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Bulletin of the

UNIVERSITY OF KENTUCKY

GENERAL CATALOG

1948-49

ANNOUNCEMENTS

1949-50

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Vol. 41 MAY No. 3

BOARD OF TRUSTEES

1949

Ex Officio Members

Earle C. Clements, Governor
Boswell B. Hodgkin, Superintendent of Public Instruction
Harry F. Walters, Commissioner of Agriculture

From the State Board of Agriculture

George M. Cheek, Frankfort, 1951
Dr. W. M. Coffee, LaCenter, 1949
Carl Dempewolfe, Henderson, 1950

Members at Large

Mrs. Paul G. Blazer, Ashland....1950
John C. Everett, Maysville....1951
R. P. Hobson, Louisville....1950
[1]J. Woodford Howard, Prestonsburg....1951
Harper Gatton, Madisonville....1950
E. C. O'Rear, Versailles....1949

Alumni Members

T. H. Cutler, Frankfort....1949
Guy Huguelet, Lexington....1951
H. D. Palmore, Frankfort....1950

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Earle C. Clements, Chairman
[2]Richard C. Stoll, Vice Chairman
Frank D. Peterson, Secretary and Treasurer

Executive Committee

Guy Huguelet, Chairman
T. H. Cutler
John C. Everett
Harper Gatton
R. P. Hobson

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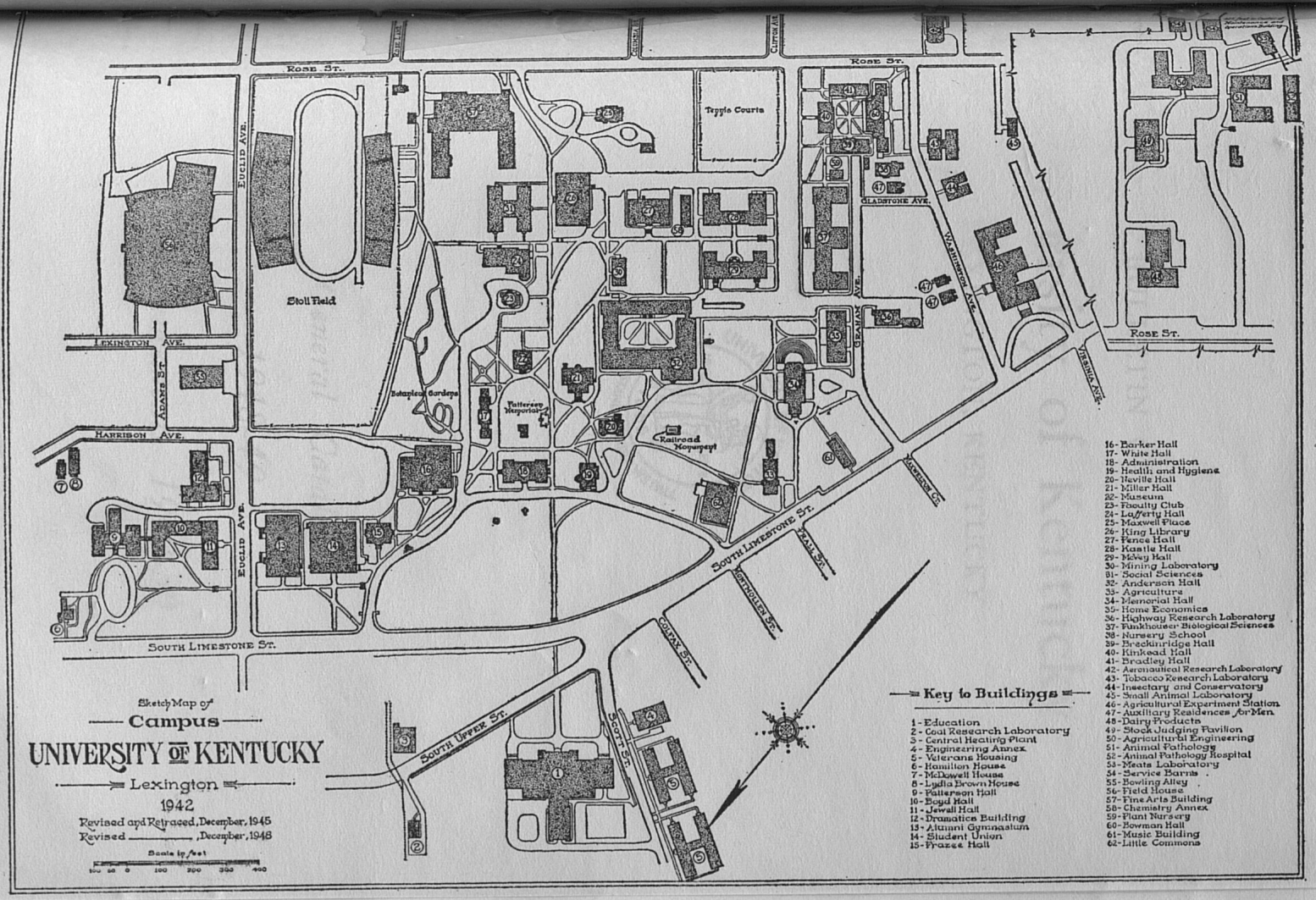
[1] Replaced Richard C. Stoll, deceased.
[2] Died June 26, 1949.


Sketch Map of
Campus
UNIVERSITY OF KENTUCKY
Lexington
1942
Revised and Retraced, December, 1945
Revised _____, December, 1948
Scale in feet
100 50 0 100 200 300 400
Key to Buildings
1 - Education
2 - Coal Research Laboratory
3 - Central Heating Plant
4 - Engineering Annex
5 - Veterans Housing
6 - Hamilton House
7 - McDowell House
8 - Lydia Brown House
9 - Patterson Hall
10 - Boyd Hall
11 - Jewell Hall
12 - Dramatics Building
13 - Alumni Gymnasium
14 - Student Union
15 - Frazee Hall
16 - Barker Hall
17 - White Hall
18 - Administration
19 - Health and Hygiene
20 - Neville Hall
21 - Miller Hall
22 - Museum
23 - Faculty Club
24 - Lafferty Hall
25 - Maxwell Place
26 - King Library
27 - Pence Hall
28 - Kastle Hall
29 - McVey Hall
30 - Mining Laboratory
31 - Social Sciences
32 - Anderson Hall
33 - Agriculture
34 - Memorial Hall
35 - Home Economics
36 - Highway Research Laboratory
37 - Funkhouser Biological Sciences
38 - Nursery School
39 - Breckinridge Hall
40 - Kinkead Hall
41 - Bradley Hall
42 - Aeronautical Research Laboratory
43 - Tobacco Research Laboratory
44 - Insectary and Conservatory
45 - Small Animal Laboratory
46 - Agricultural Experiment Station
47 - Auxiliary Residences for Men
48 - Dairy Products
49 - Stock Judging Pavilion
50 - Agricultural Engineering
51 - Animal Pathology
52 - Animal Pathology Hospital
53 - Meats Laboratory
54 - Service Barns
55 - Bowling Alley
56 - Field House
57 - Fine Arts Building
58 - Chemistry Annex
59 - Plant Nursery
60 - Bowman Hall
61 - Music Building
62 - Little Commons
Rose St.
Euclid Ave.
Lexington Ave.
Adams St.
Harrison Ave.
South Limestone St.
South Upper St.
Scott St.
Colfax St.
Montmollen St.
Trail St.
Maxwelton Ct.
Virginia Ave.
Washington Ave.
Graham Ave.
Gladstone Ave.
Stoll Field
Tennis Courts
Botanical Gardens
Patterson Memorial
Railroad Monument

BULLETIN OF THE

University of Kentucky

LEXINGTON, KENTUCKY

General Catalog

1948-49

Announcements 1949-50

ADMINISTRATIVE ORGANIZATION

GENERAL

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Leo M. Chamberlain, M.A., Ph.D., Vice President
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Lee Sprowles, M.A., Ed.D., Registrar
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*Thomas L. Hankins, M.S., Director of Northern Extension Center
Raymond W. Wild, A.B., Ph.M., Director of Public Relations

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Thomas Poe Cooper, B.S., D.Sc., LL.D., Dean of the College of Agriculture and Home Economics and Director of the Experiment Station
Daniel Voiers Terrell, C.E., Dean of the College of Engineering
Elvis J. Stahr, Jr., M.A., B.A. in Jur., B.C.L., Dean of the College of Law
William Septimus Taylor, M.A., Ph.D., LL.D., Dean of the College of Education
Cecil C. Carpenter, M.S., Ph.D., Dean of the College of Commerce
Earl Platt Slone, Ph.G., B.S., Dean of the College of Pharmacy
Louis Arthur Pardue, M.S., Ph.D., Dean of the Graduate School

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PUBLICATIONS AND SOURCES OF INFORMATION

Several publications are issued by the University of Kentucky for the purpose of giving prospective students and other citizens information about the institution. The office or offices from which certain publications may be received are listed below.

Bulletin of General Information	Registrar's Office
General Catalog	Registrar's Office
Summer Session Bulletin	Registrar's Office
Agriculture and Home Economics Bulletin	College of Agriculture and Home Economics or Registrar's Office
Arts and Sciences Bulletin	College of Arts and Sciences or Registrar's Office
Campus View Books	Director of Public Relations
Commerce Bulletin	College of Commerce or Registrar's Office
Education Bulletin	College of Education or Registrar's Office
Engineering Bulletin	College of Engineering or Registrar's Office
Graduate Bulletin	Graduate School or Registrar's Office
Law Bulletin	College of Law or Registrar's Office
Pharmacy Bulletin	College of Pharmacy, First and Chestnut Streets, Louisville, Ky., or Registrar's Office
Summer Session Announcement	Registrar's Office

In order to assist those who may wish special information about some part of the University's program, there are listed below the members of the administrative staff to whom inquiries of various types may be sent. In each case, unless otherwise specified, the University of Kentucky, Lexington 1, Kentucky, is the post office address.

The general policies of the University	President of the University
General information, all admissions, and transcripts of credits	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	Registrar
Class extension and correspondence study	Director of University Extension
Agricultural extension	Director of Agricultural Extension
Facilities for Veterans	Registrar or University Personnel Office

CALENDAR

1949

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UNIVERSITY CALENDAR FOR 1949-50

1949 **First Semester**

September 12–14	Monday, 8:00 a. m. to Wednesday, 5:00 p. m.—Classification tests and physical examinations for all new undergraduate students
September 15–17	Thursday, 8:00 a. m. to Saturday noon—Registration and classification of all students, according to an alphabetical schedule (see p. 9)
September 19	Monday—Class work begins
September 24	Saturday—Last date one may enter an organized class for the first semester
October 14, 15	Friday and Saturday—Period for filing application for degree
October 24	Monday—Last date one may drop a course without a grade
November 24–28	Thursday, 8:00 a. m. to Monday, 8:00 a. m.—Thanksgiving holidays
December 17	Saturday noon—Christmas holidays begin

1950

January 3	Tuesday, 8:00 a. m.—Christmas holidays end
January 23–27	Monday through Friday—Final examinations
January 27	Friday, 6:00 p. m.—End of First Semester

Second Semester

February 4	Saturday, 7:45 a. m.—Classification tests and physical examinations for all new undergraduate students
February 6, 7	Monday, 8:00 a. m. to Tuesday, 4:20 p. m.—Registration and classification of all students, according to an alphabetical schedule
February 8	Wednesday—Class work begins
February 14	Tuesday—Last date one may enter an organized class for the second semester
March 3, 4	Friday and Saturday—Period for filing application for degree
March 13	Monday—Last date one may drop a course without a grade
April 7–11	Friday, 8:00 a. m. to Tuesday, 8:00 a. m.—Easter holidays
May 28	Sunday—Baccalaureate Services
May 30–June 3	Tuesday through Saturday—Final examinations
June 2	Friday—Eighty-Third Annual Commencement

June 3	Saturday 6:00 p. m.—End of Second Semester
June 6–10	Tuesday through Saturday—4-H Club Week
	Summer Session 1950
June 19	Monday, 7:45 a. m.—Classification tests and physical examinations for all new undergraduate students
June 20	Tuesday, 8:00 a. m. to 4:30 p. m.—Registration and classification of all students, according to an alphabetical schedule
June 21	Wednesday—Class work begins
June 24	Saturday—Last date one may enter an organized class for the summer session
June 29	Thursday—Last date one may drop a course without a grade
June 30–July 1	Friday and Saturday—Period for filing application for degree
July 4	Tuesday—Independence Day holiday
August 11	Friday—Summer Session Commencement
August 12	Saturday noon—End of Summer Session
	First Semester—1950-51
September 11	Monday—Opening of First Semester

REGISTRATION SCHEDULES FOR 1949-50

First Semester

September 12–14—Monday, 8:00 a. m. to Wednesday, 5:00 p. m.—All new students except those entering the Graduate School, will report to the Men's Gymnasium for classification tests, physical examinations, and advisory conferences. They must complete the tests and examinations before they will be permitted to register. Students who report for the tests later than 8:00 a. m. Monday may not be able to complete them before the registration period, and their registration will thus be delayed.

September 15–17—Thursday, 8:00 a. m. to Saturday Noon—Registration and classification of all students, according to the following alphabetical schedule:

Thursday Forenoon

8:00 to 8:50—A through B
9:00 to 9:50—C through D
10:00 to 10:50—E through G
11:00 to 11:50—H through I

Friday Forenoon

8:00 to 8:50—N through O
9:00 to 9:50—P through R
10:00 to 10:50—S
11:00 to 11:50—T through V

Thursday Afternoon

1:30 to 2:20—J through L
2:30 to 3.20—M
3:30 to 4:20—Miscellaneous A through M

Friday Afternoon

1:30 to 2:20—W through Z
2:30 to 4:20—Miscellaneous A through Z

Saturday Forenoon

8:00 to 11:30—Miscellaneous A through Z

September 19—Monday, 8:00 a. m.—Class work begins.

Second Semester

February 4—Saturday, 7:45 a. m.—All new students, except those entering the Graduate School, will report to Memorial Hall for classification tests and physical examinations. These must be completed before registration.

February 6, 7—Monday, 8:00 a. m. to Tuesday, 4:20 p. m.—Registration and Classification of all students, according to the following alphabetical schedule:

Monday Forenoon	Tuesday Forenoon
8:00 to 8:50—W through Z	8:00 to 8:50—J through L
9:00 to 9:50—T through V	9:00 to 9:50—H through I
10:00 to 10:50—S	10:00 to 10:50—E through G
11:00 to 11:50—P through R	11:00 to 11:50—C through D

Monday Afternoon	Tuesday Afternoon
1:30 to 2:20—N through O	1:30 to 2:20—A through B
2:30 to 3:20—M	2:30 to 4:20—Miscellaneous A through Z
3:30 to 4:20—Miscellaneous M through Z	

February 8—Wednesday, 8:00 a. m.—Class work begins.

Summer Session—1950

June 19—Monday, 7:45 a. m.—All new students, except those entering the Graduate School, will report to the Memorial Building, for classification tests and physical examinations. These must be completed before registration.

June 20—Tuesday, 8:00 a. m. to 4:30 p. m.—Registration and classification of all students, according to the following adphabetical schedule:

Tuesday Forenoon	Tuesday Afternoon
8:00 to 8:50—M through P	1:30 to 2:20—D through G
9:00 to 9:50—Q through S	2:30 to 3:20—H through L
10:00 to 10:50—T through Z	3:30 to 4:30—Miscellaneous A through Z
11:00 to 11:50—A through C	

June 21—Wednesday—Class work begins.

PART I

GENERAL INFORMATION OF SPECIAL INTEREST TO THE PROSPECTIVE STUDENT

ORIGIN, PURPOSES, AND ACCREDITATION

The University of Kentucky, a state-supported institution, is located at Lexington, an urban community of about 75,000 population. The Board of Trustees includes the Governor, the Superintendent of Public Instruction, and the Commissioner of Agriculture, ex officio, and twelve members appointed by the Governor, three of whom are alumni of the University and three, members of the State Board of Agriculture. The University is one of a number of institutions known as land-grant colleges, which were established by the Morrill Act of 1862 and which have continued to receive federal assistance under the provisions of this and subsequent laws relating to the teaching of agriculture and the mechanic arts and the provision of agricultural experiment stations and extension services in agriculture and home economics.

The University of Kentucky began as a part of Kentucky University under a cooperative plan authorized by the legislature in 1865. The purpose of this plan was to unite sectarian and public education under one organization. This experiment was tried for a number of years. In the meantime, the federal funds authorized under the Morrill Act were used to develop agriculture and mechanic arts in Kentucky University. 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 reestablished on land given by the City of Lexington and the County of Fayette. 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 again changed, this time to the present title, and additional maintenance was arranged by legislative act.

The major function of the University is that of instruction. For the performance of this function it is organized into the College of Arts and Sciences, the College of Agriculture and Home Economics, the College of Engineering, the College of Law, the College of Education, the College of Commerce, the College of Pharmacy, the Graduate School, and the Department of University Extension.

In addition to giving instruction to its student body, the University contributes to the welfare of the state through research, experimentation, and public service. While all departments make important contributions along these lines, 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 Bureau of Source Materials in Higher Education, the Teachers Placement Bureau, the Radio Studios, the Department of University Extension, the Department of Public Relations, the Engineering Experiment Station, the Child Guidance Service, the Family Life Institute, the Industrial Psychological Service, the Social Research Consultation Service, and the Sociological Research Consultation Service.

The University of Kentucky is on the approved list of the Association of American Universities, and is a member of the Southern Association of Colleges and Secondary Schools and the Kentucky Association of Colleges and Secondary Schools. It is accredited in its respective colleges or departments by the Association of American Law Schools, the American Association of Collegiate Schools of Business, the American Association of Schools and Departments of Journalism, the American Library Association, the National Association of Schools of Music, the Engineers' Council for Professional Development, the American Chemical Society, the National Association of Schools of Social Administration, the American Association of Colleges of Pharmacy, the American Council on Pharmaceutical Education, and the American Association of Colleges for Teacher Education.

ADMISSION TO THE UNIVERSITY

Students are admitted to the University of Kentucky as freshmen, as students with advanced standing from other institutions, as graduate students, as special students, and as auditors. Admission to certain colleges is governed by special regulations.

Applications for admission to the University should be made to the Registrar on forms furnished by the Registrar's Office. Certified copies of high school credentials and of work done in other institutions should be submitted to the Registrar's Office in advance of the registration period. Failure to file credentials in time for checking before the registration period will delay the student in arranging his program. All admissions, including those to the professional schools and the Graduate School must be passed on by the Registrar's Office. Students who come to the University without having their admission approved, do so at their own risk. The University reserves the right to refuse consideration of applications not made before the beginning of the registration period. The University classification tests must be taken by new undergraduate students before they can be registered for classes.

Admission to the Freshman Class

Applicants who are graduates of accredited high schools will be admitted to the University on certificate, provided they have at

least fifteen units of acceptable high school work. A unit represents the study of any subject for a school year of at least thirty-two weeks, with five recitation periods a week, each of at least forty-five minutes in length, or the equivalent thereof. Double periods are required in shop, drawing, typewriting, and all other courses which demand no out-of-class preparation. One unit is the minimum credit accepted in any foreign language, and one-half unit the minimum in any other subject.

While the University does not prescribe a pattern of work for admission, it recommends that at least ten of the units presented be chosen from English, the social studies, mathematics, the foreign languages, and the laboratory sciences, and that within these ten units the student offer at least three units in English, one and one-half in algebra, and one in plane geometry. Should a student lack these courses as prerequisites for any of his college work, he will be required to take them in college without credit, thus delaying his graduation.

Applicants who have graduated from unaccredited high schools and those not graduated from high school may be admitted as freshmen if, in addition to presenting the fifteen acceptable units, they successfully pass the University classification examinations.

Admission to the University does not necessarily qualify a student for admission to a particular college. In every case the student must meet the admission requirements of the college in which he is to enroll.

Admission to Advanced Standing

Kentucky Students. A resident of Kentucky who applies for admission with advanced standing is expected to present evidence that he is in good standing in every respect in the institution last attended. He should have maintained a standing of 1.0 or an average of C in all previous college work. The student whose standing is below 1.0, however, may be admitted on probation if after taking the University classification tests such an admission seems warranted. In no case shall a student be admitted whose record is such that he would have been dropped at the University of Kentucky.

The University does not disregard at any time or under any conditions college or university records in order to admit applicants solely on the basis of their high school records.

A transfer student is allowed only as many advanced credits as he can present quality points. Otherwise, work done at a fully accredited college or university is recognized credit for credit.

In order to be classified as fully accredited, a college must be a member of a regional accrediting association or it must be on the approved list of the state university of the state in which it is located. Advanced standing from an unaccredited college may be obtained at the University only by special subject examinations.

Out-of-State Students. A non-resident who applies for admission with advanced standing must in all cases have maintained a standing of 1.0 in all previous college work. In other respects, the requirements and conditions of transfer are the same as for Kentucky students.

Written applications for admission with advanced standing should be submitted to the Registrar's Office on forms furnished by that office.

Admission as a Special Student

A graduate of another university or college may enter the University as a special student. Any other person may be admitted as a special student provided he is fully prepared to do the work desired and provided he is at least twenty-one years of age.*

Before a special student can become a candidate for a degree he must have his status changed to that of a regular student. This may be done in one of two ways:

1. Satisfying the entrance requirements for admission to the freshman class.
2. Completing in residence sixty-seven credits with a standing of at least 1.5 in all work attempted.

A special student is eligible to take any course for which he has satisfied the prerequisites except one numbered 200 or above.

Admission as an Auditor

By payment of the required fees any person may be admitted to a class or classes as an auditor. A student regularly enrolled in any college must apply to the Dean of the College in which he is registered in order to be an auditor. Other persons should apply to the Registrar's Office for admission. No credit can be given for a class audited, nor is the student permitted an examination for credit. No instructor is authorized to admit an auditor to any of his classes except on presentation of an auditor's card from the Registrar's Office.

Admission to Colleges and The Graduate School

College of Arts and Sciences. Admission to this college is governed by the general admission requirements of the University outlined on the preceding pages.

College of Agriculture and Home Economics. Admission to this college is governed by the general admission requirements of the University outlined on the preceding pages.

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* An exception to the age requirement may be made in the case of a veteran of World War II who has demonstrated, through tests and personal interviews, his ability to do the work desired.

College of Engineering. In addition to meeting the general admission requirements of the University, outlined on the preceding pages, the applicant for admission to the freshman class of the College of Engineering must rank in the upper three-fourths on the University classification tests. His high school credits must include one unit in plane geometry, one-half unit in solid geometry, and one and one-half units in algebra. If the student lacks only the half unit in solid geometry, he may be admitted, but this subject will be added to the requirements of the freshman year.

College of Law—An applicant for admission to the College of Law must be at least eighteen years of age and must have, in addition to the standard high school course that will satisfy the general requirements for admission to the University, at least two years of college credit (60 semester hours, at least 6 of which must be in English and not more than 6 of which may be in non-theory courses). An academic standing of at least 1.3 or the equivalent for all pre-law college work is required. While there is no prescribed pre-law curriculum, the applicant's record is evaluated in terms of its relationship to the study of law, and in terms of the requirements of the Association of American Law Schools.

College of Education. In addition to meeting the general admission requirements of the University, outlined on the preceding pages the applicant, for admission to the freshman class of the College of Education must rank in the upper three-fourths on the University classification tests. In order to transfer to the College of Education from another institution or from another college of the University, a student must have a standing of 1.0 or higher.

College of Commerce. In addition to meeting the general admission requirements of the University, outlined on the preceding pages, the applicant for admission to the freshman class of the College of Commerce must rank in the upper three-fourths on the University classification tests.

College of Pharmacy. Admission to this college is governed by the general admission requirements of the University outlined on the preceding pages.

The Graduate School. A graduate of a fully accredited institution of higher learning may be admitted to the Graduate School upon evidence of graduation and an official transcript of undergraduate courses. However, such admission does not obligate the University to accept all credit granted by the undergraduate school. When full credit is not granted, the student will be required to do more than the normal amount of work to complete a graduate degree. Applications from graduates of institutions not fully accredited will be individually evaluated.

FEES AND EXPENSES

Fees at the University vary according to the privileges granted and the place of home residence of the student—resident of Kentucky or of another state or country. The table on page 21 gives the schedule of regular fees per semester and for the Summer Session. Checks are accepted by the University in payment of fees, room rent, and board, if they are made out for the exact amount due. **All checks should be made payable to "University of Kentucky." All fees should be paid at registration and not sent in advance. For the fees indicated the full-time student receives: class instruction, health and infirmary service, admission to athletic contests and to convocations, 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. The University reserves the right to change the amount of any fee at any time.**

Initial Expenses

The undergraduate student who lives in Kentucky and who plans to enroll in the University for the first time should be prepared to meet initial expenses at registration time, approximately as follows:

Item	Women Students	Men Students
Fees for Semester	$ 57.00	$ 57.00
Military Deposit		10.00
Room and Board in Residence Halls	200.00	
Room in Residence Halls		69.00
Books and Supplies	20.00	20.00
Miscellaneous fees and deposits	10.00	10.00
	$287.00	$166.00

The initial expense for men is less because it does not include the cost of food. Men students eat at the University cafeteria and pay for their meals as served. This fact should be kept in mind in estimating initial costs. To the above amounts there should be added an item of perhaps $40.00 for incidental expenses. The student who does not live in Kentucky should be prepared to pay an additional fee of $58.00.

Fees for Graduation and Special Privileges

Graduation Fee. 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 degrees will be charged a fee of $20.00, and for the doctorate $25.00. 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 Registration. Students entering the University after the regular registration periods will be charged an additional fee of $3.00 for the first day, $4.00 for the second day, and $5.00 for any day thereafter. No exceptions to this charge will be granted.

Special Examination. A fee of $2.00 will be charged for a special examination in a single course.

SPECIAL FEES

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

Agronomy:	$15.00 for Agronomy 119
Animal Industry:	40.00 for Animal Industry 27 or 127
	40.00 for Animal Industry 46 or 146
	35.00 for Animal Industry 102 or 122
	20.00 per semester for Animal Industry 145
Applied Music:	25.00 per semester for each half-hour lesson per week
	6.00 per semester for rental of a practice room for Voice or Piano, or for any instrument other than organ
	12.50 per semester for rental of organ for one hour's practice daily
	25.00 per semester for rental of organ for two hour's practice daily
	3.00 per semester for rental of University owned instruments for Music 7, 8, or 9
	6.00 per semester for rental of University owned instruments for private practice for participation in the Symphony Orchestra or Bands
	15.00 per semester for each student in Applied Music who is not regularly enrolled as a University student in addition to the usual charge for individual lessons
Architectural Engineering:	5.00 per semester for Architectural Engineering 4a, 4b, 6a, or 6b
Chemistry:	A breakage fee of $5.00 is charged students enrolling in any course in chemistry
Engineering Activities:	1.50 per semester and 75 cents per summer session, charged all students enrolling in the College of Engineering

English:	.03	per day for books obtained from English rental library for English 1a and 1b
	2.50	voice recording fee for students in English 6 or English 38
Farm Economics:	15.00	per semester for Farm Economics 111
	20.00	per semester for Farm Economics 113
	10.00	per semester for Farm Economics 122
Flight Training:	11.00	per flying hour, dual instruction
	8.00	per hour, solo flying
	8.00	per credit hour for ground school
Geology:	50.00	for summer field work in Geology 23a, 23b, or 118a-i
	3.50	for field work in Geology 10a, 14a-d, or 107a-f
	2.00	for field work in Geology 10b
	.50	for field work in Geology 50a, 50b, 3, 12a, 30a, or 30b
Pharmacognosy:	5.00	per semester for any course in this field
Physical Education:	2.00	per semester for locker fee for Activity Course
	8.00	per semester for P. E. 8 or 12
	28.00	per semester for P. E. 15, 16, or 50
	4.00	per semester for P. E. 11
Psychology:	120.00	per semester and $60 per summer session for Psychology 431, in addition to the regular incidental fees
Radio Arts:	2.50	per semester for Radio Arts 2a and 2b

Deposit for Military Uniform

Each student taking basic military science makes a deposit of $25.00. For advanced R.O.T.C. the deposit is $45.00. This deposit is returned after the uniform and all equipment have been checked in at the close of the school year.

Deposit for University Band

Each member of the University Band is required to make a deposit of $25.00. The deposit is returned after all equipment has been checked in at the close of the school year.

Fees for Correspondence and Extension Courses

The fee for correspondence courses is $5.00 per semester hour; undergraduate extension classes, $5.00 per semester hour for Kentucky students and $10.00 per semester hour for out-of-state students. Graduate extension classes are $6.50 per semester hour for Kentucky students and $13.00 per semester hour for out-of-state students.

SCHEDULE OF REGISTRATION AND INCIDENTAL FEES

Classification	FOR ONE SEMESTER		
	Kentucky Students	Out-of-State Students	
		Entering after Sept. 1, 1947	Entering before Sept., 1947
Full-time Students:			
All Colleges except Law	$57.00	$115.00	$87.00
College of Law	60.00	118.00	90.00
Part-time Students:	Per Semester Hour	Per Semester Hour	Per Semester Hour
All Undergraduate Colleges except Law	5.00	10.00	7.50
College of Law	7.00	13.50	10.50
Graduate School	6.50	13.00	10.00
Auditors:	Per Semester Hour	Per Semester Hour	Per Semester Hour
In Lecture and Recitation Courses	2.00	4.00	3.00
In Laboratory and Studio Courses	5.00	10.00	7.50
	FOR THE SUMMER SESSION		
Full-time Students:			
All Colleges except Law	28.50	57.50	43.50
College of Law	30.00	59.00	45.00
Part-time Students:	Per Semester Hour	Per Semester Hour	Per Semester Hour
All Undergraduate Colleges except Law	5.00	10.00	7.50
Graduate School	6.50	13.00	10.00
College of Law	7.00	13.50	10.50

Auditors in the Summer Session are charged the same fee that they would pay for credit.

Definition of Residence for Payment of Fees

1. For the purpose of assessing fees, no person will be considered eligible to register in the University as a resident of Kentucky unless he has resided in the state for twelve consecutive months next preceding the date of his original enrollment.
2. The legal residence of minors will follow that of the parents or legal guardians, except in the case of minors who have always resided in Kentucky but whose legal guardians are residents of other states.
3. No student shall be deemed to have gained Kentucky residence privileges at the University by his mere presence at the institution. A student once classified as a non-resident of Kentucky will continue to be thus classified unless he can establish a change of domicile by evidence other than his residence as a student.
4. Aliens who have received their first citizenship papers may be classified under the foregoing provisions.

Refund of Fees

The registration fee and any late registration fee assessed are never refunded, and no other fees are refunded after the ninth week of a semester. Students leaving during the first nine weeks of a semester will receive a refund, the amount of which will depend upon the date of withdrawal.

During the first week after the opening of the summer session, students withdrawing from the University may receive a refund not to exceed 70 per cent of all fees paid. During the second week a refund of 50 per cent may be secured and during the third week a refund of 30 per cent. In no case shall the amount refunded exceed 70 per cent and in no case will refunds be made after the first three weeks.

A refund will not be granted unless the student makes his withdrawal official. All refunds must be claimed within the fiscal year of the withdrawal.

Living Expenses

The cost of room and board in the residence halls for women is $400 a year. Rooms in the men's residence halls range in price from $45.00 to $69.00 a semester and board may be obtained in the University cafeteria for approximately $10 per week.

Estimates of **minimum** expenses for an academic year (two semesters), not including special course fees and deposits, are given below. The actual expenses, of course, vary greatly according to the habits of economy or extravagance of the individual student. Fees for law students are slightly more than the amounts shown,

and for law and engineering students the cost of books and supplies may be greater than the estimates.

Items of Expense	Resident Students	Non-Resident Students
Fees	$114.00	$230.00
Board and Room	400.00	400.00
Laundry and Cleaning	40.00	40.00
Books and Supplies	60.00	60.00
Incidentals	75.00	75.00
Totals	$689.00	$805.00

RESIDENCE HALLS FOR WOMEN

The University of Kentucky maintains four large residence halls for women which house approximately 640 students. Three small residence units are maintained for 60 women and the University of Kentucky has three barracks for women which house 42 students. The residence halls are under the supervision of the Dean of Women and the Director of Residence Halls, assisted by a head resident in each unit.

All freshman women are required to live in the residence halls unless residing with relatives in town. After the freshman year, students may reside in sorority houses, and upperclassmen may secure permission from the Office of the Dean of Women to live in town. Unmarried women are not permitted to live in apartments.

Application blanks for reservations in the residence halls must be secured from and should be returned to the Office of the Dean of Women as soon as possible. No reservation will be made until the application is returned with a deposit of $10. While students are assigned to residence units according to classification, preference in placement is determined by the dates of application and deposit. This deposit is refunded at the end of the year less any charges for damage to the room or loss of the room key. **A room reservation may be canceled with the deposit refunded if notification of the cancellation is received by the Dean of Women one calendar month previous to the first day of the opening of the freshman residence hall; after that date the deposit is forfeited. Admission to the University by the Registrar's Office does not constitute an application for admission to the residence halls, and does not reserve a room. Likewise, an application for a room does not constitute an application for admission to the University.**

Meals for all the women in the residence halls are served in the joint dining rooms of Jewell and Boyd Halls and in Sayre, and are under the direction of trained dieticians.

A trained nurse lives in residence and is available at all times for emergency calls. An infirmary is maintained on the campus on a twenty-four hour basis.

The cost of room and board in all residences for women is $400 a year, half of which is payable at the beginning of each semester. The University reserves the right to change these rates at any time. Checks should be made payable to the University of Kentucky. Refunds on room and board will not be made after the twelfth week of a semester. A student withdrawing during the first twelve weeks will have withheld 8% of the total fee for each week or fraction thereof. Refunds on room and board will not be made for temporary absence from the residence halls. A student must withdraw officially in the Office of the Dean of Women to be eligible for a refund on room and board.

The University maintains one cooperative house accommodating approximately 20 women students. Application for a reservation in the cooperative house should be made to the Office of the Dean of Women. Applicants are selected by the Cooperative House Committee on the basis of scholastic records and recommendations. A high scholastic average must be maintained to continue residence in a cooperative house.

Ten national sororities accommodating approximately 250 students in residence have chapter houses on the campus of the University of Kentucky.

RESIDENCE HALLS FOR MEN

The University operates four residence halls for men. As part of its emergency housing program, the University has erected eleven officer-type barracks designed to house approximately 500 single men. It has also established two housing projects for married veterans, known as Cooperstown and Shawneetown. These two projects accommodate 498 veterans and their families. Three different type dwellings to accommodate different sized families compose the Cooperstown and Shawneetown projects.

All male freshmen are required by order of the Board of Trustees to live in the residence halls so far as space is available.

To reserve a room in the halls or barracks or to secure a dwelling in Cooperstown or in Shawneetown it is necessary to send a ten dollar deposit to the Office of the Dean of Men. This application should be made as early as possible. The University does not automatically reserve rooms for freshmen. **The deposit will be returned if notice of cancellation is given ten days before the opening of the semester.** The Office of the Dean of Men maintains a list of rooms located in private homes. Students may come to the office and select a room from the list.

Rentals per semester for rooms in the men's halls range from $45.00 to $69.00, depending upon the type of accommodation. Prices per semester for rooms in the barracks are $45.00 and $50.00.

The University reserves the right to change the rates for rooms in all residence halls at any time.

Rent for all rooms is payable at the time of registration for the full semester. Residents of Cooperstown and Shawneetown pay monthly rent.

OPPORTUNITIES FOR FINANCIAL HELP

Self-Help. Many students pay a portion of their expenses at the University through part-time employment within the institution or outside. While the Y.M.C.A., the Dean of Men, and the Dean of Women render all assistance possible in helping students to obtain part-time employment, positions cannot always be found for all who need such help. It is advised that no student attempt entire self-support, and **all new students are urged to come prepared to meet their expenses in full for at least one semester.** The student who is to be partially self-supporting should seek advice in adjusting his study load to the end that his employment will not prevent him from obtaining the largest benefit from his courses.

Loan Funds, Scholarships, and Fellowships. To the greatest extent possible, financial assistance is rendered worthy students through loan funds and through scholarships and fellowships. Scholarships and fellowships at the University fall, in general, into three classes: (a) Grants to needy students in amounts equivalent to the University's incidental fees; (b) Awards to freshmen or other students of high scholarship attainments; and (c) Special awards from funds made available through gifts. These last awards are made in accordance with the conditions of the gifts, and vary from the small amount necessary to cover the incidental fee to a sum approximately equal to the full cost of attending the University.

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

Inquiries concerning loans, scholarships, and other awards should be addressed to the Registrar's office.

SPECIAL SERVICES FOR THE STUDENT

The Dean of Men and the Dean of 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 pertain-

ing to the welfare of all students. The Dean of Men and the Dean of Women seek at all times to help each student gain his maximum academic and personal development through normal, interesting, and important activities.

University Personnel Services

The University Personnel Office is under the supervision of a Director of Personnel and carries on its functions through a trained staff. The Director of Personnel has an advisory committee, consisting of the Dean of the University, the Deans of the various colleges, the Dean of Men, and the Dean of Women.

Guidance and Counseling. The University Personnel Office offers guidance and counseling based on scientific procedures in three main areas: educational counseling—help in selecting the proper courses of study, in improving reading ability and in establishing effective study methods; vocational counseling—determining the profession or position for which the student is best fitted; and personal adjustment counseling—developing an effective personality, helping the student overcome difficulties in social adjustment, worry and feelings of inadequacy, nervousness, difficulties caused by uncertainties of aims and purposes and other personal problems.

