scholarships are open to students who hold bachelors' degrees or higher from any college or university of recognized standing. Forms for making applications may be secured from the office of the Dean of the Graduate School and must be submitted not later than March 1 of each year.

KENTUCKY RESEARCH FOUNDATION FELLOWSHIPS

The Kentucky Research Foundation supports several graduate fellowships of $1800 to $2400 each awarded, without limitation as to the field of specialization, to doctoral candidates who possess outstanding personal qualities and professional qualifications; and several at $1500 each awarded to outstanding students on the Master's level. The deadline for submitting applications to the Graduate Office is March 1 of each year. Only those with highly superior undergraduate and graduate records should apply for these.

THE GEORGE W. PIRTLE FELLOWSHIP IN GEOLOGY

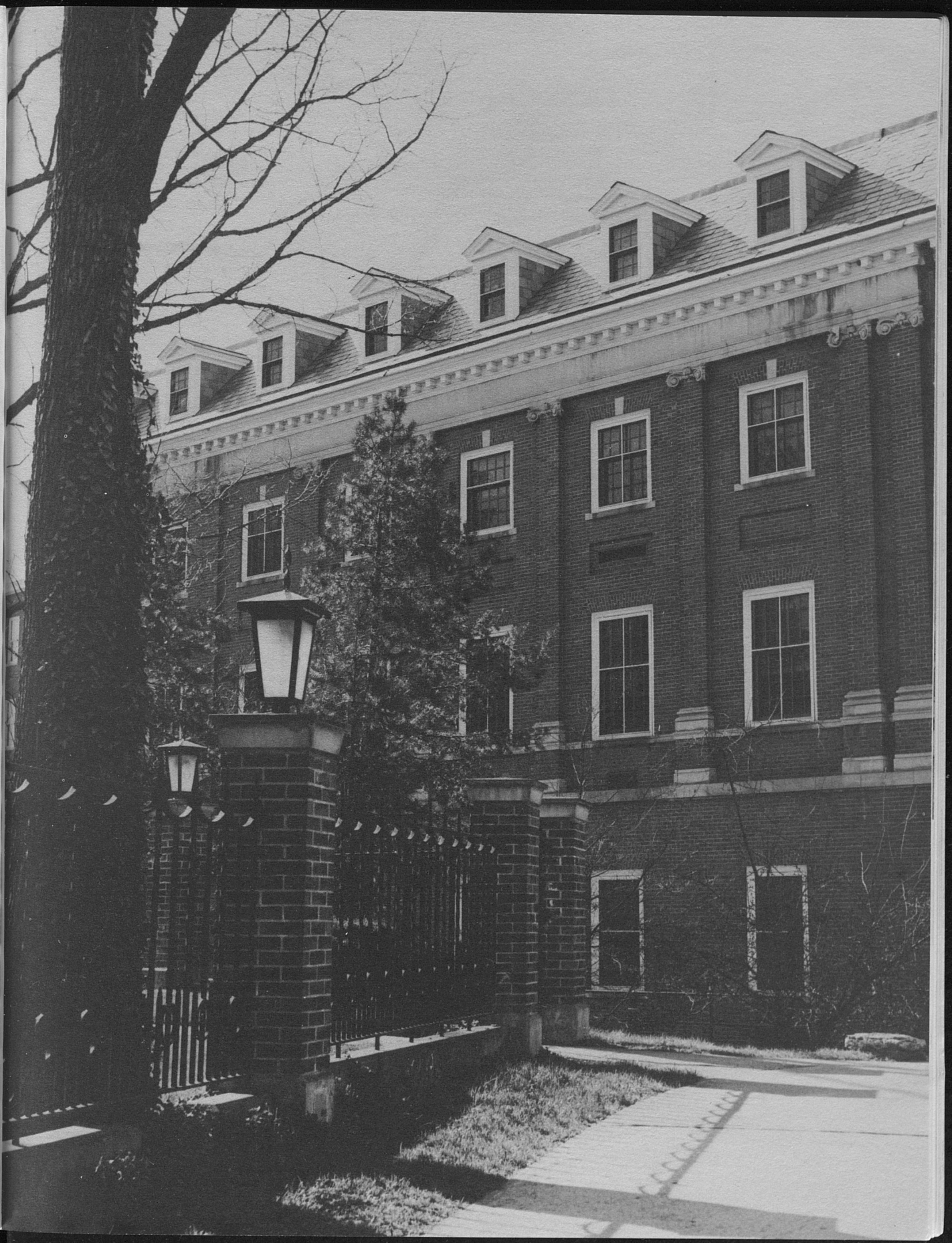
A grant of $500 a year is given by George W. Pirtle to a graduate student in geology upon the recommendation of the faculty of the Department of Geology. The award is made upon the basis of need and promise of future achievement in the geological field. Mr. Pirtle has set up this grant in appreciation of the training he received in the Geology Department. He was the first student to obtain the Master's degree from the University with a major in Geology. The grant is given in honor of Dr. A. C. McFarlan.

The recipient is expected to write a thesis based on field work.

Applications for this grant should be directed to the Head, Department of Geology.

OTHER GRADUATE SCHOLARSHIPS

For information concerning other scholarships (National Science Cooperative Fellowships, National Defense Fellowships, etc.) inquire of the Graduate Office.






PLANNING
TEACHING
A
CAREER





EXTENDED PROGRAMS

University of Kentucky Extended Programs, successor to the College of Adult and Extension Education, was created in 1957 to further implement the University's programs of service to the citizens of the state. The University's instructional and research facilities are made available to the public through the following programs and services:

Home Study Program. Home Study courses offer opportunity to students who are interested in earning college credit but find it impossible to do so through class work on or off campus. These courses are prepared with the cooperation of the deans of the colleges and members of the cooperating departments of the University. Instructors are appointed upon the recommendation of the respective department heads. Thus a competent staff is insured at all times. Home study courses are especially helpful to those preparing for various vocational fields, teachers who desire to earn or renew a teaching certificate, men and women in military service, and others who wish to improve their educational and cultural background. The Department also offers non-credit courses, courses in high school subjects, and a course in citizenship for aliens.

Extension Class Program. A program of off-campus extension classes is conducted in communities throughout the state. Extension classes, either credit or non-credit, can be established for any interested group. Conferences and workshops conducted off-campus will be organized upon request.

Evening Class Programs. Evening class programs on the campus at Lexington and at the University's Centers provide citizens of these communities with an opportunity for continuing education. Instructional staffs are made up of University staff members and qualified business and professional leaders of the community. Offerings include both college credit classes offered under the same conditions as similar daytime classes and non-credit classes designed to meet specific needs of business and professional people and of all persons desiring to broaden their intellectual and cultural horizons.

Workshops and Conferences. In cooperation with the academic Colleges, workshops, conferences, and similar short-course study programs can be organized for business and professional groups.

The teaching staffs of these programs are composed of both University staff members and visiting lecturers and consultants.

The classroom and cafeteria facilities of the University and, when possible, the housing facilities, are available to visitors to the campus participating in these programs.

University Centers. The University has five Centers: the Northern Center established in 1948 at Covington; the Ashland Center started in 1957; the Southeast Center opened in 1960 at Cumberland; the Northwest Center established in 1960 at Henderson; and the Fort Knox Center organized in 1959. These University Centers offer programs designed for high school graduates in those areas who want and should have an opportunity for higher education. These programs are also designed to meet the needs of the thousands of adults who would like to improve themselves in their professions, take additional courses for cultural reasons, or use their leisure time in a constructive way. Each Center maintains a regular staff and offers a full two-year curriculum.

School Services. Music services in Extended Programs provide schools and communities with concerts, recitals, workshops, clinics and consultant services.

Faculty ensembles, soloists, workshop directors and clinicians are available on a professional, consultant, and non-fee basis, depending upon the nature and function of the services provided.

Student musical organizations are available for individual concerts or tours upon request by school or community groups. Expenses for student groups include only the necessary travel expense plus meals and lodging.

Community groups may arrange for a series of programs during the school year to include concerts by large student organizations, faculty soloists, and ensembles.

A. D. Albright, M.S., Ph.D., is executive dean of Extended Programs and R. D. Johnson, M.A., Ed.D., is associate dean.

Fees for Correspondence, Extension, and Evening Courses.

The fee for correspondence courses is $10.00 per semester hour; undergraduate extension and evening classes, $10.00 per semester hour for Kentucky students and $15.00 per semester hour for out-of-state students. Graduate extension and evening classes are $11.00 per semester hour for Kentucky students and $20.00 per semester hour for out-of-state students. In addition, a $2.00 service charge per registration is charged in each of these progrems.

The University of Kentucky Extended Programs sponsors the Kentucky High School Drama and Speech Festivals for the high schools of the state. This program includes regional and state festivals, and speech and drama clinics, workshops, and conferences for teachers and students.





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Maurice Stanley Wall, M.S. in Ed., Ed.D., Associate Dean, College of Agriculture and Home Economics
William Albert Seay, M.S., Ph.D., Acting Director, Experiment Station and Agricultural Extension, Acting Dean, College of Agriculture and Home Economics

* On leave Jan. 23, 1961, to Jan. 23, 1962.

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Administrative Committees[1]
1961

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Commencement Exercises—Hambleton Tapp, W. W. Ecton, E. B. Farris, R. B. Fitzgerald, Helen G. King, Jeanne M. Kuhn, M. S. Karsner, J. H. Mabry, Mary Page Milton, Patricia Patterson, B. A. Shively, H. A. Smith, R. E. Tucker, F. W. Whiteside, Jr., R. W. Wild.

Committee of Fifteen—T. D. Clark, A. D. Albright, Merl Baker, H. L. Bost, L. M. Chamberlain, J. J. Dukeminier, Betsy Worth Estes, T. P. Field, L. V. Ginger, R. D. Haun, A. D. Kirwan, F. D. Peterson, H. P. Riley, W. A. Seay, R. E. Shaver.

Computer Center—L. M. Chamberlain, Merl Baker, J. S. Calvin, L. W. Cochran, L. R. Dawson, J. C. Eaves, H. W. Guthrie, Alan Ross, W. A. Seay, R. E. Shaver.

Faculty Health Service—T. R. Ford, R. J. Angelucci, H. L. Bost, Virgil Christian, T. D. Clark, B. F. Denbo, E. B. Farris, R. H. Hillenmeyer, John Kuiper, C. T. Maney, J. W. Martin, W. L. Matthews, F. D. Peterson, E. P. Slone, Donald L. Sproull, W. P. Street, F. J. Welch, R. W. Wild.

Foreign Students—Kenneth Harper, R. O. Evans, J. A. Halsted, W. W. Haynes, A. D. Kirwan, M. D. Leach, Dorothy Linville, J. H. Ubben, Amry Vandenbosch, B. E. Wheeler.

Freshman Week—L. L. Martin, B. W. Black, Charlotte Denny, S. B. Gribble, Kenneth Harper, W. A. Heinz, H. C. Lewis, Dorothy Linville, E. D. McDaniel, Bessie Byrne Park, Patricia Patterson, Sandra Sue Search, M. S. Wall, W. W. Walton.

Honors Day—Doris M. Seward, C. C. Erwin, W. S. Krogdahl, T. P. Lewis, F. A. Loeffel, Lucile L. Lurry, L. L. Martin, Maple Moores, E. E. Pellegrino, E. M. Spokes, C. A. Walton, R. W. Wild.

Insurance—R. R. Pickett, S. F. Adams, J. H. Adler, H. L. Bost, A. C. Brauer, Jess Gardner, G. R. Kavanaugh, R. E. Orth, G. J. Ruschell, Dorothy Salmon, Ethel S. Wyatt.

Non-Resident Fees—C. F. Elton, R. D. Gilliam, F. D. Peterson.

Patents—W. D. Ham, J. M. Carpenter, Merrill DeVoe, H. C. Eckstrom, V. C. Finkner, V. P. Kenney, H. A. Romanowitz,, G. W. Schwert.

Research Fund—A. D. Kirwan, L. R. Dawson (Acting Chairman), Merl Baker, W. E. Beals, W. R. Brown, L. D. Carlson, L. M. Chamberlain, B. F. Denbo, H. N. Drennon, R. B. Freeman, J. W. Hamblen, R. A. Lauderdale, A. J. Lott, M. T. McEllistrem, B. F. Parker, Herbert Sorenson.

Schedule of Classes—Morris Scherago, R. W. Boughton, E. V. Brown, M. C. Brown, H. A. Ellis, C. F. Elton, M. A. Hatch, C. C. Manker, F. A. Pattie, R. S. Schweet, D. C. Seaton, Mildred Seyler, Earl P. Slone, M. S. Wall, W. W. Walton.

Scholarship and Attendance—C. F. Elton, Carl Cabe, C. C. Carpenter, Marcia A. Dake, L. V. Ginger, S. C. Hite, J. D. Kemp, L. L. Martin, W. L. Matthews, Doris M. Seward, R. E. Shaver, Earl P. Slone, M. S. Wall, M. M. White, R. F. Wiseman.

Scholarships—L. M. Chamberlain, A. C. Howell, Margaret B. Humphreys, William Knisely, E. D. McDaniel, L. L. Martin, W. L. Matthews, J. T. Moore, Doris M. Seward, R. E. Shaver, Earl P. Slone, M. S. Wall.

Student Health—J. L. Massie, L. M. Chamberlain, A. J. Kiviniemi, L. L. Martin, R. K. Noback, Doris M .Seward, R. H. Weaver.

Student Loans—C. C. Carpenter, J. J. Begin, M. B. Cierley, Marcia A. Dake, E. E. Elsey, A. C. Glasser, L. L. Martin, Roy Moreland, E. W. Ockerman, Doris M. Seward, Elizabeth E. Taylor.

University Press—H. L. Donovan, L. M. Chamberlain, T. D. Clark, C. M. Coughenour, J. W. Martin, J. B. Parker, F. D. Peterson, L. N. Plummer, Mary Ellen Rickey, D. W. Schwartz, L. S. Thompson.

Faculty Committees[1]
1961

Committee on Committees—Term to Expire December 31, 1961: Maurice A. Hatch, Herbert N. Drennon, Keller J. Dunn, Joe Logan Massie, Robert Straus. *Term to Expire December 31, 1962:* A. Lee Coleman, Arthur C. Glasser, Charles P. Graves, Herbert Sorenson, Frederick W. Whiteside.

Elections Committee—Staley F. Adams, Maurice A. Clay, Don Richardson Jacobson, Annie R. Brownlee, William W. Ecton, Frank Kodman, Jr.

1 In each instance the first named member is the chairman of the committee. All appointments are effective January 1, 1961. Student representatives will be appointed to both the faculty and administrative committees.

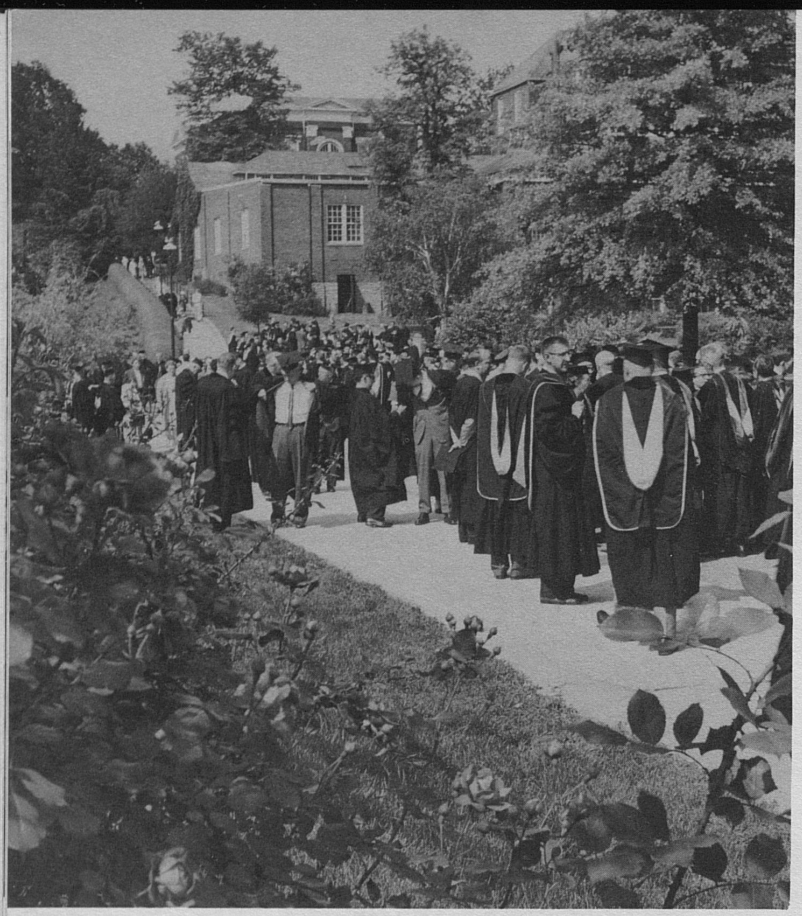
Rules Committee—R. D. Johnson, Charles F. Elton, Howard Hopkins, Alan Ross, William G. Survant, Ralph E. Pickett, Leanard Ravitz, H. A. Romanowitz, M. M. White (reappointment), Ralph F. Wiseman.

Library Committee—Abby L. Marlatt, Charles Thomas Maney, Walter H. Pearce, George D. Schwert, C. Frank Buck, Henry H. Jack, Malcolm E. Jewell, Bennett H. Wall.

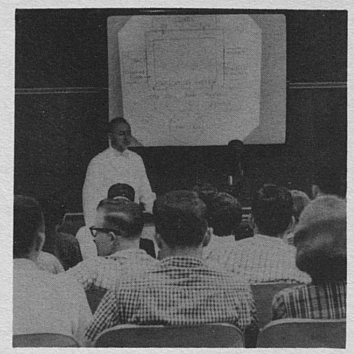
Student Organizations and Social Activities Committee—James W. Gladden, Virgil L. Christian, Maurice Stanley Wall, Jacqueline P. Bull, Oliver W. Gard, Frank A. Loeffel, Suzanne Prough. Ex Officio Members: L. L. Martin, Doris M. Seward, President of Student Congress.

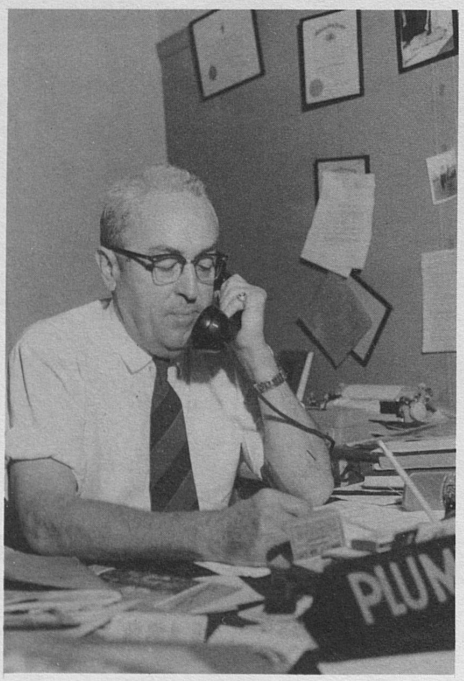
Honors Program Committee—William F. Wagner, Carl Cabe, Vincent Cowling, Holman Hamilton, J. R. Ogletree, Warren W. Walton, Jr. Loren Carlson, Robert O. Evans, Betsy W. Estes, Robert W. Rudd (reappointment), Douglas Schwartz, Charles A. Walton (reappointment).

Program Committee for University Faculty Meetings—John Kuiper, (reappointment), Ralph H. Weaver (reappointment), Vernon A. Musselman, William S. Ward (reappointment).








PLUM



NC - no card in name index of Bd of Trustees
R - Resigned
✓R - Resigned checked with dept.

Academic & Administrative Staff

Abbott, Okra Jones, M.S. in Agr., Ph.D., Associate Professor of Poultry
Abernathie, Jan Wallace, M.S., Ph.D., Assistant Professor of Horticulture
Adair, John Toomey, B.S., Assistant Chemist, Feed and Fertilizer
Adams, Estelle, M.A., Third Grade, University School
Adams, Leslie Keene, LL.B., Supervisor of Electrical Engineering Laboratories, Special Assignment
Adams, Staley Fields, M.S. in C.E., Associate Professor of Applied Mechanics
R Adams, Willie Hughes, A.B., Assistant, Acquisitions Department, University Library Resigned eff 2-16-59
Adelstein, Michael, M.A., Ph.D., Assistant Professor of English
Adler, Jacob Henry, M.A., Ph.D., Associate Professor of English (On leave 1960-61)
Albright, Arnold DeWald, M.S., Ph.D., Professor of Education; Executive Dean of Extended Programs; University Provost
Alderman, Louis C., Ed.D., Director of Northwest Center
Alexander, Alvin Clark, Farm Manager, Coldstream Farm
Allen, Harry Raymond, M.S., Chief Chemist in Charge of Fertilizer Analysis
Allen, Richard Sweetnam, M.S., Professor of Anatomy and Physiology, Professor of Physiology, College of Medicine
Allen, Stephen Quince, M.S., Extension Specialist in Agricultural Economics
Allison, Nathan Breckinridge, M.S., Ph.D., Professor of Electrical Engineering
Amos, Dan F., B.S., Instructor in Agronomy, Research Assistant
Amyx, Thomas Clifford, M.A., Professor of Art
Anderson, Grace, M.A., Assistant Professor of Education, Special Assignment
Anderson, Ella Smith, A.B., Extension Specialist in Home Management
NC Anderson, James Calvert, Technician in Agronomy
Archdeacon, James William, M.S., Ph.D., Professor of Anatomy and Physiology; Professor of Physiology, College of Medicine
Armstrong, Robert Christian, III, B.S. in M.E., Part-time Instructor in Mechanical Engineering
Armstrong, William Davis, M.S., Horticulturist
Arnett, Mary Lee, Librarian, Northwest Center Mar Lea?
Arnsparger, William S., Jr., M.S., Part-time Lecturer in Physical Education
Asher, Eugene Farrell, B.S. in Agr., Assistant Chemist in Feed and Fertilizer
Ashley, Perry Jonathan, A.B.J., Part-time Instructor in Journalism
Atkinson, William Offutt, M.S., Assistant Professor of Agronomy
Averitt, Ruth, M.S. in Ed., Home Economics, Lafayette School
R Ayer, Ranny Lee, B.S., Assistant in Animal Husbandry Resign. eff 1-31-61
Back, Lyle Newton, B.S. in E.E., Instructor in Electrical Engineering
Bacon, C. S., M.S., Ph.D., Professor of Geology, Indonesian Contract, Bandung
Bailey, Harry Hudson, M.S., Ph.D., Associate Professor of Agronomy, Indonesian Contract, Bogor
NC Bailey, Robert Wilson, A.B., Captain, U.S. Air Force, Assistant Professor of Aerospace Science
Baker, Merl, M.S. in M.E., Ph.D., Part-time Professor of Mechanical Engineering; Director, Kentucky Research Foundation; Director, University Research and Industrial Relations
Baker, Walter Maurice, M.A., Associate Professor of Education; Head of the Department of Distributive and Industrial Education
Ball, Jerry Weldon, M.M., Instructor in Music
Ball, John Charles, M.A., Ph.D., Associate Professor of Sociology
Ball, William Blackwell, A.B., In Charge of Service Office, Agricultural Experiment Station
Barber, William Jackson, M.S. in M.E., Associate Professor of Applied Mechanics
Barbour, Roger William, Ph.D., Associate Professor of Zoology
Barkley, Marie Rodes, M.A., Associate Professor of Home Economics
Barkman, John Orville, B.S. in Agr., Extension Specialist in Dairying, Special Assignment
Barnett, Brinkley, B.M.E., Associate Professor of Electrical Engineering, Special Assignment
Barnett, R. C., Ph.D., Associate Professor of Biochemistry, Indonesian Contract, Bandung
Barnhart, Charles Elmer, M.S., Ph.D., Professor of Animal Husbandry
Barnhart, Charles Raymond, M.A., Professor of Art
Barnhill, Viron Leonard, M.A., Ph.D., Instructor in English
Barrett, Olive, M.A. in Ed., Sixth Grade, University School
Bartlett, Marian, M.S. in H.E., Extension Specialist in Home Furnishings
Bastin, Garland Mixon, M.S., Extension Specialist in Dairying
Baugh, Lucy Gaines, B.S., Seed Analyst, Entomology and Botany
Baulch, Walter Monroe, B.S. in M.E., M.Ed., Part-time Instructor in Physics, Northern Center
Baxter, Luther Lee, Master Sergeant, U.S. Army, Instructor in Military Science and Tactics
Beals, Wendell Everett, M.B.A., C.P.A., Professor of Accounting
Beaufait, Frederick William, B.S. in C.E., Part-time Instructor in Civil Engineering (Leave of Absence, 1960-61)

NC Beczkiewicz, Peter Anthony, M.A., Part-time Instructor in Chemistry, Fort Knox Center
Beers, Howard Wayland, M.S., Ph.D., Distinguished Professor of Rural Sociology (On indefinite leave)
Begin, John Joseph, M.S. in Agr., Ph.D., Associate Professor of Poultry
Behlow, Robert Frank, D.V.M., Professor of Animal Pathology
Bennett, Edwin Rupert, M.S., in S.E., Assistant Professor of Sanitary Engineering
Benton, Robert S., Ph.D., Associate Professor of Anatomy, College of Medicine
Best, Etta Wright, B.S., M.D., Part-time Assistant Professor of Clinical Pathology, Department of Microbiology
Best, Harry, LL.B., M.A., Ph.D., LL.D., Professor of Sociology, Special Assignment
Bigge, Adolph Edmund, M.A., Ph.D., Professor of German, Head of the Department of Modern Foreign Languages (On leave 1960-61)
Binger, Norman Henry, M.A., Ph.D., Associate Professor of German
Bingham, William Ray, M.S. in Ed., Instructor in Agricultural Education
Binkley, Harold, M.S. in Ed., Ed.D., Associate Professor of Agricultural Education
Binkley, Wendell Chester, M.S. in Agr., Associate Professor of Agricultural Economics
Bissmeyer, Ollie Edward, Jr., M.A., Ed.S., Assistant Professor of Education
Black, Ben Wathen, M.A., Ph.D., Assistant Professor of English
Black, Rodney Elmer, M.S., Ph.D., Associate Professor of Chemistry
Blackburn, Arnold, M.M., Associate Professor of Music
Blanton, Betty Gena, M.A., Instructor in Physical Education
Blanton, Richard Linn, M.A., Ph.D., Associate Professor of Psychology
Blatteis, Clark M., M.S., Ph.D., Part-time Instructor in Anatomy and Physiology, Fort Knox Center
Blatteis, Yolanda F., A.B., Part-time Instructor in Modern Languages, Fort Knox Center
R Blejec, Ivan, Technician in Horticulture Resign. eff. 10-17-60
Blythe, David Knox, M.C.E., Professor of Civil Engineering; Head of the Department of Civil Engineering (On leave second sem., 1960-61)
Blyton, Gifford, M.A., Ph.D., Professor of Speech
Bohanon, Samuel Clifford, M.S., Associate Professor of Agricultural Extension, Chairman, Agricultural Extension Programs
Bondurant, Charles O., M.S., Field Agent in Agricultural Economics
Bondurant, John Henry, M.S., Ph.D., Professor of Agricultural Economics
Boone, Anna Bruce, M.A., Fifth Grade, University School
Borries, Frank Beale, Jr., M.A., Extension Specialist in Public Information
Bortner, Charles Eugene, M.S. in Agr., Professor of Agronomy
Best, Howard L., B.B.A., M.A., Ph.D., Professor of Medical and Hospital Economics; Assistant Vice President for Program and Policy Planning
Boston, Lawrence Allen, B.S. in C.E., Part-time Instructor in Civil Engineering
Boswell, Louise F., M.A., Assistant Publications Editor
Boughton, Roland Wallace, M.A., Colonel, U.S. Air Force, Professor of Aerospace Science, Head of the Department of Aerospace Science
Bowden, James Henry, III, M.A., Instructor in English
NC Boxall, Frank S., Ph.D., Associate Professor of Electrical Engineering, Kentucky Contract Team, Institute of Technology, Bandung, Indonesia
Boyarsky, Louis Lester, M.S., Ph.D., Professor of Anatomy and Physiology; Professor of Physiology, College of Medicine
Boyd, Leroy Huston, M.S., Assistant in Animal Husbandry
Boyd, Paul Prentice, M.A., Ph.D., LL.D., Professor of Mathematics, Special Assignment, Dean Emeritus, College of Arts and Sciences
Boyden, Ruth, M.S., Assistant Professor of Home Economics
Bradford, Lawrence Allan, B.S. in Agr., M.S. in Ed., Professor of Agricultural Economics
Bradley, Eugene Bradford, M.S. in E.E., Assistant Professor of Electrical Engineering (On leave 1960-61)
Bradley, Neil Wright, M.S., Ph.D., Assistant Professor of Animal Husbandry
Brady, George Keyports, M.A., Ph.D., Professor of English
Brandon, Alfred N., Th.B., M.S., L.S., M.A., Assistant Professor, College of Medicine; Medical Librarian
Brandon, Mabel, M.S., Acting Librarian, Agricultural Experiment Station
Branson, Edwin Robert, A.B., Areal Geologist, Kentucky Geological Survey
Brauer, Alfred Charles, M.A., Ph.D., Professor of Zoology
Briggs, Arlen John, M.A., Instructor in English
Briggs, Wallace Neal, M.A., Assistant Professor of English; Director of Guignol Theatre
Broaddus, James William, M.A., Instructor in English, Northern Center
Brockman, Fred, M.S., Extension Specialist in Young Adult Work
Brooks, Jesse Byron, B.S. in Agr., M.S. in A.E., Associate Professor of Agricultural Engineering
Brooks, Robert A., Instructor in Mathematics, Northwest Center
Brothers, Darrell William, B.S., M.A.T., Part-time Instructor in Art, Northern Center
Browder, Mary Donoho, M.S., Extension Specialist in Parent Education and Child Development
Brown, Ann Lee, R.N., M.S.P.H., Hygiene, Head Nurse, University Hospital
Brown, Aubrey J., M.S. in Agr., Ph.D., Professor of Agricultural Economics, Head of the Department of Agricultural Economics
Brown, Ellis Vincent, B.S., Ph.D., Professor of Chemistry; Director of General Chemistry
Brown, James Stephen, M.A., Ph.D., Associate Professor of Rural Sociology
Brown, Joe Beckman, B.S. in Agr., Inspector, Creamery License Section
Brown, Marion Clay, M.A., Assistant Professor of Mathematics
Brown, Robert O., A.B., C.P.A., Assistant Professor of Commerce
Brown, Will Kenneth, Jr., M.S. in M.E., Instructor in Mechanical Engineering
Brown, William Randall, M.A., Ph.D., Professor of Geology
Browne, Edward Theodore, M.A., Ph.D., Assistant Professor of Botany
Browning, Wilmer, M.S., Extension Specialist in Agricultural Economics
Brownlie, Annie Richmond, A.B., M.S. in H.E., Associate Professor of Home Economics
Bruce, Herbert, Jr., M.S. in Ed., Instructor in Agricultural Education
Bryan, Janet, B.S., Instructor in Home Economics, Northern Center
Bryans, John Thomas, M.S., Ph.D., Professor of Animal Pathology
Bryant, James Russell, Technician in Agricultural Engineering
Bryant, Thomson Ripley, M.S. in Agr., Professor of Agricultural Extension, Special Assignment
R Bryner, Joyce, R.N.A.B., Research Assistant, College of Medicine eff. 5-1-60