The required Freshman Placement and Classification examinations and aptitude, achievement, and interest tests usually provide the starting point of such counseling.

Additional psychological tests of special aptitudes, interests, and personality may be suggested by trained staff members who interpret the results of such tests to the students in one or more private interviews. Students who wish to avail themselves of these counseling services can make an appointment in the Personnel Office, Room 9, Administration Building.

Academic Probation. Students placed upon academic probation by the Registrar, the Deans of the Colleges of Arts and Sciences, Agriculture and Home Economics, Engineering, Law, Education, and Commerce are under the supervision of the University Personnel Office. The Director of Personnel is also secretary of the Scholarship and Attendance Committee.

University Testing Center. The University Personnel Office acts as a testing center for the University in administering various types of tests used by the faculty and staff.

All placement and classification tests administered to new students are given under the supervision of the University Personnel Office. For the year 1948-49, the tests given were as follows: The Kentucky General Scholastic Ability Test, The Kentucky English Test, and The Kentucky Mathematics Test. Each student is also

required to fill in a Personal History Blank. The tests are used primarily as an aid in determining the student's eligibility for enrollment in different colleges, the particular courses or sections, the total academic load, and the vocational objective.

The University Personnel Office operates as a Testing Center for the State Department of Education in giving the General Educational Development Tests, high school and college level (for veterans).

The University Personnel Office is authorized by The Graduate Record Office to conduct Graduate Record Examinations and by the Psychological Corporation to administer the Miller Analogies Test.

Veterans. The University Personnel Office is the University Center for veterans. Veterans who are receiving federal assistance through the Veterans' Administration are cleared officially through this office. Here the veterans can make application for federal benefits, secure information about the G. I. Bill and receive general guidance with respect to vocational opportunities, courses of study, etc. In order to purchase books under Public Law 346 or 16, the veteran must receive official approval of his list of books from the University Personnel Office.

Orientation Week Program. All new students in the undergraduate colleges, both freshmen and those with advanced standing, are expected to take part in a series of orientation programs which are conducted at the opening of the first semester of residence.

A dual purpose is served by the orientation program; first, the University wishes to learn something about the new student, and second, it is hoped that the new student will learn more about the history, the traditions, and the life of the University. In order to accomplish these aims, the following activities are conducted: Placement tests (a scholastic ability test, an English test, a mathematics test, and a personal history blank), a complete physical examination, and scheduled formal meetings. The first meeting is a general assembly for all new students which is addressed by the President of the University and the President of the Student Government Association. Also at this meeting all the Deans on the campus are introduced to the new students by the Vice-President. The undergraduate colleges conduct college meetings where the Deans and other college officers have an opportunity to meet their new students and interpret the college program. The Dean of Women and the Dean of Men conduct conferences where information is presented on the extra-curricular activities of the University. The Director of Personnel also conducts meetings for interpreting to the new students the results of the placement tests.

Orientation Programs are planned for each of the two semesters and for the summer session. Inquiries about Orientation

Week should be addressed to the University Personnel Office, Room 9, Administration Building.

University Health Service

The University recognizes a special obligation in the health of the students. To meet this obligation it maintains the University Health Service.

The service consists of an out-patient clinic and a forty bed infirmary for the more acutely ill. X-ray and clinical laboratory services are provided.

In a case requiring major surgery a consultation is held with the student's parents or his home physician. The student is then either sent to a local hospital for the surgery or returned to his home. In a serious or chronic condition requiring long periods of hospitalization, the parents or home physician should remove the student from the infirmary to a hospital.

THE UNIVERSITY AND THE VETERAN

The following paragraphs summarize the policies respecting the veteran who wishes to begin or to continue his education at the University. Additional information may be obtained by writing the Registrar. Initial correspondence with respect to entering the University should be similarly addressed as should requests for catalogs and bulletins.

Where the Veteran Should Report

The veteran should report to the Veterans' Personnel Office, which is located in Room 204 in the Administration Building. This office has been designated the receiving center for all veterans wishing to enter or reenter the University of Kentucky. Here the applicant will be given information about applying for federal assistance, 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. Generally speaking, the division of functions will be as follows:

University Personnel Office (Veterans' Division): Federal assistance and initial vocational and educational guidance.

Registrar's Office: Admission, advanced credit from other colleges or for training received while in military service, fees, and registration.

Dean of Men or Dean of Women: Room and board, and counseling on personal problems.

The Deans of Colleges and Department Heads: Academic counseling and preparation of the student's schedule.

What the Veteran Should Bring with Him

The following items should be available when the veteran arrives at the University:

1. An official transcript of his high school credits. (This applies to those who have not previously been in college.)
2. An official transcript from each college or university previously attended, including those at which he participated in the Army Specialized Training Program, the Navy V-12 Program, or other college training program. All transcripts should be sent to the Registrar several weeks before registration.
3. Official information (as detailed as possible) about any specialized military training for which he wishes to seek college credit. Such information may be covered in a Separation Form, letters from military authorities, a report from the Armed Forces Institute, or on USAFI Form No. 47 (Revised).
4. A Certificate of Eligibility and Entitlement, Public Law 346, or a letter indicating eligibility under Public Law 16. (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 discharge from military service.)
5. Sufficient funds to provide subsistence for two months.

Credit for Training Taken While in Military Service

With the exception noted below respecting military science, the University of Kentucky does not grant blanket credit for military service. Any credit allowed will be granted on the basis of demonstrated proficiency in a particular subject or subjects.

The Army Specialized Training Program. This program was offered at the University of Kentucky and all courses have been evaluated in terms of equivalent University courses and have been assigned credit values. Credit from other accredited institutions for courses taken in the ASTP will be accepted on transfer, provided that the amount in any particular course does not exceed the amount allowed by the University of Kentucky.

The Engineers' Specialist School. This school was operated at the University of Kentucky from September, 1942, to September, 1943, as a branch of the Engineers' School at Fort Belvoir, Virginia. Course equivalents have been determined and credit values have been assigned.

ESMWT Courses. Defense and war training courses in engineering, science, and management were offered at the University of Kentucky without credit. No credit is to be allowed for these courses.

Courses Taken at Other Institutions. As indicated above, the veteran may transfer to the University of Kentucky credit earned in military training courses at other institutions, provided that for any course offered at the University of Kentucky the credit will not be in excess of that allowed here. Credit for training programs not offered at the University of Kentucky (Navy V-12, etc.) will be accepted on transfer from other fully accredited institutions. Generally speaking, the amount allowed will be that recommended by the other institution. However, the University reserves the right to re-evaluate such credits, particularly when the amount assigned varies greatly from general practice.

Credit in Military Service. Any veteran who has had three months or more of military service may receive credit for the University's two-year elementary course in Military Science, or such part of it he has not already completed.

Credit for Other Types of Military Training. Credit for specialized training taken in other than accredited educational institutions will be allowed only on the basis of demonstrated proficiency in a particular subject or subjects. In evaluating such training, the University of Kentucky will depend largely on **The Guide to the Evaluation of Educational Experiences in the Armed Forces** of the American Council on Education, and on proficiency examinations.

The procedure for applying for credit for military training taken in other than accredited colleges and universities is as follows. Army, Navy, Marine Corps, or Coast Guard Personnel **still on active duty** should apply directly to the University of Kentucky, using USAFI Form No. 47 (Revised). This form will be widely distributed through military channels, and made available to men and women in service both in the United States and in overseas theatres of operation. It may also be obtained by writing the Armed Forces Institute, Madison 3, Wisconsin.

The Veteran of World War II **no longer on active duty** may apply by writing directly to the University inclosing with his letter a certified copy of the official Separation Form used by the branch of the service in which he served.

The mere filing of an application will not, of course, insure that any credit will be allowed. Generally speaking, credit will be granted only when there is clear evidence of proficiency in a specific subject or subjects ordinarily included in college or university curricula. The applicant may be asked to establish proficiency in a particular subject or his general educational level by taking ex-

aminations. These examinations may be those of the Armed Forces Institute or they may be examinations prepared at the University.

Applications for Benefits under Public Laws 16 and 346

Under Public Law 16, provision has been made for vocational education or training to overcome handicaps suffered as a result of service-connected disability. 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. A veteran who is interested in applying for such training should seek information from the nearest regional office of the Veterans Administration, and obtain a letter indicating eligibility.

Public Law 346 (GI Bill) provides educational benefits for all veterans properly discharged and with a minimum period of service. Information about Public Law 346 may be obtained from any office of the Veterans Administration or from any university or college. Applications for aid under Public Law 346 are made by the veteran on a special form (Form 1950) prepared by the Veterans Administration. This application form may be obtained from the veterans facility nearest the veteran's residence, or it may be obtained from the institution which he plans to attend.

Veterans who are interested in attending the University of Kentucky under Public Law 346 should inquire at the University for the form or secure it from a veterans facility. The application may be filed with the regional office of the Veterans Administration where the veteran's C-folder is located or with the regional office of the Veterans Administration in the state in which the institution he has selected is located. The office of the Veterans Administration for Kentucky is located in Louisville. Upon receipt of the application the Veterans Administration will determine the period of training to which the veteran is entitled, and will furnish him with a Certificate of Eligibility and Entitlement. A copy of the certificate presented by the veteran to the University of Kentucky will authorize that institution to register him under the provisions of the act.

WHAT IS EXPECTED OF THE STUDENT

The University has adopted certain rules and regulations and has made certain provisions designed to bring about the best adjustment between the institution and the student and to insure the fullest development of the latter, intellectually, spiritually, and physically. Registration by a student carries with it the obligation to cooperate to the fullest extent in observing the regulations and traditions of the institution, in making the most of the state's investment in him, and in furthering the welfare of the University.

Rules Affecting the Student

The following list of rules does not include all of the regulations of the University, but only the most important of those relating to studies, examinations, attendance, and discipline.

Student Load. During any semester the maximum load to be carried by any undergraduate student without special permission (including both residence and extension courses) shall not exceed either one-eighth of the curriculum requirement for graduation, plus two semester hours, or the amount specified in the curriculum for the particular semester, whichever is larger.

A student with a standing of 2.0 or more for the preceding semester, or a beginning freshman ranking in the upper 25 per cent on the University classification tests, may carry extra work with the approval of his dean, provided that the amount of extra work shall in no case exceed two semester hours or the total load exceed twenty-three semester hours.

The maximum load of work for a summer session (including both residence and extension) shall in no case exceed half of that which would be allowed for a semester. Two short courses of four weeks or less in length shall not be carried concurrently either by undergraduate or graduate students.

In all cases a correspondence course shall be considered as carried during the semester or summer session during which the last assignment is completed, and it shall be counted as a part of the load of that semester or summer session.

Auditors or Visitors. No instructor is authorized to admit an auditor to any of his classes except on presentation of an auditor's card from the Registrar's Office. **A student who visits a class as an auditor is not allowed an examination for credit.**

Probation. A regular student who fails to pass in three-fourths of the normal load required by his college in his preceding semester may be placed on probation by the dean of the college. If during the semester of probation, he again fails to pass in three-fourths of the normal load, he may be dropped from the University by the dean of his college. A student who has been thus dropped from the University may be reinstated only by the Committee on Scholarship and Attendance.

The above rule shall apply to a part-time student, carrying less than three-fourths of the normal load, if he fails to pass in half of the scheduled load.

Poor Work in English. Any instructor who finds the written work of any student seriously defective in its English is expected to report the case, together with specimen papers, to a committee

consisting of the dean of the student's college and the Head of the Department of English, who shall have power to require additional work in composition without credit.

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

Unsatisfactory Scholarship and Attendance. A student who is doing unsatisfactory work, or who is irregular in attendance, is reported to the dean of the college in which he is registered. Such a student is under the special supervision of his dean. If after a suitable length of time it becomes apparent that no improvement is being made, the student may be dropped from the course, on recommendation of the dean to the Registrar.

Repeated Failures. The head of a department may refuse to allow a student to register in a course for a third time.

Classification. A student in any college except Law shall be classified as a sophomore, junior, or senior, when he has within 10 credits of the normal requirement and a standing of 1.0. However, no student may be classified as a sophomore until he has had college residence of at least two semesters nor as a junior until he has had college residence of at least three semesters.

A Law student is classified as a second year student when he has completed 24 or more credits and as a third year student when he has completed 50 or more credits. He shall not, however, be classified as a second year student until he has been in residence at least two semesters, nor as a third year student until he has been in residence at least three semesters.

Classification of Transfer Students. A student who transfers to the University as a junior and ranks in the lowest quarter on the entrance tests will be classified as a junior conditionally. The continuance of junior classification will depend on the student's making a standing of 1.0, or more, on his first semester's work.

Special Examinations. A student regularly enrolled in the University may be given a special examination for credit, provided the request for the examination is approved by the Registrar, the dean of the college, and the head of the department concerned. Application should be made in writing to the Registrar. A student who visits a class as an auditor is not allowed an examination for credit.

Extension Work. Not more than thirty-two of the credits required for a bachelor's degree may be gained by extension, special examination, or both. A student may not satisfy in excess of one-half of the requirements for a major by extension, special examination, or both.

One-third of the residence and credit required for a master's degree may be taken in an off-campus center or by extension or by a combination of off-campus center and extension work. (Correspondence courses are excluded.)

Not more than twelve credits of extension work done by a student during one calendar year will be accepted by the University unless it may be definitely shown that the work has been done under conditions where the student has been engaged in full-time study and has not been otherwise employed. This includes extension work done in other institutions.

A minimum of thirty of the last thirty-six credits presented for an undergraduate degree must be completed in residence (exclusive of credit by extension and special examination).

Northern Kentucky Extension Center. Undergraduate and graduate work may be taken at the Northern Kentucky Extension Center, Covington, Kentucky, for residence credit, under the following conditions:

1. Sixty-four credits taken in an off-campus center or in a combination of extension and off-campus center work may be applied toward an undergraduate degree (provided not more than 32 credits may be in extension). Students who transfer to the Northern Center from other institutions with a view to obtaining a degree from the University of Kentucky must complete a minimum of thirty of the last thirty-six credits on the Lexington campus.

2. One-third of the residence and credit required for a master's degree may be taken in an off-campus center or by extension or by a combination of off-campus center and extension work. (Correspondence courses are excluded.)

Entrance Examinations. All new students, other than those entering the Graduate School, are required to take the University classification tests and the University physical examination.

Absences. Absences shall be counted beginning with the first day of recitations.

The instructor shall keep a record of absences for each student. When, in his opinion, the number of absences for any student becomes excessive or appears to be unjustified, he shall report such student to the dean concerned. A student may be dropped from a course for excessive absences by the Registrar upon recommendation of the dean and the instructor. When a student is so dropped, the instructor shall report the grade the student is making at the time he is dropped.

Any student absent from class on the day immediately preceding or following a holiday shall have a penalty of one credit and one quality point added to his requirements for graduation.

Absences due to officially authorized trips, such as those of athletic teams; musical, oratorical, and dramatic organizations; and University classes, shall be considered as being excused absences. The faculty member in charge of an authorized trip shall give to each student concerned a statement to present to his teachers certifying that the absence is official.

No report of absences shall be required for graduate students. Any undergraduate student whose standing on the work of the previous semester is 2.4 or better, upon application to the Registrar, shall be extended the same privilege relative to absences as graduate students.

Conduct. In issuing rules for the regulation of the affairs of the University and the government of its students, it is not deemed necessary to set out details. The University expects all students to hold to the strictest standards of honesty in all University work and to conduct themselves in a decorous manner, bearing in mind that their conduct determines in a large measure the reputation of the institution.

The Marking System. Results of work will be recorded in the Registrar's Office as follows:

A—Exceptionally high quality, valued at 3 points for each credit.
B—Good, valued at 2 points for each credit.
C—Fair, valued at 1 point for each credit.
D—Unsatisfactory, indicates a deficiency and gives no points but gives credit for graduation if with such credits the student's standing is 1 or more.
E—Failure, valued at 0 credits and 0 points.
I—Incomplete.
X—Absent from examination.
WP—Withdrew, passing.
WF—Withdrew, failing.

A grade of E means that the work must be taken over in class to be credited.

A grade of I (incomplete) means that some relatively small part of the work remains undone, because of sickness or other reason satisfactory to the instructor. This work must be completed within one month after the student re-enters the University if credit for the course is to be gained. The Grade I is not to be given to the student whose work is below passing.

A grade of X may be changed by special examination within one month after the student re-enters the University.

An extension of time for the removal of an I or an X may be granted by the dean of the college in which the student is enrolled.

The standing of a student is defined as the ratio of his total number of points to his total number of credits. For example, a student who makes an average mark of C in 128 credits, would have 128 points and a standing of 1.0. An average mark of B would give the student 256 points and 128 credit hours, and a standing of 2.0. For all purposes other than classification and graduation, "standing" is understood to be the ratio of the number of points gained to the number of credits attempted.

Recording of Marks. Through the sixth Monday of any semester, and through the tenth class day of the summer session students who withdraw from a class or who are dropped from a class will have no mark recorded. After these dates, students who withdraw or who are dropped from a class are to be given WP, WF, or E, as reported by the instructor of the class.

In computing standings for all university purposes, a WF shall be treated as an E.

A mark once reported to the Registrar's Office shall not be changed except when the instructor states that an error has been made or that an injustice would be done the student if the mark remained unchanged.

Definition of a Semester Hour or Credit. A semester hour represents one hour of recitation or lecture or two hours of laboratory a week for one semester. Drawing, shopwork, physical education, and other courses requiring no outside work are reckoned at three hours for one semester hour. A semester hour is usually referred to as a **credit** in bulletins and catalogs which explain the University's program.

Requirements for Graduation

Undergraduate Colleges. To be eligible for graduation from any undergraduate college of the University, a student must have completed the requirements of the curriculum as approved by the University Faculty. In addition to gaining the specified number of credits, he must have an equal number of quality points—that is, a standing of 1.0.

Curriculum substitutions may be made on recommendation of the college dean to the Registrar's Office.

To be eligible for a degree at any commencement, the student must file with the Registrar an application for such degree at least four weeks prior to the commencement date. The University requires the student to use his full and proper name in registering, in applying for a degree, and in other similar circumstances. The institution accepts no responsibility for difficulties arising from a student's failure to comply with this requirement.

Regardless of the length of time the student has attended the University, a minimum of thirty of the last thirty-six credits pre-

sented for the degree must be completed in residence at the University. With respect to graduation requirements for Veterans of World War II, this rule may be waived, provided that the total previous residence credit has been not less than thirty credits.

Not more than thirty-two of the credits required for an undergraduate degree may be gained by extension, special examination, or both. A student may not satisfy in excess of one-half the requirements for a major by extension, special examination, or both.

The Graduate School. For the requirements for graduate degrees see the statement of the Graduate School, page 144.

Commencement Honors. Students are graduated "With High Distinction" who attain a standing of 2.6 or higher for at least three years of residence work.

Students are graduated "With Distinction" who attain a standing of 2.4 up to 2.6 for at least three years of residence work.

A student who does only two years at the University may receive the appropriate commencement honors if he attains a standing of .2 greater than the above. The amount of credit is the basis of determining the two years' work, and varies according to the degree for which the student is an applicant.

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, (1) attained high standing in his major subject; (2) passed with distinction a thorough, comprehensive examination in his major subject; (3) been recommended for the said degree by the faculty of the department in which his major work was done and by the dean of his college. Students majoring in those departments that require the final comprehensive examination are automatically candidates for department honors.

A Second Bachelor's or Master's Degree

A student may be eligible for a second bachelor's or a second master's degree when he has completed the requirements of the second curriculum. The total work for both degrees shall consist of not less than two semesters of residence and two semesters of credit beyond that of the first degree. With the approval of his dean, the student may pursue the work in the two curricula simultaneously, but two degrees will not be granted at the same commencement.

OPPORTUNITIES OUTSIDE THE CLASSROOM

The University emphasizes the development of the whole individual. Toward this end it provides a diversified program of extra-class activities. These activities are briefly reviewed in the following paragraphs.

Special Cultural Opportunities

Musicales. These musical programs are arranged for the enjoyment of the students, faculty, and friends of the University. There is no admission charge. The program for 1948-49 follows:

October 24—
Pierrette Alarie, Coloratura Soprano, Columbia Concerts

November 7—
Gordon J. Kinney, Cellist, University of Kentucky

November 14—
Aimo Kiviniemi, Tenor, University of Kentucky

November 28—
Chamber Music—Piano, Flute, Cello, Violin, University of Kentucky

December 5—
Ruth Pinnell, Lyric Soprano, University of Kentucky

December 12—(4:00 p. m. and 8:00 p. m.)
Christmas Carol Program by the University Choristers, Mildred S. Lewis, Director

January 16—
University Symphony Orchestra, Edwin E. Stein, Director

February 13—
Walter Cassell, Baritone, Columbia Concerts

February 20—
University Women's Glee Club, Mildred S. Lewis, Director

February 27—
University Men's Glee Club, Aimo Kiviniemi, Director

March 6—
Ford Montgomery, Pianist, University of Kentucky

March 13—
Columbia Concert Trio—Piano, Violin, Cello

March 20—
Program by University Chapters of Phi Beta and Phi Mu Alpha, Honorary Music and Dramatics Fraternities

March 27—
Robert Morgan, Pianist, University of Kentucky

April 10—(4:00 p. m. and 8:00 p. m.)
University Mixed Chorus and Orchestra, Performance of Mozart "Requiem"—Edwin E. Stein, Director; Mildred S. Lewis and Aimo Kiviniemi, Associate Directors

April 24—
Edward B. Hornowski, Violinist, University of Kentucky

May 1—
University Concert Band, Frank J. Prindl, Director

May 15—
University Symphony Orchestra, Edwin E. Stein, Director

May 29—
University Baccalaureate Service

Other Cultural Opportunities. The University provides many other cultural opportunities in addition to the regular convocations and musicales. Some of the colleges hold assemblies regularly at

which matters of college interest are discussed. The various departments bring special lecturers to the University. The Art Department presents not only to its students, but also to the whole University, exhibits of great paintings, of etchings, and of drawings. The Music Department sponsors a philharmonic orchestra, a University band, a men's glee club and a women's glee club, all of which give concerts and furnish music for convocations. The Y.M.C.A. sponsors a series of forums and informal discussions in the Student Union, the men's dormitories, and in the various fraternities. The Cosmopolitan Club, composed of students born in foreign countries and some from the United States, studies through the various departments and activities of the University the social, political, and cultural life of foreign countries. Departmental clubs add effectively to the cultural life of the University.

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

The University has its own FM stations on both the low band (44,500 kil.) and the upper band (91,300 kil.), carrying the call letters WBKY. Students taking courses in Radio Arts, and others of demonstrated talents are permitted to gain actual broadcasting experience by filling positions on this station. From the WBKY studios, daily programs are also broadcast to WHAS, Louisville, the Lexington commercial stations, and other outlets.

Religious Life

The University, because it is distinctly interested in the religious life of students, encourages them to maintain their memberships in the churches of their choice and to attend religious worship regularly. On the campus the Young Men's Christian Association and the Young Women's Christian Association are active organizations, each with a full-time secretary. Frequently great spiritual leaders are brought to the University to speak to the students. Through the resident secretaries and visiting ministers opportunity is given the students to consult with sympathetic and able persons.

The vitality of religious life on the campus of the University of Kentucky is evidenced by the Pitkin Club, the active student denominational groups, Sunday School classes for students in the respective churches, and weekly religious discussions groups, the Inter-faith Council, which includes representatives of the church groups, the Newman Club, and the Hillel Foundation.

The Phalanx Fraternity, and the Dutch Lunch Club are other student groups meeting regularly for the purpose of encouraging interest in church and religious life.

Student Activities

Many opportunities are given to the student to take part in various activities outside of his college studies. He may engage in newspaper work in connection with the student paper. If he is interested in dramatics he has the opportunity of taking part in plays presented in a real theater and under competent direction. Through cooperation with the Student Government Association, the student in maintaining the integrity and honor of the campus and of the student body will be training himself for future leadership. 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 the 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.

Student Publications. The students of the University of Kentucky, through the Department of Journalism, publish a weekly newspaper, **The Kentucky Kernel.** This paper is ably edited and ranks high among college publications. The students also issue a year book known as **The Kentuckian.** The annual contains a list of organizations, pictures of the junior and senior classes, and the usual features found in college year books. Both of these publications have had a long history.

Student Organizations. The University approves a number of student organizations. A list of these follows:

Honor Societies

Alpha Lambda Delta (Freshman women)
Alpha Zeta (Agriculture — men)
Beta Gamma Sigma (Commerce)
Kappa Delta Pi (Education)
Order of the Coif (Law)
Phi Beta Kappa (Arts and Sciences)
Phi Eta Sigma (Freshman men)
Pi Mu Epsilon (Mathematics)
Sigma Pi Sigma (Physics)
Tau Beta Pi (Engineering)

Leadership Societies

Cwens (Sophomore women)
Keys (Sophomore men)
Lamp and Cross (Senior men)
Lances (Junior men)
Mortar Board (Senior women)
Omicron Delta Kappa (Senior men)

Recognition Societies

Alpha Zeta Omega
Chi Delta Phi (Literary—women)
Eta Kappa Nu (Electrical Engineering)
Gamma Theta Upsilon
Phi Alpha Theta (History)
Phi Epsilon Phi (Botany)
Phi Upsilon Omicron (Home Economics)
Pi Sigma Alpha (Political Science)
Pi Tau Sigma (Mechanical Engineering)
Sigma Gamma Epsilon (Geology)
Theta Sigma Phi (Journalism)

Professional Societies

Alpha Chi Sigma (Chemistry)
Block and Bridle (Animal Husbandry)
Kappa Psi (Pharmacy)
Pershing Rifles (Military)
Phi Alpha Delta (Law)
Phi Beta (Music-Speech-Art—women)
Phi Delta Chi (Pharmacy)
Phi Delta Kappa (Education—men)
Phi Delta Phi (Law)
Phi Mu Alpha (Music—men)
Phi Sigma Iota (Romance Languages)
Scabbard and Blade (Military)

Clubs and Societies

Accounting Club
Agronomy Club
Air Reserve Association
Alma Magna Mater
American Chemical Society
American Institute of Electrical Engineers
American Institute of Mining and Metallurgical Engineers
American Society of Civil Engineers
American Society of Mechanical Engineers
Art Club
Association of Independent Students
Bacteriological Society
Baptist Student Union
Business Education Club
Campus League of Women Voters
Canterbury Club
College Chamber of Commerce
Cosmopolitan Club
Cub Club
Dairy Club
Delta Pi Epsilon (Business Education)
Dutch Lunch Club
Eta Sigma Phi (Ancient Languages)
Future Teachers of America
German Club
Graduate Education Club
Harlan County Club
Henry Watterson Press Club
Home Economics Club
Hort. Club
Intercollegiate Zionist Federation
International Relations Club
K-Club
Newman Club
Outing Club
Patterson Literary Society
Phalanx Fraternity
Philosophy Club
Pitkin Club
Poultry Club
Pryor Premedical Society
Social Work Club
Sociology Club

Students for Democratic Action
Tau Sigma—(Dance)
University 4-H Club
University of Kentucky Young Republican Club
Veterans' Club
Wesley Foundation
White Mathematics Club
Young Democratic Club

Administrative and Service Organizations

Agricultural Council
Committee of 240
Guignol
House President's Council
Inter-Fraternity Council
Men's Glee Club
Student Bar Association
Student Government Association
Student Union Board
Suky
University Choristers
University of Kentucky Band
University of Kentucky Symphony Orchestra
University of Kentucky Troupers
Women's Administrative Council
Women's Athletics Association
Women's Glee Club
Women's Panhellenic Association
Y. M. C. A.
Y. W. C. A.

THE ALUMNI ASSOCIATION

The Alumni Association was established to render service both to the University and to its former students. It is the purpose of this Association to aid in the growth and development of the University, to promote the best interests of alumni, and to enable them to keep in touch with the institution and with each other. As the basis for its activities it maintains records of alumni, showing where they are located and what they are doing. Its program includes the sending of information to alumni about University affairs, the sponsoring of class reunions in the spring and homecoming in the fall. It seeks to establish alumni groups both in Kentucky and in larger cities throughout the country in order that alumni may come in contact with each other.

The Alumni Office is located in the Student Union Building, and alumni, students, and friends of the University are welcome at all times. The annual business session of the Association is held during commencement and the Executive Committee meets on the second Monday of each month except during June, July, and August. By legislative act alumni representation has been secured on the Board of Trustees so that they may have a direct influence in the administrative affairs of the University. The officers for 1948-49 are as follows: President, John B. Bullock, '26; Vice President, B. A. Shively, '36; Executive Secretary, Helen G. King, '25; and Treasurer, James S. Shropshire, '29.

THE PLANT OF THE UNIVERSITY

The facilities of the University of Kentucky include the 106-acre campus and the Experiment Station Farm of 600 acres at Lexington, a forest reserve and sub-experiment station of 15,000 acres at Quicksand, and the sub-experiment station of 600 acres at Princeton. The buildings on the Lexington campus now number more than fifty. In addition to these permanent buildings, the University has erected nine temporary buildings to provide additional space for the greatly increased enrollment. The location of buildings is shown on the map in the front of this publication. Following is a list of the buildings, with brief enumerations of the services housed.

Administration Building. In this building are located the offices of the President, the Vice President, the Dean of the University, the Comptroller, the Dean of Men, the Dean of Women, the Registrar, the Department of Public Relations, and the University Personnel Service, the last including the University Veterans Service.

Aeronautical Research Laboratory. This laboratory is designed for aeroplane motor testing. The laboratory is operated by the College of Engineering.

Agriculture Building. The offices of the Assistant Dean of the College of Agriculture and Home Economics are located in this building. The remainder of the building furnishes classroom and laboratory space for the departments of Agricultural Entomology, Agronomy, Farm Economics, Horticulture, and Markets and Rural Finance.

Agricultural Engineering Building. The shops, laboratories, and classrooms for farm engineering are located in this building.

Agricultural Experiment Station. In the Agricultural Experiment Station are located the offices of the Dean of the College of Agriculture and Home Economics, the Director of the Experiment Station and the Director of Agricultural Extension. The building also houses the offices, laboratories, and research facilities for agronomy, chemistry, entomology and botany, farm economics, markets and rural finance, rural sociology, fertilizer, feed, and seed control, and agricultural extension. The public service laboratories are also located in the Experiment Station.

Alumni Gymnasium. In this building are located the offices of the Department of Athletics, the ticket office for athletic contests, and the men's gymnasium. The gymnasium is used for athletic practice, for basketball games, and for classes in physical education.

Anderson Hall. This quadrangle, made up of several rather distinct units, houses the offices of the Dean of the College of

Engineering, the Engineering Library and the departments of Mechanical, Electrical, Civil, and Mining and Metallurgical Engineering.

Animal Pathology Building. This building houses the offices and laboratories of the Department of Animal Pathology.

Animal Pathology Hospital. This building is used as the animal hospital of the Department of Animal Pathology.

Barker Hall. This building houses the Buell Armory, the offices. classroom, and storerooms of the Military Department, the rifle range, the women's gymnasium, and the Department of Physical Education for Women.

Bowman Hall. This is a residence hall for men, providing recreational space and lobby facilities for the men's residence hall group.

Boyd Hall. This is a residence hall for women.

Bradley Hall. This is a residence hall for men.

Breckinridge Hall. Breckinridge is also a residence hall for men.

Central Heating Plant. This plant contains three steam boilers which supply heat to all buildings on the main campus, to the Experiment Station, the Tobacco Research Laboratory, the Animal Pathology Building, the Small Animal House, the Dairy Products Building, the Livestock Judging Pavilion, the Agricultural Engineering Building, the Meat Laboratory, the Aeronautical Laboratory, the Animal Pathology Building, and the Insectary and Conservatory.

This plant is especially equipped, instrumented, and diversified for use as a practical steam laboratory by mechanical engineering students.

Chemistry Annex. This temporary building is located between Kastle Hall and Pence Hall and is used for chemistry laboratory and lecture.

Coal Research Laboratory. This building houses a pilot plant for the low temperature production from coal, of motor fuels, lubricants and high grade, smokeless, solid fuels as well as the base materials from which explosives, plastics, and synthetic rubber may be manufactured. Oil shales and other carbonaceous materials may also be processed in this plant. The laboratory is operated by the Department of Mining and Metallurgical Engineering.

Combined Shops Building (not shown on map). This building provides temporary quarters for the Division of Maintenance and Operations and the general University store room.

Dairy Center (not shown on map). This building contains milking stalls for forty cows, a milk room, maternity pens, calf pens, silos, and a feed storage loft.

Dairy Products Building. The sections of Animal Husbandry, Creamery License, Dairy, and Poultry are located in this building. It also houses the herd book room, the incubation laboratory, and laboratories for dairy manufacturing.

Dramatics Building. Located on Euclid Avenue adjacent to Jewell Hall. This temporary building will house classes in drama, speech, and English until the completion of the new Fine Arts Building.

Engineering Annex (not shown on map). This building is located on Scott Street adjacent to the Scott Street Barracks and will be used by the Engineering College for additional drafting rooms.

Education Building. In addition to the University Elementary and High Schools, this building houses the office of the Dean of the College of Education, the Bureau of School Service, the Teachers Placement Bureau, and classrooms for college courses in education.

Faculty Club. Formerly the Patterson Home, this house is now occupied by the University Faculty Club.

Fine Arts Building. Completed in 1949, this building houses the departments of Art, Music, Dramatics, and Speech. A feature of the building is the Guignol Theatre seating approximately 435 persons.

Frazee Hall. Frazee Hall houses the departments of University Extension, Philosophy, Ancient Languages, and History.

The W. D. Funkhouser Biological Sciences Building. This building houses the Departments of Art, Anatomy and Physiology, Bacteriology, and Zoology. The Biological Sciences Library is also located here.

Hamilton House. This is the University's cooperative house for women students.

Health and Hygiene Building. This structure houses the University Health Service, the Department of Hygiene, and the Infirmary.

Heating Plant Annex (not shown on map). This building will enclose the boilers for the Shops Building.

Highway Materials Research Laboratory. This laboratory is jointly operated by the Department of Civil Engineering and the State Department of Highways.

Home Economics Building. The offices, classrooms, and laboratories of the Department of Home Economics are located in this building.

Insectary and Conservatory. This building is a greenhouse and laboratory used by the Department of Entomology and Botany of the Experiment Station.

Jewell Hall. This is an addition to Boyd Hall, and is the third unit of the residence halls for women.

Kastle Hall. This building houses the offices, classrooms, and laboratories of the Department of Chemistry.

The Margaret I. King Library. This library has a total seating capacity of 700. It also houses the Department of Library Science and the Bureau of Source Materials in Higher Education. The University libraries, including departmental, divisional, and collegiate collections shelved outside the King Library, include about half a million volumes.

Kinkead Hall. Kinkead Hall is the third unit of the residence halls for men.

Lafferty Hall. Lafferty Hall houses the offices, classrooms, and library of the College of Law and the offices of the Kentucky Law Journal.

Little Commons. This temporary building is located between the Health Building and the Agriculture Building and provides additional cafeteria facilities.

Lydia Brown House. This is a residence hall for women.

McDowell House. This is a residence hall for women.

McVey Hall. In this building are located the offices of the Dean of the College of Arts and Sciences and the offices and classrooms for the departments of English, Mathematics, Journalism, Radio Arts, and Social Work, the Campus Bookstore, the University Post Office, the Broadcasting Studios, and the offices and print shop of **The Kentuckian** and **The Kentucky Kernel.**

Maintenance Storage Building (not shown on map). This building will provide storage space and shops for the Division of Maintenance and Operations and the Agricultural Experiment Station.

Maxwell Place. Maxwell Place is the home of the President of the University.

Meats Laboratory. In this building are housed modern freezer lockers, facilities for slaughtering and curing meats, and the retail sales room.

Memorial Coliseum. This building is being erected by the State of Kentucky as a memorial to those men and women who died in World War II in the service of their country.

To be completed in 1950, it will provide additional facilities for physical education, including a swimming pool; complete housing for the Department of Athletics; and a coliseum seating about 12,000 for basketball games, and as many as 4,500 when used as an auditorium.

Memorial Hall. This building is the University Auditorium. It seats about 1,100 persons and is equipped with a pipe organ and carillonic bells.

Miller Hall. The Departments of Geology, German, and Romance Languages have office, classroom, and laboratory space in this building. It also houses the Geology Library and the Stenographic Bureau.

Mining Laboratory. This building houses a complete pilot plant for the beneficiation of ores by both wet and dry methods. It also contains a chemical laboratory designed for analytical investigations of coals and ores. It is operated by the Department of Mining and Metallurgical Engineering.

Museum. The principal use of this building is for the Museum of Archaeology and Anthropology.

Music Building. This building is located off Limestone adjacent to Memorial Hall, and is used for music classes pending completion of the new Fine Arts Building.

Neville Hall. All office, classroom, and laboratory space in Neville Hall is used by the Department of Psychology.

Nursery School. The nursery school is operated by the Department of Home Economics.

Observatory. This is the observatory of the Department of Mathematics and Astronomy. This building also contains the office of the Veterans Housing Projects.

Patterson Hall. This building is a residence hall for women.

Pence Hall. The library, offices, classrooms, and laboratories of the Department of Physics are housed in this building. The office of the Dean of The Graduate School is also located in this building.

Small Animal Laboratory. This building is used as an experimental laboratory in agriculture.

Social Science Building. This building is located north of the Library and houses classrooms and offices for the departments of Sociology, Political Science, Geography, and Anthropology.