Buchanon, Edward, Instructor in Music, Ashland Center
Buck, Charles Frank, M.S., Ph.D., Associate Professor of Animal Husbandry
Buckner, Garrett Davis, Ph.D., Research Chemist in Charge of Animal Nutrition, Special Assignment
Buckner, Robert Cecil, M.S., Ph.D., Associate Professor of Agronomy
Bucy, John L., B.S., Field Agent in Cream Grading
Bull, Cecil, M.A.L.S., Head Cataloger, Medical Center Library
Bull, Jacqueline Page, A.B., Ph.D., Head, Archives Department, University Library
Bunn, Joe Millard, M.S., Ph.D., Assistant Professor of Agricultural Engineering
Burberry, Roy Donald, B.S. in I.A., M.S. in Ed., Assistant Professor of Engineering Graphics
Burke, Vivian, M.A. in Ed., First Grade, University School
Burkeen, Emmett, D., M.A., Speech and Dramatics, University School
Burkett, Winfred Keith, M.A., Ph.D., Agriculture Economist, Farm Economics Research Division, Agricultural Research Service, U.S.D.A.
Burnett, Billie Moore, A.B., Assistant Circulation Department, University Library eff 8-31-57
Burr, Elizabeth, M.A., Extension Specialist in Home Furnishings
Burrus, Paul Barron, M.S. in Agr., Assistant Professor of Agronomy
Burton, Arthur Maurice, B.S., Major, U.S. Air Force, Assistant Professor of Aerospace Science
Bushong, Mayme Blanche, A.B., Extension Specialist of Press Information
Butler, Charles William, M.A., Ph.D., Assistant Professor of Spanish
Butler, Ronald W., M.A., Instructor in English, Northwest Center
Bybee, Emma Wilson, M.S., District Leader, Home Demonstration Extension Agents
Byers, George Boyd, M.S. in Agr., Ph.D., Professor of Agricultural Economics
Byron, William Monroe, M.A., Instructor in English, Northern Center
Cabe, Carl, M.A., Ph.D., Associate Professor of Economics
Cadle, Dean, M.A., Librarian, Southeast Center
Cadle, Jo Danel, M.A., Bursar-Recorder, Southeast Center
Caldwell, Lowry McReynolds, B.S. in Agr., Assistant Superintendent, Western Kentucky Experiment Substation
Callahan, Steven Arnold, B.S. in Agr., Area Agent in Marketing
Callihan, Anne Worthington, A.B., Assistant Professor of Art, Special Assignment
Calvin, James Sutherland, M.A., Ph.D., Professor of Psychology, Head of the Department of Psychology
Campbell, Lois Jeannette, B.S., Ph.D., Assistant Professor of Geology; Curator of Paleontology
Capps, Daniel W., A.B., Administrative Assistant, University Hospital
Card, Dana George, M.S., Ph.D., Professor of Agricultural Economics
Carden, Frank Frazer, Jr., M.S. in E.E., Assistant Professor of Electrical Engineering
Carl, Alma V., M.A. in Ed., Coordinator, Curriculum Laboratory, College of Education Library
Carlson, Loren D., Ph.D., Professor of Physiology; Chairman, Department of Physiology, College of Medicine
Carpenter, Cecil Clayton, M.S., PhD., Professor of Economics; Dean of the College of Commerce
Carpenter, John Melvin, M.A., Ph.D., Professor of Zoology, Head of the Department of Zoology
Carr, Martha Geraldine, M.A., Ed.D., Professor of Physical Education
Carr, Slade Leroy, M.Ed., Administrative Assistant, Northern Center
Carrel, William Joseph, C.E., Professor of Structural Engineering, Special Assignment
Carter, Lucian Hugh, M.A., Ph.D., Professor of Economics
Carter, Willis Merle, M.S. in M.E., Ph.D., Professor of Machine Design; Head of the Department of Mechanical Engineering
Cass, Norma Beatrice, A.B., M.A. in L.S., Head of Reference Department, University Library
Castle, Warren James, M.A., Ph.D., Assistant Professor of Ancient Languages and Literatures
Cathey, Ted W., B.S. in Agr., Assistant in Animal Husbandry
Caudill, Paul Roy, Ph.D., Chemist in Feed and Fertilizer
Cave, Doris, Instructor in Commerce, Northwest Center
Cawein, Madison, M.D., Assistant Professor of Medicine
Certrulo, Robert, LL.B., Part-time Instructor in Political Science, Northern Center
Chacon, Roger Jose, M.A., Ph.D., Assistant Professor of Philosophy
Chamberlain, Leo Martin, M.A., Ph.D., LL.D., Vice President of the University, Professor of Education.
Chambers, Alvin Lee, C.E., Associate Professor of Testing Materials
Chambers, John Sharpe, M.S., M.D., F.A.C.P., Professor of Hygiene and Public Health, Special Assignment
Chambers, Nancy, M.S., Cataloger, University Library
Chambliss, William Jones, M.A., Instructor, William Andrew Patterson School of Diplomacy and International Commerce
Chaplin, Carl Edward, M.S., Associate Professor of Horticulture, Acting Head of the Department of Horticulture
Chapman, Loren James, Ph.D., Associate Professor of Psychology
Chapman, Richard Alexander, Ph.D., Professor of Botany; Professor of Plant Pathology
Chenault, Joann R., M.A., Ed.D., Part-time Assistant Professor of Education; Associate Director of Counseling
Cherry, Paul, M.A., Instructor in English, Ft. Knox Center
Christian, Virgil Langdon, Jr., M.S., Ph.D., Associate Professor of Economics
Church, Gilbert, Ph.D., Associate Professor of Geology, Indonesian Contract, Bandung
Cierley, Morris Berdyne, M.A., M.Ed., Ed.D., Professor of Education; Chairman of the Division of Educational Administration and Supervision
Clark, Carl McKinley, M.S., Associate Professor of Agricultural Economics
Clark, Thomas Dionysius, M.A., Ph.D., Litt.D., Distinguished Professor of History; Head of the Department of History
Claster, Daniel Stuart, A.B., Instructor in Sociology
Claster, Jill Barbara, M.A., Ph.D., Instructor in History
Clay, Grady Edward, Jr., M.S., Nieman Fellow, Visiting Lecturer in Architecture
Clay, Lucille, M.A., Speech Therapist, Department of Psychology
Clay, Maurice Alton, M.A., Ed.D., Associate Professor of Physical Education
Clemmons, Anne McAdams, M.S. in H.E., Associate Professor of Home Economics
Clotfelter, Elizabeth Ritter, M.A., State Documents Librarian
Cobb, James, Instructor in English, Southeast Center
Cocanougher, Joanne M., A.B., English, University School
Cochran, Lewis Wellington, M.S., Ph.D., Professor of Physics
Colebank, Kenneth B., M.A., Instructor in History, Southeast Center
Coleman, Amoss Lee, M.A., Ph.D., Professor of Sociology; Director, Bureau of Commounity Service; Social Research Service

Collier, Blanton Long, M.A., Head Football Coach
Collier, James Melvin, M.A., Ph.D., Part-time Instructor in Political Science, Fort Knox Center
Collis, Constantine George, B.S. in E.E., Instructor in Electrical Engineering
Combs, Lois B., M.S. in H.E., Assistant Professor of Home Economics
Cone, Carl Bruce, M.A., Ph.D., Professor of History
Conley, Opal Skaggs, M.S., Part-time Instructor in Anatomy and Physiology, Ashland Center
Conner, Rex A., M.M.E., Assistant Professor of Music
Cook, Kenneth E., M.B.A., Research Associate, College of Commerce
Cook, Klara R., Th.D., Part-time Instructor in Geography, Ashland Center
Cooke, Arthur Louis, M.A., Ph.D., Professor of English
Cooper, Mary Hester, M.A., Archivist, University and Educational Archives
Corder, George Delbert, M.S. in Agr., Program Chairman in 4-H Club Work
Cotter, Donald James, M.S., Ph.D., Associate Professor of Horticulture
Cotter, William Bryan, Jr., Ph.D., Assistant Professor of Anatomy
Coughenour, Charles Milton, M.A., Ph.D., Associate Professor of Rural Sociology
Cowling, Vincent Frederick, M.A., Ph.D., Professor of Mathematics
Cox, Ben Walter, Laboratory Technician in Creamery License Section
Cox, Douglas Winn, Laboratory Technician, Metallurgical Engineering
Cox, Floyd, M.S. in Ed., Associate Profesosr of Agricultural Education
Cox, Frederick Gerald, M.A., Instructor in Geology
Coy, William Jerry, B.S. in Met.E., Part-time Instructor in Metallurgical Engineering eff. 8-15-60
Crabb, Alfred Leland, Jr., M.A., Assistant Professor of English
Crawford, Thomas Jones, M.S., Geologist, Kentucky Geological Survey
Crawley, Paul Albert, M.A., Part-time Instructor in Anthropology, Ft. Knox Center
Crewe, George Franklin, M.S. in Ch.E., Associate Professor of Chemical Engineering
Criswell, James Ernest, M.S. in Agr., Assistant Professor of Agricultural Economics
Crouse, Charles Stevens, E.M., Professor of Metallurgical Engineering, Special Assignment
Crowe, Allen Edward, B.S., R.M.T., A.S.C.P., A.S.M., Director of Laboratory and X-ray, University Health Service
Crowe, Elizabeth Wallace, M.S., Assistant Bacteriologist (On indefinite leave July 1, 1958)
Cunningham, Everett Wilford, M.A., Instructor in Political Science
Cunningham, Kenneth R., B.S., Draftsman in Agricultural Engineering
Cunningham, Lillian Margaret, M.A., Instructor in English
Curry, Mavis, Instructor in Commerce, Southeast Center
Cutler, John Levi, M.A., Ph.D., Associate Professor of English
Dailey, Henry Jackson, M.A. in Ed., Assistant Professor of Electrical Engineering
Dake, Marcia A., M.A., Ed.D., Professor of Nursing, Dean of the College of Nursing
Dansby, Cecil George, A.B., Major, U.S. Army, Assistant Professor of Military Science
Dardis, John Gerard, M.A., Ph.D., Assistant Professor of Physics
Daubek, Gerald, B.S., Part-time Instructor in Psychology, Fort Knox Center
Daugherty, David Martin, M.S., Registration Inspector, Feed and Fertilizer
Davenport, Oscar Malcolm, M.S., Professor of Forestry; In charge of Forestry Section
Davis, Allan, B.S. in Agr., Area Extension Agent in Poultry
Davis, Hubert Woodrow, M.S., Area Agent in Vegetable Marketing
Davis, James Ira, Sergeant First Class, U.S. Army, Instructor in Military Science
Davis, Maurice M., B.S., Assistant Inspector, Feed and Fertilizer
Dawson, Emily H., B.S. in L.S., Librarian, College of Education, Library and Curriculum Laboratory
Dawson, Lyle Ramsay, M.S., Ph.D., Distinguished Professor of Physical Chemistry, Head of the Department of Chemistry; Acting Dean of the Graduate School, 1960-61
Deane, Shirley P., M.S.L.S., Serials Librarian, Medical Center Library
Dearinger, John Arthur, M.S. in C.E., Assistant Professor of Civil Engineering
DeBoer, Jesse, M.A., Ph.D., Professor of Philosophy
Deen, Encil, B.S. in Agr., Seed Technologist, Entomology and Botany
DeMarcus, Wendell Carden, M.S., Ph.D., Professor of Physics
Denbo, Bruce Frederick, M.A., Director of University Press
Denny, Charlotte C., M.A., Assistant Professor of Nursing
Dent, William H., Jr., A.B., Instructor in Mathematics, Northwest Center
Derrickson, Charles Morton, M.S. in Agr., Superintendent, Robinson Substation
Deuschle, Kurt W., M.D., Professor of Community Medicine, Chairman, Department of Community Medicine
DeVary, Forrest B., Farm Manager, Woodford County Farm
DeVoe, Merrell, M.B.A., Ph.D., Professor of Marketing
Diachun, Stephen, M.S., Ph.D., Professor of Plant Pathology
Dicken, John Columbus, B.S. in Agr., Manager of Seed Stocks
Dickens, Charles Frederick, M.A., M.F.A., Instructor in English; Director of the Laboratory Theatre
Dickey, Frank Graves, M.A., Ed.D., LL.D., L.H.D., President of the University
Didlake, Mary LeGrand, M.S., Associate Entomologist and Botanist, Special Assignment
Diehl, Charles Franklin, M.A., Ph.D., Professor of Psychology; Director of Speech Clinic
Dimmick, Graham Bennett, M.A., Ph.D., Professor of Psychology
Dinsmore, Agnes, M.S., Extension Specialist in Rural Development
Distler, Raymond Jewel, M.S. in E.E., Assistant Professor of Electrical Engineering
Dixon, Charlie, M.S., Coordinator of Special Extension Programs
Doll, Elvis Roger, M.A., D.V.M., Professor of Animal Pathology
Doll, Eugene Carter, M.S., Ph.D., Associate Professor of Agronomy eff. 12-31-60
Donahoe, John William, M.A., Ph.D., Assistant Professor of Psychology
Donohew, Robert Lewis, A.B. in Journ., M.A., University Editor and Director of Information Services, University Public Relations
Donovan, Herman Lee, M.A., Ph.D., LL.D., Professor of History of Education; President Emeritus of the University