Stock Judging Building. In addition to its use as a stock judging pavilion, this building furnishes classroom space for work in animal husbandry, poultry, and entomology.

Student Union Building. This building is the center for student activities. In addition to the lounges, ballroom, restaurants, recreation rooms, and assembly rooms the building houses offices for student organizations, the Alumni Association, the Y.M.C.A. and the Y.W.C.A.

Tobacco Research Laboratory. In the laboratories and greenhouses contained in this building the College of Agriculture and Home Economics is carrying forward research in tobacco culture and curing.

White Hall. White Hall provides office, classroom, and laboratory space for the College of Commerce.

Additional permanent buildings include the cooperative houses for women students, the horticultural greenhouses, residences, barns and storage buildings. Emergency structures include the Cooperstown and Shawneetown projects, which provide housing for approximately 500 married veterans, and 12 barracks, designed to house about 500 single students.

PART II

EDUCATIONAL OPPORTUNITIES AT THE UNIVERSITY OF KENTUCKY

DEGREES AND CURRICULA

For instructional purposes the University is organized into a College of Arts and Sciences, a College of Agriculture and Home Economics, a College of Engineering, a College of Law, a College of Education, a College of Commerce, a College of Pharmacy, and a Graduate School. Instruction is given in each college or school through two semesters of approximately eighteen weeks each, and the summer session of eight weeks. In general the opportunities afforded by the above divisions are indicated by the following degrees which are conferred upon students who complete the prescribed programs of study.

College of Arts and Sciences

Bachelor of Arts
Bachelor of Arts in Journalism
Bachelor of Arts in Music
Bachelor of Science
Bachelor of Science in Industrial Chemistry
Bachelor of Science in Library Science (Prerequisite, a bachelor's degree)
Bachelor of Science in Medical Technology

College of Agriculture and Home Economics

Bachelor of Science in Agriculture
Bachelor of Science in Home Economics

College of 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

College of Law

Bachelor of Laws

College of Education

Bachelor of Arts in Education

College of Commerce

Bachelor of Science in Commerce

College of Pharmacy

Bachelor of Science in Pharmacy.

Graduate School

Master of Arts
Master of Science
Master of Science in Public Health
Master of Science in Agriculture
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
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
Doctor of Education (Ed.D.)
Doctor of Philosophy

The names of degrees listed above give only a general idea of the educational opportunities available at the University. Within the various colleges there are many possibilities for specialization and the pursuit of particular interests. These may be outlined as follows:

College of Arts and Sciences. Within this college it is possible to major in any one of twenty-eight departments as follows: Anatomy and Physiology, Ancient Languages and Literatures, Anthropology, Art, Bacteriology, Botany, Chemistry, Economics, English Language and Literature, Geography, Geology, German Language and Literature, History, Hygiene and Public Health, Journalism, Library Science, Mathematics and Astronomy, Music, Philosophy, Physical Education, Physics, Political Science, Psychology, Radio Arts, Romance Languages and Literatures, Social Work, Sociology, and Zoology.

College of Agriculture and Home Economics. Students in agriculture may select any one of the following curricula: general agriculture, agricultural economics, animal industry, horticulture, ornamental horticulture, or vocational agriculture. There are pre-professional programs for students who plan to study agricultural engineering, forestry, veterinary medicine, or theology.

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

College of Engineering. In the College of Engineering the student may pursue any one of the following curricula: a general management curriculum, an industrial-administration curriculum, with emphasis on architectural engineering, an electrical engineering curriculum with emphasis on communication engineering, an electrical engineering curriculum with emphasis on electrical power engineering, a general curriculum in mechanical engineering, a mechanical engineering curriculum with emphasis on aeronautical 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 five-year program leading to the degree of Bachelor of Laws or he may complete a six-year program leading either to the degrees of Bachelor of Science in Commerce and Bachelor of Laws, or to the degrees of Bachelor of Arts and Bachelor of Laws.

College of Education. In the College of Education the student may prepare for elementary teaching, or for high school teaching in one or two of a variety of fields. A curriculum is also provided for teacher-librarians.

College of Commerce. The programs of study in the College of Commerce include a general-business curriculum, a business-management curriculum, an industrial-administration curriculum, a marketing and advertising curriculum, a commerce-law curriculum, and a secretarial 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 four-year curriculum is offered, leading to the degree of Bachelor of Science in Pharmacy. The first year of the curriculum is given on the Lexington Campus of the University, as a part of the program of the College of Arts and Sciences.

Graduate School. Graduate courses are available in all colleges and departments. The candidate for a master's degree may major in any department in which sufficient courses are available. The degree of Doctor of Philosophy is offered with major work in the following departments: Bacteriology, Chemistry, Education, Economics, English, History, Mathematics, Physics, Psychology, Political Science, Romance Languages, and in the combined fields of Agricultural Economics and Rural Sociology. Minor work may be carried in any department offering graduate courses.

DEGREES AND CURRICULA IN THE COLLEGE OF ARTS AND SCIENCES

Martin Marshall White, M.A., Ph.D., Dean

INTRODUCTORY STATEMENT

Aim. 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 skillful 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.

Organization. The College of Arts and Sciences embraces twenty-nine departments: Anatomy and Physiology, Ancient Languages and Literatures, Anthropology, Art, Bacteriology, Botany, Chemistry, Economics, English Language and Literature, Geography, Geology, German Language and Literature, History, Hygiene and Public Health, Journalism, Library Science, Mathematics and Astronomy, Military Science, Music, Philosophy, Physical Education, Physics, Political Science, Psychology, Radio Arts, Romance Languages and Literatures, Social Work, Sociology, and Zoology. These twenty-nine departments have been grouped into four divisions: Literature, Philosophy, and the Arts; 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 under the special supervision of the Director of the Personnel 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 cooperation 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.
2. Professional courses leading to special degrees in industrial chemistry, in journalism, in library science, 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, or dentistry.
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 Science in Industrial Chemistry, Bachelor of Science in Library Science, Bachelor of Arts in 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 and 128 points,* that is, a standing of 1.0; and in the departments of Anatomy and Physiology, Ancient Languages, Art, Botany, Economics, Geology, German, Journalism, Music, Philosophy, Physical Education, Physics, Political Science, Psychology, Radio Arts, Romance Languages, Social Work, Sociology, and Zoology, pass a final comprehensive examination on his major subject. The detailed conditions are as follows:

THE LOWER DIVISION

General Requirements

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

Foreign Languages until proficiency examination is passed on 6 credits.
(French, German, Greek, Italian, Latin, Spanish.)

General Hygiene, first or second semester, freshman year, 1 credit.

Physical Education, freshman and sophomore years. Students required to take physical education will enroll each semester until the physical fitness standard is completed. This requirement may be satisfied in one or more semesters.

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

Group Requirements

Humanities, sophomore year 6 credits.

Social Studies, freshman or sophomore year, 6 credits.
(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, Psychology, Zoology.)

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*Unless otherwise specified a credit represents one hour of recitation or two hours of laboratory a week for one semester. Drawing, Shopwork, and other courses requiring no outside preparation are reckoned at three hours for one credit.

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 D or E. (Each of these courses will carry two credits.)

   Humanities A, Classicism: Graeco-Roman; Modern European.

   Humanities B, The Renaissance; Romanticism.

   Humanities C, Realism and Naturalism; the Contemporary.

   Humanities D, Art: The Renaissance to the Present.

   Humanities E, Music: The Renaissance to the Present.

2. **The Social Studies.** The student is permitted to choose one of the following sequences, to satisfy the group requirement in the social studies: (Each sequence will carry 6 credits.)

   History 10a, b, or Political Science 10a, b, American Civilization; History 8a, b, or Political Science 8a, b, European Civilization; Anthropology 3a, Sociology 3a, b, or Geography 3a, b, Societies Around the World.

3. **The Biological Sciences.** Those students who, upon entering the University, state that they expect to elect a science curriculum, shall satisfy the biological group requirement of the lower division by any general course or courses in one of the departments of the biological group. Other students shall satisfy the group requirements in the biological sciences by taking any two of the following courses: Anatomy and Physiology 2; Anthropology 1; Botany 25; Psychology 1; Zoology 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 51a, b; Chemistry 1a, b, 4a, b, Geology 50a, b, 14a, b (in connection with 50a, b), 3, 30a, b, 53; Mathematics 5a, b (only one counted on group), 17, 3, 19; Physics 1a, b, 3a, b, 51, 52, 53 (51 is prerequisite for 52 or 53).

Freshman Core Curriculum	Credits
General Hygiene	1
Military Science (men)	4
Physical Education	0
English	6
Humanities, or Social Studies	6
Physical or Biological Sciences	6
Foreign Languages or free electives	6

Total number of credits required in Lower Division: 64

The normal load per semester is 16 credits

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 2, 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 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.

UPPER DIVISION

Junior and Senior Years

The student is required to gain, while registered in the Upper Division, 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. 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 Language and Literature, German Language and Lit-

terature, Journalism, Library Science, Music, Philosophy, Radio Arts, and Romance Languages and Literatures.

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 Chemistry, Engineering, Geology, Mathematics, Astronomy, Military Science, and Physics.

4. **Biological Sciences**
   This field includes Anatomy, Physiology, Agriculture (biological phases), Anthropology (biological phases), Bacteriology, Botany, Chemistry (biological phases), Hygiene, Public Health, Physical Education, Psychology (biological phases), and Zoology.

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.

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 or Law, is required to complete twenty credits in his concentration field, before transferring to the professional school.

Topically Related Fields

The student may elect for his concentration field some topic and choose for the field courses which contribute to this central interest. Examples of central themes are "Public Opinion," "The Romantic Movement," "Biochemistry," and "Scientific Secretaryship." The student will take a minimum of forty credits in courses not open to freshmen closely connected with the central theme. If he chooses the central theme of "The Romantic Movement," he will take courses in English, foreign languages, economics, history, philosophy, sciences, and art. If "Scientific Secretaryship," the courses will be in the College of Commerce, the Departments of Anatomy and Physiology, Bacteriology, Botany, Chemistry, English, Economics, etc.

Students interested in the Topical Field 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 course schedule for the particular topic.

To pursue a topical field, the student must have earned a minimum academic standing of 1.5 during the freshman and sophomore years, and must have the approval of the Committee on Topical Fields which will require as a rule completion of the lower division group requirements as prerequisites.

Tutorial Work and Comprehensive Examinations

Students majoring in the departments of Anatomy and Physiology, Ancient Languages, Anthropology, Art, Botany, Economics, Geology, German, Journalism, Music, Philosophy, Physical Education, Physics, Political Science, Psychology, Radio Arts, Romance Languages, Social Work, Sociology, 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.

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 in his 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 comprehen-

sive 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. 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.

Credit for Beginning Foreign Languages

A passing grade in the first semester's work of a beginning modern foreign language will not entitle the student to credit for that course until he has gained a passing grade in the second semester's work.

Classification in Foreign Languages

a. The student who presents one unit of high school foreign language will be permitted to enroll in first year work for full credit.

b. The student who presents two units of high school foreign language will be permitted to enroll in first year work, but will receive credit only if he makes at least a B standing in this course.

c. No student whose native language is other than English, and who has had formal instruction 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. The last 15 credits of residence work must be completed while registered in the college through which the degree is granted.

Extension and Special Examination

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

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.

COMBINED COURSES IN ARTS AND LAW, OR ARTS AND MEDICINE, OR ARTS AND DENTISTRY

A student may combine his courses in Arts and Sciences and Law or Medicine or Dentistry, 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 1.0 or more, before transferring to the professional school. For Arts-Law he should have 99 credits, with a standing of 1.3, before transferring to Law College.

2. He must have met the specified requirements of the College of Arts and Sciences (excepting 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, or four years in a Class A College of Dentistry as rated by the Dental Educational Council of America.

5. He must in his law or medicine work secure sufficient credits to bring his total in the Arts and the professional work up to 128 credits, and must secure a standing of at least 1.0, 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. In the combined Arts-Dentistry course, the arts degree will not be conferred until after the completion of the dentistry course.

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, 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
(b) Qualitative Analaysis
(c) Quantitative Analysis
(d) Organic Chemistry
Electives sufficient for Junior classification

The student may pursue a combination Arts-Medicine course, 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. (See page 63 of this bulletin.)

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.

Recommendations 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 1.5 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	Credits	Second Semester	Credits
Humanities	2	Humanities	2
Chem. 1a—General Chem.	5	Chem. 1b—General Chem.	5
Zool. 1—General Zoology	4	Bot. 1—General Botany	4
Math. 17—Col. Algebra	3	Math. 18—Pl. Trig.	3
English 1a—English Comp.	3	English 1b—English Comp.	3
Mil. Sci. 1a—First Year Elem. Course, Infantry	2	Mil. Sci. 1b—First Year Elem. Course, Infantry	2
**Phys. Ed.		**Phys. Ed.	

* 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 Science and other art 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., he will be required to pass a proficiency examination on 6 semester hours of a foreign language.

Math. 17 and 18 are advised and should be taken sometime during the freshman year.

** Students required to take physical education will enroll each semester until the physical fitness standard is completed. This requirement may be satisfied in one or more semesters.

SOPHOMORE YEAR

Third Semester	Credits	Fourth Semester	Credits
Sociology 3a—Societies Around the World	3	Sociology 3b—Societies Around the World	3
German or French	3	German or French	3
†Chem. 30a—Organic Chem. or †Chem. 21a—Quantitative Analysis	5	†*Chem. 30b—Organic Chem. or †Chem. 21b—Quantitative Analysis	5
Humanities	2	Physics 1b—General Physics	4
Physics 1a—General Physics	4	Mil. Sci. 6b—Second Yr. Elem. Course, Infantry	2
Mil. Sci. 6a—Second Yr. Elem. Course, Infantry	2	**Phys. Ed.	
**Phys. Ed.			

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 COURSE

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

ANATOMY AND PHYSIOLOGY

The courses offered by the Department 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.

Pre-medical 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.

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† Choice depending on length of preparatory course desired.

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

** Students required to take physical education will enroll each semester until the physical fitness standard is completed. This requirement may be satisfied in one or more semesters.

Suggested Courses for a Major in Anatomy and Physiology*

JUNIOR YEAR

First Semester	Credits	Second Semester	Credits
Psych. 1a—Intro. to Psychology	3	Psych. 1b—Intro. to Psychology	3
Chem. 130a—Organic Chemistry	5	Chem. 130b—Organic Chemistry	5
Zool. 101a—Histology	2	Zool. 106—Embryology	4
Anat. & Phys. 105—Architecture of Human Skeleton	4	Anat. & Phys. 109—Cellular Physiology	3
Zool. 157b—Vertebrate Anatomy or Bact. 102—General Bacteriology	4		

SENIOR YEAR

Third Semester	Credits	Fourth Semester	Credits
Anat. & Phys. 116a—Seminar (Tutorial)	1	Anat. & Phys. 116b—Seminar (Tutorial)	1
Anat. & Phys. 107—Comparative Neuro-Physiology	4	Anat. & Phys. 106—Intro. to Endocrinology or	3
Chem. 140a—Physical Chem.	4	Anat. & Phys. 110—Intermediate Metabolism	3
English 3a—Hist. of Eng. Lit.	3	Chem. 140b—Physical Chem.	4
Electives in modern lang., social subject, or botany	6	English 3b—Hist. of Eng. Lit.	3
		Elective (Cont. elective subj.)	6

ANCIENT LANGUAGES

The courses and curricula in Ancient Languages and Literatures are confined to the classical fields (Greek and Latin) and are planned to meet the needs of the following:

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

(2) Students who want to prepare through a classical major for work in the various graduate and professional schools. Such students will use their electives to meet the specific requirements of the individual graduate or professional school.

(3) Students who wish to prepare with a classical major 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, etc.), will arrange a curriculum that will satisfy the requirements both of a classical background and of the vocation.

(4) Students who intend to enter the ministry and wish to take an undergraduate classical major or merely to learn to read the Greek New Testament.

(5) Students who are going to teach classical languages or who are going to do graduate work or research in classical languages, ancient history, archaeology, medieval studies, or linguistics.

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* For the full schedule of part of the Junior Year and the entire Senior Year, the student must have a standing of 2.0 and permission to carry extra work.

(6) Students who want for the work of their major department a background of classical culture through courses in Greek and Latin.

(7) Students who want 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.

(8) Students who want to fulfill through Greek or Latin the foreign language proficiency or course requirements.

The emphasis in this department will be threefold:

(1) On interpreting classical culture in its relation to Western civilization.

(2) On learning to read Greek and Latin.

(3) On developing a background for classical scholarship for those who will teach or do graduate work or research in the field.

The student, in working out his major, may place emphasis on Greek, or on Latin, or on classical civilization, or on a combination of these. To this end, three majors are offered: Latin, Greek, Classical Civilization.

ANTHROPOLOGY

The introductory courses in Anthropology (Anthropology 1 and 2) are so designed that each is a general course complete in itself and in addition provides a background for more advanced work. All other Anthropology courses are somewhat more specialized. Students from other departments may choose any course that is of particular interest to them, providing that they have the prerequisites. Students who major in Anthropology are expected to complete a well rounded program by the end of their junior year in order that the senior year may be largely spent in a special field.

Kentucky is located in the heart of a rich archaeologic area. Opportunities for field work and museum research are immediately available. Academic credit is allowed for such work.

Students who intend to major in Anthropology should know that advanced degrees are required by nearly all institutions that hire professional anthropologists. However, even the smaller colleges are adding Anthropology to their curricula. Properly qualified anthropologists presently have a wide variety of employment possibilities.

BACTERIOLOGY

The Degree of B.S. in Medical Technology

The Department of Bacteriology affords opportunity for students to gain the A.B. or B.S. degree with bacteriology as a major, and also provides a curriculum in Medical Technology. The curriculum in Medical Technology is prescribed throughout and leads to the degree of Bachelor of Science in Medical Technology. This

course is designed to prepare men and women for positions in hospital laboratories, physicians' and surgeons' clinics, and federal, state, and municipal public health laboratories, and to fit the especially adapted student for either commercial or research laboratory work in bacteriology. It also meets all the requirements of the United States Civil Service Commission for Bacteriologists.

The University of Kentucky, in affiliation with the Good Samaritan Hospital, is registered, through the Department of Bacteriology, 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.

Graduates of this course who may desire to enter medical school will have all the requirements of the American Medical Association and the Association of American Medical Colleges for entrance to all Class A medical schools, provided they have a reading knowledge of a foreign language.

Curriculum Leading to the Degree B.S. in Medical Technology

First Semester	Credits	Second Semester	Credits
FRESHMAN YEAR			
English 1a	3	English 1b	3
Chemistry 1a	5	Chemistry 1b	5
Bacteriology 2a	4	Bacteriology 2b	4
Zoology 1	4	Botany 1	4
*Physical Education	0	*Physical Education	0
**Military Science	(2)	**Military Science 1b	(2)
	16		16
SOPHOMORE YEAR			
Zoology 7b	4	Chemistry 21	5
Physics 1a	5	Physics 1b	5
Bacteriology 56	4	Bacteriology 57	4
Humanities	4	Humanities	3
**Military Science 2a	(2)	**Military Science 2b	(2)
	17		16
JUNIOR YEAR			
Zoology 101a	3	Zoology 101b	3
Bacteriology 103	4	Bacteriology 125	5
Foreign Lang.	3	Foreign Lang.	3
Bacteriology 110a	3	Bacteriology 110b	3
Anatomy & Phys.	5	Zoology 106	4
	18		18
SENIOR YEAR			
Chemistry 130a	5	Chemistry 130b	5
Bacteriology 111	4	Physics 120	2
Bacteriology 150a	1	Bacteriology 150b	1
Bacteriology 120a	4	Bacteriology 120b	6
Elective (Social Sc.)	3	Elective (Social Sc.)	3
	17		17

Total credits 135 exclusive of Military Science.

* Students required to take physical education will enroll each semester until the physical fitness standard is completed. This requirement may be satisfied in one or more semesters.

** Required of all able-bodied male freshmen and sophomores who are citizens of the United States.

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 pre-medical 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.

CHEMISTRY

The Department of Chemistry provides an opportunity for a student to obtain a bachelor's degree with chemistry as a major or the degree of Bachelor of Science in Industrial Chemistry. The curriculum in industrial chemistry is a prescribed course, designed to train persons who desire to follow chemistry as a profession in the industries or to pursue advanced training in graduate schools. Under the Topical Field offered by the College of Arts and Sciences, opportunity is provided for the development of programs of those persons who wish to combine training in chemistry with (a) library techniques to fill positions in scientific libraries, (b) commercial subjects to become salesmen or secretaries for scientific or industrial laboratories, (c) home economics subjects to obtain preparation for work in the field of foods, textiles, etc., or (d) other combinations.

THE DEGREE OF B.S. IN INDUSTRIAL CHEMISTRY

The degree of Bachelor of Science in Industrial Chemistry is awarded upon completion of a prescribed curriculum. The curriculum is designed to prepare the student to continue the study of chemistry in a graduate school, or to engage in technical work with a substantial background of training. Although it is constructed on the basis of four academic years, students are advised to plan to spend an additional semester or two summer terms, so that the load may be lighter during the regular years.

German 21b must be completed and one year's work in French is recommended, so that a fair reading knowledge of both languages may be acquired. Students planning to take this course are advised to include one year of physics and one-half year of solid geometry in their high school studies. Deficiencies in these subjects may require enrollment in preliminary courses at the University. Solid geometry is a prerequisite for Mathematics 20a.

Registration in chemistry courses of juniors or seniors majoring in industrial chemistry is restricted to students having a grade-point average of 1.5 or higher in all subjects exclusive of military training, except that this regulation may be set aside by action of the faculty of the Department of Chemistry.

Curriculum Leading to the Degree of B.S. in Industrial Chemistry

FRESHMAN YEAR

First Semester	Crs.	Second Semester	Crs.
Military Science 1a	2	Military Science 1b	2
English 1a	3	English 1b	3
Mathematics 17 (College Algebra)	3	Mathematics 19 (Analytic Geometry)	3
Mathematics 18 (Trigonometry)	3	German 1a	3
Chemistry 1a (General Chemistry)	5	Chemistry 1b (General Chemistry and Qualitative Analysis)	5
Hygiene 1	1	Engineering Drawing 2	1
		*Elective, Social Studies	3
	17		20

SOPHOMORE YEAR

First Semester	Crs.	Second Semester	Crs.
Military Science 6a	2	Military Science 6b	2
Chemistry 21a (Quantitative Analysis)	5	Chemistry 21b (Quantitative Analysis)	4
Mathematics 20a (Diff. Calculus)	4	Mathematics 20b (Int. Calculus)	4
Physics 3a	6	Physics 3b	6
German 1b	3	German 21a	3
		English 6	3
	20		22

JUNIOR YEAR

First Semester	Crs.	Second Semester	Crs.
Chemistry 130a (Organic)	5	Chemistry 130b (Organic)	5
Chemistry 140a (Physical)	3	Chemistry 140b (Physical)	3
Chemistry 144a (Physical Lab.)	2	Chemistry 144b (Physical Lab.)	2
German 21b	3	Mathematics 105 (Differential Equations)	3
Economics 1	3	*Electives, Humanities	4
English 30	2	*Elective, Social Studies	3
*Elective, Humanities	2		
	20		20

SENIOR YEAR

First Semester	Crs.	Second Semester	Crs.
Chemistry 110a (Advanced Inorganic)	2	Chemistry 110b (Advanced Inorganic)	2
Chemistry 120 (Advanced Qualitative)	3	Chemistry 111 (Inorganic Laboratory)	1
Chemistry 133 (Qualitative Organic)	3	Chemistry 121 (Semimicro Quantitative Analysis)	3
Chemistry 160 (Industrial)	3	Chemistry 161 (Industrial)	2
Chemistry 181 (Chemical Literature)	1	Chemistry 141 (Chemical Thermodynamics)	3
†Chemistry 188a (Seminar)	0	†Chemistry 188b (Seminar)	1
‡Biological Science	3	‡Biological Science	3
Elective (Physics or Mathematics)	3	Elective (Chemistry or Geology)	3
	18		18

Total number of semester hours required for a degree ——— 155

*Electives are to be chosen from courses designated by the Department of Chemistry. A student who is planning on graduate work may substitute six semester hours of French for the requirement in the Humanities.

†Chemistry 188a, b (Undergraduate Seminar). Each senior is required to present a minimum of four reports to the student-faculty group to earn one semester hour of credit. Attendance at the seminar for two semesters is required before one hour of credit is earned.

‡The Biological Science requirement may be met by courses in this field selected with the approval of the Department of Chemistry.

The requirements in physical education must be met by the completion of work prescribed by the Department of Physical Education, without credit.

ECONOMICS

Courses in the field of Economics are concerned with that segment of human behavior which is directed toward making a living. The list of courses includes the Principles of Economics, Economic History, Applied Economics, Business Cycles, Labor Problems, Money and Banking, Public Finance, Public Utilities, et cetera.

Economic activity constitutes a substantial proportion of man's total activity and is therefore worthy of study from the standpoint of acquiring a liberal education.

Students interested in majoring in economics and in preparing themselves as professional economists or as specialists in such fields as taxation, labor relations, finance and statistics, should add to their program of study other social science subjects and work in Commerce. The latter courses assist greatly in understanding the field of Economics.

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 development toward professional geographers, the Department of Geography contributes directly to the fulfillment of the College of Arts and Sciences requirement in Social Studies (Geography 3a, b). To non-geography majors in all colleges of the University the Department of Geography offers a wide selection of supplementary and elective courses.

A thorough foundation in all phases of Geography is required of all department majors. For those who do not wish to become professional geographers, but desire a major in Geography, courses in other fields may be substituted after major requirements have been met. (See Catalog of Courses.) Attention is directed to all Social Study disciplines (Anthropology, History, Political Science, Social Work, Sociology) to Geology in the College of Arts and Sciences; and to related or supplementary courses in the Colleges of Agriculture and Home Economics, Commerce, Education, and Engineering.

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.

List of Courses for Professional Training in Geology

FRESHMAN YEAR	Crs.
*Geology 50a, b—Outlines of Geology	6
SOPHOMORE YEAR	
Geology 30a, b—General Geology	10
Geology 10a, b—Field Geology	5
JUNIOR YEAR	
Geology 107a, b—Advanced Field Geology	4
Geology 123a, b—Mineralogy	6
Geology 106a—Economic Geology	6
Geology 118a—Field Work in Regional Geology (Summer)	8
SENIOR YEAR	
Geology 106b—Economic Geology	3
Geology 101a, b—Paleontology	6
Geology 124a, b—Regional Geology	8
Geology 107c, d—Adv. Field Geology	4
Geology 122—Petroleum Geology	8
Geology 126a, b—Seminar	2

ALLIED SCIENCES, ETC.

Chemistry—General, Qualitative, and Quantitative
Physics—General Elementary
Zoology—General Zoology
Mathematics—College Algebra, Trigonometry, Analytics, and Calculus
Engineering—Mechanical Drawing and Plane Surveying
Foreign Language—Reading knowledge of French or German

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 7a, b. For later training in Geo-physical methods substitute Physics 3a, b, for a 2nd year of Chemistry.

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

* A sophomore may enter Geol. 30a, b without taking 50a, b.

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 curriculums, 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.

HYGIENE AND PUBLIC HEALTH

The functions of the department are threefold; namely, medical service to the students, teaching, and research. In the performance of each of these functions primary emphasis is placed upon the prevention of disease and the promotion of health.

The medical service consists of complete physical examinations of all entering students, the maintenance of a Student Health Service on the campus, and calls by physicians of the staff to boarding and rooming students who are ill in their rooms.

The department offers courses in health open to students in the various colleges of the University. A full year of work is offered to graduate nurses in preparation for public health nursing. Also, courses leading to the degree of Master of Science in Public Health are offered especially for the preparation of medical officers of Health.

JOURNALISM

The Department of Journalism is one of the 35 members of The American Accredited Schools and Departments of Journalism. Since 1931 the department has been accredited by this body 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 department. In the general library are hundreds of volumes dealing with all phases of the communications industry.

A daily 10-hour teletype service of the United Press supplies latest news dispatches for students and provides laboratory materials for news editing and radio news writing. The department, which supervises student publication activities has standard equipment to print a modern community newspaper and to pro-

vide high-grade commercial job printing for the campus. In the extensive plant is a type laboratory for instruction in typography, make-up, and the mechanics of publishing and advertising.

Various campus-based publications, such as the Kentucky Kernel (student newspaper), The Kentuckian (student yearbook), The Kentucky Press (official publication of The Kentucky Press Association, which maintains its state headquarters in the department), 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.

Beyond technical courses which are restricted to professional students and a limited number of highly qualified students in other fields of interest, the department provides one general elective course for the non-professional student. Here instruction is given to the "consumer of journalism," rather than the producer.

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. The first three sequences 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.

Curriculum Leading to the Degree of A.B. in Journalism

Pre-Journalism Curriculum

General Editorial Sequence, Community-Publishing Sequence, Advertising Sequence, and Radio-Journalism Sequence.

FRESHMAN YEAR		SOPHOMORE YEAR	
Courses	Crs.	Courses	Crs.
Journalism 2	2	Journalism 21, 22	6
English 1a, 1b	6	English 3a, 3b	6
Modern Foreign Language	6	Humanities	6
Social Studies	6	Economics 1	3
Psychology 1a	3	Biological Science	3
Physical Science	3	Physical Science	3
Hygiene	1	Elective	3
*Elective	3	Military Science (men)	4
Military Science (men)	4	Physical Education	0
Physical Education	0		
	34		34

*Women and others not required to take military science must complete 4 additional elective hours during the freshman and sophomore years.

General Editorial Sequence

JUNIOR YEAR Courses	Crs.	SENIOR YEAR Courses	Crs.
Journalism 100a, 100b	6	Journalism 105	2
Journalism 101	3	Journalism 106	3
Journalism 107	2	Journalism 108	3
Journalism 109	2	Journalism 123	3
English elective	6	Journalism 114	3
Social Study elective	3	Journalism 127	3
General electives	12	General electives	15
	34		32

Minimum required for the degree, 134 credit hours.

Community-Publishing Sequence

JUNIOR YEAR Courses	Crs.	SENIOR YEAR Courses	Crs.
Journalism 100a, 100b	6	Journalism 114	3
Journalism 101	3	Journalism 105	2
Journalism 107	2	Journalism 106	3
Journalism 109	2	Journalism 108	3
Journalism 102	3	Journalism 123	3
Journalism 103	3	General electives	18
Social Studies electives	3		
English electives	3		
General electives	9		32
	34		

Minimum required for the degree, 134 credit hours.

Advertising Sequence

JUNIOR YEAR Courses	Crs.	SENIOR YEAR Courses	Crs.
Journalism 100a	3	Journalism 114	3
Journalism 101	3	Journalism 103	3
Journalism 109	2	Journalism 105	2
Journalism 111	3	Journalism 106	3
Art 29 (Advertising Art)	2	Journalism 108	3
Commerce electives	6	Journalism 115	3
General electives	15	Journalism 123	6
		Commerce electives	6
		General electives	1
	34		32

Minimum required for the degree, 134 credit hours.

Radio-Journalism Sequence

JUNIOR YEAR Courses	Crs.	SENIOR YEAR Courses	Crs.
Journalism 100a, 100b	6	Journalism 114	3
Journalism 101	2	Journalism 150	2
Political Science 173	3	Journalism 105	2
Speech, English electives	6	Journalism 123	3
Radio-Arts electives	6	Journalism 127	3
General electives	9	Speech, English electives	6
		Radio—Arts electives	6
		General electives	9
	32		34

Minimum required for the degree, 134 credit hours.

PRE-LAW COURSES

Two years of college credit (exclusive of certain specific courses) with a minimum standing of 1.3 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, accounting, political science, and psychology. See page 17.

LIBRARY SCIENCE

The University provides professional education for library work through the Department of Library Science of the College of Arts and Sciences. This department is accredited by the Southern Association of Colleges and Secondary Schools and by the American Library Association.

A one-year curriculum of 30 semester hours, with electives in the various library fields, is offered. Students who complete this curriculum during the senior year of college receive the A.B. or B.S. degree with a major in Library Science. Students who complete the work following a bachelor's degree receive the professional degree of Bachelor of Science in Library Science. The amount of residence for this degree is one academic year or four terms of summer school beyond the bachelor's degree.

Professional courses on the senior or graduate level are designed primarily for majors in Library Science but non-majors may be admitted on approval of the Head of the Department. Students in the College of Education who are working for the degree of A.B. or M.A. in Education may elect courses in Library Science to fulfill the Southern Association requirements for teacher-librarians. Students in subject fields also may elect certain courses in Library Science to qualify them for positions in special libraries. Those interested should consult with the Department for guidance in the selection of such courses.

Introduction to Library Work is open to juniors who are interested in Library Science as a major. A student must have attained senior standing before being admitted to other professional courses, except on approval of the Head of the Department. An orientation course, **Use of the Library,** is offered for students in the lower division. An independent work course is also available to students who desire to study some phase of Library Science related to their major, field of concentration, or thesis.

Previous experience in library work and facility in the use of the typewriter are considered assets for all majors in Library Science.

Requirements for the Degree of Bachelor of Science in Library Science

Prerequisites: A bachelor's degree from an approved college or university. Undergraduate preparation should comprise academic rather than professional courses. Emphasis should be placed on

literature and the social sciences, and for those interested in college library work, languages are considered basic.

Required courses: The full professional curriculum of 30 semester hours, including electives in the library field of the student's special interest.

Professional Curriculum in Library Science

Course No.	Title	Crs.
101a-d	Independent Work	1
110	The Library in the School	3
112	The Public Library	3
114	The College and University Library	3
121	Introduction to Library Work	3
127	Reading for Young People	2
128	Children's Literature	2
129a	Cataloging and Classification	3
129b	Continuation of 129a	3
132	Library Work with Children	2
133a	Reference and Bibliography	3
133b	Continuation of 133a	2
139	Field Work	2
145	Organization of Library Materials	2
152a	Book Selection	3
152b	Continuation of 152a	2
154	Seminar in Problems of Librarianship	3

MATHEMATICS AND ASTRONOMY

The Department of Mathematics and Astronomy serves a two-fold purpose. **First:** It provides courses to fit the needs of other departments and colleges. The Department shapes its courses to prepare the student for his work in agriculture, bacteriology, chemistry, economics, engineering, physics, etc. **Second:** The Department provides courses for those specializing in mathematics. The high school teacher and the college teacher find courses for their respective needs.

The Mathematics library is one of the best in the South. It contains several thousand volumes and a number of bound volumes of mathematical and astronomical journals, bulletins, and magazines.

The Department gives work leading to the degrees of A.B., B.S., M.A., M.S., and Ph.D.

Astronomy. A non-mathematical course in Descriptive Astronomy is offered. Other courses offered from time to time are of a practical and mathematical nature.

The University has a small observatory equipped with an eight-inch telescope and other instruments. Occasional meetings are held at the observatory to give the student an opportunity to view the more interesting celestial objects.

MILITARY SCIENCE AND 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 students without cost to the individual. Each student is required to make a deposit of $10.00 with the Comptroller 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 course or leaves school. Advanced enrollees receive an allowance covering

the cost of an officer's like uniform. This uniform is worn during the advanced course, and is suitable for wear after graduation, provided the enrollee takes care of same.

Subsistence. Advanced course ROTC enrollees receive an allowance for subsistence in lieu of rations.

Elementary Course. The military department offers a two years' elementary course. The elementary course is required of all male freshmen and sophomores who are citizens of the United States, over fourteen years of age, and who conform to the physical requirements as prescribed by the War Department for units of the Reserve Officers' Training Corps.

The successful completion of the elementary course is a prerequisite for graduation in every course in the University.

Advanced Course. (Infantry, Signal Corps, and Air Force.) The elective advanced course of two years, including one summer camp, is offered to students who have successfully completed the elementary course, and who have been recommended by the President of the University and the Head of the Department of Military Science for further training. Recommendations for this course will be limited to those students who have manifested special interest and demonstrated ability during the elementary course, and who desire to pursue the course to completion, with a view to qualifying for a commission in the Officers' Reserve Corps of the army.

MUSIC

The aim of this department is to develop a high standard of professional and vocational leadership for the state of Kentucky as well as to provide opportunities for cultural experiences in music for the university student. Various music courses may be taken:

(1) As work to apply on the degree of Bachelor of Arts in Music (see p. 81)

(2) As work to apply on the degree of Bachelor of Arts with a major in music.

(3) As elective for those majoring in other departments of the university.

University Bands

The University bands furnish an opportunity for participation for students who have previous performing experience on band instruments. **The marching band** performs for the football and basketball games and furishes music for the ROTC spring parades. **The concert band** presents concerts on the campus, in the community and for radio programs. A course in **band directing** is

available to students who possess the prerequisite training and talent.

University Vocal Ensembles

Glee Clubs. The University Women's and Men's Glee Clubs are open to all students interested in choral activity, with the permission of the respective directors. These organizations appear at many university and community functions during the year including Sunday Afternoon Musicales, out-of-town appearances, and radio programs.

Choristers. This organization is composed of a selected group of students and performs both sacred and secular music. It participates in an annual Christmas program on the campus.

Mixed Chorus. This organization is composed of the combined Men's and Women's Glee Clubs organized during the second semester of each year and provides University students an opportunity to study and perform major cantatas and oratorios. This group and the University Symphony Orchestra appear for a spring concert on the campus.

University Symphony Orchestra

The **University Symphony Orchestra** is a student, faculty, and civic musical organization. The orchestra appears regularly in concerts. It also combines with the Mixed Chorus in the spring performance of a cantata, oratorio or some other major choral work. A course in **orchestral directing** is available to students who possess the prerequisite training and talent. Admission to the orchestra is arranged by consultation with the director.

Chamber Music

Chamber Music ensembles, such as string trios and quartets, brass sextets, and woodwind ensembles, are organized each year to provide additional opportunities in music for instrumental students who desire this type of activity.

Participation in Musical Organizations

No student is permitted to participate in the orchestra, concert band, glee clubs, or other musical organizations unless he has met all eligibility requirements for extra-curricular activities.

Special Fees

Special fees for applied music lessons, practice room, organ rental, instrument rental and instrumental methods classes are listed on page 19.

The Degree of A.B. in Music

The degree of A.B. in Music is awarded upon completion of a required course of study designed to prepare leaders in com-

munity musical enterprises, and supervisors of musical work in the schools.

Curricula Leading to the Degree of A.B. in Music

In order that all students majoring in music in the College of Arts and Sciences may have an opportunity to undertake a uniform basic course of study before choosing definitely the program they desire to pursue, the Freshman and Sophomore years of all music curricula are identical.

Note.—For special fees for Applied Music see p. 19.

FRESHMAN YEAR	Sem. Hrs.	SOPHOMORE YEAR	Sem. Hrs.
Music (Applied) a, b	6*	Music (Applied) c, d	6
Music 12a, b	4	Music 33a, b	8
Music 39a, b; or 40a, b	2	Music 39c, d; or 40c, d	2
English 1a, b	6	Humanities	4
Modern Foreign Language	6	Hygiene 9	2
Psychology 1a, b	6	Physical Science	6
Mil. Sci. 3a, b (Men)	4	Geog. Soc. or Anthr. 3a, b	6
Physical Education	—	Mil. Sci. 4a, b (Men)	4
Humanities E	2	Elective (Women)	3
Orientation	1		
	Women 33 Men 37		Women 37 Men 38

Combined Supervision Sequence

JUNIOR YEAR	Sem. Hrs.	SENIOR YEAR	Sem. Hrs.
Music (Applied) e, f	6	Music (Applied) g, h	6
Music 4a, b	4	Music 13a, b	4
Music 34a, b	8	Music 19a, b	6
Music 39e, f; 40e, f; or 28a, b	2	Music 114a, b	4
Music 7, 8, and 9	6	Music 39g, h; 40g, h; or 29a, b	2
Music 26	2	Music 42	1
Education 16	3	Education 105	3
Education C44	3	Education 177a, b	8
Elective (Women)	3		
	Women 37 Men 34		34

Total number of credits required for a degree 141

Instrumental Supervision Sequence

JUNIOR YEAR	Sem. Hrs.	SENIOR YEAR	Sem. Hrs.
Music (Applied) e, f	6	Music (Applied) g, h	6
Music 7, 8, and 9	6	Music 13a, b	4
Music 34a, b	8	Music 19a, b	6
Music 40e, f; or 28a, b	2	Music 40g, h; or 29a, b	2
Education 16	3	Music 114a, b	4
Education C44	3	Music 42	1
Elective	3	Education 105	3
Elective (Women)	6	Education 177a, b	8
	Women 37 Men 31		34

Total number of credits required for a degree 140

* Two credits per semester required in major field; one credit required in minor field or fields. Total credits required for graduation: 16 hrs. in the major and 8 hrs. in the minor.

Vocal Supervision Sequence

JUNIOR YEAR	Sem. Hrs.	SENIOR YEAR	Sem. Hrs.
Music (Applied) e, f	6	Music (Applied) g, h	6
Music 4a, b	4	Music 13a, b	4
Music 26	2	Music 19a, b	6
Music 34a, b	8	Music 39g, h	2
Music 39e, f	2	Music 42	1
Education 16	3	Music 115	2
Education C44	3	Education 105	3
Elective	3	Education 177a, b	8
Elective (Women)	3	Elective (Women)	3
	Women 34 Men 31		Women 35 Men 32

Total number of credits required for a degree 138

General Sequence†

JUNIOR YEAR	Sem. Hrs.	SENIOR YEAR	Sem. Hrs.
Music (Applied) e, g	6	Music (Applied) g, h	6
Music 34a, b	8	Music 13a, b	4
Music 39e, f; 40e, f; or 28a, b	2	Music 19a, b	6
Music 7, 8 or 4a, b	4	Music 39g, h; 40g, h; or 29a, b	2
Music 9 or 26	2	Music 42	1
Music Electives	4	Music 114a, b or 115 & Elec.	4
Electives	6	Music Elective	4
		Electives	7
	32		34

Total number of credits required for a degree 139

Curriculum Leading to the Degree of A.B. 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. This course of study should not be confused with the professional degree, Bachelor of Arts in Music, which is intended primarily to train directors of instrumental and choral groups and teachers of school 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:

Humanities E, Music: The Renaissance to the Present
Theory 12a, b
Theory 33a, b
Applied Music, 12 semester hours

Upper Division Music Requirements: A minimum of 15 credits of advanced work in Music:

Music History 19a and 19b
Theory 34a and 34b

† This sequence is for those who do not plan to teach.

Orchestration 114a
Instrumental Conducting 114b
(or instead of 114a, b)
Choral Conducting 115
Seminar 42

Additional courses in music may be elected from the following:

Public School Music—Primary 4a
Public School Music—Intermediate 4b
Public School Music—Secondary 26
Instrumental Methods—
Strings 7
Brass and Percussion 8
Woodwinds 9
Form and Analysis 13a, b

Participation in Music Groups: All music majors are required to participate in the Orchestra, Glee Club or Band (Music 22, 23, 28, and 29) for the entire four years. However, if Band is taken in the freshman and sophomore years to satisfy the Military Science requirement, the student must participate in one of the other musical groups.

PRE-PHARMACY

The freshman year of the curriculum in Pharmacy is given at the Lexington campus of the University, as a part of the program of the College of Arts and Sciences. Those who transfer to Louisville for the professional courses will be selected from the highest ranking applicants who have completed the freshman year at the University or elsewhere. The freshman year includes the following requirements:

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Chem. 1a—General Chemistry	5	Chem. 1b—General Chemistry	5
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Bot. 1—General Botany	4	Bot. 2—General Botany	3
Math. 5—College Algebra	5	Math. 3—Plane Trigonometry	3
Mil. Sci. 1a—Military Science	2	Zoology 1—Prin. of Animal Biol.	4
Physical Education	0	Mil. Sci. 1b—Military Science	2
		Physical Education	0
	19		20

PHYSICAL EDUCATION

Upon entrance every student is given a physical examination by the Department of Health and Hygiene. The findings of that Department are furnished the Department of Physical Education and all students, except veterans (with more than three months service, including married ones) are assigned to required physical education classes in accordance with their needs. Individuals with physical handicaps are assigned to "Adapted Physical Education"

(P. E. 2). All others are assigned to "Orientation in Physical Education" (P. E. 1). In this course (P. E. 1) men students will be physically conditioned, given a survey of various sports and then tested as to their degree of physical fitness and sports knowledge and performance. Women students follow the same procedure except that they are given a posture test instead of the physical fitness test. As a result of the testing program, a student may be:

a. Assigned to take additional work the subsequent semesters to ameliorate or correct deficiencies in physical fitness as disclosed by the physical fitness or posture tests, or deficiencies in sports skills and knowledges as disclosed by performance and knowledge tests—as follows,
   1. **Men students** with a physical fitness index (P. F. I.) below 100 will be assigned to Weightlifting and Conditioning (P. E. 29) classes the subsequent semester or semesters to improve their P. F. I. until they reach the norm for Kentucky men.
   2. **Women students** ranked in the lower levels of the posture test will be assigned to Adapted Physical Education (P. E. 2) the subsequent semester or semesters until they reach a level of good body mechanics satisfactory to the Department.
   3. Those students (men and women) who failed in the sports knowledge and performance tests given in P. E. 1 will be required to enroll in the sports classes (P. E. 14 to 40) the subsequent semesters until they have corrected these deficiencies. New students are required to become proficient in one team sport, one indoor individual recreational sport, and one outdoor individual recreational sport.

      Women students are required to learn one individual sport, one team sport, and some form of the dance.

b. Considered as having completed his or her requirements.

Note.—A student may enroll in only one sports course (P. E. 4 to 40) per semester until the physical education requirements have been fulfilled.

The required or service physical education program consists of specific courses of instruction for men and women students which are designed to: (1) determine the degree of physical fitness of the individual, (2) provide the student with a means of regulated and supervised physical exercise, (3) teach the student activities which may serve as a recreational pursuit during leisure time, and (4) develop a sane and intelligent attitude toward the need for and benefits of well-regulated physical activity. After a student has fulfilled these requirements he is encouraged to enroll in advanced sport classes for which he will receive one hour of credit for each three-hour course successfully completed. The number of hours acceptable is regulated by the Dean of each College.

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 and Tau Sigma (Modern Dance) numerous activities are sponsored which provide opportunity for all students to participate in competitive sports and recreational activities.

The third phase is the Teacher Education Program which provides opportunity for students to prepare to teach physical education, coach athletic teams, and to train for leadership in recreation and camping.

A standard uniform is required of all students. The cost of this ranges from $5.00 to $10.00. A locker fee of $2.00 per semester is charged each student which includes towel service, soap, and locker rental. Padlocks may be rented for 25 cents per semester.

PHYSICS

The objectives of the Department of Physics are signified by its program and its relationship to the total program of the University. These objectives are not numerous and they are integrable:

1. to provide instruction to the end that students of the University, regardless of their special interests, may acquire a general understanding of, and an appreciation for physics and its importance and usefulness in the scientific age in which they live;
2. to provide a complete undergraduate collegiate curriculum with sufficient elasticity so that graduates with a major in physics may teach in secondary schools, may use it as a strong foundation for vocations, or may go on to greater specialization in physics;
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.	SECOND SEMESTER	Crs.
Military Science 1a	2	Military Science 1b	2
Physical Education	*	Physical Education	*
English 1a	3	English 1b	3
Math. 17 (Coll. Alg.)	3	Math. 19 (Analytic Geom.)	3
Math. 3 (Trigonometry)	3	Engineering Problems 2	1
Chemistry 1a	5	Chemistry 1b	5
		Humanities	2
		Hygiene	1
	16		17

* Students required to take physical education will enroll each semester until the physical fitness standard is completed.

Sophomore Year

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Military Science 6a	2	Military Science 6b	2
Math. 20a (Diff. Calc.)	4	Math. 20b (Diff. Calc.)	4
Physics 3a	6	Physics 3b	6
Biological Sciences	3	Biological Sciences	3
†Foreign Languages	3	†Foreign Languages	3
	18		18

Junior Year

FIRST SEMESTER		SECOND SEMESTER	
Physics (Theor. Mech.)	4	Physics (Heat & Thermo.)	3
Math. 105a (Diff. Eq.)	3	Physics (Elect. & Mag.)	3
Social Studies	3	Humanities	2
Chemistry 21a (Quant.)	5	Social Studies	3
Humanities	2	Field or Free Electives	6
	17		17

Senior Year

FIRST SEMESTER		SECOND SEMESTER	
Physics (Light)	3	Physics (Atomic)	3
Math. 106a (Adv. Calc.)	3	Physics 125c	3
Field or Free Electives	12	Math. 106b (Adv. Calc.)	3
	—	Field or Free Electives	9
	18		18

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 school. (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.

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†The foreign language requirement is not complete until the proficiency examination, based on 6 credits' work, has been passed.

Students interested in entering the Federal Civil Service through the usual channel of the Junior Professional Assistant find a variety of types of specialized preparation acceptable. For general administrative work a course in public administration is essential. One major part of the Junior Professional Assistant examination, however, is based on general training and knowledge. For this general part of the Junior Professional Assistant 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 desired.

Suggested Courses for Preparing for Public Service

For persons interested in preparing for the various branches of government service, the following courses of study are suggested:

Consular and Diplomatic Service. Comparative Government, International Law, American Constitutional Development, American Foreign Relations, Economic Geography, Transportation, Statistics, International Economic Policies, Diplomacy and the Foreign Policy of the United States, American History, Modern European History, Contracts, Conflict of Laws.

Public Administration. Municipal Government, State Government, Public Administration, Public Personnel Administration, Administrative Regulation, Industrial Relations, Industrial or Employment Psychology, Office Management, Public Welfare Administration, Statistics, Accounting, Public Finance, State and Local Taxation, Legislation, Social Systems, American Constitutional Development, Highway Location, Construction and Maintenance, Streets and Pavements, Water Supply and Waterworks, and Sewers and Sewage Disposal.

Financial Administration. Municipal Government, Public Administration, Regulation of Public Utilities, Accounting, Statistics, Public Finance, Money and Banking, Business Law, Auditing, Corporation Finance, Cost Accounting, State and Local Taxation, Income Tax Procedure, Business Law, Personnel Administration, State Government, and American Constitutional Development.

Public Works Administration. Highway Location, Construction and Maintenance, Streets and Pavements, Highway Materials, Water Supply and Waterworks, Sewers and Sewage Disposal, Design of Waterworks and Sewers, Contracts, State and Local Taxation, Public Finance, Accounting, and Public Administration.

Legislative Research and Drafting. Legislation, American Constitutional Development, State Government, Public Finance, Public

Administration, Administrative Regulation, Accounting, Statistics, Labor Problems, and Municipal Government.

In addition to training students for public service in the above fields, the Department of Political Science cooperates with the Department of Social Work, and other departments, in training students in and for governmental service in their respective specialties.

PSYCHOLOGY

The Department's undergraduate program includes courses in general, social, experimental, animal, abnormal, and child psychology, in psychological testing, and in the applications of psychology to business and industry.

The graduate program includes work leading to the degrees of Master of Arts and Doctor of Philosophy in the fields of clinical, experimental, and industrial psychology. In cooperation with the Veterans Administration, the Department offers a four-year course of training in clinical psychology leading to the doctor's degree. Students in this program are appointed to half-time psychological internships in the local Veterans Hospital. Technical Bulletin 10A-146 of the Veterans Administration describes their work. The Department, in cooperation with the Division of Mental Hygiene and Hospitals of the Commonwealth, maintains interns in the various mental hospitals and reformatories in the state. Students who wish to apply for these positions should communicate with the Head of the Department.

RADIO ARTS

This department has a three-fold function in (a) training of students who wish to go into broadcasting as a profession, (b) providing courses in certain phases of broadcasting for students in agriculture, education, journalism, political science, commerce, social work, and other fields, and (c) making available courses in the more cultural and artistic phases of radio for students pursuing a liberal curriculum.

A four-year major in Radio Arts leading to the A.B. degree provides for a survey course, courses in announcing, drama, regulations, script writing, production, and a pro-seminar course leading to a comprehensive examination.

Radio Arts classes are held in the Radio Studio section of the top floor of McVey Hall. Professional facilities utilized in the laboratory work of this department include three studios, two announce booths, three studio control rooms, a master control room, a transmitter room, library and staff room, record room, sound effects room, and the usual office facilities. Two FM transmitters, operating on the upper and lower bands respectively, plus daily broadcasts scheduled over commercial stations, provide students with ample performance opportunities.

Courses for Training in Radio Arts

Open to Freshmen

	Crs.
Radio Arts 1a, 1b—Radio Today	6

Open to Sophomores

Radio Arts 2a—Radio Announcing	2
Radio Arts 2b—Radio Drama	2

Open to Juniors and Seniors

Radio Arts 101—Radio Regulations	2
Radio Arts 102—Advanced Radio Announcing	2
Radio Arts 105—Radio Script Writing	2
Radio Arts 106a, 106b—Radio Production	4
Radio Arts 110—Pro-Seminar in Radio	1

Note.—Radio Arts majors must take 1a and 1b as prerequisites for all other Radio Arts courses, and must take 2a and 2b during the junior year.

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, and accredited by, the National Association of Schools of Social Administration. 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 of social work. However, our graduates are currently holding responsible positions in the public social services, recreational activities, and in other social agencies at the junior professional 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 and SW 24 and SW 122 are especially recommended for all students interested in social welfare.

SOCIOLOGY

The Sociology Department, while emphasizing the fundamental importance of a liberal arts background, seeks to direct the training of its majors toward their professional interests. Experience is provided in community surveys, group analysis, and as interns in youth agencies and in institutions for juvenile delinquents. Graduates with good records can qualify for the Federal Civil Service examinations for Junior Professional Assistants as Social Science Analysts. They also qualify for the State Department of Welfare Examinations in child welfare and public assistance, as well as for graduate study in leading universities.

The Department also maintains a Social Research Consultation Service to make the tools and skills of social science available to serve Kentucky communities and agencies.

COURSES FOR NURSES

The college affords preliminary work for nurses. This covers anatomy and physiology, bacteriology, chemistry, hygiene and sanitation, psychology, and sociology. Nutrition and cooking are offered in the College of Agriculture and Home Economics. Students who complete this work ordinarily gain credit for it in civil hospitals to which they are admitted. No general statement can be made as to this, however. The student should take the question up with the hospital schools under consideration. For further information consult the Head of the Department of Hygiene and Public Health.

Graduates of nursing schools approved by the University will be admitted with a maximum of 30 credits.

THE PREPARATION OF TEACHERS

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

DEGREES AND CURRICULA IN THE COLLEGE OF AGRICULTURE AND HOME ECONOMICS

Thomas Poe Cooper, B.S., D.Sc., LL.D., Dean
Levi Jackson Horlacher, B.S., M.S., Assistant Dean

Introductory Statement

Organization. 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 it became the Department of Home Economics in the College of Agriculture. In 1941 the name of the College of Agriculture was changed to College of Agriculture and Home Economics. The first class in agriculture was graduated in 1898 and the first class in home economics was graduated in 1913.

The principal function of the College is resident teaching in agriculture and home economics and for this purpose it is organized into nine departments: Agricultural Entomology, Agronomy (including soils, crops, plant pathology, and farm engineering), Animal Industry (including animal husbandry, dairying, poultry genetics, meats and nutrition), Animal Pathology, Farm Economics, Home Economics, Horticulture (including forestry), Markets and Rural Finance, and Rural Sociology. Associated with the College are the Agricultural Experiment Station and the Agricultural Extension Division.

Aims and Purposes. The College of Agriculture and Home Economics was established for a particular purpose that makes it different from almost any other type of college. Legislative acts establishing the College, the Experiment Station, and the Extension Service make the College primarily an institution to serve rural people. The College is successfully aiding rural people and has developed an educational procedure that fits students to assume responsibilities in various aspects of rural, as well as urban life. The aim of the College is to educate young men and women for careers as useful citizens and leaders in all phases of agriculture and home economics. This may be on the farm, in the home, extension work, teaching, nutrition, research, commercial work, or any other work that requires knowledge of the place that agriculture and home economics have in the world today. The

outside field of opportunity is as wide as the relation of agriculture and home economics to industry, commerce, and finance. In all of those fields of endeavor new places and new uses are being found for well educated, able men and women.

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 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 Agriculture Building houses the office of the dean, the department of horticulture with its student laboratories, the section of forestry, classrooms for marketing and rural sociology, and laboratories for the use of students in crops, soils, and agricultural entomology. The Dairy Building has modern, well equipped laboratories for work in dairy manufacturing, incubation, nutrition, and genetics. The Stock Judging Pavilion has classrooms and an arena for livestock judging and other phases of work in animal industry. The Agricultural Engineering Building has shops and laboratories for tractors, stationary engines, and machinery, as well as a commodious drawing room. The Animal Pathology Building has classrooms and laboratories of the most modern type for the study of animal diseases. All classes in farm economics meet in this building. The Tobacco Laboratory is well equipped for the study of plant diseases. In the Meats Laboratory are modern freezer lockers, a sales room and rooms for slaughtering, cutting, and curing meat. The Experiment Station Building contains no classrooms, but offices of many of the members of the teaching staff are located there.

The Home Economics Building is one of the most modern in America. It was open and ready for occupancy in September, 1940.

As conditions permit it is being 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. A home management house and a child-care center are located near the Home Economics Building. The University cafeterias are used as laboratories for students in institution economics.

On the farm are modern 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.

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.

Requirements for Graduation in Agriculture

To receive the degree Bachelor of Science in Agriculture a student is required to gain a total of 136 semester credits and 136 points. These represent the minimum requirements for graduation. There are seven curricula in agriculture and completion of the requirements of any one of these leads to the degree. In all cases the student is responsible for meeting the requirements for graduation.

The General Curriculum in Agriculture enables the student to obtain a general education and at the same time pursue some specialization in a chosen field. In this curriculum the student has the privilege of selecting one of the following options for study during the junior and senior years: Agricultural Entomology, Agricultural Extension, Agricultural Science, Agronomy, General Agriculture, Farm Economics, Markets and Rural Finance, Rural Sociology, and Vocational Agriculture.

The Curriculum in Agricultural Economics is for students desiring to enter some phase of agricultural business.

The Curriculum in Animal Industry is for students whose primary interest is in livestock production and the livestock industry. The student in this curriculum chooses one of the following options: Animal Husbandry, Dairy Manufacturing, Dairy Production, or Poultry Husbandry. Proper use of free electives permits a student to prepare to teach Vocational Agriculture.

The Curriculum in Horticulture is for students interested in the production of fruits and vegetables and in allied industries.

It provides opportunity for a student to prepare to teach Vocational Agriculture.

The Curriculum in Ornamental Horticulture prepares specialists in floriculture and landscape gardening.

The Curriculum for Teachers of Vocational Agriculture prepares students to be teachers of agriculture in high school.

Options are available in most of the curricula for students interested in certain fields. An option consists of a minimum of 14 credits in courses not open to freshmen. A student normally selects his option during the last semester of his sophomore year.

Faculty advisers are appointed by the Dean to help students with academic problems such as choice of a curriculum, preparation of class schedules, selection of an option, choice of elective courses, and employment.

Farm experience or experience in the option selected is required for graduation in agriculture.

Transfer students are required to take a minimum of 34 credits of agriculture in the University.

Certain courses are required of all students in the various curricula; others are elective. The courses required for graduation are listed in the order they would normally be taken by students entering in the fall semester; some modification will be necessary for those entering in the spring or summer.

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 credits per semester; the maximum load is 23 credits; the minimum load for a full-time student is 12 credits.

General Curriculum Leading to the Degree Bachelor of Science in Agriculture

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 1—Elem. Farm Crops	3	*A. I. 1—Farm Livestock Prod.	3
*A. I. 1—Farm Livestock Prod.	3	*A. I. 21—Farm Dairying	3
*A. I. 21—Farm Dairying	3	*A. I. 41—Farm Poultry Prod.	3
*A. I. 41—Farm Poultry Prod.	3	Hort. 1—Genl. Horticulture	3
Bot. 1—General Botany	4	Eng. 1b—English Composition	3
**Eng. 1a—English Composition	3	Geol. 3—Elem. Geology	3
Math. 1—Basic Mathematics	3	M. S. 1b—1st Yr. Basic	2
M. S. 1a—1st Yr. Basic	2	Physical Education	0
Physical Education	0	Zool. 1—Prin. of An. Biol.	4
	18		18

* Schedule one course each semester. Two of the three courses are required for graduation.

** The requirements in whole or in part for English 1a, and 1b may be satisfied without credit by passing a departmental proficiency examination. It is recommended that students deficient in English, as indicated by the freshman tests, take English D (with no credit) before taking English 1a.

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
*Chem. 4a—Genl. Chemistry	4	Chem. 4b—Genl. Chemistry	4
or		or	
*Chem. 1a—Genl. Chemistry	5	Chem. 1b—Genl. Chemistry	5
Econ. 1—Prin. of Econ.	3	Fm. Ec. 1—Agr. Economics	3
Fm. Eng. 1—Mech. of Farmstead	3	Agron. 10—Soils	3
R. S. 10—Rural Sociology	3	A. I. 81—Prin. of Animal Nutr.	3
M. S. 6a—2nd Yr. Basic	2	M. S. 6b—2nd Yr. Basic	2
		Electives	2
	15 or 16		17 or 18

JUNIOR YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Bact. 52—Prin. of Bacteriology	4	Group A Electives	6
Fm. Ec. 110—Farm Management	3	Electives	11
M. & R. F. 100—Agricultural Marketing	3		
**Group A Electives	3		
Electives	4		
	17		17

SENIOR YEAR

Electives	34 credits
Total required for graduation	136 credits

Summary of the General Curriculum

	Crs.
Required courses in agriculture	33
Required courses, non-agriculture	45
Group A electives	9
Electives in agriculture	27
Free electives	22
Total	136

Brief descriptions of the options follow.

Agricultural Entomology. Courses in the agricultural entomology option deal with beneficial and injurious insects, animal parasites, insects of the home and farm, including insects of fruit and garden crops, farm crop insects, animal parasites, insects of the home and flower garden, and bees. Students preparing for Agricultural Entomology should elect courses in zoology, botany,

* Students desiring to study advanced chemistry (except Chemistry 37) are advised to take Chemistry 1a and 1b.

** The Group A electives, from which 9 hours must be selected, are as follows: Anthropology 1 and 2, General Anthropology; Humanities, Economic History of the United States; Economics 105, Money and Banking; English 6, Elements in Public Speaking; English 130a, Comparative Literature; Geography 10, Economic Geography; Geography 122, Advanced Climatology; History 10a, or Political Science 10a, American Civilization, 1607-1865; History 10b or Political Science 10b, American Civilization since 1865; History 120, Europe in the Twentieth Century; History 147, Recent History of the United States; Music A, An Introduction to the Humanities through the Study of Music; Philosophy 21, Introduction to Philosophy; Philosophy 31, Logic; Political Science 51, American Government; Political Science 165, World Politics; Political Science 170, Political Parties; Political Science 173, Public Opinion; Psychology 1a and 1b, Introduction to Psychology; Sociology 3a and 3b, or Geography 3a and 3b, Societies around the World; Sociology 101, The Family.

and chemistry and should take the first course in agricultural entomology before the junior year.

Agricultural Extension. Students preparing to be county agricultural or county club agents should elect courses in all agricultural departments, including agricultural extension. Other courses suggested are English, history, journalism, philosophy, political science, psychology, public speaking, radio, and courses in games and recreation.

Agricultural Science. Students interested in preparing themselves for scientific careers in agriculture should elect the option in agricultural science. In preparation for this option, basic courses in science and mathematics, such as bacteriology, botany, chemistry, geology, physics, zoology, algebra, and trigonometry should be scheduled in the freshman and sophomore years. Properly selected electives in the four-year curriculum prepare the student for graduate work leading to the master's or doctor's degree.

Agronomy. Courses in agronomy comprise those in soils, crops, and plant diseases. Most students selecting this option should follow the general curriculum with the following added requirements: A. I. 61, Genetics, and a minimum of sixteen of the agricultural electives in courses in the Department of Agronomy, as approved by the major adviser. Students preparing for college teaching and research in soils or crops should follow the curriculum in Agronomy.

Curriculum in Agronomy Preparing for Graduate Work in Soils and Crops, and Leading to the Degree Bachelor of Science in Agriculture

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Chem. 1a—General Chemistry	5*	Chem. 1b—General Chemistry	5*
Eng. 1a—English Comp.	3	Eng. 1b—English Comp.	3
Bot. 1—General Botany	4	Bot. 2—General Botany	3
Math. 5—College Algebra	5	Agron. 1—Elem. Farm Crops	3
M. S. 1a—Basic Mil. Sci. I	2	Hort. 1—Genl. Horticulture	3
Physical Education	—	M. S. 1b—Basic Mil. Sci. I	2
	19	Physical Education	—
			19

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
A. I. 1—Farm Livestock Prod.	3	Agron. 10—Soils	3
Bact. 52—Prin. of Bact.	4	Agron. 11—Soils Laboratory	2
Geol. 30a—General Geology	5**	Agron. 23—Plant Pathology	4
Zool. 1—Prin. of Animal Biol.	4	A. I. 61—Genetics	3
M. S. 6a—Basic Mil. Sci. II	2	Econ. I—Prin. of Economics	3
		Fm. Eng. 1—Mech. of Farmstd.	3
		M. S. 6b—Basic Mil. Sci. II	2
	—		—
	18		20

* Chem. 4a, 4b and 1b may be taken in place of Chem. 1a and 1b.
** Geol. 3 may be taken in place of Geol. 30a, but Geol. 30a is preferable.

FIFTH THROUGH EIGHTH SEMESTER

	Crs.
A. I. 181—Animal Nutrition or A. I. 81—Prin. Animal Nutr.	3
M. & R. F. 130—Agri. Statistics	3
Fm. Ec. 1—Agri. Economics	3
Electives	51
All electives subject to approval of major adviser.	
(Nine hours must be in Group A and Rural Sociology.)	
Total requirement for graduation 136 credits.	

General Agriculture. This option is for students who want a general course in agriculture. This may include work in all departments or courses may be concentrated in one department. Sixty credits of agriculture are required for graduation. Electives may be selected from any department in the University provided the necessary prerequisites are satisfied.

Farm Economics. Courses in this option deal with the economics of production in agriculture, including farm costs and accounting; farm management and the factors underlying profitable farming; land economics, land values, and land appraisal.

Markets and Rural Finance. The option in markets and rural finance provides training in the economics of agricultural markets, prices, cooperation, and finance, and includes the relation of agriculture to government.

Rural Sociology: Courses in this option present the sociology of rural life, the study of the community and its development, the organization of rural groups, rural movements and social policy, and the nature and problems of rural leadership.

Vocational Agriculture. This option is designed primarily to prepare students to teach agriculture in public high schools under the provisions of the Federal Vocational Education Acts. The University of Kentucky has been designated as the institution in the state to educate teachers for this work. Students who select this option must have had farm experience. The 60 semester credits of agriculture required for qualification of teachers of vocational agriculture should be distributed throughout all departments. See the special curriculum.

Curriculum in Agricultural Economics Leading to the Degree Bachelor of Science in Agriculture

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
M. & R. F. 30—Sources & Uses of Agricultural Data	2	Fm. Ec. 1—Agricultural Econ.	3
Bot. 25—Plant Biology	3	Chem. 4a—General Chemistry	4
A. I. 1—Farm Livestock Prod.	3	Agron. 1—Elem. Farm Crops	3
Eng. 1a—English Composition	3	Geog. 10—Econ. Geography	3
Econ. 3—Econ. Hist. of U. S.	3	Eng. 1b—English Composition	3
Math. 17—College Algebra	3	M. S. 1b—1st Yr. Basic	2
M. S. 1a—1st Yr. Basic	2	Physical Education	0
Physical Education	0		
	19		18

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Econ. 1—Prin. of Economics	3	Com. 7a—Prin. of Accounting	3
Zool. 1—Prin. of Animal Biol.	4	A. I. 61—Genetics	3
Chem. 4b—General Chemistry	4	A. I. 81—Prin. of Animal Nutr.	3
Eng. 30—Business English	2	R. S. 10—Introd. to Rural Soc.	3
Free electives	3	Agron. 10—Soils	3
M. S. 6a—2nd Yr. Basic	2	M. S. 6b—2nd Yr. Basic	2
	18		17

JUNIOR YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
F. E. 110—Farm Management	3	F. E. 115—Farm Accounting	3
M. & R. F. 100—Agr. Marketing	3	or	
M. & R. F. 110—Agr. Prices	3	Com. 7b—Prin. of Accounting	3
M. & R. F. 130—Agr. Statistics	3	M. & R. F. 140—Agr. Policy	3
Com. 109a—Business Law	3	F. E. 120—Land Economics	3
Free electives	2	Bact. 52—Prin. of Bacteriology	4
		Electives	4
	17		17

SENIOR YEAR

	Crs.
Electives (minimum) courses in agriculture	10
Electives (minimum) courses in Group A	12
Additional free electives	8
	30

Summary of the Agricultural Economics Curriculum

	Crs.
Required courses in agriculture	44 or 41
Required courses in other colleges	49 or 52
Electives (minimum) courses in agriculture	10
Electives (minimum) courses in Group A	12
Free electives	21
Total	136

Curriculum in Animal Industry Leading to the Degree Bachelor of Science in Agriculture

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
A. I. 1—Farm Livestock Prod.	3	A. I. 41—Farm Poultry Prod.	3
A. I. 21—Farm Dairying	3	Agron. 1—Elem. Farm Crops	3
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Math. 1—Basic Mathematics	3	Zool. 1—Prin. of Animal Biology	4
Chem. 1a—Genl. Chemistry	5	Chem. 1b—Genl. Chemistry	5
or		or	
Chem. 4a—Genl. Chemistry	4	Chem. 4b—Genl. Chemistry	4
M. S. 1a—1st Yr. Basic	2	M. S. 1b—1st Yr. Basic	2
Physical Education	0	Physical Education	0
	19		20

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Bot. 1—Genl. Botany	4	Agron. 10—Soils	3
Econ. 1—Prin. of Economics	3	Fm. Ec. 1—Agr. Economics	3
Chem. 37—Organic Chemistry	4	A. I. 81—Prin. Animal Nutr.	3
Fm. Eng. 1—Mech. of Farmstead	3	Bact. 52—Genl. Bacteriology	4
A. I. 61—Genetics	3	M. S. 6b—2nd Yr. Basic	2
M. S. 6a—2nd Yr. Basic	2	Electives	3
	19		18

FIFTH THROUGH EIGHTH SEMESTER

	Crs.
M. & R. F. 100—Agricultural Marketing	3
Electives in Group A	6
Minimum option requirement (Courses in either Animal Husbandry, Dairy or Poultry, not open to freshmen)	14
Additional courses in Agriculture (Subject to approval of major adviser)	19
Electives	19
Total	136

The following options are available for students in the animal industry curriculum:

Animal Husbandry. The animal husbandry option offers courses in animal breeding, feeding, selection, and management, as well as specialized courses in meats and the production of sheep, swine, beef, cattle, horses, and mules.

Dairy Manufactures. Specialized instruction is offered in processing and marketing milk, butter, cheese, and ice cream, and the relation of microbiology to these products.

Dairy Production. Courses in dairying place special emphasis on technical subject matter as a supplement to practical experience. In this option instruction is offered in breeding, selection, feeding, and management of dairy cattle.

Poultry. The poultry option offers instruction in breeding, culling and selection, incubation and brooding, rearing of chicks, hatchery management, feeding, disease control, and marketing poultry products.

Curriculum in Horticulture Leading to the Degree Bachelor of Science in Agriculture

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Bot. 1—General Botany	4	Bot. 2—Genl. Botany	3
Geol. 3—Elem. Geology	3	Hort. 1—Genl. Horticulture	3
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Math. 1—Basic Mathematics	3	Chem. 4a—Genl. Chemistry	4
Zool. 1—Prin. of Animal Biology	4	or	
M. S. 1a—1st Yr. Basic	2	Chem. 1a—Genl. Chemistry	5
Physical Education	0	Agr. Ent. 1—Agr. Entomology	3
		M. S. 1b—1st Yr. Basic	2
		Physical Education	0
	19		18

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Econ. 1—Prin. of Economics	3	Fm. Ec. 1—Agr. Economics	3
Chem. 4b—Genl. Chemistry	4	Chem. 37—Organic Chemistry	4
or		Agron. 10—Soils	3
Chem. 1b—Genl. Chemistry	5	Agron. 11—Soils Laboratory	2
Agron. 1—Elem. Farm Crops	3	Agron. 23—Plant Pathology	4
Bact. 52—Prin. of Bacteriology	4	M. S. 6b—2nd Yr. Basic	2
Hort. 2—Prin. of Spray Pract.	2		
M. S. 6a—2nd Yr. Basic	2		
	18		18

FIFTH THROUGH EIGHTH SEMESTER

	Crs.
M. & R. F. 100—Agricultural Marketing	3
Group A electives	6
Minimum option requirement (Courses in Pomology and Vegetable Gardening, not open to freshmen)	14
Electives in agriculture (Subject to approval of major adviser)	20
Free electives	21
Total	136

Curriculum in Ornamental Horticulture Leading to the Degree Bachelor of Science in Agriculture

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Art 61—Drawing	3	Art 61b—Drawing	3
Bot. 1—Genl. Botany	4	Bot. 2—Genl. Botany	3
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Agr. Ent. 1—Agricul. Entomology	3	Math. 1—Basic Mathematics	3
		Hort. 1—Genl. Hort.	3
En. Dr. 2—Mech. Drawing	2	1st Yr. Basic	2
M. S. 1a—1st Yr. Basic	2	Physical Education	0
Physical Education	0		
	17		17

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Econ. 1—Prin. of Economics	3	Chem. 4b—Genl. Chemistry	4
Chem. 4a—Genl. Chemistry	4	Agron. 10—Soils	3
Geol. 3—Elem. Geology	3	Agron. 11—Soils Laboratory	2
Fm. Eng. 1—Mech. of Farmstead	3	Fm. Ec. 1—Agr. Economics	3
Hort. 2—Prin. of Spray Prac.	2	Hort. 20—Floriculture	2
M. S. 6a—2nd Yr. Basic	2	M. S. 6b—2nd Yr. Basic	2
	17		16

FIFTH THROUGH EIGHTH SEMESTER	Crs.
Agron. 12—Soil Conservation	3
Agron. 23—Plant Pathology	4
Agr. Ent. 103—Economic Entomology	3
Hort. 120—Landscape Gardening	3
Hort. 121—Adv. Landscape Gardening	3
Hort. 122—Floriculture	2
Hort. 123—Plant Propagation	3
Hort. 124a-c—Special Problems	9
Hort. 125—Plants and Planting Material	2
Free electives	31
Electives in agriculture	7
Total	136

*Curriculum in Vocational Agriculture Leading to the Degree Bachelor of Science in Agriculture

Requirements in the freshman and sophomore years are the same as those in the General Curriculum.