NC Donovan, Jane Audrey, B.S., Captain, U.S. Air Force; Assistant Professor of Aerospace Science
NC Dorsey, Richard Monroe, A.B., Captain, U.S. Air Force, Assistant Professor of Aerospace Science
Doshi, Rohini Amritlal, M.S., Instructor in Home Economics
Doughty, Richard Morrison, M.A., Assistant Professor of Materia Medica
Douglas, Evalin, A.B., Sales Manager, University Press
Douglass, James E., Ph.D., Assistant Professor of Chemistry
R Dowden, Donald R., M.S., Instructor in Dairying eff. 7-1-60
Downing, Harold Hardesty, B.C.E., M.S., Ph.D., Professor of Mathematics and Astronomy, Special Assignment
Downs, James B. T., M.S. in M.E., Professor of Mechanical Engineering, Kentucky Contract Team, University of Indonesia, Bandung, Java
Dozier, George S., M.D., Physician, Part-time, University Health Service
Drake, William Bright, M.S. in C.E., Part-time Lecturer in Highway Engineering
Drennon, Herbert Neil, M.A., Ph.D., Associate Professor of Political Science, William Andrew Patterson School of Diplomacy and International Commerce
Driskell, Bertram Norman, M.S., Ph.D., Associate Professor of Agronomy
Drudge, Junior Harold, D.V.M., Sc.D., Professor of Animal Pathology
Duff, Mike, M.S., Ph.D., Extension Specialist in Extension Programs (On leave October 1, 1958)
Dugan, Frances Smith, A.B., B.S. in L.S., Associate Archivist
Dukeminier, Jesse J., A.B., LL.B., Professor of Law
Duncan, Joseph G., M.A., Associate Professor of Public Information and Educational Aids
Duncan, May Kenney, M.A., Professor of Elementary Education, Special Assignment
Duncan, Phillip Aaron, M.A., Ph.D., Assistant Professor of French
Duncan, Robert Carlisle, Jr., M.S. in Met.E., Assistant Professor of Metallurgical Engineering, Indonesian Contract, Bandung
Duncan, William G., Ph.D., Associate Professor of Agronomy
Dunn, Keller Johnson, M.A., Director of Evening Class Program and Workshops and Conferences, Extended Programs
Duquette, Alfred Lorenzo, M.A., Ph.D., Assistant Professor of Mathematics
Dutt, Ray Horn, M.S., Ph.D., Professor of Animal Husbandry
R Dysart, Marjorie May, M.A., Editorial Assistant, University Press Resignation eff. 1-31-59
Eaton, William Clement, M.A., Ph.D., Professor of History
Eaves, James Clifton, M.A., Ph.D., Professor of Mathematics, Head of the Department of Mathematics and Astronomy
Eckel, Charles Howard, M.A., Ed.D., Professor of Education
Eckstrom, Hartley Clayton, M.S., Ph.D., Professor of Chemistry
Ecton, William Wallace, B.S. in Com., C.P.A., Assistant Professor of Commerce
Edens, Carneal, B.S., Part-time Instructor in Commerce, Northern Center
Edmonds, Fred, M.A., Research Associate, College of Education
Edney, James Marion, M.S., Assistant Professor of Zoology
Edwards, George Johnel, M.A., Instructor in English, Ashland Center
Edwards, Ogden Frazelle, M.S., Ph.D., Associate Professor of Microbiology
Egerton, John W., A.B., Assistant Coordinator for Indonesian Contract
Ehmann, William Donald, M.S., Ph.D., Assistant Professor of Chemistry
Elliott, James McCleland, M.S. in M.E., Assistant Professor of Mechanical Engineering
Elliott, Kenneth Wiley, M.A., Editor of the University Press
Elliott, Norris Raymond, B.S. in Hort., Professor of Horticulture; Extension Specialist in Horticulture, Special Assignment
Elliott, William J., M.A., Part-time Instructor in Chemistry, Northern Center
Ellis, Herman Adam, M.A., D.B.A., Associate Professor of Economics
Ellis, John, M.S., Assistant Chemist, Feed and Fertilizer
Elsey, Edward Everett, M.E., Professor of Engineering Research
Elton, Charles Fowler, M.A., Ph.D., Part-time Associate Professor of Psychology; Part-time Associate Professor of Education; Dean of Admissions and Registrar
Emmert, Emery Myers, M.S., Ph.D., Professor of Horticulture
England, James Merton, M.A., Ph.D., Professor of History; (On leave 1960-61)
Erikson, Statie Estelle, Ph.D., Distinguished Professor of Home Economics; Home Economist, Special Assignment
Erwin, Charles Clifton, M.S.A., Ph.D., Associate Professor of Economics Carlos error made first in 1959-60 cat.
Essene, Frank J., Ph.D., Professor of Anthropology; Head of the Department of Anthropology
Estes, Betsy Worth, M.A., Ph.D., Associate Professor of Psychology (On leave 1960-61)
Evans, Eugene, M.A., Instructor in Political Science
Evans, Evelyn P., A.B., Serials Cataloger, University Library
Evans, John Kenneth, B.S., Assistant in Agronomy
Evans, Robert Owen, M.A., Ph.D., Associate Professor of English
Everette, George A., M.S. in Agr., Extension Specialist in Tobacco
Fagan, Bernard, M.A., Instructor in Industrial Education
Fallis, Robert White, Assistant in Agronomy, Special Assignment
Farmer, Merl Lee, M.S., Assistant Professor of Commerce, Northern Center
Farmer, Wilford I., B.S., Extension Specialist in Fruit and Vegetable Marketing
Farris, Elgan Brooks, C.E., Chief Engineer, Department of Maintenance and Operations
Fair, Ethel M., M.A., L.H.D., Visiting Professor of Library Science
Farris, Jacob Duncan, M.A., M.D., Part-time Professor of Hygiene and Public Health; Physician, University Health Service
Faust, George Patterson, M.A., Ph.D., Professor of English; (On leave 1960-61)
Feltner, John Conrad, M.S., Field Agent in 4-H Extension Programs
Fergus, Ernest Newton, M.S., Ph.D., Professor of Agronomy
Feyk, John A., M.S. in M.E., Associate Professor of Heat Transfer and Thermodynamics, Indonesian Contract, Bandung
Field, Thomas Perry, M.A., Ph.D., Professor of Geography (On leave 1960-61)
Fields, Davis Stewart, Jr., B.S. Phys., Ph.D., Assistant Professor of Metallurgical Engineering
Finkner, Verne Clifford, M.S., Ph.D., Associate Professor of Agronomy
Fish, Ernest Ellsworth, M.S., Field Agent in 4-H Club Work
Fisher, Irving Sanborn, M.A., Ph.D., Associate Professor of Geology
Fisher, Joseph, Ph.D., Assistant Professor of Chemistry
Fitzgerald, Robert Bernard, M.M., Professor of Music; Head of the Department of Music
Flint, John Torgny, M.A., Ph.D., Assistant Professor of Sociology

Fogle, David Porter, M. of City Planning, Visiting Critic in Architecture
Ford, Elizabeth Elliott, B.S., Technician, Animal Husbandry
Ford, Robert Harvey, B.S. in Agr., Extension Specialist in Radio and TV Information
Ford, Thomas Robert, M.A., Ph.D., Professor of Sociology; Professor of Rural Sociology; Professor of Behavioral Science, College of Medicine
Fort, Arthur W., M.S., Ph.D., Assistant Professor of Chemistry
Fortenbery, Blumie White, B.S. in Agr., Extension Specialist in Seed Improvement
Foster, Edward Francis, M.A., Ph.D., Instructor in English
Franke, Norman H., M.S., Ph.D., Associate Professor of Pharmacy
Freeman, Joe Frank, M.S. in Agr., Associate Professor of Agronomy
Freeman, Richard Bordon, M.A., Professor of Art, Head of the Department of Art
Freeman, Theodore Russell, M.S., Ph.D., Professor of Dairying
Fulmer, Hugh Scott, A.B., M.D., Assistant Professor of Community Medicine, College of Medicine
Fuqua, Joe Eugene, M.S., Assistant Professor of Agricultural Economics
Gabbard, Roy Fletcher, M.A., Ph.D., Assistant Professor of Physics
Gail, Irving A., A.B., M.D., Diplomate, American Board of Psychiatry; Visiting Lecturer in Social Work
Galvin, Robert D., Ph.D., Instructor in Physiology, College of Medicine
Gard, Oliver William, B.S. in M.E., M.S. in I.E., Associate Professor of Mechanical Engineering
Gardner, Jess L., M.A., Social Sciences and Mathematics, University School
Garner, Jasper Henry Barkdoll, M.A., Ph.D., Assistant Professor of Botany, Indonesian Contract, Bogor
Garrigus, Wesley Patterson, M.S., Ph.D., Professor of Animal Husbandry; Head, Department of Animal Husbandry; Associate Director of Agricultural Experiment Station
Garside, Matthew Stanley, B.S., Field Agent in 4-H Club Work Programs
Gaston, Thomas Elmer, M.A., Instructor in English, Southeast Center
Gault, Lelah Vaughn, B.S. in H.E., Assistant Chemist, Feed and Fertilizer
Gay, Nelson, M.S. in Agr., Ph.D., Extension Specialist in Animal Husbandry
Gesund, Hans, D. of Engr., Associate Professor of Structural Engineering
Gibson, Norma Jean, A.B., Librarian, College of Education Library
Gibson, Robert Carlton, M.A., Instructor in Political Science
Gifford, Chloe, LL.B., M.A., Assistant in Charge of Department of Community Services, Extended Programs
Gilb, Stella Spicer, B.P.E., M.A., Instructor in Physical Education; Assistant Professor of Education
Gildart, Lee William, M.S., Ph.D., Associate Professor of Physics, Indonesian Contract, Bandung
Gillett, Leone, B.S. in H.E., District Leader of Home Demonstration Agents
Gilliam, Richard Davenport, Jr., A.B., LL.B., Professor of Law
Gilliam, Will D., Jr., M.A., Ph.D., Associate Professor of History
Gillilan, Lois A., M.D., Associate Professor of Anatomy, College of Medicine
Ginger, Lyman Vernon, M.A., Ed.D., Professor of Education; Dean of the College of Education
Ginocchio, Oleva Louise, Administrative Assistant, Special Assignment, Agricultural Experiment Station
Githins, John H., M.D., Professor of Pediatrics, Chairman of the Department of Pediatrics, College of Medicine
Gladden, James Walter, M.Ed., Ph.D., Professor of Sociology
Glasser, Arthur C., M.S., Ph.D., R.Ph., Professor of Pharmaceutical Chemistry, Head of the Department of Pharmaceutical Chemistry
Glenn, Wilburn Eldon, M.S., Ph.D., Assistant Professor of Dairying
Godbey, Edsel, Ed.D., Director, Southeast Center
Gooch, Ernest D., Jr., M.S. in Agr., Assistant Professor of Agricultural Economics
Goodman, Adolph Winkler, M.A., Ph.D., Professor of Mathematics
Gorman, Anna M., M.S., Ed.D., Associate Professor of Home Economics Education
Graden, Arthur Paul, B.S., Instructor in Dairying
Graddy, Ivan Clay, M.S. in Agr., District Leader of Agricultural Extension Agents
Gragg, Logan E., A.B., M.D., Psychiatric Consultant, Department of Psychology
Graham, Peter John, M.App.Sci., Assistant Professor of Electrical Engineering
Grainger, Robert Ball, M.S. in Agr., Ph.D., Associate Professor of Animal Husbandry eff 8-1-60
Graves, Charles Parker, M.Arch., Professor of Architecture, Head of the Department of Architecture
Graves, Ronnie Clark, M.S. in Agr., Area Agent in Poultry
Gravitt, Bernard, Instructor in Education, Southeast Center
Grebstein, Sheldon Norman, M.A., Ph.D., Assistant Professor of English
Green, Anne Guerrant, M.A., Assistant Professor of Art
Green, Betty Jean Warren, B.S. in Com., Instructor in Commerce, Ashland Center eff. 1-31-61
Griffith, Richard, M.A., Ph.D., Part-time Lecturer in Psychology
Grumbach, Robert S., M.S. in E.E., Associate Professor of Electrical Engineering, Indonesian Contract, Bandung
Guenther, Ruth Margaret, M.A., Assistant Professor of Home Economics
Gulley, John William, Technician in Agronomy
Gunter, Carl, Instructor in Engineering Drawing, Ashland Center
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Hackensmith, Charles William, M.A., Ph.D., Professor of Physical Education
Hagan, Wallace Woodrow, M.S., Ph.D., Director of Kentucky Geological Survey, State Geologist
Hager, Cornelius R., M.A., Director of Extension Class Program, Extended Programs
Haile, Inez, M.S., Assistant Professor of Home Economics Education
Haines, Ruth, M.A., Art, University School
Hall, Ann Bowman, A.B., Cataloger, University Library eff. 7-31-56
Hall, Marvin Dean, B.S. in Agr., Extension Specialist in Agricultural Engineering
Hall, Robert, Jr., B.S., Assistant in Animal Husbandry
Halladay, Robert D., M.S., Instructor in Physics, Ashland Center
Hallbeck, Jeannette Ann Ridley, M.S., Instructor in Home Economics
Hallock, Stuart Wendell, M.S., Assistant Professor of Television, Films; Production Supervisor
Halsted, James A., M.D., Assistant to the Vice President, Medical Center; Associate Professor of Medicine; Director of Postgraduate Medical Education
Ham, Willburt Dunn, B.S., LL.M., Professor of Law
Hamblen, John W., M.S., Ph.D., Associate Professor of Statistics; Director of Computing Center

Hamilton, Holman, Ph.D., Associate Professor of History
Hamilton, James Lewis, M.S. in Agr., Assistant Professor of Agronomy
Hamilton, Orlie Durand, Laboratory Assistant in Animal Husbandry; Supervisor, Agricultural Sales Room
Hamilton, William Brooks, M.S., Ph.D., Professor of Hygiene and Public Health
Hammaker, Elwood Meacham, Ph.D., Professor of Chemistry
Hammer, Carolyn Reading, A.B., B.S., Head, Acquisition Department, University Library
Hammond, S. B., M.S., Ph.D., Associate Professor of Electrical Engineering, Indonesian Contract, Bandung
Hammonds, Carsie, M.A. in Ed., Ph.D., Professor of Agricultural Education; Chairman of the Division of Vocational Education; Head of the Department of Agricultural Education
Hampton, Raymond Karl, M.S., Ph.D., Assistant Professor of Plant Pathology
Hanau, Richard, M.S., Ph.D., Professor of Physics
Hankins, Thomas Lee, M.S., Director, Northern Center
Hanson, Viola Karen, M.P.A., Associate Professor of Home Economics Extension; Chairman of Home Economics Extension Programs (On leave October 21, 1959)
Hanson, Mary Elizabeth, A.B., B.S. in L.S., Head of Serials Department, University Library
Hardin, Bobby Ott, M.S. in C.E., Assistant Professor of Civil Engineering (On leave 1960-61)
Hargreaves, Herbert Walter, M.A., Ph.D., Professor of Economics
Harkins, Elizabeth B., M.A., Instructor in Psychiatry; Social Case Worker, College of Medicine
Harper, Kenneth Edward, M.A., Ph.D., Assistant Professor of Anthropology; Assistant Dean of Men
Harleston, Rebekah, M.A., M.A. in L.S., Assistant, Reference Department, University Library
Harris, Charles Edgar, B.S. in Agr., Extension Specialist in Poultry
Harris, Jesse Graham, Jr., Ph.D., Associate Professor of Psychology; Associate Professor of Psychiatry; College of Medicine
Harris, Leila Gott, M.A., Assistant Professor of English
Harrison, John Scovill, B.S. in Agr., Instructor in Agronomy
Hart, Ruby Evans, M.A., Assistant in Charge of Department of Film Library, Audio-Visual Services, Extended Programs
Hartford, Ellis Ford, M.A., Ed.D., Professor of Education; Chairman of the Division of Foundations of Education
Haselden, Jane, M.A., Ph.D., Associate Professor of Romance Languages (On leave 1960-61)
Hatch, Maurice Addison, M.A., Ph.D., Associate Professor of English; Director of Freshman English
Hatfield, Albert Leon, M.S., Assistant Professor of Agronomy
Hatton, Robert Henderson, B.S., Laboratory Technician
Havens, James Hobart, A.B., Assistant Lecturer in Highway Engineering
Hawkins, Ora D., B.S., Farm Manager, Eden Shale Farm
Hawkins, Robert Dawson, M.E., M.S., Professor of Applied Mechanics; Head of the Department of General Engineering
Haun, Robert Dee, M.A., J.D., C.P.A., Professor of Accounting
Haynes, William Warren, M.B.A., D.C.S., Professor of Economics
Hazel, Robert, M.A., Assistant Professor of English
Heath, Warren Stanley, B.S. in Ch.E., Ph.D., Part-time Assistant, Professor of Chemical Engineering
Heinz, Wilbur August, M.S.P.H., Associate Professor of Hygiene and Public Health; Acting Head of Department of Hygiene and Public Health; Part-time Professor, University Health Service
Helfrich, Ralph William, Jr., M.S., Instructor in History, Northwest Center
Helton, Stella Elizabeth, M.S., Extension Specialist in Foods and Nutrition
Helwig, W. F., M.S., Associate Professor of Electrical Engineering, Indonesian Contract, Bandung
Hendrix, Charles B., B.S., Fertilizer Distribution Analyst
Henning, Alda Martha, M.A., Acting Chairman Home Economics Extension Programs
Henrickson, Carl Ernest, M.S., Ph.D., Associate Professor of Botany
Henry, Amanda Helen, B.S., Assistant in Animal Nutrition
Hensley, Claude Everett, B.S. in Agr., Nursery and Seed Inspector, Entomology and Botany
Henson, Lawrence, M.S. in Agr., Associate Professor of Plant Pathology
Herbert, Marvin J., M.A., Ph.D., Instructor in Psychology, Ft. Knox Center
Hermann, Herbert, M.M., Instructor in Music
Hernandez, Juan Eduardo, M.A., Ph.D., Associate Professor of Romance Languages
Herndon, Robert H., A.B., Art Editor, University Press
Herron, James Watt, M.S. in Agr., Ph.D., Associate Professor of Horticulture
Hiatt, Andrew Jackson, M.S. in Agr., Ph.D., Assistant Professor of Agronomy
Hickey, Barbara, A.B. in Journ., Associate News Editor, University Public Relations
Hicks, Gary, B.S., Technician in Agronomy
High, Julia, M.A., Psychiatric Social Worker
Hill, Dorothy R., M.A., Acquisitions Librarian, Medical Center Library
Hill, Mildred M., B.S., M.A., Instructor in Nursing
Hillery, George Anthony, Jr., M.A., Ph.D., Assistant Professor of Sociology; Assistant Professor of Rural Sociology
Hinds, G. A., A.B., M.C.P., Associate Professor of Architecture, Indonesian Contract, Bandung
Hite, Samuel Charles, B.S. in Ch.E., Ph.D., Professor of Chemical Engineering; Head of the Department of Chemical Engineering
Hobart, John P., B.S. in E.E., Special Lecturer in Engineering Graphics
Hochstrasser, Donald, M.A., Part-time Instructor in Anthropology, Extended Programs
Hoffmann, Clinton Kelly, C.E., Professor of Engineering Graphics
Holbrook, Norma, B.S., Assistant Chemist, Feed and Fertilizer
Holmes, Sarah Bennett, M.A., Dean of Women Emeritus, Special Assignment
Holshouser, Eugene, M.S., Ph.D., Research Associate, College of Commerce
Hopkins, Howard, M.S., Ph.D., R.Ph., Professor of Pharmacy, Head of the Department of Pharmacy
Hopkins, James Franklin, M.A., Ph.D., Professor of History
Hopper, Ray Clifford, B.S. in Agr., Extension Specialist in Animal Husbandry
Horine, John Sherman, M.E., Professor of Engineering Drawing, Special Assignment
Horlacher, Levi Jackson, M.S., Professor of Animal Husbandry; Group Leader, Guatemala Contract
Horsfield, Margaret Bennett, M.A., Diplome d'Etudes Francaises de l'Universite de Montpelier, Assistant Professor of Romance Languages, Special Assignment
Horton, David L., M.A., Ph.D., Assistant Professor of Psychology
Hotchkiss, Margaret, Ph.D., Professor of Microbiology
Hourigan, Woodrow Wilson, B.S., Area Agent in Rural Development

Howard, John M., B.S. in M.E., Assistant Chief Engineer for the Medical Center
Howard, Noel Judson, B.S. in Agr., Inspector, Feed and Fertilizer
Howell, Almonte Charles, Jr., M.A., Ph.D., Associate Professor of Music
Hoyt, Charles D., M.S. in E.M., Assistant Professor of Mining Engineering, Kentucky Contract Team, Indonesian Contract, Bandung
Hubbell, Jay Broaddus, Ph.D., Litt.D., Visiting Professor of English
Huff, Eugene, M.A., Physical Education and Coach, University School
Huffman, Wilfred John, M.S., Acting Registration Inspector, Agricultural Experiment Station
Hughes, Davie Lee, M.S., Instructor in Chemistry, Southeast Center
Hughes, Jessie Hopwood, A.B., B.S., Librarian, Ashland Center
Hulette, Neville Mastin, Inspector, Feed and Fertilizer
Hull, Floyd Edgar, D.V.M., Professor of Animal Pathology, Head of the Department of Animal Pathology
Hultman, Charles W., M.A., Ph.D., Assistant Professor, William Andrew Patterson School of Diplomacy and International Commerce; Assistant Professor of Economics
Humphrey, James Elliston, B.S. in Agr., Extension Specialist in Poultry
Humphreys, Margaret Bell, M.A., Assistant Professor of Commerce
Humphries, James Charles, M.S., Ph.D., Professor of Microbiology
Hunt, Russell Aubrey, M.S. in Agr., Extension Specialist in Tobacco
Hunter, Coleman, M.A., Instructor in Education, Ashland Center
Hunziker, Walter R., M.Arch., Associate Professor of Architecture and City Planning, Kentucky Contract Team, University of Indonesia, Bandung
Hurt, James Riggins, M.A., Instructor in English, Northwest Center
Hutcheson, Thomas Barksdale, Jr., M.S., Ph.D., Associate Professor of Agronomy
Insko, Wyatt Marion, Jr., M.S. in Agr., Professor of Poultry Science, Head of the Department of Poultry Science
Imobersteg, Neil, M.A., Part-time Instructor in Modern Foreign Languages, Fort Knox Center
Irvan, Helen Deiss, A.B., Part-time Editorial Assistant, University Press
Irvine, Jessie F., M.A., Practicum Supervisor, Department of Psychology
Irvine, Kate Tipton, B.S., in L.S., M.A., Head of Circulation Department, University Library
Irwin, Clyde, B.S., M.B.A., Assistant Professor of Commerce
Jack, Henry Howard, M.A., Ph.D., Assistant Professor of Philosophy
Jackson, John Sterling, Jr., M.S. in E.E., Associate Professor of Electrical Engineering
Jackson, Juanita, M.A. in L.S., Assistant Reference Librarian, University Library
Jacobs, Robert DuRene, M.A., Ph.D., Associate Professor of English (On leave 1960-61)
Jacobson, Don Richardson, M.S., Ph.D., Associate Professor of Dairying
Jansen, William Hugh, Ph.D., Associate Professor of English, Associate Chief of Party, Indonesian Contract, Bandung
Jasper, Letta Walters, B.S., Extension Specialist in Marketing and Consumer Education
Jenkins, George Henry, Jr., B.S., Extension Specialist in Agricultural Engineering
Jenkins, John A., M.A., Instructor in History, Northern Center
Jenness, Phyllis, B.S., in Ed., M.A., Assistant Professor of Music (On leave 1960-61)
Jennings, Walter Wilson, M.A., Ph.D., Professor of Economics, Special Assignment
Jewell, Malcolm Edwin, M.A., Ph.D., Assistant Professor of Political Science
Jobert, Ada Pyle, M.A., Physical Education, University School
Johnson, Arlo, M.S., Ph.D., Professor of Mechanical Engineering, Indonesian Contract, Bandung (Beginning in 1961)
Johnson, Bernard Mason, M.A., Assistant Professor of Physical Education
Johnson, Catherine Burger, M.S., Assistant Bacteriologist, Agricultural Experiment Station
Johnson, Edward Marshall, Ph.D., Professor of Plant Pathology
Johnson, George Wilburn, Jr., Lt. Colonel, U.S. Air Force; Assistant Professor of Aerospace Science
Johnson, James Henry, M.A., Ph.D., Assistant Professor of Modern Foreign Languages (On leave 1960-61)
Johnson, Paul Reynolds, M.S., Ph.D., Assistant Professor of Agricultural Economics
Johnson, Raymon Dudley, M.A., Ed.D., Associate Dean, Director of University Centers, Extended Programs
Johnson, Robert L., B.S., M.S.P.H., Assistant Professor of Community Medicine; Director of Community Services
Johnson, Thomas H., B.S. in Agr., Assistant in Poultry
Johnson, William S., B.S., R.Ph., Instructor in Pharmaceutical Chemistry
Johnston, R. F., M.S., D.V.M., Ph.D., Associate Professor of Animal Physiology, Indonesian Contract, Bogor
Jokl, Ernst, M.D., Professor of Anatomy and Physiology
Jones, Daniel Jonathan, M.S., State Geologist, Kentucky Geological Survey, Special Assignment
Jones, James A., Acting Director, Fort Knox Center
Jones, Roger Walter, Superintendent, Robinson Experiment Substation, Quicksand, Kentucky, Special Assignment
Kadaba, Prasad, K., Ph.D., Associate Professor of Electrical Engineering
Kaplan, Sidney Joseph, M.A., Ph.D., Associate Professor of Sociology
Karan, Pradyumna Prasad, M.A., Ph.D., Associate Professor of Geography
Karp, Howard, B.Mus., Assistant Professor of Music (On leave 1960-61)
Karraker, Perry Elmer, M.A., Professor of Soils; Agronomist in Soil Technology Special Assignment
Karsner, Milo Gist, M.S., Ph.D., Associate Professor of Physical Education
Katterjohn, Catherine Lynn, A.B., B.S. in L.S., Serials Cataloger, University Library
Kauffman, Earl, Jr., M.A., Ed.D., Professor of Physical Education (On leave)
Kavanaugh, George Richard, A.B., Associate Business Manager, Business Administration
Keeton, Lloyd, A.B., Research Associate, College of Commerce
Keiser, C. R., M.S., Ph.D., Professor of Chemistry, Chief of Party, Indonesian Contract, Bandung
Kelley, James Durratt, M.S., Ph.D., Associate Professor of Horticulture
Kelley, Royal Keith, M.S., District Leader in Agricultural Extension
Kelly, Victor John, B.F.A., Captain, U.S. Army, Assistant Professor of Military Science
Kelsay, Evangeline, Smith, M.A., Assistant Professor of Home Economics Education

Kelty, Karl C., M.D., Physician, Part-time, University Health Service
Kemp, James Dillon, M.S., Ph.D., Professor of Animal Husbandry
Kemper, Durbin Collins, M.A., Sciences, University School
Kemper, Katherine Hammack, A.B., Director, University Placement Service
Kendall, Thomas Alexander, M.E., Research Analyst in Department of Mining and Metallurgical Engineering
Kendall, William Anderson, M.S., Ph.D., Associate Professor of Agronomy
Kennedy, Jane Anne, M.S., Assistant Professor of Nursing
Kenney, Vincent Paul, M.S., Ph.D., Associate Professor of Physics
Kern, Bernard Donald, M.S., Ph.D., Professor of Physics (Indonesian Contract, Bandung, beginning in 1961)
Kern, Mary Sue, R.N., M.S. in Nursing Service Administration, Director of Nursing Service, Assistant Professor of Nursing
Kidd, A. Katherine, M.A., Assistant Professor of Home Economics
Kilbourne, Andrew Earl, B.S., Area Agent in Rural Development
Kilpatrick, Elmer James, M.S. in Agr., District Leader of Agricultural Extension Agents
King, Helen Galvin, A.B., Director of Alumni Affairs
King, James Ambrose, B.M., M.A., Assistant Professor of Music
King, Margaret Isadore, A.B., B.S., University Librarian, Special Assignment
R King, Martin Lee, M.S., Assistant Professor of Commerce eff. 9-1-60
King, Robert F., Jr., B.S. in Ed., M.M., Assistant Professor of Music
King, Wallace Lang, B.S. in Agr., Extension Specialist in Dairying
Kinney, Edmund J., B.S. in Agr., Professor of Agronomy, Special Assignment
Kinney, Gordon James, M.M., Associate Professor of Music
Kirwan, Albert Dennis, M.A., LL.B., Ph.D., Professor of History, Dean of the Graduate School (On leave 1960-61)
Kiviniemi, Aimo Justus, B.S. in Mus. Ed., M.A., Associate Professor of Music
Kline, Cernyw Kenneth, M.S., Associate Professor of Agricultural Engineering, Indonesian Contract, Bogor
Kline, James Martin, M.S., Instructor in Physics
Knauf, Robert, B.S., M.A., Part-time Instructor in Music, Northern Center
Knavel, Dean Edgar, M.S., Ph.D., Assistant Professor of Horticulture
Knight, Herschel Oscar, B.S. in M.E., Instructor in Mechanical Engineering
Knisely, William H., Ph.D., Professor of Anatomy, Head of the Department of Anatomy, College of Medicine
Kodman, Francis, Jr., M.A., Ph.D., Associate Professor of Psychology, Director of Audiology Clinic
Kolaja, Jiri Thomas, M.A., Ph.D., Assistant Professor of Sociology
Koppius, Otto Townsend, Ph.D., Professor of Physics, Special Assignment
Kostas, James Samuel, A.B., LL.B., Visiting Assistant Professor of Law
Kraehe, Enno Edward, M.A., Ph.D., Associate Professor of History; William Andrew Patterson School of Diplomacy and International Commerce (On leave 1960-61)
Krimm, Martin Christian, B.S. in E.E., Instructor in Electrical Engineering
Krogdahl, Wasley Swen, Ph.D., Associate Professor of Mathematics and Astronomy; Director of the University Observatory
Kuehne, Robert Andrew, M.S., Ph.D., Assistant Professor of Zoology
Kuhn, Jeanne M., M.A., Ed.D., Associate Professor of Education
Kuhn, Kenneth, A.B. in Journ., Sports Editor, Department of Public Relations
Kuiper, John, M.A., Professor of Philosophy, Head of the Department of Philosophy
Kurtz, Juanita, M.A., Seventh Grade, University School
Lacefield, Arch Sanders, M.A., Instructor in Modern Foreign Languages, Northern Center
Lafferty, James Francis, M.S. in M.E., Assistant Professor of Nuclear Engineering
LaGrange, William Somers, Ph.D., Assistant Professor of Dairying
Lamar, Carl, M.S., Ed.D., Associate Professor of Agricultural Education
Lancaster, Harry Current, M.A., Assistant Basketball Coach; Lecturer, Department of Physical Education
Land, George, Jr., M.S. in C.E., Assistant Professor of Applied Mechanics
NC Landrum, Dolores A., A.B., Technical Secretary, Indonesian Contract, Bandung
Lane, Virginia, B.S., M.A., Associate Professor of Nursing
Lange, Karl Otto, M.E., D.Eng., Professor of Mechanical Engineering, Associate Director, Engineering Experiment Station
Lauderdale, Robert Amis, Jr., M.S. in Ch.E., Ph.D., Associate Professor of Sanitary Engineering
Leach, Maurice Derby, Jr., A.B., B.L.S., Professor of Library Science, Head of the Department of Library Science
Lecky, Emma Lou, A.B., M.S. in L.S., Assistant Professor of Library Science
Lee, Joan Cook, M.A., Instructor in Psychology; Executive Secretary, Department of Psychology
Leland, Stanley Edward, Jr., M.S., Ph.D., Professor of Animal Pathology
Leonard, Lyle Brown, B.S. in Agr., Extension Specialist in Soil and Water Conservation
LeRoy, Leonard Jack, M.A., Instructor in English, Ashland Center
LeShafft, Charles Thomas, Jr., M.S., Ph.D., R.Ph., Associate Professor of Pharmacy
Lester, Robert L., Ph.D., Assistant Professor of Biochemistry, College of Medicine
Levy, Albert S., M.A., Ed.D., Associate Professor of Special Education
Lewis, Homer Collier, M.B.A., LL.B., Associate Professor of Commerce
Lewis, Lovaine Carol, M.A., Ph.D., Assistant Professor of Physical Education
Lewis, Mildred Sinclair, B.S. in Mus., M.A., Professor of Music; Special Assignment
Lewis, Thomas Proctor, LL.B., Associate Professor of Law
Lickert, Gladys Maggard, M.A., Extension Specialist in Home Management
Lickert, Raymond Henry, M.S. in Ed., District Leader of Agricultural Extension Agents
Link, Harold Forest, M.S. in Agr., District Leader of Agricultural Extension Agents
Link, Leo Aloysius, B.S. in Agr., Assistant Agronomist, Western Kentucky Experiment Substation
NC Lintz, Joseph, Jr., M.D., Ph.D., Associate Professor of Paleontology, Indonesian Contract, Bandung
Linville, Dorothy C., A.B., Admissions Officer
Little, Charles Oran, M.S. in Agr., Ph.D., Assistant Professor of Animal Husbandry
Litton, Christopher Columbus, M.S., Assistant Agronomist
R Lockyer, Charles, M.A., Ph.D., Assistant Professor of Economics (On leave 1959-60) eff 4-15-60