*Also students may qualify to teach vocational agriculture by taking the curriculum in Animal Industry or the curriculum in Horticulture, with the slight adaptation suggested by their adviser. The same education courses will be required as above.

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Courses	Crs.	Courses	Crs.
Fm. Ec. 110—Farm Management	3	Bact. 52—Prin. of Bacteriology	4
M. & R. F. 100—Agric. Marketing	3	Group A electives	6
Group A electives	5	Fm. Eng. 4—Farm Shop	3
Fm. Eng. 3—Farm Structural Eng.	3	Electives	4
Electives	5		
	17		17

SENIOR YEAR

	Crs.
Either Semester: Ag. Ed. 181	15
Ag. Ed. 182	3

Electives, 17 credits in the semester in which education is not taken.

The Group A electives from which 9 credits must be selected are the same as those listed in the General Curriculum.

Summary of the Vocational Agriculture Curriculum

	Crs.
Required courses in agriculture	33
Electives in agriculture (including Farm Engineering 3 and 4)	27
Group A electives	9
Required courses in other subjects (not education)	45
Education	*21
Other credits	1
Total	136

Pre-Professional Programs

Pre-Agricultural Engineering. Students preparing for the field of agricultural engineering may enter the College and take courses which will satisfy the requirements of the first year in most colleges offering the agricultural engineering degree. The prospective student should, upon entering the College, confer with the professor of agricultural engineering regarding courses that will be accepted by the college at which he plans to obtain a degree.

Pre-Forestry. A general two-year plan of study which will satisfy a majority of the requirements of most professional forestry schools is available to students in the College of Agriculture and Home Economics. Advanced work in wood utilization is also available for such students as may choose to remain in the college beyond the sophomore year. The prospective student should consult with the Forestry Section regarding specialized requirements of the college at which he plans to obtain a degree.

* In addition to the 18 credits listed in the senior year, Ag. Ed. 179, Determining Content is to be taken the first 2½ weeks of the summer school.

Pre-Forestry Curriculum

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Bot. 1—General Botany	4	Bot. 2—General Botany	3
Chem. 1a—General Chemistry	5	Chem. 1b—General Chemistry	5
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Math. 17—College Algebra	3	Math. 3—Plane Trigonometry	3
For. 1—Elements of Forestry	3	Agr. Ent. 1—Agri. Entomology	3
M. S. 1a—First Year Basic	2	M. S. 1b—First Year Basic	2
Physical Education	0	Physical Education	0
	20		19

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Chem. 37—Organic Chemistry	4	Agron. 10—Soils	3
For. 10—Elements of Forest Mensuration	3	Agron. 11—Soils Laboratory	2
En. Dr. 1a—Elem. Eng. Draw.	2	Bot. 19—Dendrology	2
Geol. 3—Elem. Geology	3	C. E. 12—Plane Surveying	3
Phys. 51a—Intro. to Physics	3	Eng. 6—Essentials of Speech	3
M. S. 6a—2nd Year Basic	2	For. 20—Seeding and Planting	3
		M. S. 6b—2nd Year Basic	2
	17		18

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 and take the course required for admission to a college of veterinary medicine. The minimum requirement for entrance is two years of college work, some colleges requiring more. In general, the requirements include general chemistry, one year; English composition, one year; introductory zoology, one year; hygiene; and social science, one year. Recommended courses include foreign language, advanced chemistry, history, political science, botany, mathematics, psychology, English literature, speech, physics, and animal husbandry.

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. The short courses planned for 1949 include courses for dairy fieldmen, sheep shearers, and poultrymen.

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 to be 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.

Graduate Work

All departments offer graduate work leading to the degree of Master of Science in Agriculture. The degree of Doctor of Philosophy may be earned in farm economics, markets and rural finance, and rural sociology.

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 136 points. These represent the minimum requirements for graduation. There are six 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 Dean 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 per semester. The maximum load is 23 credits and the minimum load for a full-time student is 12 credits. Transfer students are required to take a minimum of 17 credits of home economics in the University.

The general curriculum in home economics meets the needs of most students and provides the basic requirements for the curricula in major fields. It enables the student to obtain a general

education and at the same time pursue some specialization in a chosen field of home economics. Certain courses are required of all students while others are elective. The courses required for graduation are listed in the order they would normally be taken by students entering in the fall semester; some modification will be necessary for those entering in the spring or summer. Changes in a curriculum to meet specific needs may be made if approved in accordance with the rules of the University Faculty.

General Curriculum in Home Economics Leading to the Degree Bachelor of Science in Home Economics

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Art 30a—Intro. to Art	2	Art 30b—Intro. to Art	2
*Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
H. E. 5—Foods	4	H. E. 6—Foods	3
H. E. 51—Health of Family	3	H. E. 52—Intro. to Child Devel.	4
**Psy. 1a—Intro. to Psych.	3	H. E. 26—Clothing Selection and Costume Design	3
Electives	2	**Soc. 1—Intro. to Sociol. (or)	3
Physical Education	0	R. S. 10—Rural Sociology	3
		Physical Education	0
	17		18

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
*Chem. 4a—Genl. Chemistry or	4	†Chem. 4b—Genl. Chemistry or	4
*Chem. 1a—Genl. Chemistry	5	†Chem. 1b—Genl. Chemistry	5
A. & P. 5—Physiology	3	H. E. 11—Food & Nutrition	3
Econ. 1—Prin. of Econ.	3	H. E. 61—Housing	4
H. E. 25—Textiles	2	Journalism or Oral English	3
Electives	5	Electives	3
	17		17

JUNIOR AND SENIOR YEARS

	Crs.
H. E. 102—Dietetics	3
H. E. 129—Interior Decoration	3
H. E. 154—Family Living	4
H. E. 161—Consumer Problems	3
H. E. 162a, b—Home Management	5
Phys. 51a—Intro. to Phys.	3
Home Economics electives	18
Area electives	24
Free electives	3
	67
Total required for graduation	136

*The requirement in whole or in part for English 1a and 1b may be satisfied without credit by passing a departmental proficiency examination. It is recommended that students deficient in English, as indicated by the freshman tests, take English D (with no credit) before taking English 1a.

**Students deficient in mathematics, as indicated by the freshman tests, are required to pass Mathematics 1 before taking chemistry and should postpone either psychology or sociology.

†Students planning to study advanced chemistry (except Chemistry 37) should take Chemistry 1a and 1b.

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 Decoration; (3) Home Economics Extension; (4) Institution Economics; and (5) Vocational Home Economics.

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.
Basic courses (see general curriculum)	80
Major electives in home economics	18
Select, with the advice of the major adviser, at least 18 credits from this group:	
H. E. 27—Clothing Construction	4
H. E. 150—Tech. of Guidance for Pre-School Child	4
H. E. 152—Child Care and Development	3
H. E. 155—The Child and His Clothing	3
H. E. 156—Play and Play Materials	2
H. E. 157—Infant Development	2
H. E. 158—Infant Nutrition	2
H. E. 159a-c—Special Problems	6
Major electives in supporting fields	24
Select, with the advice of the adviser, at least 24 credits from the following:	
Education	
Sociology	
Psychology	
Library Science	
Free electives	14
Total	136

Curriculum in Clothing, Costume Design, Textiles, and Interior Decoration, Leading to the Degree Bachelor of Science in Home Economics

This curriculum is designed for students who are interested in greater concentration of study than is possible in the general curriculum. Those desiring professional or business careers will find in this curriculum an opportunity to prepare for the teaching of home economics as well as to prepare for careers in commercial fields.

	Crs.
Basic courses (see general curriculum)	80
Major electives in home economics	18
Select, with the advice of the major adviser, at least 18 credits from this group. The ones starred are required.	
*H. E. 27—Clothing Construction	4
*H. E. 125—Adv. Textiles	2
H. E. 126—Adv. Costume Design	3
*H. E. 127—Adv. Clothing	3
H. E. 130—Int. Decoration Projects	2
H. E. 135—Decorative Textiles	2
H. E. 137—Toiloring	2
*H. E. 134—Economics of Clothing	2
H. E. 139—Adv. Interior Decoration	2
H. E. 155—Child and His Clothing	2
H. E. 128a-c—Special Problems	6
H. E. 136a-c—Special Problems	6
Major electives in supporting areas	24
Select, with the advice of the major adviser, at least 24 credits from this group:	
Education, Art, Journalism, Radio, History, Commerce.	
Free electives	14
Total	136

Curriculum in Home Economics Extension Leading to the Degree Bachelor of Science in Home Economics

	Crs.
Basic courses (see general curriculum)	80
Electives in home economics	18
Select with the advice of the major adviser at least 18 credits from the following: (Starred courses are required.)	
H. E. 27—Clothing Construction	4
*H. E. 73—Farm Home Problems	4
H. E. 127—Adv. Clothing	3
H. E. 130—Interior Decoration Projects	2
H. E. 137—Tailoring	2
H. E. 152—Child Care and Development	3
H. E. 175—Rural Community Analysis	3
H. E. 105a-c—Experimental Cookery	3
H. E. 114—Food Preservation	3
Major electives in supporting areas	24
Select, with the advice of the major adviser, at least 24 credits from this group:	
Agricultural Extension, Art, Education, English, Farm Engineering, History, Horticulture, Physical Education.	
Free electives	14
Total	136

Curriculum in Institution Economics Leading to the Degree Bachelor of Science in Home Economics

	Crs.
Basic courses (see general curriculum)	80
Major electives in home economics	18
Select with the advice of the major adviser at least 18 credits from the following:	
*H. E. 41—Institution Marketing	3
*H. E. 42—Institution Foods	4
H. E. 140—The School Lunch	3
*H. E. 141—Institution Org. and Mgt.	3
H. E. 142a—Inst. Administration	2
H. E. 143—Inst. Equipment	3
H. E. 149a-c—Special Problems	6
H. E. 103—Public School Nutr.	3
H. E. 105a—Experimental Cookery	3
H. E. 106—Field Work in Nutrition	4
H. E. 107—Workshop in Nutrition	4
*H. E. 111—Adv. Nutrition	4
*H. E. 112—Nutrition in Disease	4
H. E. 114—Food Preservation	3
Major electives in supporting areas	24
Select, with the advice of the major adviser, at least 24 credits from the following:	
Chemistry, Biology, Psychology, Education.	
Free electives	14
Total	136

Curriculum in Vocational Home Economics Leading to the Degree Bachelor of Science in Home Economics

Requirements in the freshman year are the same as those in the General Curriculum.

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
*Chem. 4a—Genl. Chemistry (or)	4	*Chem. 4b—Genl. Chemistry (or)	4
Chem. 1a—Genl. Chemistry	5	Chem. 1b—Genl. Chemistry	5
A. & P. 5—Physiology	3	H. E. 11—Food and Nutrition	3
Econ. 1—Prin. of Econ.	3	H. E. 61—Housing	4
H. E. 27—Clothing Construction	4	Journalism or Oral English	3
Electives	3	Eng. Elective	3
	17		17

JUNIOR YEAR

H. E. 102—Dietetics	3	Ed. 160—Tech. Teach. H. E.	4
H. E. 127—Adv. Clothing	3	H. E. 162a—Home Manage. Lect.	2
H. E. 129—Interior Decoration	3	H. E. 130—Interior Dec. Proj.	2
H. E. 161—Consumer Problems	3	Bact. 52—Bacteriology	4
Ed. 147—The Secondary School Pupil	2	Elective	3
Electives in history, government, or English	3	H. E. 137—Tailoring (H. E. elec.)	2
	17		17

* Students planning to study advanced chemistry (except Chem. 37) should take Chemistry 1a and 1b.

SENIOR YEAR

	Crs.
*H. E. 162b—Home Management Laboratory	3
*H. E. 175—Rural Community Analysis	3
*Ed. 101—School Organization	3
*Ed. 162—Student Teaching in H. E.	6
*Ed. 165—Adult Ed. in H. E.	3
H. E. 154—Family Living	4
H. E. 140—School Lunch	3
H. E. 114—Food Preservation	3
(Recommended as elective, summer only)	
Electives	5
	33
Total	136

Graduate Work

The Department of Home Economics offers graduate work leading to the degree of Master of Science in Home Economics.

* Must be taken the same semester; either semester in senior year.

DEGREES AND CURRICULA IN THE COLLEGE OF ENGINEERING

Daniel Voiers Terrell, C.E., Dean

INTRODUCTORY STATEMENT

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 investigation will have ample opportunity to engage in work along the lines of their special field of interest.

Admission. 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 must rank in the upper three-fourths on the University placement tests. His high school credits shall include one unit in plane geometry, one-half unit in solid geometry, and one and one-half units in algebra. If

the student lacks only the half unit in solid geometry, he may be admitted, but this subject will be added to the requirements of the freshman year.

Students whose scores on the University classification tests are in the lower one-fourth may enter the College of Arts and Sciences and, if satisfactory progress is made during the year, may be admitted to the College of Engineering.

Courses of Study and Degrees. The College of Engineering offers instruction leading to the following baccalaureate degrees:

Bachelor of Science in Civil Engineering

Option 1—General Civil Engineering

Option 2—Civil Engineering with Special Emphasis on Architectural Engineering

Bachelor of Science in Electrical Engineering

Option 1—Electrical Engineering with Special Emphasis on Communication Engineering

Option 2—Electrical Engineering with Special Emphasis on Electrical Power Engineering

Bachelor of Science in Mechanical Engineering

Option 1—General Mechanical Engineering

Option 2—Mechanical Engineering with Special Emphasis on Aeronautical 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.

Requirements for Graduation. To receive the Bachelor of Science degree in any one of the five branches of engineering a student must meet the following requirements:

(a) Complete a minimum of 140 semester hours with a standing of 1.0, 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.

Graduate Degrees. The College of Engineering offers graduate work leading to the following advanced degrees:

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

The College of Engineering offers to its own graduates the following professional degrees:

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.

Outline of the First Two Semesters of All Engineering Curricula

In order that all students in the College of Engineering may have an opportunity to take some fundamental training before deciding definitely what courses they desire to pursue, the first two semesters of all engineering curricula are essentially the same.

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 1—Introduction to Engineering	0	Assem. 2—Engineering Problems	1
English 1a—English Composition	3	English 1b—English Composition	3
Math. 17—College Algebra	3	Math. 19—Plane Analytic Geometry	3
Math. 18—Plane Trigonometry	3	Chem. 2b.—Genl. Chem. for Engr.	4
Chem. 2a—Genl. Chem. for Engr.	4	Eng. Draw. 1b—Descriptive Geometry	2
Eng. Draw. 1a—Elementary Engineering Drawing	2	*Non-Technical Elective	3
Military Science 1a	2	Military Science 1b	2
Physical Education	0	Physical Education	0
	17		18

Note.—Students expecting to take Mining or Metallurgical Engineering should take Chemistry 1a and 1b instead of Chemistry 2a and 2b.

In lieu of non-technical elective in the second semester of the freshman year, students in Metallurgical Engineering will take Met. Eng. 27, General Elementary Metallurgy, and students in Mining Engineering will take Civ. Eng. 12, Plane Surveying.

Curricula Leading to the Degree of Bachelor of Science in Civil Engineering

For first two semesters, see page 112.

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 3a—Class Society	0	Assem. 3b—Class Society	0
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Physics 3a—General College Physics	6	Physics 3b—General College Physics	6
Civ. Eng. 12—Plane Surveying	3	Applied Mech. 3—Statics	3
Civ. Eng. 18—Mapping and Topographic Drawing	2	Civ. Eng. 16a—Route Surveying	3
*Political Science 51—American Government	3	*English 30—Business English	2
Military Science 6a	2	Military Science 6b	2
	20		20

OPTION ONE
General Civil Engineering

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Applied Mech. 100—Strength of Materials	4	Applied Mech. 4—Dynamics	2
Civ. Eng. 81—Testing Materials	1	Civ. Eng. 171b—Theory of Structures	3
Civ. Eng. 171a—Theory of Structures	3	Civ. Eng. 31—Highway Location, Const. and Maintenance	2
Civ. Eng. 174—Graphic Solutions	2	Mech. Eng. 134—Elements of Engineering Thermodynamics	3
Geology 12a—Elementary Geology for Engineers	3	Geology 12b—Elementary Geology for Engineers	3
Civ. Eng. 49—Railroad Const. and Maintenance	2	Civ. Eng. 173a—Steel Structures	3
Elec. Eng. 101—Fundamentals of Electrical Machinery	3	*Commerce 7a—Principles of Accounting	4
*Econ. 1—Principles of Economics	3		
	21		20

SUMMER TERM

Surveying Camp (6 weeks)

Civ. Eng. 15—General Surveying	3
Civ. Eng. 16b—Route Surveying	3
Civ. Eng. 17—Hydrographic Surveying	1

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Civ. Eng. 110a—Reinforced Concrete	4	Civ. Eng. 110b—Reinforced Concrete	3
Civ. Eng. 114—Advanced Surveying	3	Civ. Eng. 23—Seminar	1
Civ. Eng. 32—Streets and Pavements	2	Civ. Eng. 173b—Steel Structures	2
Civ. Eng. 37—Highway Materials	2	Civ. Eng. 151—Water Supply and Waterworks	2
Arch. Eng. 7—Building Construction	1	Civ. Eng. 152—Sewers and Sewage Disposal	2
Civ. Eng. 120—Hydraulics	2	Civ. Eng. 159—Design and Operation of Waterworks and Sewers	2
Civ. Eng. 123—Hydraulics Laboratory	1	Civ. Eng. 107—Soil Mechanics	3
*Non-Technical Elective	3	*Eng. Adm. 102—Engineering Administration	3
	18		18

*With the approval of the Head of the Department, other subjects may be substituted for these.

OPTION TWO

Architectural Engineering

(Freshman and Sophomore Years same as Option One)

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 3b—Class Society	0
Applied Mech. 100—Strength of Materials	4	Civ. Eng. 171b—Theory of Structures	3
Arch. Eng. 8—Theory of Architectural Design	2	Civ. Eng. 173a—Steel Structures	3
Civ. Eng. 171a—Theory of Structures	3	Arch. Eng. 4a—Architectural Design	3
Civ. Eng. 174—Graphic Solutions	2	Art 30b—Introduction to Art	2
Art 61a—Elementary Drawing	3	Arch. Eng. 5—Building Equipment	2
Arch. Eng. 1—Architectural Rendering	2	*Mech. Eng. 116—Elementary Heating, Ventil., and Air Conditioning	3
Arch. Eng. 7—Building Construction	1	Art 61b—Elementary Drawing	3
Art 30a—Introduction to Art	2	Civ. Eng. 81—Testing Materials	1
	19		20

SUMMER TERM

Surveying Camp—6 weeks

	Crs.
Civ. Eng. 15—General Surveying	3
Civ. Eng. 16b—Route Surveying	3
Civ. Eng. 17—Hydrographic Surveying	1

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Civ. Eng. 110a—Reinforced Concrete	4	Civ. Eng. 110b—Reinforced Concrete	3
Arch. Eng. 4b—Architectural Design	3	Arch. Eng. 6—Independent Problems	4
Elec. Eng. 101—Fundamentals of Electrical Machinery	3	*Econ. 1—Principles of Economics	3
*Civ. Eng. 120—Hydraulics	2	Civ. Eng. 23—Seminar	1
*Civ. Eng. 123—Hydraulics Laboratory	1	*Civ. Eng. 173b—Steel Structures	2
Arch. Eng. 3—Sanitation, Acoustics, Fire Prevention	3	*Elec. Eng. 136—Illumination Engineering	3
*Mech. Eng. 110—Heating and Ventilating Design	1	*Eng. Adm. 102—Engineering Administration	3
*Non-Technical Elective	3		
	20		19

* With the approval of the Head of the Department, other subjects may be substituted for these.

Curricula Leading to the Degree of Bachelor of Science in Electrical Engineering

For first two semesters, see page 112.

SOPHOMORE YEAR

(Common to Communication and Power Options)

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 3a—Class Society	0	Assem. 3b—Class Society	0
Physics 3a—General College Physics	6	Physics 3b—General College Physics	6
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Civ. Eng. 12—Plane Surveying	3	Elec. Eng. 21—Principles of Electrical Engineering	4
Elec. Eng. 11—Electrical Laboratory	1	Applied Mech. 6—Mechanisms	2
Mech. Eng. 15a—Manufacturing Processes	2	Applied Mech. 3—Statics	3
Met. Eng. 26—Engineering Metallurgy	2	Military Science 6b	2
Military Science 6a	2		
	20		21

JUNIOR YEAR

(Common to Communication and Power Option)

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Elec. Eng. 114—A. C. Circuits	4	Elec. Eng. 116—A. C. Machinery	4
Elec. Eng. 115—D. C. Machinery	3	Elec. Eng. 110—Electrical Laboratory	2
Mech. Eng. 134—Elements of Engineering Thermodynamics	3	Elec. Eng. 120—Electrical Circuit Analysis	3
Applied Mech. 100—Strength of Materials	4	Elec. Eng. 161—Electronics	4
Civ. Eng. 81—Testing Materials	1	*Mech. Eng. 108—Internal Combustion Engines	3
Math. C105a—Differential Equations	2	*R. L. 5b—Elementary Spanish	3
*R. L. 5a—Elementary Spanish	3		
	20		19

OPTION ONE

Communications and Electronics Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Elec. Eng. 151a—Seminar	1	Elec. Eng. 151b—Seminar	1
Elec. Eng. 107—Elec. Controls	3	Elec. Eng. 108—Industrial Electronics	3
Elec. Eng. 135—Electrical Networks	4	*Civ. Eng. 120—Hydraulics	2
Elec. Eng. 162—Radio Engineering I	4	*Civ. Eng. 123—Hydraulics Laboratory	1
*English 30—Business English	2	*Eng. Adm. 102—Engineering Administration	3
*Geography 10—Economic Geography Survey	3	Non-Technical Elective	3
Applied Mech. 4—Dynamics	2	Elec. Eng. 164—Radio Engineering II	4
		Elec. Eng. 165—Radio Engineering—Fundamentals of Electric Waves	2
	19		19

*With the approval of the Head of the Department, other subjects may be substituted for these.

OPTION TWO

Electric Power Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Elec. Eng. 151a—Seminar	1	Elec. Eng. 151b—Seminar	1
Elec. Eng. 107—Electrical Controls	3	Elec. Eng. 108—Industrial Electronics	3
Elec. Eng. 135—Electrical Networks	4	*Civ. Eng. 120—Hydraulics	2
*English 30—Business English	2	*Civ. Eng. 123—Hydraulics Laboratory	1
*Geography 10—Economic Geography Survey	3	Eng. Adm. 102—Engineering Administration	3
Applied Mech. 4—Dynamics	2	Non-Technical Elective	3
**Elec. Eng. Elective	4	**Elec. Eng. Elective	6
	19		19
**Elec. Eng. 111—Advanced Electrical Laboratory	1	**Elec. Eng. 124—Electrical Design	2
**Elec. Eng. 117—Advanced A. C. Machinery	3	**Elec. Eng. 136—Illumination Engineering	3
**Elec. Eng. 118—Electrical Power Plant Equipment	3	**Elec. Eng. 137—Electric Power Transmission and Distribution	3
**Elec. Eng. 123—Electrical Equipment Problems	2		

Note.—With approval of the Department a student of high standing and special ability may substitute Elec. Eng. 152 (special problems) or appropriate courses in Physics for as much as 3 semester hours of the required Electrical Engineering credits.

Curriculum leading to the Degree of Bachelor of Science in Mechanical Engineering

For first two semesters, see page 112.

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 3a—Class Society	0	Assem. 3b—Class Society	0
Physics 3a—General College Physics	6	Physics 3b—General College Physics	6
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Eng. Draw. 18—Advanced Engineering Drawing	2	Met. Eng. 37—Adaptive Metallurgy for Engineers	4
Mech. Eng. 15a—Manufacturing Processes	2	Mech. Eng. 15b—Manufacturing Processes	2
Eng. Draw. 12—Graphical Computations	2	Applied Mech. 3—Statics	3
*Psychology 1a—Introduction to Psychology	3	Military Science 6b	2
Military Science 6a	2		
	21		21

* With the approval of the Head of the Department, other subjects may be substituted for these.

** Electric Power Courses (Electives)

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Math. C105a—Differential Equations	2	Mech. Eng. 100a—Machine Design	3
Applied Mech. 2—Mechanisms	3	Mech. Eng. 104b—Engineering Thermodynamics	3
Applied Mech. 7—Dynamics	3	Mech. Eng. 107—Fluid Mechanics	3
Applied Mech. 100—Strength of Materials	4	Mech. Eng. 112—Mechanical Laboratory	2
Mech. Eng. 104a—Engineering Thermodynamics	3	Elec. Eng. 105b—Electrical Engineering Circuits and Machinery	4
Elec. Eng. 105a—Electrical Engineering Circuits and Machinery	4	Civ. Eng. 12—Plane Surveying	3
Civ. Eng. 81—Testing Materials	1	*Sociology 25—Collective Behavior	3
	20		21

OPTION ONE

General Mechanical Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Mech. Eng. 109—Refrigeration	3	Mech. Eng. 105—Power Plant Engineering	3
Mech. Eng. 100b—Machine Design	3	Applied Mech. 107—Mechanical Vibrations	4
Mech. Eng. 114a—Air Conditioning, Heating, and Ventilating	3	Mech. Eng. 114b—Air Conditioning, Heating, and Ventilating Design	3
Mech. Eng. 129—Elements of Heat Transfer	4	Mech. Eng. 108—Internal Combustion Engines	3
Mech. Eng. 113a—Mechanical Laboratory	2	Mech. Eng. 113b—Mechanical Laboratory	2
Mech. Eng. 122a—Seminar	1	Mech. Eng. 122b—Seminar	1
Econ. 1—Principles of Economics	3	*Eng. Adm. 102—Engineering Administration	3
Mech. Eng. 136—Internal Combustion Engine Lab.	1		
	20		19

OPTION TWO

Aeronautical Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Mech. Eng. 130—Applied Aerodynamics	3	Mech. Eng. 135—Experimental Aerodynamics	3
Mech. Eng. 131a—Airplane Design	3	Mech. Eng. 131b—Airplane Design	3
Mech. Eng. 129—Elements of Heat Transfer	4	Mech. Eng. 108—Internal Combustion Engines	3
Mech. Eng. 100b—Machine Design	3	Mech. Eng. 113b—Mechanical Laboratory	2
Mech. Eng. 113a—Mechanical Laboratory	2	Applied Mech. 107—Mechanical Vibrations	4
Mech. Eng. 122a—Seminar	1	Mech. Eng. 122b—Seminar	1
Econ. 1—Principles of Economics	3	*Eng. Adm. 102—Engineering Administration	3
Mech. Eng. 136—Internal Combustion Engine Lab.	1		
	20		19

* With the approval of the Head of the Department, other subjects may be substituted.

Curriculum Leading to the Degree of Bachelor of Science in Metallurgical Engineering

For first two semesters, see page 112.

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 3a—Class Society	0	Assem. 3b—Class Society	0
Math. 20a—Differential Calculus	4	Chem. 21a—Quantitative Analysis	5
Physics 3a—General College Physics	6	Math. 20b—Integral Calculus	4
Met. Eng. 29—Metallurgy of the Ferrous Metals	3	Physics 3b—General College Physics	6
Elective	3	Met. Eng. 128—Metallurgy of Non-Ferrous Metals	3
Military Science 6a	2	Military Science 6b	2
	18		20

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Chem. 140a—Physical Chemistry	3	Chem. 140b—Physical Chemistry	3
Chem. 144a—Physical Chemistry Laboratory	2	Chem. 144b—Physical Chemistry Laboratory	2
Physics 123a—Heat and Thermodynamics	3	Physics 123b—Heat and Thermodynamics	3
Elec. Eng. 101—Fundamentals of Electrical Machinery	3	Elec. Eng. 102—Electrical Machinery	2
Met. Eng. 140—The Science of Metals	3	Met. Eng. 144—Ferrous and Non-Ferrous Metallography	3
Econ. 1—Principles of Economics	3	Met. Eng. 166—Extractive Metallurgy	5
*German 1a—Elementary German	3	*German 1b—Simple Reading and Pronunciation	3
	20		21

SUMMER TERM

(To be taken between Junior and Senior Year)

Met. Eng. 60—Metallurgical Laboratory and Shop Practice	6
Met. Eng. 167—Extractive Metallurgy Plant Practice	2
	8

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Applied Mech. 3—Statics	3	Applied Mech. 100—Strength of Materials	4
Met. Eng. 132—Metallurgical Calculations	5	Met. Eng. 121—Fuel and Metallurgical Laboratory	2
*Phys. 155—Fundamental Atomic and Nuclear Physics	3	Met. Eng. 143b—Physics of Metals	3
Met. Eng. 143a—Physics of Metals	3	Met. Eng. 175b—Seminar	1
Met. Eng. 175a—Seminar	1	Met. Eng. 142—Heat Treatment	3
*German 21a—Readings in Chemical German	3	*German 216—Readings in Chemical German	3
*Commerce 109a—Business Law	3	*Commerce 109b—Business Law	3
	21		19

* With the approval of the Head of the Department, other subjects may be substituted for these.

Curriculum Leading to the Degree of Bachelor of Science in Mining Engineering

For first two semesters, see page 112.

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 3a—Class Society	0	Assem. 3b—Class Society	0
Math. 20a—Differential Calculus	4	Chem. 21a—Quantitative Analysis	5
Physics 3a—General College Physics	6	Math. 20b—Integral Calculus	4
Geology 12a—Elementary Geology for Engineers	3	Physics 3b—General College Physics	6
Met. Eng. 26—Engineering Metallurgy	2	Geology 12b—Elementary Geology for Engineers	3
Elective	3	Military Science 6b	2
Military Science 6a	2		
	20		20

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Applied Mech. 3—Statics	3	Applied Mech. 100—Strength of Materials	4
Met. Eng. 121—Fuel and Metallurgical Laboratory	2	Civ. Eng. 174—Graphic Solutions	2
Min. Eng. 126—Elements of Mining	5	Civ. Eng. 171a—Theory of Structures	3
Econ. 1—Principles of Economics	3	Met. Eng. 166—Extractive Metallurgy	5
Geology 123a—Mineralogy	3	Geology 123b—Mineralogy	3
*R. L. 5a—Elementary Spanish	3	*R. L. 5b—Elementary Spanish	3
	19		20

SUMMER TERM

(Surveying Camp—6 weeks)

Civ. Eng. 15—General Surveying	3
Civ. Eng. 16b—Route Surveying	3
Civ. Eng. 17—Hydrographic Surveying	1
(University Campus—2 weeks)	
Met. Eng. 167—Extractive Metallurgy Plant Practice	2
	9

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Elec. Eng. 101—Fundamentals of Electrical Machinery	3	Elec. Eng. 102—Electrical Machinery	2
Mech. Eng. 134—Elements of Engineering Thermodynamics	3	Civ. Eng. 81—Testing Materials	1
Min. Eng. 127a—Mining Techniques	5	Civ. Eng. 120—Hydraulics Laboratory	2
Min. Eng. 130—Mine Administration	3	Min. Eng. 127b—Mining Techniques	4
Min. Eng. 175a—Seminar	1	Min. Eng. 129—Mine Ventilation and Drainage	5
*Econ. 102—Labor Problems	3	Min. Eng. 175b—Seminar	1
*R. L. 7a—Intermediate Spanish	3	*R. L. 7b—Intermediate Spanish	3
	21		18

*With the approval of the Head of the Department, other subjects may be substituted for these.

DEGREES AND CURRICULA IN THE COLLEGE OF LAW

Elvis J. Stahr, Jr., A.B., B.A. in Jur., B.C.L., M.A. (Oxon.), Dean

The College of Law was organized in 1908 and the first class graduated in June, 1910. The school is co-educational and a number of women have entered and graduated from it. It has been since 1912 a member of the Association of American Law Schools and has, likewise, been approved by the American Bar Association. Nearly two-thirds of the presently approved law schools of the nation have become approved since the College of Law of the University of Kentucky. In order that a school may be approved it must require at least two years of college work prior to entrance; must require three full years of attendance upon classes, and must have an adequate library and a number of full-time teachers sufficient to insure personal acquaintance and influence with the whole student body.

ORDER OF THE COIF

In the spring of 1931, a chapter of the Order of the Coif was established at Kentucky. Out of the many law schools in the nation, 38 have been granted chapters. A chapter is granted upon a consideration of all the factors which tend to make a strong law school such as the standing and ability of the faculty, the comprehensiveness of the library, the quality of teaching and research, the standards of admission, strictness of grading, and other intangible items.

THE KENTUCKY LAW JOURNAL

The Kentucky Law Journal, published by the College of Law since 1912, has become one of the leading legal periodicals published by American law schools. The articles and notes in it have been cited in many books and periodicals and are used by lawyers and courts. Copies of it are mailed to subscribers in all parts of the world. It contains leading articles by lawyers and scholars, notes and case comments by students, and book reviews. The staff is composed of those students who have made a high standing in the law school. The members of the staff each prepare four case notes each year.

THE LIBRARY

The Law Library contains some thirty-five thousand volumes, and includes all the published reports of the courts of last resort

and the side bar reports of every state in the Union, and also the reports of the District of Columbia and Alaska; the United States Supreme Court Reports; the Federal Reports, together with the Reports of the Court of Claims, the Interstate Commerce Commission, the Federal Trade Commission, the N.L.R.B., the S.E.C., the F.C.C., and the Court of Customs and Patent Appeals; the Philippine Reports; the Hawaiian Reports; the Puerto Rican Reports; the Canal Zone Reports; the English Reports; the Canadian Reports; the Irish Reports: sets of the (English) Law Journal, Law Times and Times Law Reports; and sets of Law Times and the Journal of Comparative Legislation (legal periodicals). Some four thousand treatises and textbooks are found in the library as well as the English Statutes, the Canadian Statutes, the Federal Statutes and the Statutes of all of the American states. Likewise, it contains all major legal reference works and sets of annotated cases, together with American digests, including the American Digest System, Supreme Court Digest, the digests of Kentucky and New York, a number of English digests including the English and Empire Digest, and the Shepard's Citator. The Library receives regularly some one hundred legal periodicals, twelve of which are from foreign countries, and has in excess of 1,500 bound volumes of legal periodicals. It also subscribes to several important loose-leaf "services."

One of the most valuable collections in the Library is a large number of volumes and periodicals from the private library of Albert Kocourek. This collection is largely in the field of legal history, legal philosophy, and Roman law, and effort is being made to enlarge it year by year.

THE FACULTY

The choice of the staff has been guided by two considerations: (1) ability to do good teaching, and (2) ability to guide others in the solution of legal problems and to contribute to the knowledge of the law. Thus, there are men who have become expert in the fields of procedure, property, contracts, equity and trusts, commercial law, constitutional law, taxation, labor law, criminal law and procedure, and administrative law. All members of the staff have done graduate work in one or more of the large law schools, and all give at least some time to research. All have had experience in both the practice and the teaching of law.

THE LAW BUILDING

The College of Law is housed in Lafferty Hall, which was completed in 1937 and named for the first Dean of the College. It is built of red pressed brick, glass brick being used in part for two sides of the reading room. The building is modern in architecture, being constructed on modified classical lines. It contains nine offices, three classrooms, a court room, a stack room for reports, a grill room for treatises, a large reading room, and a student

lounge. Various other rooms are provided, such as an office for the Kentucky Law Journal. The building occupies a beautiful location, across the walk and to the northwest of the Margaret I. King Library.

ADMISSIONS

Regular Students. The applicant for admission to the College of Law must have, in addition to the standard high school course that will satisfy the general requirements for admission to the University, at least two years of college credit (sixty semester hours). An academic standing of at least 1.3 (1.0 being a straight "C") or the equivalent, for all pre-law college work, is required. See statement, p. 17.

Pre-Law Work. In order to meet the two years of college credit required for entrance, no special course is prescribed except six semester hours in English. See statement, p. 17. The credits obtained in the two years of college work that are required must be completed in residence and must be sufficient to entitle the holder to admission to the junior class in the College of Arts and Sciences of the University of Kentucky. Not more than ten per cent of the pre-law work necessary for admission may be in non-theory courses. The pre-law work may be taken at the University of Kentucky or at any standard university or college. Students who expect to study law are advised to lay special emphasis on courses in English and accounting. The study of Latin and of at least two of the social sciences is also recommended. Those who would like special advice concerning their work are invited to communicate with the Dean.

In the case of veterans of the recent war who have received an honorable discharge from the service, the resident requirement has been temporarily somewhat relaxed. Such applicants may be admitted if they have completed at least one academic year of study in residence and present a total of sixty semester hours of college work. Veterans may present a total of eight semester hours in military training. In this event, however, no other non-theory courses will be allowed.

CURRICULA LEADING TO THE DEGREES OF A.B. AND B.S. IN COMMERCE COMBINED WITH THE LL.B. CURRICULUM

Inasmuch as the requirements of the law school call for a total of at least five years in college and law school before the degree of LL.B. can be obtained, the attention of the student is particularly called to the fact that with the addition of a single year, making six years in all, he can obtain the degree of B.S. in Commerce and also the degree of Bachelor of Laws. In a similar way the combined curricula in Arts and Sciences and in Law will lead

to the degree of Bachelor of Arts and the degree of Bachelor of Laws. The first year's work in Law is credited toward the B.S. degree in Commerce or the A.B. degree as well as toward the LL.B. degree, and the student may thus obtain his first degree after having been registered one year in the law school and having completed one year's work therein; and two years later, upon completing the two remaining years in Law, he will be granted the degree of LL.B., thus obtaining both degrees in six years.

FIRST YEAR SUBJECTS

Property I
Pleading I
Contracts I
Torts I
Crimes I
Property II
Pleading II
Contracts II
Torts II
Crimes II
Legal Bibliography
Agency
Domestic Relations

SECOND YEAR SUBJECTS

Property III
Constitutional Law I
Equity I
Trial Procedure
Restitution
Negotiable Instruments
Public Utilities
Insurance
Constitutional Law II
Equity II
Municipal Corporations
Evidence
Wills and the Administration of Estates
Damages
Landlord and Tenant
Oil and Gas
Workmen's Compensation

THIRD YEAR SUBJECTS

Corporations
Credit Transactions
Administrative Law
Practice Court
Taxation
Trusts
Legal Research and Writing
Corporations II
Labor Law
Trade Regulation
The Legal Profession
Property IV
Conflict of Laws
Legislation
Creditors Rights
Sales
Federal Procedure
Trusts II
Partnership
Kentucky Practice

SUMMER SESSION

A limited number of courses in law are offered in the summer session of the University. Credit obtained in the summer session is counted toward a degree. One-half semester of credit and of residence may be acquired in each summer session.

LIBRARY SCHOLARSHIPS

A number of scholarships are available for second and third year students having high scholastic standings. $100 or more per year can be earned by a student holding a scholarship, through part-time work in the Law Library.

DEGREES AND CURRICULA IN THE COLLEGE OF EDUCATION

William Septimus Taylor, M.S., Ph.D., LL.D., Dean

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 each student an opportunity to equip himself for the kind of educational work in which he is interested.

Students in elementary education have observation and student teaching in the University Elementary School and in the schools of nearby communities. Students in secondary education 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 the Fayette County Board 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. By earning 9 semester hours in the summer before the internship begins in September, 9 semester hours in each semester during the internship, and 9 semester hours in the summer session following the internship the student can meet the requirements for the degree of Master of Arts in Education.

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 21 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. 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 home economics and who present 17 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.

Distributive Occupations. The George-Deen Act of 1936 provides for the education of teachers of distributive occupations. The University of Kentucky has been designated as the state institution responsible for this service.

TEACHERS' CERTIFICATES

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. The College of Education offers programs to prepare teachers of elementary, junior high, and senior high schools; attendance officers, helping teachers, supervisors, teacher-librarians, elementary principals, high school principals, city superintendents, county superintendents, critic teachers, and other administrative, supervisory, and instructional personnel of schools.

ADMISSION

To be admitted to the College of Education a freshman must rank in the upper three-fourths on the University placement tests. He must possess a healthy body, free from major physical defects. A student transferring to the College of Education from another college on the campus or from another institution must have a standing of at least 1.0 (an average of C on all previous college work). This standing must be maintained if the student is to remain in the College of Education. Any student in another college

of the University who wishes to enroll in professional education courses must have a standing of 1.0.

If a student is deficient in any subject matter area or in any basic skill essential to success in teaching, he is required to make up the deficiency through extra work.

A student is not permitted to enroll for student teaching unless he is classified as a senior or graduate student and can meet the departmental requirements for student teaching. A thorough physical examination by University physicians is required at some time in the semester prior to the student's enrollment in student teaching. Candidates for student teaching are requested to file their applications the semester before they plan to do their student teaching.

REQUIREMENTS FOR GRADUATION

The College of Education grants the Bachelor of Arts in Education degree to students who major in education and select their group work from agriculture, art, biological sciences, business education, English, foreign languages, home economics, library science, mathematics, music, physical education, physical sciences, or social sciences. Students who complete the curriculum for elementary teachers are also eligible for the degree of Bachelor of Arts in Education.

ELEMENTARY EDUCATION

A student who majors in elementary education must complete a total of 128 semester hours, with a standing of 1.0, to be graduated.

		Crs.
I.	General Requirements	
	a. English, including composition, speech, English and American literature	15
	b. Science, including heredity	12
	c. Social Sciences, including American Civilization, Kentucky History, European History, Sociology, and Geography	21
	d. Fine Arts, including public school music and public school art	6
	e. Psychology	6
	f. Nutrition	3
	g. Health and Physical Education	6
II.	Professional Preparation	
	a. Child Growth and the Curriculum	6
	b. Industrial Arts in the Elementary School	2
	c. Teaching Arithmetic in the Elementary School	3
	d. The Teaching of Reading	3
	e. Children's Literature	3
	f. Science in the Elementary School	3
	g. Student Teaching in the Elementary School	12
III.	Electives	27

SECONDARY EDUCATION

A student who majors in secondary education must complete 128 credits with a standing of 1.0 to be graduated. Majors in secondary education have the following options in the choice of curricula leading to certificates: (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 is 48 semester hours (54 semester hours when English is included as a major).

Teaching Majors, Minors, and Areas of Concentration

A major shall consist of 24 credits, except a major in English which shall require 30 semester hours.

A minor shall require 18 credits.

An area of concentration varies with the subjects. Usually it shall be 48 credits unless otherwise specified.

I. General Requirements

	Crs.
a. English, including composition, literature, and speech	12
b. Health, Physical Education, and Safety	6
c. Psychology	6
d. Group requirements	27

Each candidate must present not less than 27 credits distributed among three fields with not fewer than 6 credits in any field. Two of these three groups must be in fields different from the majors and minors or area of concentration. One group may be in the same field but not in the same subject as the major or one minor. The fields from which the 27 credits may be selected are:

Fine Arts
Foreign Language
Mathematics
Philosophy & Psychology
Science
Social Science
Vocational Subjects

II. Professional Preparation

For Subject Matter Majors	Crs.	For Business Education Majors	Crs.	For Art, Music, and P. E. Majors	Crs.
Ed. 35	2	Ed. 16	3	Ed. 16	3
Ed. 16	3	Ed. 104	3	Ed. C44	3
Ed. 101	3	Ed. 158 a	2	*P. E. 60	3
Ed. 105	3	Ed. 158 b	2	Ed. 101	3
St. Tchg.	9	Ed. 105	3	Ed. 105	3
		Ed. 193	9	St. Tchg.	8

Suggested Courses for Undergraduate Majors

Agriculture

		Crs.
Agron. 1	Elementary Farm Crops	3
A. I. 21	Farm Dairying	3
A. I. 1	Farm Livestock Production	3
A. I. 41	Farm Poultry Production	3
Hort. 1	General Horticulture	3
Fm. Eng. 1	Mechanics of the Farmstead	3
Rur. Soc. 10	Intro. to Rural Sociology	3
Fm. Ec. 1	Agricultural Economics	3
Agron. 10	Soils	3
Fm. Ec. 110	Farm Management	3
M. & R. F. 100	Agricultural Marketing	3
Fm. Eng. 3	Farm Structural Engineering	3
A. I. 81	Principles of Animal Nutrition	3
Fm. Eng. 4	Farm Shop	3

Art

Art 30a, b	Introduction to Art	4
Art 61a, b	Elementary Drawing	6
Art 63a	Intermediate Drawing	2
Art 65a, b	Painting	6
Art 142	Modern Art	3
Art 143	Contemporary Art	3
Art 147	Art in America	3
Art 157	Art in Secondary Schools	3

*P. E. majors take P. E. 60 instead of Ed. C44.

Biological Sciences

Botany 1a, b	General Botany	6
Zoology 1	General Zoology	4
A. & P. 2	Elementary Anatomy and Physiology	3
Botany 19	Dendrology	2
Botany 15	Local Flora	3
Zoology 102	Ornithology	3
Zoology 108a, b	Principles of Zoology	4

Business Education

Com. 13a, b	Secretarial Practice, Shorthand	6
Com. 17a, b	Secretarial Practice, Typewriting	4
Com. 14a, b	Advanced Secretarial Practice	6
Com. 7a, b	Principles of Accounting	8
Com. 1	Principles of Economics	3
Com. 11	Salesmanship	2
Com. 18	Filing	1
Com. 19	Office Appliances	1
Com. 101	Secretarial Office Practice	1

Chemistry

Chemistry 1a, b	General Chemistry	10
Chemistry 21a, b	Quantitative Analysis	9
Chemistry 30a	Organic Chemistry	5

Economics and Sociology

Economics 1	Principles of Economics	3
Economics 2	Economic History of Europe	3
Economics 3	Economic History of the United States	3
Sociology 1	Principles of Sociology	3
Sociology 2	Modern Social Problems	3
Sociology 3a, b	Societies Around the World	6
Sociology 109	The Family	3
Sociology 40	The Community	3

English

English 1a, b	Composition	6
English 3a, b	History of English Literature	6
English 123a, b	American Literature	6
English 32	Voice Development	3
English 35	Stagecraft	2
English 6	The Essentials of Speech	3
English 108a	Principles of Literary Criticism	3
English 130b	Comparative Literature	3

Geography and Geology

Geography 2	Regional Geography of the World	3
Geography 10	Economic Geography	3
Geography 22	Climatology	3
Geography 100	Regional Geography of Anglo-America	3
Geography 101	Geography of Kentucky	3
Geology 50a, b	Outlines of Geology	6

History

History 8a, b	European Civilization	6
History 10a, b	American Civilization	6
History 2a, b	History of the British People	6
History 40	History of Kentucky	3
History 145	Russia Since 1900	3
History 147	Recent History of the United States	3

Home Economics

H. E. 5	Foods	4
H. E. 6	Foods	3
H. E. 11	Food and Nutrition	3
H. E. 102	Dietetics	3
H. E. 140	The School Lunch	3
H. E. 26	Clothing Selection and Costume Design	3
H. E. 25	Textiles	2
H. E. 27	Clothing Construction	4
H. E. 127	Advanced Clothing	3
H. E. 51	Health of the Family	3
H. E. 61	Housing	3

H. E. 129	Interior Decoration	3
H. E. 130	Interior Decoration Projects	3
H. E. 162a, b	Home Management and Family Relations	5
H. E. 161	Consumer Problems	3
H. E. 52	Introduction to Child Development	3
H. E. 154	Family Living	3
	Elective in Family Living	3

French

R. L. 1a, b	Elementary French	6
R. L. 2a, b	Intermediate French	6
R. L. 6a, b	French Novel and Drama	6
R. L. 8a, b	French Phonetics	6
R. L. 113a, b	Advanced French Grammar	6

Mathematics

Math. 17	College Algebra	3
Math. 18	Plane Trigonometry	3
Math. 2	Solid Geometry	3
Math. 19	Plane Analytic Geometry	3
Math. 20a	Differential Calculus	4
Math. 20b	Integral Calculus	4
Math. 15	Mathematics of Finance	3
Math. 119	College Geometry	3
Math. 103	Theory of Equations	3

Physics

Physics 1a, b	General Elementary Physics	10
Physics 3a, b	General College Physics	12
Physics 51a, b	Introduction to Physics	6

Physical Education (for men)

P. E. 40	Professional Orientation	1
P. E. 45	Team Sports for Men	2
P. E. 48	Individual Sports for Men	2
P. E. 56	Gymnastics for Men	3
P. E. 60	Physical Education in Elementary School	3
P. E. 61	Field Trip	0
P. E. 70	Training and First Aid	2
P. E. 80	Recreation Leadership	2
P. E. 140	Organization and Administration of Physical Education	3
P. E. 143	History and Principles of Physical Education	3
P. E. 144	Physical Education in Secondary Schools	3

Physical Education (for women)

P. E. 40	Professional Orientation	1
P. E. 46 (or 47)	Fall Team Sports for Women	3
P. E. 49	Individual Sports for Women	2
P. E. 57	Gymnastics for Women	3
P. E. 60	Physical Education in Elementary School	3
P. E. 61	Field Trip	0
P. E. 90	Folk, Tap, and Social Dancing	3
P. E. 140	Organization and Administration of Physical Education	3
P. E. 143	History and Principles of Physical Education	3
P. E. 144	Physical Education in Secondary Schools	3

Political Science

Pol. Sci. 51	American Government	3
Pol Sci. 52	Municipal Government	3
Pol. Sci. 80	State Government	3
Pol. Sci. 170	Political Parties	3
Pol. Sci. 173	Public Opinion	3
Pol. Sci. 172	Kentucky Government and Constitution	3
Pol. Sci. 155a, b	Comparative Government	6

Spanish

R. L. 5a, b	Elementary Spanish	6
R. L. 7a, b	Intermediate Spanish	6
R. L. 9a, b	Spanish Novel and Drama	6
R. L. 10a, b	Spanish Conversation and Composition	6

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 committee. In cases of deficient preparation the committee, with the approval of the Dean, determines prerequisite undergraduate courses to be taken.

The following committees have been designated to guide graduate students in their work toward the master's degree in education.

Area	Committee
Elementary Teachers	Duncan, Ginger, and Spain
Secondary Teachers	
General	Hartford, Dickey, and Sorenson
Agriculture	Hammonds, Tabb, and Wall
Art	Ginger, Haines, and Rannells
Business Education	Musselman, Thomas, Humphreys, and McMurtry
Home Economics	Parker and Sneed
Music	Ginger and Stallings
Physical Education	Ginger, Seaton, Clay, and Gilb
Elementary Principal	Hartford, Duncan, and Spain
Secondary Principal	Cherry, Hartford, and Dickey
Supervisor	Spain, Cherry, and Duncan
Attendance Officer	Meece, Cherry, and Sorenson
Superintendent	Cherry, Meece, and Sorenson

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 and the Dean of the College of Education.

Plan I

1. A minimum of 24 credits of graduate work must be completed and a thesis must be presented.
2. At least 12 credits of graduate work must be in education.
3. At least 12 credits of graduate work must be in courses numbered 200 or higher.
4. At least 36 weeks must be spent in residence at the University of Kentucky as a graduate student.
5. At least one-half of the credit and residence requirements must be met while the student is in full residence at the University of Kentucky.

6. The total number of credits presented in education, undergraduate and graduate, must be at least 30.
7. A standing of 2.0 (an average of B) must be made on all graduate work.
8. Eight semester hours and twelve weeks of residence may be done with the permission of the student's adviser and the dean of the Graduate School in extension classes or in off-campus study.

Plan II

1. A minimum of 30 credits of graduate work must be completed.
2. At least 12 credits of graduate work must be in education.
3. At least 12 credits must be in courses numbered 200 or higher.
4. At least 36 weeks must be spent in residence at the University of Kentucky as a graduate student.
5. At least one-half of the credit and residence requirements must be met while the student is in full residence at the University of Kentucky.
6. The total number of credits presented in education, undergraduate and graduate, must be at least 30.
7. A standing of 2.0 (an average of B) must be made on all graduate work.
8. Ten semester hours and twelve weeks of residence may be done with the permission of the student's adviser and the dean of the Graduate School in extension classes or in off-campus study.

Suggested Graduate Curricula

		Credits
For Superintendents		
Ed. 201	Foundations in Education	5
Ed. 202	Local School Administration	3
Ed. 211	The Administration of Vocational Education	3
Ed. 221a, b	Seminar in Administration	4 each
Ed. 225	Supervision and Instruction	4
Ed. 227	Principles of Curriculum Construction	4
Ed. 229	The Elementary Principal	3
Ed. 231	Business Administration and Finance of Public Education	3
Ed. 232	High School Administration	3
Ed. 245	Organization of Audio-Visual Aids	3
For Principals		
Ed. 201	Foundations in Education	5
Ed. 211	The Administration of Vocational Education	3
Ed. 212	The Elementary School	3
Ed. 225	Supervision of Instruction	4
Ed. 214	The Secondary School	3
Ed. 229	The Elementary Principal	3
Ed. 232	High School Administration	3
Ed. 255a	Guidance and Counseling in Today's Schools	3

For Supervisors and Helping Teachers

Ed. 201	Foundations in Education	5
Ed. 212	The Elementary School	3
Ed. 214	The Secondary School	3
Ed. 225	Supervision of Instruction	4
Ed. 227	Principles of Curriculum Construction	4
Ed. 229	The Elementary Principal	3
Ed. 292a, b	Field Problems in Curriculum and Supervision	4 each

For Critic Teachers on the Elementary Level

Ed. 201	Foundations in Education	5
Ed. 212	The Elementary School	3
Ed. 224	Organization and Supervision of Student Teaching	3
Ed. 225	Supervision of Instruction	4
Ed. 227	Principles of Curriculum Construction	4
Ed. 229	The Elementary Principal	3

For Critic Teachers on the Secondary Level

Ed. 201	Foundations in Education	5
Ed. 214	The Secondary School	3
Ed. 224	Organization and Supervision of Student Teaching	3
Ed. 225	Supervision of Instruction	4
Ed. 227	Principles of Curriculum Construction	4
Ed. 232	High School Administration	3

For High School Teachers Majoring in Education

Ed. 201	Foundations in Education	5
Ed. 214	The Secondary School	3
Ed. 227	Principles of Curriculum Construction	4
Ed. 254	Problems in Educational Psychology	3
Ed. 255a	Guidance and Counseling in Today's Schools	3

For Elementary Teachers Majoring in Education

Ed. 201	Foundations in Education	5
Ed. 212	The Elementary School	3
Ed. 227	Principles of Curriculum Construction	4
Ed. 229	The Elementary Principal	3
Ed. 254	Problems in Educational Psychology	3

For Music Majors

Ed. 201	Foundations in Education	5
Ed. 251	Problems in Public School and Community Music	2
Ed. 252	Field Problems in Music	2
Ed. 253	Independent Work in Music Education	2
Ed. 254	Problems in Educational Psychology	3

For Business Education Majors

Ed. 201	Foundations in Education	5
Ed. 208a	Problems in Business Education	3
Ed. 257a	Seminar in Business Education	1
Ed. 259	The Commerce Curriculum	3
Ed. 255a	Guidance and Counseling in Today's Schools	3
Ed. 271	Administration and Supervision of Business Education	3
Ed. 256	The Social Business Subjects in High School	3

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.

DEGREES AND CURRICULA IN THE COLLEGE OF COMMERCE

Cecil C. Carpenter, M.S., Ph.D., Dean

INTRODUCTORY STATEMENT

Organization. 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.

Bureau of Business Research. 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 field of Commerce or Business Administration provide an understanding of that segment of human behavior which is concerned with securing a living. The 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 cravings 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 special-

ists 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 and in addition must rank in the upper three-fourths on the University placement tests.

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. The Accounting Club and the Secretarial Club foster the discussion of problems related to the fields of accounting and secretarial practice and also sponsor social activities.

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.

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, except under the Industrial-Administration Curriculum which requires 144. The

scholarship standing must be at least 1.0. Unless two units in the ancient or modern foreign languages are offered for entrance, one year of language in college is required for graduation under all curricula except the Industrial-Administration. Regardless of the minimum requirements 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. They are considered basic to all majors or fields of concentration.

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

	Credits
English 1a, and b, English Composition	6
Mathematics 17, College Algebra	3
Economics 2, Economic History of Europe	3
Psychology 1a and b, Introduction to Psychology	6
Commerce 9, Business Organization	3
Hygiene 1, Personal and Community Health	1
Economics 3, Econ. Hist. of U. S., or Econ. 4, Resources and Industries, or Econ. Geography	3
Mathematics 15, Mathematics of Finance	3
Economics 1, Principles of Economics	3
Commerce 7a and 7b, Principles of Accounting	8
Political Science 51, American Government	3
History 4b, Modern Europe Since the French Revolution	3
Biological or Physical Science	6–10
Commerce 10, Principles of Marketing	3
Military Science 1a and b, and 6a and b, 1st and 2nd Yr. Elem.	8
Physical Education	0
Electives	2
	64

JUNIOR AND SENIOR YEARS

English 30, Business English	2
A course in Statistics	3
Commerce 117, Corporation Finance	3
Economics 105, Money and Banking	3
Commerce 109a, and b, Business Law	6
Economics 104, Public Finance	3
Commerce 137, Problems in Management	3
Elective from Advertising, Salesmanship or Marketing	2-3
Elective from Social Science	3
Electives including three Economics and Commerce courses	36
	64

Total credits—128.

BUSINESS-MANAGEMENT CURRICULUM

This curriculum is designed to lay the groundwork for managerial positions in business. The list of required courses, therefore, includes the primary subject matter of a number of businesses as well as the principles of management. Students looking toward managerial positions in industry are advised to take considerable work in physical science in addition to the courses specified, or else follow the Industrial-Administration Curriculum. It is assumed that academic training in management will be supplemented with practical training offered by the business concern.

		Credits	
I.	Basic courses as specified in the General Business Curriculum		90
II.	Additional courses required in the field of concentration:		
	Economics 102, Labor Problems	3	
	Commerce 118, Cost Accounting	3	
	Commerce 131, Investments; or Commerce 154, Real Estate	3	
	Psychology 106, Industrial Psychology	3	
	Commerce 143, Life Insurance; or Commerce 144, Property and Casualty Insurance	3	
	Commerce 145, Office Management	3	
	Commerce 155, Industrial Relations	3	21
III.	Electives including nine credits in Economics or Commerce		17
	Total		128

Suggested electives:

Economics 103, Transportation
Economics 130, Labor Legislation
Commerce 136, Sales Management
Political Science 177a, Principles of Public Administration
Psychology 8, Individual Differences

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. Henee the curriculum includes courses concerned with engineering and the physical sciences in addition to those required in the Business-Management Curriculum.

		Credits	
I.	Basic courses in the General Business Curriculum except Mathematics of Finance and an advanced Marketing elective		76
	(Resources and Industries and Physical Science are included in the list below)		
II.	Additional courses required in the field of concentration:		
	Mathematics 3, Plane Trigonometry	3	
	Chemistry 1a and b, General Inorganic Chemistry	10	
	Mathematics 19, Plane Analytics	3	
	Economics 4, Resources and Industries	3	
	Physics 1a and b or 3a and b, General Physics	10	
	Engineering Drawing 1a, Mechanical Drawing	2	
	Economics 103, Transportation, or Economics 126, Economics of Public Utilities	3	
	Commerce 118, Cost Accounting	3	

	Credits	
Psychology 106, Industrial Psychology	3	
Economics 102, Labor Problems, or 130, Labor Legislation	3	
Commerce 155, Industrial Relations	3	
Economics or Commerce elective	3	
*Electives in Physics, Geology, Chemistry or theoretical courses in Engineering	19	68
Total		144

*Students will select courses under the joint guidance of the Head of the Department involved and the Dean of the College of Commerce.

MARKETING AND ADVERTISING CURRICULUM

The aim of this curriculum is to provide professional training in marketing, merchandising, and advertising. In addition to courses in these fields offered by the College of Commerce, courses offered by the Departments of Psychology, Journalism, Art, and Markets and Rural Finance, are either required or suggested as electives.

	Credits	
I. Basic courses as specified in the General Business Curriculum, except a marketing elective which is included in the list below		88
II. Additional courses required in the field of concentration:		
Journalism 21, Etymology, or elective in English	3	
Commerce 11, Salesmanship	2	
Commerce 20, Principles of Advertising	3	
Commerce 135, Advanced Marketing	3	
Commerce 119, Retail Merchandising	3	
Commerce 136, Sales Management	3	
Commerce 140, Advertising Campaigns	2	
Commerce 149, Market Analysis	3	
Two courses from the suggested list	6	28
III. Electives		12
Total		128

Suggested Electives:

Journalism 114, Newspaper Advertising and Promotion
Journalism 115, Advertising Typography and Layout
Art 29, Advertising Art
Markets and Rural Finance 101, Cooperative Marketing, or other Agricultural Marketing course
A specialized Psychology course
Commerce 143, Life Insurance
Commerce 144, Property and Casualty Insurance
Economics 153, Economics of Consumption
Commerce 154, Urban Real Estate

COMMERCE-LAW CURRICULUM

Emphasis on economics and business administration in pre-law training provides basic principles for analyzing the social problems related to money, business, and labor, as well as for understanding the internal problems of the business concern. This is important because much of the law is concerned with these problems.

The Commerce-Law Curriculum is intended for students who wish to complete the requirements for the two degrees of Bachelor of Science in Commerce and Bachelor of Laws in six years. First-year law subjects are included in the senior year of this curriculum. During the fifth and sixth years the student completes the re-

maining law courses necessary to receive the degree of LL.B. In order to qualify for the two degrees under this program the requirements of the first three years must be completed before entering the College of Law and the student's cumulative standing on his pre-law work must be at least 1.3.

	Credits	
I. Basic courses as specified in the General Business Curriculum except Business Law		84
II. Additional pre-law courses:		
Political Science 80, State Government	3	
Economics 102, Labor Problems	3	
Philosophy or Logic	3	
Two courses in Economics or Commerce	6	15
III. First year Law subjects:		
Property I and II	4	
Pleading I and II	4	
Contracts I and II	6	
Torts I and II	6	
Domestic Relations	2	
Criminal Law and Procedure	4	
Agency	2	
Legal Bibliography	1	29
Total		128

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.

	Credits
I. Basic courses as specified in the General Business Curriculum, except that a year of foreign language may be substituted for a year of mathematics at the option of the student	79

(Other substitutions for courses in the General Business Curriculum are required and are listed below as follows: for Problems in Management, Office Management; for a Social Science elective, Philosophy; for an elective in Statistics, Secretarial Statistics; for an elective in Marketing, Salesmanship.)

	Credits	
II. Additional courses required in the field of concentration:		
Commerce 13a and b, Secretarial Practice, Shorthand	6	
Commerce 17a and b, Secretarial Practice, Typewriting	4	
Commerce 14a and b, Advanced Secretarial Practice	6	
Commerce 151, Secretarial Statistics	3	
Commerce 18, Filing	1	
Commerce 6, Secretarial Accounting	2	
Commerce 11, Salesmanship	2	
Commerce 101, Secretarial Office Practice	1	
Commerce 19, Office Appliances	1	
Commerce 145, Office Management	3	
Commerce 156, Business Reports	2	
Philosophy 21, Introduction to Philosophy; or 51, Ethics	3	34
III. Electives		15
Total		128

A MAJOR IN ECONOMICS

Courses classified under the general head of economics are definitely social science subjects. This fact is recognized by the College of Arts and Sciences which makes provision for students enrolled in that College to major in Economics. Students enrolled in the College of Commerce desiring to major in Economics should pursue the General Business Curriculum and take as electives courses listed under the head of Economics. The electives should include the following courses: 110, Business Cycles; 115, Value and Distribution Theory; 125, Evolution of Economic Institutions; 127, International Economics; 153, The Economics of Consumption.

SPECIALIZATION IN ACCOUNTING

To secure adequate preparation for accountancy the student should follow the General Business Curriculum and take as electives about all the advanced accounting courses offered. Contracts and other law courses are also suggested as electives. The advanced accounting courses are: 106a and b, Intermediate Accounting; 108, Accounting Theory; 113, Auditing; 118, Cost Accounting; 129, Credit and Statement Analysis; 132a and b, C.P.A. Problems; 133, Income Tax Procedure.

Students interested in preparing for public accounting practice should take all of the above courses. Those making a good scholastic record should be prepared to pass a certified public accountant examination. To qualify for the C.P.A. certificate, in addition to passing an examination, it will be necessary to comply with experience and residence requirements. Interested students should, therefore, investigate the requirements of the state in which they wish to practice.

SPECIALIZATION IN STATISTICS

Students planning to prepare for the profession of statistician should pursue the General Business Curriculum and elect advanced courses in mathematics and advanced work in statistics offered by

the College of Commerce and by the Department of Mathematics in the College of Arts and Sciences. The advanced courses dealing with method and theory offered by the College of Commerce are: 142, Index Numbers; 150, Business Statistics; and 210, Research Statistics.

PREPARATION FOR PUBLIC SERVICE

In view of the increased demands from federal, state, and local governments for professional economists and for experts in public finance, accounting, marketing, statistics and personnel management, students should consider the possibility of preparing for public service careers. In addition to some concentration in a field of economics or business administration, preparation for government service should include certain courses in Political Science, especially Political Science 177a and b, Principles of Public Administration. Interest in personnel management logically calls for the inclusion of certain courses in Psychology. Preparation for foreign service should include various courses in economics, political science and history, dealing with international relations. Foreign languages are indispensable. Faculty advice should be sought in formulating a satisfactory program.

OTHER COMBINATIONS

In addition to fields of specialization and combinations of subject matter outlined above, students pursuing the General-Business and Secretarial Curricula can utilize their electives so as to combine a business-training program with other fields of study. Following are some suggestions: (1) Agriculture, (2) Journalism, (3) Courses in Chemistry, Zoology, Physiology and Bacteriology in preparation for medical-secretarial positions, (4) Social Welfare Work, (5) any Liberal Arts group. Students interested in such programs should seek faculty advice concerning the courses that will best meet their needs.

GRADUATE PROGRAM

For a statement of departmental requirements for the degrees of Master of Arts and Doctor of Philosophy in economics and commerce the student is referred to the Bulletin of the Graduate School.

DEGREES AND CURRICULA IN THE COLLEGE OF PHARMACY

Earl Platt Slone, Ph.G., B.S., Dean

INTRODUCTORY STATEMENT

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.

On July 1, 1947, the College became one of the divisions of the University of Kentucky. It is located at First and Chestnut Streets, Louisville, Kentucky. The freshman year of the curriculum in Pharmacy, however, will be given at the Lexington campus of the University, as a part of the program of the College of Arts and Sciences. Those who transfer to Louisville for the professional courses will be selected from the highest ranking applicants who have completed the freshman year at the University or elsewhere. Because of the limited capacity of the College, admission to the sophomore class is restricted to sixty students each year.

The College is fully accredited by the American Council on Pharmaceutical Education and was admitted to membership in the American Association of Colleges of Pharmacy in 1917.

ROOM AND BOARD—Students planning to come to Louisville should make arrangements for living quarters prior to matriculation. The Y. M. C. A. and Y. W. C. A. have been very cooperative in placing the students. Meals may be had in private homes or in the cafeterias in the city.

PLACEMENT ACTIVITIES—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.

CURRICULUM—The faculty of the College of Pharmacy is not in favor of specialization for the undergraduate student. The College has kept a steady pace with the progress of pharmacy and a course of study has been formulated which is thorough and comprehensive, embracing all the branches required in a complete pharmaceutical education.

The work performed by each student in the laboratories and dispensing department is arranged to insure not only a scientific training, but one that is thoroughly practical as well. Moreover, through the training received, the student is fitted to take up work in all phases of pharmacy and public health.

LIBRARY—The student has the complete use of the University of Kentucky Library, fifth largest library in the south, plus the College library of 3000 volumes and pharmaceutical journals.

Requirements for Graduation

The degree of Bachelor of Science in Pharmacy is offered on completion of a minimum of 140 credits, with a standing of 1.0, exclusive of the required Military Science and Physical Education.

FRESHMAN YEAR
(Given at the Lexington Campus)

First Semester	Crs.	Second Semester	Crs.
Chem. 1a—General Chemistry	5	Chem. 1b—General Chemistry	5
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Bot. 1—General Botany	4	Bot. 2—General Botany	3
Math. 5—College Algebra	5	Math. 3—Plane Trigonometry	3
Mil. Sci. 1a—Military Science	2	Zool. 25—General Animal Biology	4
Physical Education	0	Mil. Sci. 1b—Military Science	2
	19	Physical Education	0
			20

SOPHOMORE, JUNIOR, AND SENIOR YEARS
(Given at the Louisville Campus)

SOPHOMORE YEAR

Third Semester	Crs.	Fourth Semester	Crs.
Phar. 21—Theoretical Pharmacy	4	Phar. 22—Practical Pharmacy	4
Chem. 31a—Organic Chemistry	5	Chem. 31b—Organic Chemistry	5
Chem. 23a—Physics	3	Chem. 23b—Physics	3
M.M. 11a—Anatomy and Physiology	3	M.M. 11b—Anatomy and Physiology	3
Phar. 26—Pharmaceutical Calculations	3		15
	18		

JUNIOR YEAR

Fifth Semester	Crs.	Sixth Semester	Crs.
Phar. 23a—Pharmaceutical Preps.	5	Phar. 23b—Pharmaceutical Preps.	5
*Chem. 33—Quantitative Analysis	5	*Chem. 102—Biochemistry	4
M.M. 27a—Pharmacognosy	3	M.M. 27b—Pharmacognosy	3
M.M. 131a—Bacteriology	3	M.M. 131b—Bacteriology	3
	16		15

SENIOR YEAR

Seventh Semester	Crs.	Eighth Semester	Crs.
Phar. 111a—Dispensing Pharmacy	5	Phar. 123—New and Modern Phar.	3
Phar. 122—U.S.P. and N.F. Drugs	3	Phar. 111b—Dispensing Pharmacy	5
Chem. 103a—Adv. Quant. Phar. Chem.	4	Chem. 103b—Adv. Quant. Pharm. Chem.	4
M.M. 137a—Pharmacology	5	M.M. 137b—Pharmacology	5
Phar. 125a—Pharmaceutical Juris.	3	Phar. 125b—Pharmaceutical Juris.	3
	20		20

Suggested Electives:

Phar. 31a, b—Drug Store Management	4
M. M. 133a, b—Hygiene and Public Health	2
Phar. 25—Pharmaceutical Economics	3

Under certain conditions the following elective may be selected:

Chem. 101a, b—Adv. Organic Pharmaceutical Chem.	6

State Board Examination and Experience Requirements

Before being eligible to enter practice, a Pharmacist must be registered by his Respective State Board. In order to qualify for this certificate, and at the same time establish broad eligibility for reciprocal licensure thereafter, the graduate of an accredited college should not make application for taking the complete or final Board examination before attaining the age of 21 years.

The graduate should also acquire at least twelve months of practical experience under the supervision of a licensed pharmacist in accordance with Board of Pharmacy regulations, but in no instance should the calendar time of experience be concurrent with the calendar time of enrollment in the College. The total time of enrollment in the College plus time spent in acquiring practical experience should qualify forty-eight calendar months.

National Professional Fraternities

Chapters of three national, professional Greek letter fraternities are on the campus at Louisville; Alpha Zeta Omega, Kappa Psi, and Phi Delta Chi. Membership in these is open to those students having attained high scholarship with qualities on leadership.

DEGREES AND REQUIREMENTS IN THE GRADUATE SCHOOL

Louis Arthur Pardue, M.S., Ph.D., Dean

INTRODUCTORY STATEMENT

Graduate work is offered in all colleges in the University. Approximately a thousand courses are listed in the catalog, under the various departments, which are accepted for graduate credit.

The following advanced degrees are conferred by the University:

Master of Arts
Master of Science
Master of Science in Public Health
Master of Science in Agriculture
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
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
Doctor of Education (Ed.D.)
Doctor of Philosophy (Ph.D.)

The degree of Doctor of Philosophy is offered with major work in the following departments: Agricultural Economics, Bacteriology, Chemistry, Education, Economics, English, History, Mathematics, Physics, Psychology, Political Science, Romance Languages, and in the combined fields of Sociology and Rural Sociology. Minor work may be carried in any department offering graduate courses.

ADMISSION

A student who is a graduate of a fully accredited institution of higher learning may be admitted to the Graduate School by the Registrar of the University by submitting an official transcript 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.

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 an undergraduate major.

If the record submitted to the Registrar entitles the applicant to admission, he should confer with the Dean of the Graduate School about general requirements and his major professor concerning detailed requirements that he may have to satisfy.

GENERAL REQUIREMENTS FOR ALL ADVANCED DEGREES

Courses. All courses listed in the regular University catalog which have numbers above 100 may be counted as credit toward a graduate degree, provided that courses numbered from 100 to 199 may be counted only with the approval of the student's graduate committee. A course completed with a grade of D will not be given graduate credit.

Residence. A load for full-time residence comprises a minimum of 9 semester hours of graduate course work. 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 but the amount of residence for part-time work is limited, except for graduate assistants and part-time instructors, to not more than six weeks in any one semester. These receive one and one-half weeks of residence per semester hour. 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.

Fees. Registration fees per semester are the same as for undergraduate students in the college in which the major work is done, that is, $57.00 for residents of Kentucky; $87.00 for non-residents who registered before September 1, 1947; $115.00 for those who registered after September 1, 1947. Part-time graduate students non-residents pay $13.00 per semester hour. See page 146 for graduation fees.

GENERAL REQUIREMENTS FOR ALL MASTER'S DEGREES

Transfer of Credits. No transferred credits are accepted toward any master's degree in course, however, a student is not asked to repeat a course which he has satisfactorily completed at another institution.

Extension. Under certain conditions, up to one-third of the credits and residence required for any master's degree in course may be satisfied by extension courses given in person by University of Kentucky instructors.

M.A. or M.S. Degree. Whether a candidate selects a Master of Arts or a Master of Science degree is left to the option of the candidate and his major department. In general it may be said that candidates with major work in the natural sciences should take the M.S. degree; others the M.A.

Examinations. A final oral examination is given all candidates for the master's degree in course, not later than fifteen days before the close of the semester. The Dean of the Graduate School appoints an examining committee of at least three members for the purpose, selecting its 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.

Fees. Before any master's degree is conferred a commencement fee of $20.00 must be paid at the Comptroller's Office of the University. For the doctorate the fee is $25.00.

REQUIREMENTS FOR THE DEGREES OF MASTER OF ARTS AND MASTER OF SCIENCE

Credits. The candidate shall complete 24 semester hours of graduate work in course with a standing of 2.0 in addition to other courses which may be assigned by his adviser.

Courses. 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.

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. A thesis is required of every candidate. Two typewritten copies of the thesis, approved by the professor in charge and in a form acceptable to the Graduate School, must be presented

not later than three weeks before the last day upon which grades may be reported to the Registrar's Office. **Information about this thesis deadline date may be obtained from the Graduate School Office.** One copy is presented to the Dean of the Graduate School to be bound and placed in the University Library and the other to the major professor to be retained by the department concerned.