Loeffel, Frank Albert, Ph.D., Associate Professor of Agronomy
Loptien, Nancy Miller, M.A., Instructor in Modern Foreign Languages, Ashland Center
Lott, Albert Joseph, M.A., Ph.D., Associate Professor of Psychology
Loudenslager, Ellen Whaley, M.A., Ph.D., Part-time Instructor in Psychology, Northern Center
Love, Harold Gibson, M.S. in Agr., Area Agent in Marketing
Lowry, Samuel Jechonias, B.S. in Agr., Superintendent, Western Kentucky Experiment Substation
Lunde, Robert Gerhard, M.A., Associate Professor of History
Lurry, Lucile L., M.S., Ph.D., Associate Professor of Education
R Lusk, Howard D., M.A., Ed.D., Assistant Professor of Education (On leave 1960-61) eff. 9-1-61
Luster, George L., M.S. in Ed., Ph.D., Associate Professor of Agricultural Education
Luttrell, Larry Donovan, B.S. in C.E., Part-time Instructor in Civil Engineering
Lutz, Warren William, B.M., M.A., Assistant Professor of Music
Lyon, Sprole Lillard, Farm Manager, Mercer County Farm
Lyons, Erwin John, Ph.D., Associate Professor of Geology
McAninch, Daniel Arthur, M.M., D.M.A., Associate Professor of Music
McCafferty, Robert E., Ph.D., Assistant Professor of Anatomy, College of Medicine
McCauley, Joseph Ardery, B.J., M.A. in Ed., Associate Professor of Journalism
McChord, Charles H., M.D., M.S., Physician, University Health Service, Special Assignment
McClellan, James Thomas, M.D., M.S., Part-time Associate Professor of Clinical Pathology, Department of Microbiology
NC McClellan, Nancy Allen, A.B., Instructor in English, Ashland Center
McCloy, Shelby Thomas, A.B. (Oxon), Ph.D., Professor of History
McCollum, William Howard, M.S., Ph.D., Professor of Animal Pathology
McCubbin, William Edward, M.A. in Ed., Ed.D., Associate Professor of Physical Education
see Latzke McCuiston, Verna Latzke, M.S., Extension Specialist in Clothing
NC McDaniel, Alice Marrs, A.B. in Ed., Seed Analyst, Entomology and Botany
McDaniel, Ernest D., M.A., Ph.D., Director of Testing Service; Part-time Associate Professor of Education
McDowell, Agnes, A.B., M.S. in L.S., Cataloger, Law Library
McDowell, Leonard C., M.A. in Ed., Instructor in Industrial Education
McElhoe, Forest Lester, Jr., M.A., Ph.D., Assistant Professor of Geography
McEllistrem, Marcus Thomas, M.S., Ph.D., Associate Professor of Physics
McFarlan, Arthur Crane, Ph.D., Professor of Geology, Head of the Department of Geology
McFarland, Frank Theodore, M.S., Ph.D., Research Professor of Botany, Special Assignment
NC McFarland, H. F., Associate Professor of Mining Engineering, Indonesian Contract, Bandung
McFarland, Hubert W., Technician in Plant Pathology
McGrain, Preston, M.A., Assistant State Geologist, Kentucky Geological Survey
McInteer, Berthus Boston, M.S., Ph.D., Associate Professor of Botany, Special Assignment
McIntyre, Robson Duncan, M.S. in Com., Professor of Marketing
McKenney, Garnett Jennings, B.S. in Agr., Field Agent in 4-H Extension Programs
McKenzie, F. F., M.A., Ph.D., Professor of Veterinary Gynecology, Indonesian Contract, Bogor
McLaughlin, Marguerite, A.B., Assistant Professor of Journalism, Special Assignment
McMurtry, David Cornelius, M.A., Assistant Professor of Commerce
McQueen, Jessie, Associate Professor of Home Economics, Indonesian Contract, Bogor
McReynolds, Thomas Lee, M.S. in C.E., Lecturer in Structural Engineering
Mabry, John Hamilton, M.A., Ph.D., Associate Professor of Behavioral Science, College of Medicine
Mackey, Everette, M.S., Extension Specialist in Egg Marketing
MacLaury, Donald Wayne, M.S., Ph.D., Professor of Poultry
Maggard, Samuel Preston, M.S. in C.E., Assistant Professor of Civil Engineering (On leave 1960-61)
Magill, Wilbur William, B.S. in Agr., Extension Specialist in Horticulture
Magoun, P. C., Supervisor of Electrical Engineering Laboratories
Magruder, Lucille, M.S., Assistant Professor of Home Economics
Mahan, William Lloyd, B.S., Superintendent of Experiment Station Farms
NC Mahula, Francis Leroy, A.B., Captain, U.S. Air Force, Assistant Professor of Aerospace Science
Mainous, Joseph Edward, B.S., Part-time Instructor in Speech
Mandlestam, Paul, M.D., Assistant Professor of Medicine
Maney, Charles Thomas, B.S. in E.E., M.S. in Physics, Professor of Electrical Engineering
R Mangelson, Dorothea, B.S., Assistant in Animal Pathology eff 1-31-61
Mangelsen, Fritz, Superintendent of Machine Shop
Manker, Charles C., M.R.E., Ph.D., Associate Professor of Education
Marcus, Charles R., A.B., Instructor in Mathematics, Ashland Center
Marlatt, Abby Lindsey, Ph.D., Professor of Home Economics, Director of School of Home Economics
Marlowe, David, Ph.D., Assistant Professor of Behavioral Science, College of Medicine
Marlowe, George Albert, Jr., M.S., Ph.D., Associate Professor of Horticulture
Marshall, Bernice Grant, M.A., Instructor in Mathematics, Northern Center
Marshall, Maurice Keith, B.S. in Ae.E., M.S. in M.E., Associate Professor of Mechanical Engineering (On leave 1960-61)
Martin, Dudley Carl, Ph.D., Associate Professor of Horticulture
Martin, James Henderson, Ph.G., Drug Chemist, Special Assignment
Martin, James Walter, M.A., Distinguished Professor of Economics; Director of Bureau of Business Research
Martin, Laura Katherine, M.A., Associate Professor of Library Science
Martin, Leslie Leon, M.S., Ph.D., Part-time Associate Professor of Education; Dean of Men
Maury, Hill, B.S., Business Administrator, Indonesian Contract, Bogor
Mason, Harry Louis, M.S. in M.E., Assistant Professor of Mechanical Engineering
Massey, Herbert, M.S., Ph.D., Professor of Agronomy
Massie, Ira Evan, M.S. in Agr., Extension Specialist in Tobacco eff. 6-30-60
Massie, Joe Logan, M.A., Ph.D., Associate Professor of Economics

Masten, John Talbot, M.S., Ph.D., Professor of Economics
Mateer, Richard Shelby, M.S. in Met.E., Ph.D., Professor of Metallurgical Engineering, Head of the Department of Mining and Metallurgical Engineering
NC Mathews, Robert, Chief Inspector and Administrative Assistant, Feed and Fertilizer
Matthews, William Lewis, Jr., A.B., LL.M., S.J.D., Professor of Law; Dean of the College of Law
Mauldin, Guy Robert, M.S., Instructor in Mathematics, Southeast Center
May, Robert C., Photographer, Public Information, Agricultural Experiment Station and Agricultural Extension
Mayo, Ann Socorro, A.B., Instructor in Modern Foreign Languages
Meader, Arthur Lloyd, A.B., Assistant Chemist, Special Assignment
NC Meador, James Stuart, B.S., Captain, U.S. Air Force, Assistant Professor of Aerospace Science
Meadow, Jacob Robert, M.A., Ph.D., Professor of Industrial Chemistry; Assistant Dean, College of Arts and Sciences
Meece, Leonard Ephraim, M.A., Ph.D., Professor of Education
Meeks, B. Spencer, Jr., Ph.D., Associate Professor of Chemistry, Indonesian Contract, Bandung
Megerian, David, Assistant Professor of Physiology, College of Medicine
Mellenbruch, Parl Leslie, M.A., Ph.D., Professor of Psychology
Midkiff, Valva C., M.S., Chemist, Feed and Fertilizer
Miller, Edna Caroline, M.Ed., Ed.D., Part-time Associate Professor of Modern Foreign Languages; Associate Professor of Education, Northern Center
Miller, Harold Franklin, B.S. in Agr., Extension Specialist in Soils
1-31-61 Miller, Jerry Wetzel, B.A., News Editor, University Public Relations
Miller, Richard Clarence, M.S. in Agr., Extension Specialist in Animal Husbandry
Miller, R. H., Ph.D., Associate Professor of Botany, Indonesian Contract, Bandung
Miller, William Merrell, M.S., Instructor in Dairying
Mills, Donald, A.B., Assistant Professor of Education
Mills, Kermit Clifford, B.S., Extension Specialist in Agricultural Engineering
Milton, Mary Page, A.B., University Recorder
Minton, Willard Hamilton, M.S., Assistant Professor of Agricultural Economics
Mitchell, Corwin A., B.S., Part-time Instructor in Modern Foreign Languages, Fort Knox Center
Mitchell, George Ernest, Jr., M.S., Ph.D., Associate Professor of Animal Husbandry
Mitchell, John Richard, A.B., Assistant Professor of Chemistry, Special Assignment
NC Mitchell, William Lunsford, III, D.Engr., Lecturer in Metallurgical Engineering
Mobley, Joe Lainer, M.S., Extension Specialist in Agricultural Economic Development
Mochow, Marian Stahl, B.S., Assistant in Animal Pathology
Mock, Joe Fallwell, M.S., Ph.D., Part-time Instructor in Psychology, Ashland Center
Moll, Wilhelm, M.S.L.S., Assistant Medical Librarian; Instructor, College of Medicine
Molloy, Jeannette, M.A., Research Associate, College of Education
Monroe, Jack Jagers, M.S., Ph.D., Practicum Supervisor, Department of Psychology
eff-6-30-60R Monsen, Florence, A.B., Staff Assistant, College of Medicine
Montgomery, Ford McRae, M.M., Assistant Professor of Music
Moore, Arthur Keister, M.A., Ph.D., Professor of English
Moore, Ben, Laboratory Technician in Animal Pathology
Moore, George Arlington, M.A., Instructor in English, Northern Center
Moore, James T., Jr., M.A., Ed.D., Professor of Education; Chairman of the Division of Curriculum
Moore, Mildred Allen, A.B., M.S. in L.S., Librarian, College of Engineering
Moore, Robert Payne, M.A., Instructor in Modern Foreign Languages
Moore, William McKinley, M.A., Ph.D., Associate Professor of Journalism
Moores, Maple, Assistant Registrar
Moreland, Roy, A.B., LL.B., J.D., S.J.D., Professor of Law
NC Morgan, John Woodrow, Master Sergeant, U.S. Army, Instructor in Military Science
Morgan, Thomas Eugene, M.S., Assistant Professor of Engineering Graphics
Morris, James Graham, B.S. in Met. E., Ph.D., Associate Professor of Metallurgical Engineering
NC Morton, Margaret Eve, A.B., Seed Analyst, Entomology and Botany
Mory, Samuel Albert, Jr., C.E., Professor of Structural Engineering
Murphy, William Patrick, A.B., LL.B., Visiting Professor of Law
Murphy, Minerva Owens, M.S., Extension Specialist in Foods and Nutrition
Murphy, Sally Brazzell, B.S., Technician in Horticulture
Musselman, Vernon Armor, Ed.M., Ed.D., Professor of Education, Head of the Department of Business Education
Nash, Gordon A., M.A., Associate Professor of Music; Director of Music Activities, Extended Programs
Navarro, Silvio O., M.S. in E.E., Ph.D., Associate Professor of Electrical Engineering, Assistant Director of University Computing Center (On leave 1960-61)
Nelson, Vincent Edward, Ph.D., Professor of Geology
Nester, A. Paul, M.A., Associate Business Manager for the Medical Center
Newbury, Edward Lee, M.A., Assistant Professor of Psychology
Newman, Dewey Hobert, Jr., M.S., Assistant Chemist, Feed and Fertilizer
Newman, James A., B.S. in Agr., Extension Specialist in Forestry
Newsom, Shirley, M.S. in H.E., Assistant Professor of Home Economics
Noback, Richardson K., B.S., M.D., Associate Professor of Medicine; Assistant Dean, College of Medicine, Director of University Health Service
NC Noble, Milton, B.S., Forester, Robinson Experiment Substation
Noffsinger, James, D.Arch., Associate Professor of Architecture
Norris, Lawrence Ray, Music, University School, Part-time Instructor in Music
Nosow, Edmund, M.S., Geologist, Kentucky Geological Survey
Oberst, Paul, A.B., LL.M., Professor of Law (On leave 1960-61)
O'Brien, George William, M.S., Ph.D., Assistant Professor of Chemistry, Ashland Center
Ogletree, James Robert, Jr., M.A., Ed.D., Associate Professor of Education
Olds, Durward, D.V.M., M.S., Ph.D., Professor of Dairying
Orr, Clyde L., Ed.D., Director of the Ashland Center
Orth, Ronald E., M.S., Ph.D., R.Ph., Assistant Professor of Pharmaceutical Chemistry
Osborne, Ruth Stallings, M.A., Music, University School

Overfield, James Ralph, M.S., Assistant in Animal Husbandry, Western Kentucky Substation

Overton, Harold, M.S., Assistant Professor of Petroleum Engineering, Indonesian Contract, Bandung (Beginning 1961)

Papania, June, Seed Analyst, Entomology and Botany

Parker, Blaine, Frank, M.S., Ph.D., Professor of Agricultural Engineering, Head of the Department of Agricultural Engineering

Parker, Ethel Lee, M.A., Ph.D., Professor of Home Economics Education, Special Assignment

Parker, Flo Evans, Instructor in English, Southeast Center

Parker, Florence Jones, B.S., District Leader of Home Demonstration Agents

Parker, John R., M.S. in C.E., Assistant Professor of Hydraulics

Parker, Joseph B., Jr., M.D., Professor of Psychiatry, Chairman of the Department of Psychiatry, College of Medicine

Parker, Paul F., M.S., R.Ph., Assistant Professor of Pharmacy; Director of Pharmacy and Central Supply, Medical Center

Parkin Dirck McKay, M.A., Instructor in History, Ashland Center

Parrish, Ruth Phillips, M.A., Speech Therapist, Department of Psychology

Patch, Nathaniel Maxwell, M.M., Professor of Music

Patterson, John Miles, Ph.D., Associate Professor of Chemistry

Patterson, J. W., M.A., Ph.D., Assistant Professor of Speech

Pattie, Frank Acklen, M.A., Ph.D., Professor of Psychology

Pearce, Walter Herman, M.A., Assistant Professor of Economics

Pearsall, Marion, Ph.D., Associate Professor of Behavioral Science, College of Medicine; Associate Professor and Co-ordinator of Behavioral Science, College of Nursing

Pearson, James Leslie, M.S., Assistant Economist, Agricultural Economics; Assistant Professor of Agricultural Economics

Pellegrino, Edmund D., M.D., Professor of Medicine, Chairman of the Department of Medicine

Peck, Anna Browning, M.A., Assistant Professor of Education; Special Assignment Social Sciences, University School

Pence, Sallie Elizabeth, M.A., Ph.D., Professor of Mathematics

Pendergrass, George Delbert, M.S., Extension Specialist in Animal Husbandry

Pendley, Laurence Chester, M.S. in C.E., Associate Professor of Civil Engineering

Pennington, Carolyn, M.S., Head Resident of Boyd Hall

Penrod, Estel Burdell, M.S., M.M.E., Sc.D., Professor of Mechanical Engineering, Special Assignment (On leave 1960-61)

Perry, Norma Jean, B.S., Instructor in Home Economics

Peterson, Frank Dewey, A.B., LL.D., Vice President (Business Administration)

Phillips, B. Shirley, M.S. in Agr., Extension Specialist in Crops

Phillips, Carroll Davidson, M.S. in Agr., Ph.D., Professor of Agricultural Economics

Phillips, James Monroe, Jr., A.B.J., Associate News Editor, University Public Relations

Pickard, Robert Frank, B.S. in M.E., Instructor in Mechanical Engineering

Pickett, Ralph Russell, M.A., Ph.D., Professor of Economics

Pignani, Tullio Joseph, M.S., Ph.D., Assistant Professor of Mathematics

Plucknett, William K., Ph.D., Associate Professor of Chemistry

Plummer, Leonard Niel, M.A., Ph.D., Professor of Journalism; Director of the School of Journalism

Pool ,Marion, Associate Professor of Nursing

Porter, E. Leon, M.A., Ed.D., Mathematics, University School

Portmann, Victor Rowe, B.J., Assistant Professor of Journalism

Poundstone, Albert Bruce, M.S. in Agr., Head, Department of Feed and Fertilizer

Powell, James, M.A., Instructor in Education

Powers, Rickman, B.S., C.P.A., Part-time Instructor in Commerce, Northern Center

Pratt, Judith Dunlap, M.S., Ph.D., Assistant Professor of Nursing; Coordinator of Physical and Biological Science, College of Nursing

Press, Oscar Leonard, M.S., Assistant Professor of Radio, Television, Films; Head of the Department of Radio, Television, Films

Preston, Ralph L., M.S., Instructor in Physics, Northwest Center

Price, Hugh Bruce, M.A., Ph.D., Professor of Agricultural Economics; Special Assignment

Price, Robert Newton, B.S. in Chemistry, Assistant Chemist, Feed and Fertilizer

Price, Vandilla, A.B. in H.E., District Leader of Home Demonstration Agents

Price, Walter Allen, M.S., Professor of Entomology, Special Assignment

Prop, Walter Vincent, M.A., Instructor in Engineering Graphics

Proudfoot, Blenda, M.A., Assistant Professor of Education

Proudlove, J. A., M.S., A.M.I., Mun.E., Visiting Professor of Civil Engineering (From the University of Liverpool, England)

Prough, Suzanne, M.A., Assistant Professor of Nursing

Puckett, Russell Elwood, M.S. in E.E., Assistant Professor of Electrical Engineering

Rainey, Archie Bryan, M.A., Instructor in English; Technical Director of Guignol Theatre

Ramsay, Ralph John, M.A., Extension Specialist in Rural Sociology

Rankin, Robert M., A.B., Part-time Instructor in Journalism, Northern Center

Rannells, Edward Warder, M.A., Professor of Art

Rasdall, Mackie, M.A., Director, Student Union Building

Ravitz, Leonard A., M.A., Ed.D., Associate Professor of Education

Rayfield, Benton Adam, Sr., Sergeant, U.S. Army; Instructor in Military Science and Tactics

Rea, John Alexander, M.A., Instructor in Modern Foreign Languages

Reckman, Erie, Instructor in Modern Foreign Languages, Southeast Center

Redman, John C., M.S. in Agr., Ph.D., Professor of Agricultural Economics

Reece, Alfred Marion, Jr., M.A., Assistant Professor of Physical Education; Director of Acquatics

Reece, Kathryn Lay, B.S., Biological Sciences Librarian

Reed, Helen Miriam, M.A., Ed.D., Associate Professor of Education

Rees, Earl Douglas, M.D., Assistant Professor of Medicine, College of Medicine

Reese, Clint Manly, B.S. in Agr., Assistant in Animal Husbandry

Reesor, Margaret Elaine, M.A., Ph.D., Assistant Professor of Ancient Languages and Literatures

Reeves, John Estill, M.A., Associate Professor of Political Science

Rehberg, William F., M.S. in Pharm., R.Ph., Associate Professor of Pharmacy

Reichert, William Otto, M.A., Ph.D., Assistant Professor of Political Science (On leave 1960-61)
Renn, Leone, M.S.W., Assistant Professor of Medical Social Work
Rice, Nicholas M., A.B., M.Ed., Instructor in Radio, Television, Films; Supervisor of Station WBKY
Richards, Clara L., M.A., Part-time Instructor in Botany, Northern Center
Richards, Harry Randolph, M.S Ph.D., Assistant Professor of Agronomy
Richardson, James Russell, A.B., LL.M., Professor of Law
Richardson, James Tull, M.A., Ph.D., Part-time Instructor in Sociology, Ashland Center
Rickey, Mary Ellen, M.A., Ph.D., Assistant Professor of English
Riley, Herbert Parkes, M.A., Ph.D., Distinguished Professor of Botany, Head of the Department of Botany
Riley, Thomas L., M.S., Instructor in Agriculture, Northern Center
Ringo, Jessie Wilson, M.A., Assistant Professor of Home Economics
Ritter, Harry Otto, A.B., M.A. in Jour., Instructor in Journalism
Roadman, Harry E., Ph.D., Visiting Lecturer in Psychology
Roberts, Amster Dudley, M.A., Ph.D., Part-time Lecturer in Psychology
Roberts, John Bissell, M.S. in Agr., Professor of Agricultural Economics
Roberts, Thomas Glasdir, Ph.D., Associate Professor of Geology
Robertson, Benjamin Russell, M.S., Extension Specialist in Agricultural Marketing
Robinson, Lolo Lemme, A.B., Assistant Professor of English; Associate Director of Guignol Theatre
Rodes, Robert Michael, M.A., Instructor, William Andrew Patterson School of Diplomacy and International Commerce; Political Science
Rodriguez, Juan Guadelupe, M.S., Ph.D., Associate Professor of Entomology
Rogers, George, M.A., Ph.D., Part-time Associate Professor of Education; Director of Counseling Service
Roland, Clyde P., M.A., B.D., Part-time Instructor in Greek, Department of Ancient Languages and Literatures (Evening classes, Extended Programs)
Roll, William Haydon, E.M., Associate Professor of Mining Engineering
Romanowitz, Harry Alex, E.E., M.S., Ph.D., Professor of Electrical Engineering, Head of the Department of Electrical Engineering
Rook, Dale Arthur, Capt., U.S. Air Force, Assistant Professor of Aerospace Science
Rooney, James Rowell, M.S., D.V.M., Professor of Animal Pathology
Rose, William Drake, Jr., M.S., Geologist, Kentucky Geological Survey
Rosenbaum, Harold D., M.D., Professor of Radiology, Chairman of the Department of Radiology, College of Medicine; Physician, Part-time, University Health Service
Rosenbloom, Joseph R., M.F.L., D.H.L., Rabbi, Lecturer in Hebrew, Department of Ancient Languages and Literatures
Roser, Margaret, M.A., Librarian, University School
Ross, Alan, M.S., Ph.D., Assistant Professor of Behavioral Science, College of Medicine
Ross, James Pheane, M.S., Field Agent in Junior Clubs
Roszell, Calvert Theodore, LL.B., Teaching Associate, College of Law
Rothwell, Herman, B.S., Area Agent in Agricultural Economics
Routt, Wilson Morgan, B.S., Assistant Inspector, Feed and Fertilizer
Roy, Richard Frances, M.S. in Education, Instructor in Radio, Television, Films; Film Director
Royster, Wimberly Calvin, M.A., Ph.D., Associate Professor of Mathematics
Rudd, Robert William, M.S. in Agr., Ph.D., Professor of Agricultural Economics
Rudnick, Arthur William, Jr., M.S., Ph.D., Assistant Professor of Dairying
Rupp, Adolph Fred, M.A., Head Basketball Coach
Ruschell, George J., M.B.A., Administrative Assistant, Agricultural Experiment Station and Extension
Rushing, Richard A., B.S., Field Secretary, University of Kentucky Alumni Association
Russell-Tutty, Ronald, M.A., Program Director; Instructor in Radio, Television, Films
Ryan, Howard James, M.A., Instructor in History
Ryen, Kob, M.A., Assistant Professor of Animal Husbandry; Part-time Instructor in Physical Education
Salmon, Dorothy, B.S. in Com., LL.B., Associate Professor of Law; Law Librarian
Salmon, Horace G., M.S., Research Associate, College of Commerce eff. 6-30-60
Salzwedel, Kathleen Marie, B.S., Laboratory Technician in Agronomy
Sapp, Gordon Kenneth, Instructor in Engineering Graphics
Saufley, Zach Church, M.S., Extension Specialist in Livestock Marketing
Saunders, Ruth Latimer, B.S., District Leader of Home Demonstration Extension Agents
Scheff, Virginia Marie, M.A., Instructor in English
Scheidenhelm, Elmer Christian, M.S., Extension Specialist in Dairying
Schenk, Roy, Instructor in Chemistry, Northwest Center
Scherago, Morris, B.S., D.V.M., Professor of Microbiology, Head of the Department of Microbiology
Schick, Blaine Wilhelm, M.A., Assistant Professor of Romance Languages
Schneider, George William, M.S., Ph.D., Associate Director of Agricultural Extension
Schubert, Richard, B.S. in C.E., B.Arch., Visiting Lecturer in Architecture
Schuler, Paul Joseph, B.S., M.B.A., Major, U.S. Air Force; Assistant Professor of Aerospace Science
Schwan, T. C., M.S., Ph.D., Professor of Chemistry, Acting Chief of Party, Indonesian Contract, Bogor
Schwartz, Douglas Wright, Ph.D., Associate Professor of Anthropology; Director of the Museum of Anthropology
Schwartzweller, Harry Karl, M.S., Ph.D., Assistant Professor of Rural Sociology
Schweet, Richard S., M.S., Ph.D., Professor of Biochemistry, College of Medicine
Schwendeman, Joseph Raymond, M.A., Ph.D., Professor of Geography, Head of the Department of Geography
Schwert, George W., Ph.D., Professor of Biochemistry, Head of the Department of Biochemistry, College of Medicine
Scott, James Frazee, M.A., Ph.D., Instructor in English
Scripture, Doris M., A.B., Administrative Assistant, Medical Center
Sears, Paul Gregory, Ph.D., Associate Professor of Chemistry
Seath, Dwight Moody, M.S., Ph.D., Professor of Dairy Science, Head of the Department of Dairy Science
Seaton, Don Cash, M.A., Ed.D., Professor of Physical Education, Head of the Department of Physical Education; Varsity Track Coach
Seay, William Albert, M.S., Ph.D., Vice Director, Agricultural Experiment Station; Acting Dean, College of Agriculture and Home Economics, Jan. 23, 1961, to Jan. 23, 1962

Sebree, Kathryn Grant, M.S., Extension Specialist in Home Furnishings
Sellards, Henry Grady, B.S. in Agr., Extension Specialist in Animal Husbandry
Server, Alberta Wilson, M.A., Docteur de l'Universite, Professor of Romance Languages
Seward, Doris M., Ph.D., Dean of Women; Professor of Education
Seyler, Mildred M., M.A., Associate Professor of Nursing
Shadoan, Arlene Theuer, M.A., Research Associate, College of Commerce
Shadoan, Don, M.S., Assistant in Agricultural Economics
Shane, James F., M.S. in Agr., Assistant Professor of Agronomy
Sharp, Tommy D., M.S. in E.E., Research Associate, Wenner-Gren Aeronautical Research Laboratory
Shaver, Robert Ezekiel, C.E., Professor of Civil Engineering, Dean of the College of Engineering; Director of the Engineering Experiment Station
Shedd, Oliver March, M.S., Chemist, Agronomy, Special Assignment
Sheets, David A., Director of Office of Machine Statistics
Shephard, Barbara Parker, M.S., Assistant Professor of Animal Pathology
Shepherd, William Danks, M.S., Ph.D., Assistant Professor of Physics
Shimfessel, Othal, B.S., Assistant in Animal Husbandry
Shine, Hill, M.A., Ph.D., Professor of English
Shipman, Martha Virginia, M.A., Assistant Professor of Education
Shively, Bernie Armstead, M.A., Director of Intercollegiate Athletics
Shrader, John Aaron, M.S., Ph.C., Microscopist, Feed and Fertilizer
Shuffett, Dallas Milton, M.S., Ph.D., Associate Professor of Agricultural Economics
Sieckmann, Everett Francis, M.A., Assistant Professor of Physics
Sigafus, Roy Edward, M.S., Ph.D., Associate Professor of Agronomy
Simmonds, James Dudley, M.A., Instructor in English
Skerski, Gertrude Marie, M.S., Assistant Professor of Home Economics
Skiles, Jonah W. D., M.A., Ph.D., Professor of Ancient Languages and Literatures; Head of the Department of Ancient Languages and Literatures
Slaughter, Joyce Irene, A.B., Cataloger, Experiment Station Library
Slaughter, Susan Kidd, Administrative Assistant, Agricultural Experiment Station Special Assignment
Slavosky, Teresa, M.A., Part-time Instructor in English, Northern Center
Sloan, Denver, M.S., Ed.D., Director of School Services and Home Study Program Extended Programs
Slone, Earl Platt, M.A., R.Ph., Dean of the College of Pharmacy
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R Smith, Charles Leland, M.A., Publications Editor, University Public Relations eff. 5-31-58
Smith, Edward Mason, M.S., Associate Professor of Agricultural Engineering
Smith, Eldon Dee, M.S., Ph.D., Associate Professor of Agricultural Economics
Smith, Emilie Varden, M.S. in L.S., Cataloger, University Library
Smith, Frederick Ray, M.S., Instructor in Chemistry, Ashland Center
Smith, Harry A., M.S., Ph.D., R.Ph., Assistant Professor of Pharmacy
Smith, J. Allan, M.A., Ph.D., Professor of Public Information and Educational Aids; Head of the Department of Public Information and Educational Aids, Agricultural Experiment Station and Agricultural Extension
Smith, Marian, Librarian, Southeast Center
NC Smith, Kulman Bussy, B.S., Captain, U.S. Army, Assistant Professor of Military Science
Smith, Samuel Warren, B.S., Assistant in Agricultural Engineering
Smith, Walter Thomas, Jr., Ph.D., Professor of Chemistry
NC Snedegar, W. H., Jr., M.S., Ph.D., Assistant Professor of Physics (Agriculture), Indonesian Contract, Bogor
Snodgrass, Grace Lee, A.B., Librarian, Agricultural Experiment Station, Special Assignment
Snow, Charles Ernest, M.A., Ph.D., Professor of Anthropology
Sorenson, Herbert, M.A., Ph.D., Distinguished Professor of Educational Psychology
Soule, Don B., M.B.A., M.S., Ph.D., Assistant Professor of Economics
Sowards, John Buckingham, A.B., Instructor in Speech, Ashland Center
Spahr, William J., B.S.C.E., M.A., Part-time Instructor in Modern Foreign Languages, Ft. Knox Center
Spanos, William Vaios, M.A., Instructor in English
Spencer, Earl E., M.D., Physician, Part-time, University Health Service
Spokes, Ernest Melvern, E.M., M.S. in E.M., Ph.D., Professor of Mining Engineering
Sprague, John S., M.D., F.A.C.S., Assistant Director of University Health Service
Stacey, James Kermit, M.S., Area Extension Agent in Horticulture
Stallard, Frances Miller, M.A., Extension Specialist in Home Management
NC Stallings, Frank, M.A., Graduate Assistant, Division of Administration and Supervision
Starks, Kenneth, M.S., Ph.D., Assistant Professor of Entomology
Steele, Dewey George, M.S., Ph.D., Professor of Animal Husbandry
Steiden, William E., B.M., M.A. in Ed., Music, University School
R Steinbach, John Franklin, Ph.D., Assistant Professor of Chemistry eff 9-1-60
Stephenson, R. E., M.S., Ph.D., Professor of Electrical Engineering, Indonesian Contract, Bandung (beginning in 1961)
Sternbergs, Janis K., Master Class for Graphic Arts, Instructor in Art
Sterrett, James Reid, M.A., Ph.D., Associate Professor of Speech
Stevens, Kingsley M., M.D., Assistant Professor of Medicine
Stevens, Raymond, Technician, Department of Agronomy
Stevenson, Jane, M.A., Assistant Director, Northwest Center
Stewart, Margaret O'Brien, M.A., Ph.D., Instructor in English
Stewart, Olus Jesse, M.S., Ph.D., Professor of Analytical Chemistry, Special Assignment
Stewart, Orville Watson, M.S. in M.E., Professor of Mechanical Engineering
Stewart, Wellington B., Professor of Pathology; Chairman of the Department of Pathology, College of Medicine
Stofer, Richard T., Jr., M.A., Social Sciences, University School
Stokes, Granville Woolman, M.S., Ph.D., Associate Professor of Plant Pathology
Stone, William Bruhn, M.A., Instructor in English
Storrow, Hugh A., M.D., Associate Professor of Psychiatry, College of Medicine