Language Requirement. 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.

REQUIREMENTS FOR THE DEGREES OF MASTER OF ARTS IN EDUCATION AND MASTER OF SCIENCE IN EDUCATION

The professional degree of Master of Arts in Education is open to students who have received the degree of A.B., or A.B. in Education, and the professional degree of Master of Science in Education is open to students who have received the degree of B.S., or B.S. in Education.

Two plans are provided for satisfying the requirements for either of these degrees, as follows:

1. Twenty-four credits in graduate courses, exclusive of the thesis, with an average standing of 2.0, or better, one academic year (36 weeks) in residence, and an acceptable thesis. No course completed with a grade below C may be counted.
2. At the option of the department (not of the student) the master's degree in education may be granted upon the completion of 30 semester hours in graduate courses with an average standing of 2 or better, 36 weeks in residence, and no requirement of a thesis.

There is no language requirement for either of the professional degrees in education. No student may satisfy more than one-half of the requirements for advanced degrees in the College of Education by part time work.

REQUIREMENTS FOR THE DEGREES OF MASTER OF SCIENCE IN AGRICULTURE AND MASTER OF SCIENCE IN HOME ECONOMICS

Students holding a bachelor's degree from a standard agricultural college may obtain the degree of Master of Science in Agri-

culture 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 2 or better, 36 weeks in residence, and a thesis, or the completion of 36 semester hours of graduate work with a standing of 2 or better, 45 weeks in residence, and no thesis requirement.
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 15 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 same.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN PUBLIC HEALTH

Students 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 2 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 masters' degrees in engineering may be obtained by satisfying the following requirements:

Twenty-four credits in graduate courses, with an average standing of 2.0 or better, one academic year (36 weeks) in residence, and an acceptable thesis. No course completed with a grade

below C may be counted. There is no language requirement for these degrees.

The candidate must hold the corresponding bachelor's degree or its equivalent in engineering from this institution or from another engineering school of recognized standing. The degrees offered are 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 degree of 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 a graduate of the University of Kentucky, College of Engineering, who presents satisfactory evidence of professional work of creditable quality in the engineering field of his choice, extending over a period of five years, and who submits a satisfactory thesis as further evidence of his 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 Graduate Committee of the College of Engineering 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 references the names of at least three persons who are familiar with his engineering work. Preferably these persons should be connected with the organizations by which 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 the 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.

The candidate holding a bachelor's degree in one field of engineering may apply for the 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 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, passes the required examination in the subjects, presents a satisfactory dissertation, and is deemed worthy of recognition as a scholar of high attainments in his chosen province.

The Doctor's degree is intended to represent not a special 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 his special field of learning and a marked capacity for research.

Admission. Admission to the Graduate School and acceptance of advanced credits from other institutions must first be approved by the Registrar who will determine at the time of admission the amount of residence to which the applicant is entitled toward the degree of Doctor of Philosophy. No work is credited which has not been done in a college or university of recognized standing.

In order to be accepted as an applicant for the Degree of Doctor of Philosophy, the student must present, to the Registrar, evidence that he has completed an undergraduate curriculum and has received his baccalaureate degree from a fully accredited institution.

Classification. A student wishing to become an applicant for the Doctor's degree must first regularly register in the Graduate School of the University of Kentucky and must then classify with the Dean of the Graduate School. The student is expected to select his major professor as early as is practicable. He should then apply to the Dean of the Graduate School to have a special committee appointed. The special committee, the chairman of which shall be his major professor, will consist of members of the departments in which the applicant elects to do his major and minor work and this committee will supervise his work throughout his period of study.

Not every applicant for the Doctor's degree is a candidate. A student is not a candidate for the degree until he has satisfied the language requirements and passed the qualifying examinations at the University of Kentucky.

Courses of Study. Every applicant for the degree must select one major and at least one and not more than two minor subjects.

The major subject should be one on which he intends to concentrate his efforts; the minor subjects should be closely allied to

the major field or be subjects which will be of value in the major work and should be approved by the major department.

The applicant's principal work must be in the major subject. Although no absolute regulations are laid down in respect to the time to be devoted to the major and minor subjects it may be stated in general that the major subject should represent two-thirds of the student's entire time.

Any regular graduate course may be assigned as part of the applicant's work by his special committee. Only courses numbered above 100 in the University catalog are considered as of graduate status. The number and extent of such courses is determined by the special committee.

Residence. A minimum of three collegiate years of resident graduate work, of which at least the last year must be spent at the University of Kentucky, is required for the doctorate. The full time of each of these years must be spent in study. Part-time students and those holding assistantships or engaging in other outside activities will of course be required to take a proportionately longer time.

While it is expected that a well-prepared student of good ability may secure the degree upon the completion of three years of study, it should be understood that this time requirement is a minimum and is wholly secondary to the matter of scholarship. Neither time spent in study, however long, nor the accumulation of facts, however great in amount, nor the completion of advanced courses, however numerous, can 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 who will recommend what languages are to count. The language requirements must be satisfied before the applicant can be admitted to the qualifying examination.

Qualifying Examination. Applicants for the degree of Doctor of Philosophy are required to pass a qualifying examination. This examination should be taken during the second semester of the second year of residence but in no case before the special committee has recommended that the applicant is ready for the examination. The examination shall be both oral and written and shall cover both major and minor subjects. It shall be prepared and given to the applicant by the special committee. **No applicant**

may proceed to his final examination until one year of work has been completed in residence after he has passed the qualifying examination. If the applicant fails to pass the qualifying examination, no re-examination shall be allowed except upon the recommendation of the special committee and the approval of the Graduate Dean. If the applicant passes the qualifying examination he is then considered a candidate for the degree.

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. Two bound typewritten copies of the thesis and two copies of an abstract of not less than 1,200 nor more than 3,000 words must be formally presented to the Dean of the Graduate School at least three weeks before the final date on which the Registrar's Office will receive grades of candidates for degrees at the next commencement. **Information regarding this deadline date may be obtained from the Graduate School Office.**

Printing of Dissertation. One hundred printed copies of the dissertation must be presented to the University within one year from the time when the degree is conferred. Not later than one week before the conferring of the degree the candidate must deposit with the Comptroller of the University the sum of $50.00, this amount to be returned if the printed copies are received within the time specified. The University does not obligate itself to publish the thesis, but if in the judgment of the Graduate Committee the thesis or an abstract of same should be published, the University reserves the privilege of so doing.

Or

The candidate may have the dissertation printed at his own expense, in which case he must present one hundred copies to the University before the degree is granted. If the candidate has the dissertation printed at his own expense, he will be expected to use good substantial paper and sightly typography. A page four by six inches with outside margin of at least one inch is recommended. The dissertation must have a cover and title page and the latter, in addition to the title and the name of the author, must bear the following inscription:

> **A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the University of Kentucky.**

If the dissertation is published in a technical journal or other recognized educational publication, the reprints will be accepted if presented with special printed covers and proper title page.

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 examination by a committee of five members which shall include the head of the major department or his delegate presiding, one additional professor selected by the major department, one professor selected by each of the minor departments and additional members (to make the total of five) selected by the Dean of the Graduate School. The President of the University and the Dean of the Graduate School are ex officio members of all examining committees.

The final examination shall not be held until at least one year has been spent in residence after the student has been accepted as a candidate for the degree.

The completion of three years of residence work confers no right upon the student to be so examined.

Recommendations. After the final examination has been passed, the name of the candidate will be presented to the University Faculty for recommendation to the Board of Trustees for the degree of Doctor of Philosophy in course.

REQUIREMENTS FOR THE DEGREE DOCTOR OF EDUCATION

The requirements for the degree of Doctor of Education are exactly the same as those for the degree of Doctor of Philosophy with the following exceptions:

1. No languages are required for the Ed.D. degree.
2. A total of 72 semester hours are required of which at least one-third and not more than one-half must be in departments outside the College of Education.

FELLOWSHIPS AND SCHOLARSHIPS

The University of Kentucky offers the following graduate fellowships and scholarships for the encouragement of research and advanced study:

The Margaret Voorhies Haggin Trust
Fellowships and Scholarships in
memory of her father, George Voorhies

Four University fellowships with a stipend of $500.00 each.

Fifteen University scholarships with a stipend of $400.00 each.

The primary object of these appointments is to stimulate research and not to give pecuniary aid. Scholars and fellows 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 such duties for extra pay. The award is paid in ten equal monthly installments and does not include a remission of tuition or other University fees. The appointments are made for one year only but may be renewed if it can be shown that the prosecution of research should continue.

These fellowships and scholarships are open to students who hold a bachelor's degree from a college or university in good standing, provided the student has shown some special aptitude for the line of work he desires to pursue. No student should apply for the award who does not cherish a real and earnest desire to do research work.

Forms for making application may be secured from the Dean of the Graduate School and must be submitted not later than March 25.

GRADUATE STUDENTS NOT CANDIDATES FOR DEGREES

Graduate students who are not candidates for advanced degrees are not required to designate major or minor subjects but may elect their work with a view to the special purpose 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 upon the same conditions that are imposed upon those who are candidates for degrees.

Should a graduate student who has not arranged for his work with a view of obtaining a degree, subsequently desire to become a candidate for a degree, the amount of credit he is to receive for work already done will be determined at the time he applies for admission to candidacy for the degree.

No work is given graduate credit unless the student was enrolled in the Graduate School at the time during which the work was taken.

DEPARTMENT OF UNIVERSITY EXTENSION

Louis Clifton, M.A., Director

The University of Kentucky, through its Department of University Extension, brings to Kentuckians the benefit of its instructional and research programs. The state of Kentucky is the campus of the University of Kentucky.

Services of the Extension Department include classes either credit or non-credit taught in any community where a sufficient enrollment is assured; home study courses of both college and high school level are available by mail. Speakers for special occasions and in specialized fields, forums, clinics, short courses, publications, library service, films and slides are made available to organizations, groups, and individuals. Music and speech festivals for motivating high school pupils in those fields are provided.

The Department of University Extension operates through bureaus as follows:

1. Bureau of Correspondence and Class Study.—Offers college courses in Botany, Economics, Education, English, French, Geography, German, Greek, Italian, Latin, Hygiene, Mathematics, Philosophy, Political Science, Psychology, Social Work, Sociology, and Spanish; courses in high school subjects; and a course in Citizenship for Aliens.
2. Bureau of Club and Community Service.—Furnishes club programs and package library materials as well as helps for organizations and individuals. Offers single lectures or a series of lectures; speakers for teacher's meetings, commencement addresses, memorial and dedication exercises, civic and women's clubs, etc. Acts as a clearing house for inquiries of the people of the state in general matters.
3. Bureau of School Relations.—Provides assistance in debating and other forensic activities to the schools, and encouragement of vocal and instrumental music. This service is given chiefly through the Kentucky High School Forensic League and the Kentucky High School Music Festival.
4. Bureau of Audio-Visual Materials.—Furnishes educational motion picture films and other visual aids service to schools and clubs.
5. University of Kentucky Press.—The Department of University Extension acts as the distributor for the publications of the University of Kentucky Press. A list of these publications will be sent on request.

Separate bulletins for each of these bureaus are available.

PART III

STATEMENT OF COURSES OFFERED AT THE UNIVERSITY

Courses numbered 1 to 99, inclusive, may be taken for credit only by undergraduate students. Courses numbered 100 to 199, inclusive, may be taken for credit by juniors, seniors, and graduate students, provided that a course so numbered may carry graduate credit only with the approval of the student's graduate committee. Courses numbered 200 or above are open only to graduate students. The first half of a year's course is indicated by the letter a and the second half by the letter b. Seminar courses and independent or individual work courses in which more than two semesters' work may be assigned, are indicated by letters a, b, c, d, etc.

In the statement of courses the number of the course is given first, followed by the descriptive title. The credit in semester hours is indicated by a number in parentheses, thus (4); the first, or fall semester is indicated by I, the second, or spring semester by II, and the summer session by S. Thus, German 1a, Elementary German (3) I, II, S, is an undergraduate course giving three semester hours and offered in both semesters and the summer session.

STATEMENT OF COURSES

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COLLEGE OF ARTS AND SCIENCES

AGRICULTURE

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

ANATOMY AND PHYSIOLOGY

Richard Sweetnam Allen, Joseph William Pryor, James William Archdeacon, Ralph Winston Stacey and Mary Purcell Wiedeman.

UPPER DIVISION REQUIREMENTS—Junior and Senior Years

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Biological Sciences during the junior and senior years, including the major work. **Requirements for a Major. Prerequisites:** A. & P. 10; Zoology 1; Botany 1; Physics 1a and 1b; Chemistry 1a and 1b. **Required:** A minimum of 4 elective credits of advanced work in Anatomy and Physiology plus A. & P. 107, 108, 109, and 116a and b, and passing a comprehensive examination in senior year.

***2 ELEMENTARY ANATOMY AND PHYSIOLOGY.**
(3) I, II, S Wiedeman
The course is designed to present to the student who has no scientific background a thorough survey of the arrangement and general functions of the various systems that make up the human body. Lecture, three hours.

4 ELEMENTARY ANATOMY. (5) I, S. Allen and Wiedeman
This course is arranged especially for students who are majoring in Physical Education; open to others. The muscles of a lower animal are dissected and carefully studied with respect to their relations with the bones of the animal's body. The results of the dissections are compared with the corresponding structures and arrangements found in the human body. This will be accomplished by means of charts and skeletons of the human being. Lecture and recitation, two hours; laboratory, six hours. **Prerequisite: Sophomore standing and Zoology 25.**

5 ELEMENTARY PHYSIOLOGY. (3) I, II Wiedeman
Emphasis in this course is placed upon the physiology of muscle, circulation, respiration, digestion and absorption, energy metabolism, and excretion. Other subjects of the science will also be considered but not in great detail. Lecture, three hours; laboratory, two hours. Not available to students who have had A. & P. 10. **Prerequisite: Home Economics or Physical Education Curriculum.**

6a GENERAL ANATOMY AND PHYSIOLOGY FOR NURSES
(3) I, S Wiedeman
The subject is designed to meet the requirements of those who

are in training, and includes a general survey of the following: physico-chemical phenomena of protoplasm; general structure of the body: osteology; myology; the nervous system and special senses. Lecture and recitation, three hours; laboratory, two hours. **Prerequisite or concurrent: General Chemistry.**

6b GENERAL ANATOMY AND PHYSIOLOGY FOR NURSES.
(3) II Wiedeman
This is a continuation of 6a and will cover the following subject matter: the vascular system; the respiratory system; gastro-intestinal tract; digestion and absorption of foods; organs of excretion; heat production and the regulation of the body's temperature; and the reproductive system. Lecture and recitation, three hours; laboratory, two hours. **Prerequisite: 6a.**

10 GENERAL PHYSIOLOGY.
(5) I, II, S Allen, Archdeacon, Stacy, and Wiedeman
This course is arranged for all students who are majoring in the natural or physical sciences and develops the study of the various systems of the human body comparatively with that of lower animal as well as plant life. Physical and chemical fundamentals are emphasized throughout. Lecture and recitation, three hours; laboratory, four hours. Not available for credit to students who have A. & P. 5. **Prerequisite: Chemistry 1a and 1b; Physics 1a and 1b. Physics may be taken concurrently.**

103a-d INDEPENDENT WORK IN ANATOMY. (3 ea.) I, II, S Staff
The pursuit of some advanced problems in anatomy under the direct supervision of the instructor. Discussion period, one hour; laboratory, six hours. **Prerequisite: A. & P. 10 or the equivalent.**

104a-d INDEPENDENT WORK IN PHYSIOLOGY. (3 ea.) I, II, S Staff
A study of some advanced problem in physiology under the direct supervision of the instructor. Discussion period, one hour; laboratory, six hours. **Prerequisite: A. & P. 10 or the equivalent; Chemistry 1a and 1b.**

105 ARCHITECTURE OF THE HUMAN SKELETON.
(4) II, S Allen
This course is designed for the student who anticipates further advanced study in anatomy and physiology, for students of anthropology, for students in art, and for those who are preparing for the study of medicine. The study begins with the development of the skeleton joints. This is followed by the process of ossification and the histology of bones. Each bone is studied in detail; organized demonstrations are given with architecture and function being stressed. Variations in the skeleton are considered. When possible, the bone is compared with that of the lower vertebrates. The physiology of the bone, joint, and muscular relations is studied in detail. Lecture, one hour; laboratory, six hours. **Prerequisite: Junior standing.**

106 INTRODUCTION TO ENDOCRINOLOGY.
(3) I, S Allen, Archdeacon, and Stacy
An introductory study of the glands of internal secretion or endocrine glands in which general development, anatomical location and structure, and fundamental functions of the organs will be presented. The purpose of the course is to give a general knowledge that will be of value, not only to the student of anatomy and physiology and related subjects, but also to those

of educational and sociological interest. Lecture and recitation, four hours. **Prerequisite: A. & P. 10 or the equivalent; Zoology 7b; Chemistry 1a and 1b; and the Instructor's consent.**

107 COMPARATIVE NEURO-PHYSIOLOGY. (4) II Allen
An introduction to the anatomy and physiology of the nervous system. The aim of the course is to provide an introductory laboratory course on the form, structure, and functional arrangements of the nervous system for students of biology, physiology, psychology, and those preparing for the study of medicine. The work of the course includes a careful study of the nervous systems of vertebrates. The simpler types of nervous systems are compared with that of man. The development of the various reflexes is considered. The relation of the structure of the nervous system to psychological reactions is studied. Lecture and recitation, one hour; laboratory, six hours. **Prerequisite: A. & P. 10 or the equivalent.**

108 THE PHYSIOLOGY OF CIRCULATION AND RESPIRATION. (3) II, S Stacy
(Required of departmental majors and graduate students)
Comprehensive study of the chemical and physical bases of respiration and circulation. Emphasis is on the circulatory and respiratory mechanisms of the higher mammals.

109 CELLULAR PHYSIOLOGY. (3) II, S Archdeacon
This course is designed as a more intensive study of general physiological principles. Special emphasis is placed on the chemistry and physics of the cell. The topics of study include the chemical and physical properties of protoplasm, membrane permeability, food requirements, enzyme systems, irritability and conduction, cell movement, environmental factors, tropisms, and cell senescence. **Prerequisite: A. & P. 10 or the equivalent, Physics, and General Chemistry.** Lecture, two hours; laboratory, two hours.

110 INTERMEDIATE METABOLISM. (3) I, S Archdeacon
The energy aspects of metabolism are emphasized in this course. The student is introduced to methods of determining body and tissue metabolism. A detailed study of the intermediate metabolism of carbohydrates, proteins, and fats is made. The role of vitamins in oxidation-reduction enzyme systems is considered. Lecture, two hours; laboratory, two hours. **Prerequisite: A. & P. 10 or the equivalent, Physics and Organic Chemistry.**

116a-b SEMINAR IN ANATOMY AND PHYSIOLOGY. (1 ea.) I, II Staff
All students who are majoring in the Department are required to take this course. At each meeting of the seminar, an assigned scientific article of physiological or anatomical subject matter will be reviewed thoroughly by a member of the seminar and then discussed by the seminar in general. In addition to the foregoing, each member of the seminar will be required to follow closely the current publications bearing upon the subjects of the class and present brief reports of such articles which are of interest. One two-hour discussion period a week. Open only to Seniors. **Prerequisite: A. & P. 10 or the equivalent.**

201a-i RESEARCH IN PHYSIOLOGY. (3 ea.) I, II, S Allen, Archdeacon, and Stacy
The pursuit of an assigned problem in which the student will have

the opportunity to demonstrate his or her originality. Conference and laboratory six hours. **Prerequisite: A. & P. 10 or the equivalent; Chemistry 130a, 130b or the equivalent; Physical Chemistry desirable; Physics, one year.**

202 **PHYSIOLOGICAL TECHNIQUES. (2) I, II** Archdeacon
This course is intended to offer the student training in some techniques used in physiological research. Operational procedures, such as are used in gastrointestinal, hemodynamic, and respiratory physiology are undertaken. Training is provided for the performance of procedures under aseptic conditions. **Prerequisite: A. & P. 10 or the equivalent; Laboratory, four hours.**

203 **EXPERIMENTAL ENDOCRINOLOGY. (2) I, II** Allen
Abnormalities of the various endocrine glands are produced experimentally. The results therefrom are very closely followed and recorded in thorough reports which are handed in to the instructor upon the completion of each case. Laboratory, four hours. **Prerequisite: A. & P. 106.**

204 **GRADUATE SEMINAR IN ANATOMY AND PHYSIOLOGY. (1) I, II** Staff
Required of all graduate students. Discussion period, one hour.

ANCIENT LANGUAGES AND LITERATURES

Jonah W. D. Skiles, Theodore Tolman Jones, and Assistant

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: 40 credits of advanced work in the field of Literature, Philosophy, and the Arts during the junior and senior years, including the major work.

Requirements for a Major. Prerequisites: First two years of college Latin or college Greek. **Required:** A minimum of 15 credits of advanced work in Ancient Languages and Literatures; Tutorial Work; comprehensive examination in the senior year.

Note.—The student who presents one unit of high school foreign language will be permitted to enroll in first year work for full credit.

The student who presents two units of high school foreign language will be permitted to enroll in first year work, but will receive credit only if he makes at least a B standing in this course.

Latin

*1a **BEGINNING LATIN. (3) I**
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. Special attention to vocabulary needs of professional and scientific students.

* Open to Freshmen.

***1b ELEMENTARY LATIN READING. (3) II**
Selections relating to Roman life and literature, including Caesar. Emphasis on learning to read Latin. **Prerequisite: A. L. 1a or one year of high school Latin.**

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. **Prerequisite: A. L. 1b or two years of high school Latin.**

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. **Prerequisite: A. L. 1b or two years of high school Latin.**

5 LATIN PROSE SELECTIONS. (3) II, S
Selections from Livy's **History**, Cicero's **de Senectute**, and such other prose as may meet the needs of the class. **Prerequisite: A. L. 3 or 4 or consent of instructor.**

6 HORACE. (3) I
Selections to show the poetic genius and the thought of the poet. Some attention to other poets of the period. Lectures on Latin literature. **Prerequisite: A. L. 3 or 4 or consent of instructor.**

17 MEDIEVAL LATIN. (3) I
Selections of prose and poetry down to the Renaissance. Introduction to the thought and life of the Middle Ages. **Prerequisite: A. L. 3 or 4 or consent of instructor.**

18 PLAUTUS. (3) II
Selected plays of Plautus. Lectures on Greek and Roman comedy. Introduction to the comedy of manners. **Prerequisite: A. L. 3 or 4 or consent of instructor.**

109a, b LATIN LITERATURE. (3 ea.) On demand
Courses in various authors, periods, or types to suit the needs of the class. **Prerequisite: 12 semester hours of Latin, or the equivalent, and permission of the instructor.**

114a, b LATIN COMPOSITION. (1, 1) On demand
The writing of Latin prose of moderate difficulty. **Prerequisite: A. L. 3 or consent of instructor.**

121 ROMAN CIVILIZATION. (2) II, S
Topics in the political, social, economic, and cultural life of ancient Rome down to Justinian, with special reference to the relation to modern life. Emphasis will be placed on literature, art, philosophy, and religion, rather than on political history, and the student may concentrate his reading in any of these fields. No knowledge of Latin necessary.

150 THE TEACHING OF LATIN. (3) I, II, S
The place of Latin and the classical humanities in general education. The Classical Investigation and subsequent developments in the teaching of Latin. The reading approach to learning Latin. Evaluation of textbooks and other materials. Planning of Latin curricula. Prospective college teachers of classical languages may direct their attention to Latin or Greek in higher education. **Prerequisite: Senior Standing.**

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* Open to Freshmen.

202 THE WORKS OF VERGIL. (3) I
A careful study of the entire **Aeneid** with emphasis upon the last six books and the relation of the **Aeneid** to its sources and to the other works of Vergil. **Prerequisite: A. L. 4 or consent of instructor.**

203 ROMAN COMEDY. (3) II
Several plays of Plautus and/or Terence. The history of comedy. The subsequent development of comedy. Introduction to Old Latin. **Prerequisite: A. L. 18 or consent of instructor.**

Greek

***51a BEGINNING GREEK. (3) I**
Easy excerpts from Greek literature. The basic elements of Greek grammar. Emphasis on learning to read Greek, but attention will be given to English words derived from Greek and to some understanding of Greek civilization.

***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. **Prerequisite: A. L. 51a.**

52 SELECTIONS FROM GREEK WRITERS. (3) I, S
Selections from various writers, such as Xenophon, Herodotus, Plutarch, etc. **Prerequisite: A. L. 51b or consent of instructor.**

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. **Prerequisite: A. L. 51b or consent of instructor.**

54 PLATO. (3) II
Selections, with an attempt to evaluate their philosophy in its relation both to ancient and modern thought. **Prerequisite: A. L. 51b or consent of instructor.**

70 GREEK MYTHOLOGY. (2) I
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.

120 GREEK CIVILIZATION. (2) II
Topics in the political, social, economic, and cultural life of ancient Greece, with special reference to the relations to modern life. Emphasis will be placed on literature, art, philosophy, and religion, rather than on political history, and the student may concentrate his reading in any of these fields. No knowledge of Greek necessary.

156 GREEK TRAGEDY. (3) I
Selected plays from Aeschylus, Sophocles, and Euripides. Lectures on Greek tragedy and its effects on the Western World. **Prerequisite: A. L. 53 or 54 or consent of instructor.**

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* Open to Freshmen.

157 GREEK COMEDY. (3) II
Selected plays of Aristophanes. Lectures on Greek comedy and its effect on the Western World. **Prerequisite: A. L. 156 or consent of instructor.**

204 THE GREEK OF THE NEW TESTAMENT. (3) On demand
Class and/or individual work to suit the needs of the students. Considerable portions of the New Testament will be read. Individual research in the vocabulary and syntax of the **Koine,** in the text of the Testament, and in other fields to suit the needs of the student. **Prerequisite: Two years of college Greek or consent of instructor.**

Classical Languages

90a, b TUTORIAL SEMINAR. (1 ea.) I, II
Conferences, readings, and reports in preparation for the comprehensive examination. Required of all senior majors in Ancient Languages and Literatures.

122a CLASSICAL EPIC IN ENGLISH TRANSLATION. (3) I
The Iliad, The Odyssey, and **The Aeneid,** with some attention to epics of lesser importance. No knowledge of Greek or Latin necessary.

122b CLASSICAL DRAMA IN ENGLISH TRANSLATION. (3) II
Selected tragedies and comedies of both Greek and Roman dramatists. No knowledge of Greek or Latin necessary.

151a-h INDEPENDENT WORK IN ANCIENT LANGUAGES. (3 ea.) On demand.
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, etc. **Prerequisite: Consent of instructor.**

200 RESEARCH IN THE TEACHING OF CLASSICAL LANGUAGES. (3) On demand.
Individual problems in the teaching of Latin and/or Greek will be assigned. Research may be done with reference to secondary and/or higher education in methods, in preparation of materials, in the development of curricula, in the place of classical study in education, or in the history of the field. **Prerequisite: A. L. 150 or equivalent.**

RELATED COURSES IN OTHER DEPARTMENTS

Anthropology: 10a, b, Field Work in Archeology; 106, Ethnology of Europe; 110a, b, Field Methods in Archeology; 140, Mythology.

Art: 35, Ancient Art; 36, Medieval Art; 138, Renaissance in the North; 140, Renaissance Art.

Education: 154, Student Teaching in Languages; 219, History of Educational Thought.

Economics: 203, History of Economic Thought.

English: 108a, Principles of Literary Criticism; 124, The Renaissance; 130a, Comparative Literature.

German Language and Literature: 150, Origin and Development of the German Language.

History: 8a, European Civilization to 1815; 28, The Ancient World; 115, The Renaissance and Reformation.

Humanities: A Classicism: Graeco-Roman; Modern European.

Journalism: 21, Etymology.

Philosophy: 101a, History of Philosophy; 118, The Philosophy of Plato; 119, The Philosophy of Aristotle.

Political Science: 8a, European Civilization to 1815; 171a, Early Political Theory.

Psychology: 217, Psychology of Language.

Romance Languages and Literatures: 204a, Romance Philology.

Sociology: 105, Social Theory; Plato to Comte.

ANTHROPOLOGY

William Snyder Webb, Frank J. Essene, William George Haag, Jr., and Charles Ernest Snow.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: Forty credits of advanced work in the Social or Biological Sciences groups during the junior and senior years, including the major work.

Requirements for a Major. Prerequisites: Anthropology 1 and 2; Anthropology, Sociology, or Geography 3a. **Required:** A minimum of 24 credits of advanced work including Anthropology 107; 115; 125; 150a, b.

*1 **INTRODUCTION TO PHYSICAL ANTHROPOLOGY.** (3) I, S Snow
An outline of physical anthropology dealing with the biological aspects of man. Lectures on man's origin and development, the primates, fossil man, races, race mixture, human biology, and growth.

*2 **INTRODUCTION TO CULTURAL ANTHROPOLOGY.** (3) II, S Essene
An outline of the cultural aspects of man. A worldwide study of man's archeological remains throughout the ages, and certain of the arts, industries, social organizations, languages, and religious beliefs of modern primitive human groups. Lectures, 3 hours.

3a **SOCIETIES AROUND THE WORLD.** (3) I, II Staff
To apply in the group requirements in social studies. The comparative characteristics of preliterate, peasant, and civilized societies in relation to the geography of the land in which they live. Selected societies representing each of these types will be studied in detail. The variations in food, housing, clothing, tools, and transportation will be related, on the one hand, to the habitat and, on the other hand, to occupations and economic organizations, form of government and family system, religion and art. Same as Geography 3a and Sociology 3a.

* Open to Freshmen.

10a, b FIELD WORK IN ANTHROPOLOGY. (3 ea.) II, S Staff
This course is designed to give the student specialized training in basic excavation methods, reconnaissance, field photography, recovery of skeletal material, and general ethnographic techniques. **Prerequisite: Anthropology 1 and 2.**

12 KENTUCKY ARCHEOLOGY. (2) II, S Haag
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. Lectures, 2 hours.

60 PRIMITIVE INVENTIONS. (3) I Essene
Ancient and modern inventions of primitive peoples. Technology will be emphasized. Students will manufacture objects of stone, wood, pottery, and fabrics. Lecture and demonstrations, 3 hours. **Prerequisite: Anthropology 2.**

103a-d INDEPENDENT WORK IN ANTHROPOLOGY. (3 ea.) I, II Staff

107 ETHNOLOGY OF THE NEW WORLD. (2) II Essene
A study of the origins and migrations of the ethnological groups of the New World. Lectures, 2 hours.

108 DEVELOPMENT OF CULTURE. (3) II Haag
A study of the origin of human culture and of the history of human cultural behavior. The course will contain a study of the origin and development of primitive behavior along cultural lines. It will not be presented as a series of studies of static culture but rather to show the flow of culture from basic human beginnings to present day civilization.

110a, b FIELD METHODS IN ANTHROPOLOGY. (3 ea.) S Staff
An advanced course in excavating and reporting of archeological sites, and in cataloging and preparing specimens for analysis in the museum. **Prerequisite: Anthropology 1, 2, 10, 107, and 115.**

115 NORTH AMERICAN ARCHEOLOGY. (3) I Haag
A study of the origin and growth of prehistoric American Indian cultures north of Mexico as revealed by archeological data. Lectures and selected readings for paper preparations, 3 hours.

125 ADVANCED PHYSICAL ANTHROPOLOGY. (4) II Snow
A detailed course treating man as a biological organism. Lectures on measuring techniques, the primates, fossil man, races, racial admixture, constitutional anthropology, growth, dentition, and osteopathology. Lecture, 3 hours. Laboratory, 2 hours. **Prerequisite: Anthropology 1 or three hours in any other biological science.**

130 NORTH PACIFIC COAST CULTURES. (3) I Essene
Ethnology of the maritime peoples of western North America and Northeast Asia. Cultural connections between America and Asia will be stressed. Lectures, 3 hours. **Prerequisite: Anthropology 1 and 2.**

131 ETHNOLOGY OF OCEANIA. (3) I Essene
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. Lectures, 3 hours. **Prerequisite: Anthropology 1 and 2.**

140 MYTHOLOGY. (3) II Essene
The unwritten literature of primitive peoples. Diffusion, style,

literary devices, and function of myths. Students will prepare a short paper on results of library research. Lectures, 3 hours.

141 **APPLIED ANTHROPOLOGY. (3) II** Essene
The application of anthropological methods to contemporary practical problems. Basic concepts and general conclusions of anthropological research will be given as essential background material. The application of these principles to such problems as acculturation, colonial administration, intercultural education, and race relations will constitute the major part of the course. Lectures, 3 hours. **Prerequisite: Anthropology 2.**

150a-d **TUTORIAL SEMINAR. (2 ea.)** **Staff**
Anthropological methods and theory. **Prerequisite: Major in anthropology.**

201a, b **SEMINAR. (1 ea.)** **Staff**
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.

ART

Edward Warder Rannells, Clifford Amyx, Raymond C. Barnhart, Anne Worthington Callihan, Dord E. Fitz, and Anne Guerrant Green.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**
Requirements in the Field of Concentration: 40 credits of advanced work in the field of Literature, Philosophy, and the Arts during the junior and senior years, including the major work.

Requirements for a Major. Prerequisite: Art 61a (drawing), **62 (design), 35, 36 (history of art). Required: A minimum of 26** credits of advanced work in art—12 credits in studio courses, 12 credits in history of art, 2 credits in the senior seminar plus a comprehensive examination in the senior year. These requirements insure a balance of theory and practice in the study of art.

The department is housed in a modern building with special equipment. Studios for practical work are designed to meet professional standards. **An art library adjoins the classrooms. There** are extensive collections of photographs, color reproductions, and related art reference materials. An exhibition gallery provides for the study of original works of art. The Department itself has a working collection of paintings, prints, and drawings.

*30a **INTRODUCTION TO ART. (2) I, II** Callihan
A general course for non-art majors. (1) Essentials of design, theory of color, analysis of forms. Bases of understanding the major forms of art. (2) Introduction to the art of painting: interpretation of contemporary developments in art. A course for

* Open to Freshmen.

majors in Home Economics, and for the general college student. Given in illustrated lectures, with assigned problems, notebooks, and reports.

*30b **INTRODUCTION TO ART.** (2) I, II — Callihan
Continuation of 30a. Introduction to architecture, sculpture, and the major styles of decoration. Interpretation of important works. A course for majors in Home Economics, students in Architecture, and for the general college student. Illustrated lectures, study of original works of art, with library assignments and reports.

Drawing and Painting

*51a **PAINTING.** (For non-art majors.) (2) I, II — Fitz
A general studio course for students not intending to major in art. Introduction to the materials and techniques of drawing and painting. Study of color, form, and space as expressive elements in the making of pictures. Instruction in the various painting media: pastel, water-color, tempera, oil. Six studio hours.

*51b **PAINTING.** (For non-art majors.) (2) I, II — Fitz
Continuation of 51a. Six studio hours.

*61a **ELEMENTARY DRAWING.** (3) I, II, S — Barnhart and Green
Representation of forms in space through analytical seeing; line and tone in pencil, pen, and brush. This is the basic course for prospective majors in art. Nine studio hours.

*61b **ELEMENTARY DRAWING.** (3) II, S — Barnhart and Green
Continuation of 61a. Nine studio hours.

63 **INTERMEDIATE DRAWING.** (2) II — Barnhart and Rannells
Creative representation based on analytical study of the structure and movement of forms in space. Drawing from the figure in graphic media. Six studio hours. **Prerequisite: 65a.**

65a **PAINTING.** (3) I, S — Amyx
Fundamental procedures in oil painting. Introduction to the material. Basic principles of space and color construction through still life and landscape. Nine studio hours. **Prerequisite: 61a, 62.**

65b **PAINTING.** (3) I, II, S — Amyx
Continuation of 65a. Nine studio hours.

116a **PRINTMAKING.** (2) I, II — Amyx
Technical instruction in printmaking processes: lithography, etching, wood cut. Open to advanced students on consent of instructor. Six studio hours. **Prerequisite: 65a and 63.**

116b **PRINTMAKING.** (2) I, II — Amyx
Continuation of 116a. Six studio hours.

165a **INTERMEDIATE PAINTING.** (3) I, II, S — Amyx and Fitz
Advanced problems in space and color construction. Introduction to figure and portrait. Individual development of basic painting procedures. Nine studio hours. **Prerequisite: 63, 65b.**

165b **INTERMEDIATE PAINTING.** (3) I, II, S — Amyx and Fitz
Continuation of 165a. Nine studio hours.

* Open to Freshmen.

167 PROFESSIONAL PAINTING TECHNIQUES. (3) I, II Amyx
Advanced problems in painting media: oil and tempera. Preparation of grounds. Problems developed from historical and contemporary procedures in painting and closely related media. Open to advanced students on consent of instructor. Nine studio hours. **Prerequisite: 165b.**

177a-d INDEPENDENT WORK: PAINTING, PRINTMAKING. (3 ea.) Staff
Individual research and experimental work in technical and theoretical problems of drawing and painting, printmaking, etc. Each semester's work is subject to review by the staff. Open only to advanced students upon approval of department head. (Formerly numbered 117a-f).

Design

***62 BASIC DESIGN. (3) I, II, S** Barnhart and Green
Training in basic design skills. Creative construction in common materials; logical development of unified forms. Required of all prospective majors in art. Nine studio hours.