Stovall, John Guy, M.S., Assistant in Agricultural Economics
Straus, Robert, M.A., Ph.D., Professor of Medical Sociology; Chairman of the Department of Behavioral Science, College of Medicine
Street, William Paul, M.A., Ph.D., Professor of Education; Director of the Bureau of School Service
Stroube, William Hugh, M.S., Ph.D., Associate Professor of Agronomy
Stroup, Robert H., M.A., Ph.D., Associate Professor of Economics, Assistant Director, Bureau of Business Research
Stroup, Thomas Bradley, M.A., Ph.D., Professor of English, (On leave 1st sem. 1960-61)
Stutsman, Ellen Butler, A.B., M.S., Head, Catalog Department, University Library
Sudduth, Martha C., M.A., Assistant Professor of Education
Sullivan, Merrell Rodman, M.A., Ph.D., Professor of Economics
Summers, George Perry, M.S. in Agr., Ph.D., Personnel and Training Officer, Agricultural Extension (On leave Jan. 5, 1960)
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Sutton, Cecil C., Field Agent in 4-H Club Work
Sutton, Willis Anderson, Jr., M.A., Ph.D., Associate Professor of Sociology
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White, Martin Marshall, M.A., Ph.D., Professor of Psychology; Dean of the College of Arts and Sciences
White, Robert Lee, M.A., Ph.D., Instructor in English
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Whitehead, Samuel Dewey, Inspector, Creamery License
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Whitlow, John Bauer, M.S. in M.E., Instructor in Mechanical Engineering
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Wightman, Mildred Reed, M.S., Assistant Professor of Home Economics
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Wild, Raymond Wesley, Ph.M., Director of Public Relations
Wiles, Mabel, Seed Analyst, Entomology and Botany
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Willard, William Robert, B.S., M.D., Dr. Ph. D. Sc., Dean of the College of Medicine; Vice President in Charge of the Medical Center
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Williams, Wayne C., A.B., Chief Medical Illustrator, Medical Center
Williamson, Glynn Edward, B.S., Inspector in Charge of Creamery License Section
Wilmore, Helen Mildred, M.S., H.E., Assistant Professor of Home Economics
Wilson, Constance Popeo, M.S. in Soc. Serv., Assistant Professor of Social Work
Wilson, Cornelious, Jr., Technician, Department of Horticulture
Wilson, Edward Norman, M.S., Geologist, Kentucky Geological Survey
Wilson, James Carroll, M.S., Assistant Professor of Animal Pathology
Wilson, Michael F., M.D., Assistant Professor of Physiology, College of Medicine
Winer, Alfred D., M.S., Ph.D., Instructor, Department of Biochemistry, College of Medicine
Winer, Mirslava, Ph.D., Teaching and Research Associate, College of Medicine
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Wireman, Jack, M.S. in M.E., Instructor in Mechanical Engineering

Wise, Joe, M.A., Eighth Grade, University School

Wiseman, Ralph Franklin, M.S., Ph.D., Associate Professor of Microbiology

Withington, William Adriance, M.A., Ph.D., Assistant Professor of Geography, William Andrew Patterson School of Diplomacy and International Commerce

Wittrup, Richard D., M.B.A., Assistant Professor of Hospital Administration; Administrator, University Hospital

Wofford, Azile May, M.S., Associate Professor of Library Science, Special Assignment

Woodrow, William, M.S., Extension Specialist in Fruit and Vegetable Marketing

NC Woolff, Milo M., M.S., Ph.D., Associate Professor of Physics, Indonesian Contract, Bandung

Woolfolk, Patch G., M.S. in Agr., Ph.D., Professor of Animal Husbandry

NC Worthington, O. J., M.S., Ph.D., Food Technologist, Indonesian Contract, Bogor

Wright, Kenneth Richard, M.A., Ph.D., Professor of Music

Wyatt, Charles Early, B.S. in Agr., Area Extension Agent in Agronomy

Yost, Francis Lorraine, M.S., Ph.D., Professor of Physics, Head of the Department of Physics

Youmans, Elmer Grant, M.A., Ph.D., Social Science Analyst in Rural Sociology, Lecturer in Sociology

Young, Earl Robert, M.S. in A.E., Associate Professor of Agricultural Engineering

Young, Frank E., M.A., Ph.D., Professor of Chemistry, Indonesian Contract, Bandung

Young, Harold C., M.S., Assistant in Agricultural Economics

NC Zarger, Glenn Walburn, A.B., Lieutenant Colonel, U.S. Army, Assistant Professor of Military Science

Zerkle, Erma Leonard, M.A., Instructor in English

Zichefoose, Guy, M.C.S., Auditor and Inspector, Feed and Fertilizer

Zolondek, Leon, M.A., Ph.D., Assistant Professor of Semitic Languages and Literatures, Department of Ancient Languages and Literatures

Zsoldos, Laszlo, M.A., Assistant Professor, William Andrew Patterson School of Diplomacy and International Commerce; Assistant Professor of Economics

Zyzanieski, Stanley J., M.A., Ph.D., Assistant Professor of History



Sources of Information

Persons wishing special information about some part of the University's program may direct inquiries to members of the administrative staff listed below. In each case the University of Kentucky, Lexington, Kentucky, is the post office address.

The general policies of the University—President of the University

General information, all admissions, and transcripts of credits—Dean of Admissions and Registrar

Living accommodations, student help, social affairs—Dean of Men or Dean of Women

A particular college and its program—Dean of the College

Graduate work—Dean of the Graduate School

Summer Session—Dean of Admissions and Registrar

Class extension and correspondence study—Dean of Extended Programs

Agricultural extension—Director of Agricultural Extension

Facilities for veterans—University Counseling Office

General information about the University—Director of Public Relations

Publications

Several publications are issued by the University of Kentucky for the purpose of giving prospective students and other citizens information about the institution. The offices from which publications may be received are listed below.

Bulletin of General Information—University Registrar's Office

General Catalogue—University Registrar's Office

Agriculture and Home Economics Bulletin—College of Agriculture and Home Economics or University Registrar's Office

Arts and Sciences Bulletin—College of Arts and Sciences or University Registrar's Office

Campus View Books—Department of Public Relations

Commerce Bulletin—College of Commerce or University Registrar's Office

Education Bulletin—College of Education, or University Registrar's Office

Engineering Bulletin—College of Engineering or University Registrar's Office

Graduate Bulletin—Graduate School

Law Bulletin—College of Law or University Registrar's Office

Pharmacy Bulletin—College of Pharmacy or University Registrar's Office

College of Medicine, How to Apply for Admission—Committee on Medical College Admissions or Office of the Registrar

College of Nursing, How to Apply for Admission—College of Nursing or University Registrar's Office.

Summer Session Announcement—University Registrar's Office

Extension Bulletins—Extended Programs

The Four Functions of the University

THE PRIMARY RESPONSIBILITY of an institution of higher learning is the betterment of human welfare. It has been stated earlier that the University of Kentucky, in accomplishing its social purpose, functions in four important ways: 1) as a teaching institution, 2) as a center for research, 3) as a service agency, and 4) as a center for the preservation of knowledge. The University has stated its aims in each of these areas as follows:

1. THE TEACHING FUNCTION

Out of the undergraduate colleges and the graduate schools of America should come the greater portion of the nation's leaders and its better citizens. The curricula of a state university should be so designed and its teachings so directed that the state and the nation will have more men and women of intellectual interest and achievements; men and women possessing character, ideas, ingenuity, moral responsibility, and general competence; men and women who can provide the knowledge and technical skills to cope with a national and world situation growing ever more complex and difficult.

2. THE RESEARCH FUNCTION

It is the business of a state university to advance the frontiers of knowledge in all areas of concern to modern society. Much research, in other words, should be done with no compulsion other than the urge to see beyond the present borders of man's knowing.

On the other hand, the research program of a state university, and particularly a land-grant institution, cannot ignore the contemporary requirements of state and nation. Rather the program should be effectively correlated with non-university research and it should seek solutions to the acute problems of society whether they be economic, technological, social, cultural, or moral.

3. THE EXTENDED SERVICES FUNCTION

In the main, the University is characterized by a concern for the life about it and by a zeal for service to the people whom it represents and who lend it support. The state university has found that it cannot have the desired impact on society unless its teaching is extended beyond the campus classroom, unless its research is in some measure translated into economic and social improvements, and unless its leadership and example elevate the cultural and moral tone of the nearer and farther communities in which it has its setting.

4. THE LIBRARY AND MUSEUM FUNCTION

Without an adequate library collection, a university would find it impossible properly to perform its teaching and research functions. For this reason alone the maintenance of libraries would be proper university purpose. But over and above the requirements of teaching and research, the university has an obligation to join with other agencies in the preservation of the books and other material evidences of the achievements of civilization.

DIVISIONS AND BUREAUS

In contributing to the welfare of the state through research, experimentation, and public service, all departments make important contributions. In addition, certain divisions and bureaus have been established specifically for these purposes. Included in this group are the Experiment Station and the Extension Division of the College of Agriculture and Home Economics, the Bureau of Business Research, the Bureau of Government Research, the Bureau of School Service, the University and Educational Archives, the University Placement Service, the University of Kentucky Press, Radio, Television, and Films Studios, the Home Study Program, the Extension Class Program, the Evening Class Program, the University Centers, the Audio Visual Services, the Department of Public Relations, the Engineering Experiment Station, the Kentucky Geological Survey, the Kentucky Research Foundation, the Child Guidance Service, the Industrial Psychological Service, the Social Research Consultation Service, the Medical Center to include the University Hospital and related services, the Bureau of Community Service (Sociology), the Placement Service, the Computing Center, and workshops and conferences.

Outline of Contents

	Page
Calendar	2
Map	4
The University	7
Functions	7
History	7
The Entering Student	8
Fields of Study	11
The Colleges	11-12
Degrees	12
Entering the University	15
Visiting the Campus	15
Requirements for Admission	15
Admission Procedure	16
Living Accommodations	19
Residence Halls for Men	19
Residence Halls for Women	19
Housing for Married Students	20
Dining Facilities	20
University Health Service	20
Expenses & Financial Aid	23
Expenses chart	22
Definition of Resident Student for Fee Assessment	23
Scholarships & Fellowships	23
Additional Fees & Deposits	24
Loans	24
Part-Time Work	25
Veterans' Benefits	25
Working Toward a Degree	27
Student Load	27
Grading System	27
Other Regulations	28
Academic Probation, Dropping for Low Scholarship, Re-admission	28
Graduation	29
Residence Requirement	
Commencement Honors	
Student Discipline and Control	30
Student Motor Vehicles	
Special Opportunities	33
Libraries	33
Cultural Opportunities & Student Activities	34
The Honors Program	34
Student Services	35
Course Numbering System	36

	Page
The Colleges:	
Arts & Sciences	39
Aerospace Science	45
Anatomy and Physiology	46
Ancient Languages & Literatures	47
Anthropology	49
Art	51
Biology	53
Botany	53
Chemistry	55
Diplomacy & International Commerce	110
Economics	58
English, Speech, & Dramatic Arts	58
Geography	62
Geology	63
History	65
Humanities	68
Hygiene & Public Health	68
Journalism	108
Law	69
Library Science	69
Mathematics & Astronomy	71
Microbiology	74
Military Science & Tactics	76
Modern Foreign Languages & Literatures	78
Music	82
Philosophy	90
Physical Education	91
Physics	94
Political Science	97
Psychology	99
Radio, Television & Films	102
Social Work	103
Sociology	104
Zoology	106
School of Journalism	108
School of Diplomacy & International Commerce	110
Agriculture & Home Economics	113
Curricula & Majors in Agriculture	114
Agricultural Economics	118
Agricultural Entomology	119
Agriculture-General	120
Agricultural Extension	120
Agronomy	120
Agricultural Engineering	121
Animal Husbandry	123
Animal Pathology	124
Dairy Science	124
Horticulture	125

	Page
Poultry Science	126
Rural Sociology	127
School of Home Economics	127
Engineering	135
Agricultural Engineering	136
Architecture	137
Chemical Engineering	139
Civil Engineering	140
Electrical Engineering	143
General Engineering	146
Mechanical Engineering	147
Metallurgical & Mining Engineering	150
Law	157
Education	165
Curricula	166
Division of Counseling & Guidance	179
Division of Administration & Supervision	180
Division of Foundations of Education	181
Division of Curriculum	182
Division of Instruction	185
Division of Vocational Education	185
Commerce	189
Curricula	190
Economics	193
Commerce	195
Pharmacy	199
Pharmaceutical Chemistry	201
Pharmacy	201
Materia Medica	202
Medicine	205
Curriculum	206
Anatomy	207
Physiology	207

	Page
Nursing	209
Curriculum Plan	210
Graduate School	213
General Requirements for All Advanced Degrees	214
General Requirements for All Masters' Degrees	215
Requirements for Particular Degrees	216, 217, 218, 220
Rules for the Use of Theses	216
Graduate Students Not Applicants for Degrees	221
Check List for Graduate Students Seeking Advanced Degrees	221
Research Program at Oak Ridge Institute of Nuclear Studies	222
Fellowships and Scholarships	222
Extended Programs	225
Home Study Program	225
Extension Class Program	225
Evening Class Programs	225
Workshops and Conferences	225
University Centers	225
School Services	228
Fees for Correspondence, Extension, and Evening Courses	226
Administration	229
Board of Trustees	229
Administrative Organization	229
Administrative Committees 1961	230
Faculty Committees 1961	230
Academic & Administrative Staff	233
Sources of Information	251
The Four Functions of the University	252

WHAT IS A UNIVERSITY?

"A University is a place, it is a spirit. It is men of learning; it is a collection of books; it is laboratories where work in science goes forward; it is the source of the teaching of the beauties of literature and the arts; it is the center where ambitious youth gathers to learn; it protects the traditions, honors the new and tests its values; it believes in truth, protests against error and leads men by reason rather than by force."

McVey.