64a INTERMEDIATE DESIGN. (3) II, S Barnhart
Wood carving in the round. Individual expression controlled by design principles. Nine studio hours. **Prerequisite: 65a.**

64b INTERMEDIATE DESIGN. (3) II, S Barnhart
Creative construction adapted to the individual. Carving, modeling, and experimental forms involving space, color, light, etc. Nine studio hours. **Prerequisite: 64a.**

66 DESIGN IN DECORATION. (3) I Green
Interior design; problems in color; projects in textile design, ornament, etc., adapted to the individual. Nine studio hours. **Prerequisite: 61a, 62.**

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

68a GRAPHIC DESIGN. (2) I, S Barnhart
Basic training in the design of printing, lettering, illustration; layout and presentations. Six studio hours. **Prerequisite: 29, 61a.**

68b GRAPHIC DESIGN. (2) II, S Barnhart
Continuation of 68a. Individual problems for actual use in posters, publications, advertising, etc. Six studio hours. **Prerequisite: 68a.**

179a-d INDEPENDENT WORK: DESIGN, CONSTRUCTION. (3 ea.) I, II Staff
Individual research and experimental work in technical and theoretical problems of interior design, design in decoration, industrial design, sculptural design, color and light problems, etc. Each semester's work is subject to review by the staff. Open only to advanced students upon approval of department head. (Formerly numbered 119a-f)

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* Open to Freshmen.

History of Art

35 **ANCIENT ART.** (2) I — Callihan and Green
The arts in the ancient cultures of the Mediterranean and West-Asian worlds, from Egypt and Chaldea through Greek and Roman times to Byzantium in the sixth century A. D. Emphasis on classical art. Illustrated lectures, conferences, and reports.

36 **MEDIEVAL ART.** (2) II — Callihan and Green
The arts of the Byzantine and Islamic cultures in the near East and of the Latin and Germanic cultures in the West, during the early middle ages; Romanesque and Gothic art in France and northern Europe through the fifteenth century. Emphasis on Christian art. Illustrated lectures, conferences, and reports.

46 **THE DECORATIVE ARTS.** (2) II — Callihan
A survey of the decorative arts; comparative study of interiors, furniture, textiles, ceramics, etc., with special reference to the major styles developed in France and England in the eighteenth and early nineteenth centuries. Illustrated lectures, discussions, and reports.

140 **RENAISSANCE ART.** (3) I — Rannells
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. Illustrated lectures and reports.

138 **RENAISSANCE IN THE NORTH.** (2) I — Rannells
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. Illustrated lectures and reports.

141 **BAROQUE ART.** (3) II — Rannells
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. Illustrated lectures and reports.

142 **MODERN ART.** (3) I — Rannells
The arts in Europe and America from the mid-eighteenth century through the nineteenth century. Consideration of social and economic changes and technological developments in relation to art; style revivals; aesthetic theory; individual artists. Illustrated lectures and reports.

143 **CONTEMPORARY ART.** (3) II — Amyx and Rannells
The arts of the twentieth century in Europe and the Americas. Consideration of social and technological changes in relation to art. Examination of contemporary forms in architecture, sculpture, and painting; developments in photography, industrial design, city planning. Analyses of style; study of individual artists. Illustrated lectures and reports.

147 **ART IN AMERICA.** (2) S — Rannells
A survey of American architecture, sculpture, painting, illustration, handicrafts, industrial design, etc., from Colonial times to the present. American museums, exhibitions, sales; art schools; current art literature. Illustrated lectures and reports.

151 CRITICISM OF ART. (3) I Amyx
Analyses, interpretations, evaluations. Fundamentals of aesthetics and criticism in history, and in the contemporary arts. Discussions and reports. Open only to senior and graduate majors in Philosophy, Literature, Music, and Art.

160a, b SEMINAR IN ART. (1 ea.) I, II Staff
Current problems in art; correlations of theory and practice; discussions and reports. For seniors and graduates majoring in art. Students with an average below B in art are advised to schedule additional work before entering this course. The Seminar is prerequisite to the comprehensive examination required for graduation.

175a-d INDEPENDENT WORK: HISTORY, CRITICISM. (3 ea.) Staff
Individual research and writing on local and contemporary art problems, history and criticism of art, and aesthetics. Studies in collaboration with other humanistic disciplines. Each semester's work is subject to review by the staff. Open only to advanced students upon approval of the department head. (Formerly numbered 121a-f.)

Art Education

10a PUBLIC SCHOOL ART. (2) I Fitz
A study of essentials in art: definitions, initial concepts, principles techniques: elementary skills through practice in drawing, design, and lettering. Analysis and interpretation of art on an elementary level. Bibliographies and teaching materials. A course designed for students in elementary education, to meet teaching certificate requirements. Lectures, four studio hours, weekly problems.

10b PUBLIC SCHOOL ART. (2) II Haines
Application of art essentials to the class room in preparation for the teaching of art in the elementary grades. Units in art: design, color, drawing, lettering, etc. Units in collaboration with other studies: posters, charts, programs, etc. Exploration of materials, tools, and processes. Bibliographies and teaching materials. For students in elementary education, to meet teaching certificate requirements. Lectures, four studio hours, weekly problems. (Given in the University Training School.)

157 ART IN SECONDARY SCHOOLS. (3) S Rannells
Art for teachers in secondary schools. The literature of art education. Problems of definition and interpretation; evaluation of visual training; the relation of art to other subjects. Courses of study. Teaching materials: reproductions, supplies, books, etc. Lectures, conferences, and reports.

BACTERIOLOGY

Morris Scherago, Ogden Frazelle Edwards, Mary M. Hardin, Lura Claude Harrison, Margaret Hotchkiss, James Charles Humphries, Elmer Stephens Maxwell, Ida Mary Scharfschwerdt, Ralph Holder Weaver, and Assistants.

UPPER DIVISION REQUIREMENTS—Junior and Senior Years

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Biological Sciences during the junior and senior years, including the major work.

Requirements for a Major. Prerequisite: Chemistry 1a and b; Bacteriology 2b or 52, and 104. **Required:** Two credits in Seminar and a minimum of 13 additional credits of advanced work in Bacteriology, including Bact. 125.

Courses 2a and 2b are recommended for students desiring to major in bacteriology and for those taking bacteriology to fulfill the biological science group requirement.

Course 52 or 102 may be taken to fulfill the requirement of students in the College of Agriculture and Home Economics, and by premedical students.

***2a ELEMENTARY MICROBIOLOGY.**
(4) I, II Weaver and Scharfschwerdt
A study of the fundamental nature of bacteria and other microorganisms, special attention being given to morphology. This course is recommended for Bacteriology majors and for those taking Bacteriology to fulfill a biological science requirement, and should be followed by 2b. No prerequisites. Lecture and recitation, two hours; laboratory, four hours.

***2b ELEMENTARY MICROBIOLOGY.**
(4) I, II Weaver and Scharfschwerdt
Continuation of Course 2a. A cultural study of bacteria. Microbial physiology. A discussion of the relationship of microorganisms to soil fertility, foods, industrial fermentations, disease, etc. Lecture and recitation, two hours; laboratory, four hours. **Prerequisite: Bacteriology 2a.**

***6a BACTERIOLOGY FOR NURSES**
(4) I, II, S Scherago and Hotchkiss
A study of the characteristics and habits of microorganisms and of their relation to medicine, surgery, and public health. Lecture and recitation, two hours; laboratory, four hours.

***6b PATHOLOGY FOR NURSES.**
(2) I, II, S Scherago and Hotchkiss
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; laboratory, two hours.

52 PRINCIPLES OF BACTERIOLOGY.
(4) I, II, S Scherago and others
An alternative course for students who do not have the prerequisites for 102. Lecture and recitation, two hours; laboratory, four hours. **Prerequisite or concurrent: Chem. 1b or 4b.**

56 BACTERIOLOGY OF FOODS. (For Sophomores.)
(4) I, S Weaver and Hardin
Microbiology of milk, butter, cheese, ice cream, and other milk products; eggs, tomato products, meat and meat products; food

* Open to Freshmen.

preservation; bacterial food poisoning. Relation of micro-organisms to food production and handling. Standard methods of bacterial analysis as used in official food and public health laboratories. Lectures and recitations, two hours; laboratory, four hours. **Prerequisite: Bacteriology 102 or 52; or 2b and Chemistry 1b.**

57 **BACTERIOLOGY OF WATER AND SEWAGE.**
(For Sophomores.) (4) II, S Weaver and Hardin
Microflora of water; importance of colon-typhoid group in water; standard methods of water analysis and interpretation of results; water purification; bacteriology of sewage disposal; swimming pools, bacterial examination, purification, control, etc. Water purification plants, sewage disposal plants, and swimming pools will be visited and studied. Lecture and recitation, two hours; laboratory, four hours. **Prerequisite: Bacteriology 102 or 52; or 2b and Chemistry 1b.**

102 **GENERAL BACTERIOLOGY. (4) I, II, S** Scherago and others
Observation and cultivation of bacteria and related micro-organisms; study of their morphology, classification, physiology, relation to certain fermentations, to food, to soil fertility, and to disease. Lecture and recitation, two hours; laboratory, four hours. **Prerequisite: Chemistry 1b or 4b.**

103 **PATHOGENIC BACTERIOLOGY**
(4) I, S Scherago, Humphries, and Edwards
A study of human and animal pathogenic microorganisms, especially their morphological, cultural, and pathogenic properties. Lecture and recitation, two hours; laboratory, four hours. **Prerequisite: Bacteriology 102 or 52; or 2b and Chemistry 1b.**

104 **APPLIED BACTERIOLOGY.**
(2) I, II, S Hotchkiss and others
A course in bacteriological analysis to supplement Courses 52 and 102. Laboratory, four hours. **Prerequisite: Bacteriology 102 or 52; or 2b and Chemistry 1b.**

110a **LABORATORY DIAGNOSIS. (3) I, S** Hotchkiss
Laboratory methods employed in diagnostic and public health laboratories. Designed primarily for medical technology students. Examination of sputum, urine, and blood. Laboratory, six hours. **Prerequisite: Preceded or accompanied by Bacteriology 103.**

110b **LABORATORY DIAGNOSIS. (3) II, S** Hotchkiss
Continuation of 110a. Laboratory diagnosis of parasitism; examination of stomach and intestinal contents; laboratory methods used in diagnosis of gonorrhea, typhoid fever, diptheria, syphilis, etc. Laboratory, six hours. **Prerequisite: Preceded or accompanied by Bacteriology 103.**

111 **GENERAL PATHOLOGY**
(4) I, S Maxwell, Scherago, and Hotchkiss
The effects of disease on the organs and tissues of the human body will be studied at autopsies and by the examination of fresh and museum specimens as well as histological sections. Degenerations, infiltrations, regenerations, inflammations, disturbances of the circulation, infectious granulomata, neoplasms, etc., will be studied. Lecture and recitation, two hours; laboratory four hours. **Prerequisite: Anatomy and Physiology 10; Zoology 7b, 101b, and 106; Bacteriology 103, and consent of head of department.**

115a-d INDEPENDENT WORK. (3 ea.) I, II, S Staff
Students will be assigned special problems in laboratory work and reference reading. Laboratory, six hours. **Prerequisite: Any bacteriology course above 2b.**

120a, b HOSPITAL LABORATORY PRACTICE
(4, 6) I, II, S Maxwell, Harrison, and others
Students will be required to carry out, under supervision, the laboratory work in one of the hospitals in Lexington. Laboratory, twelve hours, and eighteen hours, respectively. **Prerequisite: Bacteriology 110a and 110b, and consent of head of department.**

125 IMMUNOLOGY AND SEROLOGY.
(5) II, S Scherago, Humphries, and Edwards
The theories and mechanism of infection and immunity; the preparation, standardization, and uses of vaccines, toxins, antibodies, and other biological products related to the diagnosis, prevention, and treatment of specific infectious diseases; agglutination; complement fixation, etc.; antigenic analysis; serology of syphilis; hypersensitiveness. Lecture and recitations, two hours; laboratory, six hours. **Prerequisite: Bacteriology 103.**

150a-d SEMINAR. (1 ea.) I, II Staff
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. Two hours.

201a-j RESEARCH IN BACTERIOLOGY.
(5 ea.) I, II, S Senior Staff
Laboratory, ten hours.

203a PUBLIC HEALTH BACTERIOLOGY.
(3) I, S Scherago and others
This course considers the public health aspects of bacteriology including the etiology, epidemiology, immunology, and laboratory diagnosis of infectious diseases; the bacteriology of air, water, and sewage; food poisoning; the production, standardization, and practical applications of biological products used in the diagnosis, treatment, and prevention of infectious diseases; the standardization of disinfectants. Lectures and recitations, one hour; laboratory, four hours. **Prerequisite: Open only to physicians and health officers or those with equivalent training.**

203b PUBLIC HEALTH BACTERIOLOGY.
(3) II, S Scherago and others
Continuation of 203a. Lectures and recitations, one hour; laboratory, four hours. **Prerequisite: Bacteriology 203a.**

206 BACTERIOLOGY OF FOODS. (4) I, S Weaver and Hardin
Microbiology of milk and milk products. Standard methods of bacterial analysis as used in official food and public health laboratories. Lecture and recitation, two hours; laboratory, four hours. **Prerequisite: Bacteriology 2b or 52 or 102; Chemistry 21b.**

207 BACTERIOLOGY OF WATER AND SEWAGE.
(4) II, S Weaver and Hardin
The microflora of water; importance of the colon-typhoid group of bacteria in water; methods of water analysis and interpretation of results; special media used in isolating and identifying the colon-typhoid group of bacteria; methods of water purification;

microflora of sewage; methods of sewage analysis; methods of sewage disposal; bacteriological study of swimming pools, methods of analysis; effect of treatment on bacteriological content, regulations concerning swimming pools. Water purification plants, sewage disposal plants and swimming pools will be visited and studied. Lecture and recitation, two hours; laboratory, four hours. **Prerequisite: Bacteriology 2b or 52 or 102; Chemistry 21b.**

210 **CLINICAL MYCOLOGY. (2) I, S** Hotchkiss
A study of the patho-physiology of human and animal fungous infections. Methods and techniques for isolating and propagating pathogenic actinomycetes and fungi. Laboratory diagnosis of fungous infections. Laboratory, four hours a week. **Prerequisite: Chemistry 130b; reading knowledge of one foreign language; preceded or accompanied by Bacteriology 125.**

220 **HISTORY OF BACTERIOLOGY. (2) II, S** Weaver
Conferences, two hours a week. **Prerequisite: Bacteriology 125.**

222 **ADVANCED GENERAL BACTERIOLOGY. (4) I, S** Sherago or Weaver
A study of bacterial morphology and life cycles; theories of staining; techniques of study. A study of the problems of identification and classification of bacteria; principles of naming and classifying bacteria; bacterial variation; role of serological procedures in identification and classification. Lectures and conferences, two hours; laboratory, four hours a week. **Prerequisite: Bacteriology 125, Chemistry 130.**

224 **DISINFECTANTS AND ANTIBIOTICS. (3) II, S** Hotchkiss
A study of the chemical agents injurious to microorganisms including modes of action, practical applications and methods of testing. Conferences, one hour; laboratory four hours a week. **Prerequisite: Bacteriology 2b, or 52 and 104; Chemistry 130b.**

226a **METABOLISM OF MICROORGANISMS. (4) I** Hardin
A study of the chemical changes produced by bacteria, yeasts, and molds; of the properties of their enzymes; of the physiology of their growth, and of their growth requirements. Lectures or conferences, two hours; laboratory, four hours a week. **Prerequisite: Chemistry 130b and a reading knowledge of German or French; Physical Chemistry recommended.**

226b **METABOLISM OF MICROORGANISMS. (4) II** Hardin
Continuation of 226a. Lectures or conferences, two hours; laboratory, four hours per week. **Prerequisite: 226a.**

235 **IMMUNOCHEMISTRY AND ADVANCED IMMUNOLOGY. (4) II, S** Scherago or Humphries
The chemistry of antigens and of antibodies and of the reaction between them in vitro and in vivo; immune and hypersensitive cellular reactions. Lectures and conferences, two hours; laboratory, four hours per week. **Prerequisite: Bacteriology 125b; Chemistry 130b and Chemistry 143b.**

250a-j **SEMINAR. (1 ea.) I, II** Staff
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.

270 ELECTRON MICROSCOPY. (3) I, S Edwards
A study of electron microscopy, with major emphasis upon the operation and uses of the magnetic electron microscope and the vacuum unit for metal evaporation, including methods of sample preparation and the technic of shadow casting. Applications in biological and physical sciences will be studied. Lecture, one hour; laboratory, four hours per week. **Prerequisite: Physics 3a, 3b, and 3c; consent of instructor.**

272 VIRUSES AND RICKETTSIAE. (4) II, S Edwards
A study of the natures, activities, and methods of laboratory cultivation of viruses and rickettsiae and of their relation to bacteria, plants, and animals. Lectures, two hours; laboratory, four hours. **Prerequisite: Bacteriology 125.**

BOTANY

[1] Herbert Parkes Riley, Wayne C. Hall, Frank T. McFarland, and Berthus Boston McInteer.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**
Requirements in the Field of Concentration: Forty credits of advanced work in the field of Biological Sciences during the junior and senior years, including the major work.

Requirements for a Major. Prerequisite: Botany 1 and 2 or equivalents. **Required:** A minimum of twenty credits of advanced work in Botany and the passing of a comprehensive examination.

***1 GENERAL BOTANY. (4)** Staff
Principles of botany with emphasis on the flowering plant. Cells and tissues; the structure and functions of the root, stem, and leaf; alternation of generations; life cycles of the moss and fern; reproduction in flowering plants. Two lectures and two two-hour laboratory periods per week.

***2 GENERAL BOTANY. (3)** Staff
Structure, life cycles, and biological relationships of typical lower plants; the gymnosperms; and introduction to taxonomy, ecology, and heredity in plants. Two lectures and one two-hour laboratory period per week. **Prerequisite: Botany 1 or 25.**

15 LOCAL FLORA. (Systematic Botany) (3) II McFarland
A laboratory course dealing with the identification of unknown flowers and ferns. The use of manuals and methods of making an herbarium are taken up for study. The various systems of classification are taken up in detailed study, as well as the laws of nomenclature. Six hours of laboratory per week. **Prerequisite: Botany 2 or equivalent.**

19 DENDROLOGY. (2) I, II McFarland
This is primarily a field course in which the student is taught the fundamental principles of identification of trees, as well as how to recognize the various trees by their leaf, bark, and bud characters. Both summer and winter condition of trees will be studied. Two lectures per week. **Prerequisite: Botany 2 or 25.**

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* Open to Freshmen.
[1] For changes in status see p. 428.

*25 **GENERAL PLANT BIOLOGY.** (3) I, II, S — Staff
The principles underlying the structure and functions of the green plant: cells and tissues; the manufacture and use of food; the relations of a plant to water and soil; growth; the organization of the plant body; reproduction. Illustrations will be drawn chiefly from the seed plant. To satisfy part of the group requirement in biology for those who do not plan a science major. Three lecture-demonstration periods per week. **No prerequisite:**

30 **INTRODUCTION TO CYTOGENETICS.** (3) I, S — Riley
Chromosomal cytology and its importance in heredity. Cell division; gametogenesis and sporogenesis; meiosis and its relation to life cycles; the structure of chromosomes; genes, their distribution to succeeding generations, their action and interaction; gene mutation and its importance in evolution. Not open to students who have had Botany 104. **Prerequisite: 6 credits in the biological sciences.**

34 **CYTOGENETICS.** (4) II — Riley
Chromosome aberrations and their importance in heredity and in evolution. Intrachromosomal aberrations; aneuploids; autopolyploids; allopolyploids; speciation; isolating mechanisms; hybrid swarms; introgressive hybridization. The smear technique for the study of chromosomes. Three lectures and one two-hour laboratory period per week. **Prerequisite: Botany 30 or equivalent.**

103a **PLANT PHYSIOLOGY.** (4) I — Hall
The principles which underlie the movement of materials in plants, covering absorption, translocation, and transpiration. Two lectures and two two-hour laboratory periods per week. **Prerequisite: 6 credits of botany.**

103b **PLANT PHYSIOLOGY.** (4) II — Hall
A continuation of 103a, covering the chemical processes and organic materials within the plant. **Prerequisite: Botany 103a.**

106a, b, c **SPECIAL PROBLEMS.** (3 each) I, II — Staff
Independent work in some phase of advanced Botany. **Prerequisite: 18 credits of courses in botany not open to freshmen.**

107 **MORPHOLOGY OF ALGAE.** (3) I — McInteer
The economic value of algae and the structure and life histories of representative forms of the various groups. Three two-hour laboratory periods per week. **Prerequisite: 6 credits of botany.**

114 **ECOLOGY.** (4) II — McInteer
The relationships existing between plants and their various environments; plant succession, plant associations and formations; the principles of plant geography; the vegetation of North America. Three lectures and one two-hour laboratory period per week. **Prerequisite: 6 credits of botany.**

115a, b **SEMINAR.** (1, 1) I, II — Staff
Assigned readings and reports on special topics. Required of all senior botany majors.

125a **MORPHOLOGY OF THE FUNGI.** (4) I — McFarland
A comprehensive study of many typical forms of the Myxomycetes, Phycomycetes, and a few of the Ascomycetes; their structure,

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* Open to Freshmen.

method of reproduction, and classification. Two lectures and two two-hour laboratory periods per week. **Prerequisite: Botany 1b or its equivalent.**

125b **MORPHOLOGY OF THE FUNGI. (4) II** McFarland
A continuation of Botany 125a. The remainder of the Ascomycetes, the Basidomycetes, and the Fungi Imperfecti. Two lectures and two two-hour laboratory periods per week. **Prerequisite: Botany 125a.**

130 **INTRODUCTION TO CYTOGENETICS. (3) I, S** Riley
This course is designed for students in departments other than Botany. The content will be similar to that of Botany 30, except that extra work will be required for graduate credit. Credit will not be given for both Botany 30 and 130.

132 **GENES AND THEIR ACTION. (3) II** Riley
The nature, action, and interaction of genes and the relation of the gene to the developed character; mutation, multiple alleles, epistasis, polymery. Two lectures and one two-hour laboratory period per week. **Prerequisite: Botany 30 or 130 or equivalent.**

134 **CYTOGENETICS. (4) II** Riley
This course is designed for students in departments other than Botany. The content will be similar to that of Botany 34 except that extra work will be required for graduate credit. Credit will not be given for both Botany 34 and 134.

135 **PLANT CYTOTAXONOMY. (3) I** Riley
Cytogenetic, geographical, and other factors that have influenced the origin and development of new species and that have aided in clarifying difficult taxonomic problems in various families of plants. Three lectures or student reports per week. **Prerequisite: Botany 15 and 34 or their equivalents.**

150a **ADVANCED SYSTEMATIC BOTANY. (3) I** McFarland
For those students who have completed Botany 15 or its equivalent and who wish to continue with identification. The student will be expected to identify many more and more difficult specimens than in Botany 15. A comprehensive survey of the different methods of classification will be required of each student. One lecture and two two-hour laboratory periods per week. **Prerequisite: Botany 15 or its equivalent.**

150b **ADVANCED SYSTEMATIC BOTANY. (3) II** McFarland
A continuation of Botany 150a. One lecture and two two-hour laboratory periods per week. **Prerequisite: Botany 150a.**

160 **PLANT MICROTECHNIQUE. (3) II** Riley
The principal methods used in the preparation of permanent slides for the compound microscope. Not open to students who have had Botany 6. Three three-hour laboratory periods per week. **Prerequisite: 6 credits of botany.**

206a, b **RESEARCH IN PLANT MORPHOLOGY. (4, 4)** McFarland
Graduate students prepared for independent work will be assigned to investigations in anatomy, histology, or special morphology of plants.

207a, b **RESEARCH IN MYCOLOGY. (4, 4)** McFarland
Those desiring to carry on investigations in mycology should have had Botany 125b or the equivalent. Suitable work will be suggested to students desiring to enter this field.

210a, b RESEARCH IN PLANT PHYSIOLOGY. (4, 4) Hall
Graduate students with adequate preparation in plant physiology, physics, and chemistry may carry on independent investigations in plant physiology.

213a, b RESEARCH IN SYSTEMATIC BOTANY. (4, 4) McFarland
Any student who has shown ability and initiative in Botany 150a and b or its equivalent and who is working on an advanced degree may be assigned to this course. The student may elect to work on the flora of the county in which he lives or of some local region or he may be assigned to work up some order or family of plants. A student may elect this course in the preparation of his collection which is to be incorporated in his thesis. **Prerequisite: Botany 150b.**

215a, b RESEARCH IN CYTOGENETICS. (4, 4) Riley
Independent investigations in the field of cytogenetics. In connection with his investigations, the student will be expected to master the literature of his problem and present it in a report.

CHEMISTRY

Lyle R. Dawson, Franklin Elliott Tuttle, Charles Barkenbus, J. Charles Cavagnol, R. Ray Estes, Gordon R. Leader, Norman O. Long, Jacob R. Meadow, J. R. Mitchell, James M. Schreyer, O. J. Stewart, Payton C. Teague, and Assistants.

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—**Junior and Senior Years**

Registration in chemistry courses of juniors or seniors majoring in chemistry is restricted to students having a grade-point average of 1.5 or higher in all subjects exclusive of military training, except that this regulation may be set aside by action of the faculty of the Department.

Requirements in the Field of Concentration: Forty credits of advanced work in the field of physical sciences during the junior and senior years, including the major work.

Requirements for a Major. Prerequisite: 1a, 1b, 21a, 21b, and mathematics through the calculus. **Required:** 130a, 130b, 140a, 140b, 144a, 144b, 110a, 110b, 111, 133, 188a, 188b, and eleven credits to be chosen from the field of physical science.

Special Charges That May be Made by the Department of Chemistry. The Department assesses small charges for certain expendable materials used in the courses, non-returnable items in the laboratory desk equipment, and for breakage of apparatus used

by students in the laboratory courses. Each student is required to purchase at the Comptroller's office a five-dollar chemical breakage punch card which is valid until exhausted, or for a period of two years. Refund of the unused portion of the deposit may be obtained when the student's account with the department is closed. The amount charged may vary from seventy-five cents to several dollars each semester.

*1a, b **GENERAL CHEMISTRY.** (5, 5) I, II, S Staff
Chemistry of the non-metallic elements and the metals, including a study of the qualitative analysis scheme for the metallic ions. Laboratory exercises are chosen to illustrate the important principles of chemistry and to provide practice in qualitative analysis. Lecture, 2 hours; recitation, 1 hour; laboratory, 4 hours. **Prerequisite: Proficiency in arithmetic and elementary algebra.**

*2a, b **GENERAL CHEMISTRY FOR ENGINEERS.** (4, 4) I, II, S Staff
Subject matter similar to 1a, b, except that topics of importance to engineers will be given special emphasis. Lecture, 2 hours; recitation, 1 hour; laboratory, 2 hours. **Prerequisite: Proficiency in arithmetic and elementary algebra.**

*3 **CHEMISTRY FOR NURSES.** (5) I, II Staff
This course deals with those general principles of chemistry, inorganic, organic, and physiological, which give the necessary foundation for practical work in nutrition, materia medica, and other subjects more or less dependent on a basis of chemical training. Lecture and recitation, 3 hours; laboratory 4 hours.

*4a, b **GENERAL CHEMISTRY FOR STUDENTS IN AGRICULTURE AND HOME ECONOMICS.** (4, 4) I, II, S Staff
Subject matter similar to 1a, b, except that emphasis is placed on topics of importance to students in the College of Agriculture and Home Economics. Lecture, 2 hours; recitation, 1 hour; laboratory, 2 hours. **Prerequisite: Proficiency in arithmetic and elementary algebra.**

21a, b **QUANTITATIVE ANALYSIS.** (5, 4) I, II, S Stewart and Schreyer
A laboratory course accompanied by lectures and classroom exercises. Gravimetric and volumetric methods of analysis are studied in detail. Lecture, 2 hours; laboratory, 6 and 4 hours respectively. **Prerequisite: Chemistry 1b or 2b.**

30a, b **ORGANIC CHEMISTRY.** (5, 5) I, II, S Barkenbus
Lecture, 3 hours; laboratory, 4 hours. **Prerequisite: Chemistry 1b or 2b.**

37 **ORGANIC CHEMISTRY.** (4) I, II, S Cavagnol
An elementary course for non-professional students. Lecture, 3 hours; laboratory, 2 hours. **Prerequisite: Chemistry 1b, 2b, or 4b.**

110a, b **ADVANCED INORGANIC CHEMISTRY.** (2, 2) I, II, S Long
A systematic course in inorganic chemistry with especial emphasis upon the periodic classification, valence, and the preparation and reactions of various types of inorganic compounds. Lectures, 2 hours. **Prerequisite: Quantitative analysis and organic chemistry.**

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* Open to Freshmen.

111 ADVANCED INORGANIC LABORATORY. (1) II Long
Laboratory exercises are chosen to illustrate the methods of preparation of the different classes of inorganic compounds, and to provide training in the newer and more difficult techniques in the field of inorganic synthesis. **Prerequisite or concurrent: Chemistry 110a.**

114 NON-AQUEOUS SOLUTIONS. (2) II Dawson
A study of the properties of non-aqueous solutions and of reactions in non-aqueous media. **Prerequisite: Chemistry 140b.**

115a, b NUCLEAR CHEMISTRY. (2, 2) I, II Leader
The chemistry of the radioelements and other substances involved in nuclear reactions. Lecture, 2 hours. **Prerequisite: Chemistry 140b.**

120 ADVANCED QUALITATIVE ANALYSIS. (3) I Schreyer
A study of qualitative analysis for the anions and the separation and detection of the less common elements, employing a rather rigorous physico-chemical method of approach to the theory of separation. Lecture, 1 hour; laboratory, 6 hours.

121 SEMIMICRO QUANITATIVE ANALYSIS. (3) II Cavagnol
A laboratory course devoted to the quantitative analysis of both organic and inorganic substances by the use of semimicro techniques. Lecture, 1 hour; laboratory, 6 hours. **Prerequisite: Chemistry 21b.**

122 INSTRUMENTAL ANALYSIS. (3) I
The applications of microscopic, colorimetric, spectrophotometric, polarographic, and electrometric methods. Lecture, 1 hour; laboratory, 6 hours. **Prerequisite: Chemistry 21b.**

125 ADVANCED QUANTITATIVE ANALYSIS. (3) II Schreyer
The complete analysis of a silicate mineral or ore, and the alloys of iron, copper, and aluminum. Lecture, 1 hour; laboratory, 6 hours. **Prerequisite: Chemistry 21b.**

126 INDUSTRIAL ANALYSIS. (2) II
The use of special industrial control methods for the analysis of water, coal, petroleum, fuel gases, and atmospheric constituents. Laboratory, 6 hours. **Prerequisite: Chemistry 21a.**

127 MICROSCOPIC ANALYSIS. (2)
Qualitative and semi-quantitative analysis of microgram. Amounts of various cation groups in a single drop under a microscope. Laboratory, 6 hours. **Prerequisite: Chemistry 21b.**

129 SELECTED PROBLEMS IN QUANTITATIVE ANALYSIS. (3) Stewart and Schreyer
Laboratory, 9 hours. **Prerequisite: Chemistry 21b.**

130a, b ORGANIC CHEMISTRY. (5, 5) I, II, S Barkenbus and Teague
A systematic study of organic compounds. Lecture, 3 hours; laboratory, 4 hours. **Prerequisite: Chemistry 1b.**

133 QUALITATIVE ORGANIC ANALYSIS. (3) I, S Barkenbus and Estes
A systematic study of the separation and identification of organic compounds. Lecture, 1 hour; laboratory, 9 hours. **Prerequisite: Chemistry 130b, or 30b.**

136 SYNTHETIC ORGANIC CHEMISTRY. (3) II, S Barkenbus
A critical comparison of preparation methods accompanied by laboratory work and reports. Laboratory, 9 hours. **Prerequisite: Chemistry 130b or 30b.**

140a, b PHYSICAL CHEMISTRY. (3, 3) I, II, S Dawson
The fundamental principles of chemistry are studied with emphasis upon the applications of these in the correlation of natural phenomena. Lectures and recitations, 3 hours. **Prerequisite: Quantitative Analysis, Mathematics 20b and Physics 3b.**

141 CHEMICAL THERMODYNAMICS. (3) II Dawson
Principles and applications of chemical thermodynamics. Lecture, 3 hours. **Prerequisite: Chemistry 140b.**

143 PHYSICAL CHEMISTRY. (5) I
For students in Agriculture and the Biological Sciences. Lecture and recitation, 3 hours; laboratory, 6 hours. **Prerequisite: Chemistry 1b or 4b, and 37; Physics 1b.**

144a, b PHYSICAL CHEMISTRY LABORATORY. (2, 2) I, II, S Leader
Laboratory studies in physical chemistry to accompany 140a, b. Laboratory, 6 hours.

145 COLLOID CHEMISTRY. (2) II Leader
Lectures, recitations, and assigned readings on the chemistry of colloids. Lectures and recitations, 2 hours. **Prerequisite: Chemistry 140b.**

150a, b PHYSIOLOGICAL CHEMISTRY. (4, 4) I, II Teague
A study of the chemistry of living processes. Lectures and recitations, 3 hours; laboratory, 3 hours. **Prerequisite: Chemistry 1b or 4b, and 37; Physics 1c.**

160 INDUSTRIAL CHEMISTRY. (3) I Meadow
A survey of the chemistry of manufacturing processes. Lecture, 3 hours. **Prerequisite: Chemistry 140b.**

161 INDUSTRIAL CHEMICAL CALCULATIONS. (2) II Meadow
Lecture and recitations, 2 hours. **Prerequisite: Chemistry 140b.**

181 CHEMICAL LITERATURE. (1) I Stewart
Training in the use of chemical literature. One hour per week. **Prerequisite: Junior or Senior standing.**

188a, b SEMINAR. (0, 1) I, II Staff
Reports and discussions on recent research and current chemical literature. Required of all seniors. Each senior is required to present a minimum of four reports to the student-faculty group to earn one credit. Attendance at the seminar for two semesters is required before the one hour of credit is earned.

210 TOPICS IN INORGANIC CHEMISTRY. (2) I
The chemistry of the rare earths and other less common elements. Selected topics dealing with recent advances in the field. Lecture, 2 hours. **Prerequisite: Chemistry 110a, b.**

220 THE CHEMICAL POLARIZING MICROSCOPE. (2) II
The theory and practice in the use of the polarizing microscope as a means of identifying crystalline chemical substances. Laboratory, 6 hours. **Prerequisite: Chemistry 140b.**

221 **QUANTITATIVE MICROANALYSIS. (2) I** Cavagnol
The quantitative analysis of organic and inorganic substances in the microgram and submicrogram range. Laboratory, 6 hours. **Prerequisite: Chemistry 21b.**

222 **ELECTROMETRIC ANALYSIS. (2) I**
The theory and application of potentiometric, polarographic, and conductometric measurements. Lecture, 1 hour; laboratory, 3 hours. **Prerequisite: Chemistry 122 and Chemistry 140b.**

230a, b **SYNTHESIS OF ORGANIC COMPOUNDS. (2, 2) I, II** Barkenbus
A thorough study of the types of reactions used in organic synthesis with emphasis on the conditions and reagents that can be used. Lecture, 2 hours. **Prerequisite: Chemistry 130b.**

232 **STEREOISOMERISM OF CARBON COMPOUNDS. (3) II** Estes
Optical isomerism of compounds containing asymmetric carbon atoms; polarimetry; optical isomerism of compounds containing no individual asymmetric atoms; stereochemistry of biphenyls and related compounds; cistrans isomerism; and stereochemistry of the sugars. Lectures, 3 hours. **Prerequisite: Chemistry 130b.**

234a, b **THE ELECTRONIC THEORY AS APPLIED TO ORGANIC REACTIONS. (2, 2) I, II** Estes
A study of the modern viewpoints of valence and their application to the interpretation of organic reactions. Lecture, 2 hours. **Prerequisite: Chemistry 130b and 140b.**

238 **SURVEY OF ORGANIC CHEMISTRY. (4) I** Barkenbus
A general survey of the field of organic chemistry. Lecture, 4 hours. **Prerequisite: Chemistry 130b or equivalent.**

239a, b **TOPICS IN ORGANIC CHEMISTRY. (2, 2) 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. Lecture, 2 hours. **Prerequisite: Chemistry 130b.**

240 **ELECTROCHEMISTRY. (3) I** Dawson
Modern theories of solutions. Applications of electrochemical methods in determining the properties of solutions. Polarization. Electrolysis. Equilibrium in solutions of electrolytes. Lectures, 3 hours. **Prerequisite: Chemistry 140b.**

244 **PHASE RULE. (2) II** Schreyer
Lectures and assigned readings on the theory and application of the phase rule. Lecture, 2 hours. **Prerequisite: Chemistry 140b.**

245 **CATALYSIS. (2) II**
Theories of homogeneous and heterogeneous catalysis and applications in chemical processes. Lecture, 2 hours. **Prerequisite: Chemistry 140b.**

246 **CHEMICAL KINETICS. (3)** Leader
Studies of chemical reactions from the standpoint of velocity and mechanism. Lecture, 3 hours. **Prerequisite: Chemistry 140b.**

248 **CHEMICAL PRINCIPLES. (4) I** Leader
Lectures, recitations, and problems dealing with the states of matter, properties of solutions, chemical and phase equilibria, chemical kinetics and the elements of thermodynamics and electrochemistry. Lecture, 4 hours. **Prerequisite: College physics, integral calculus, and one course in physical chemistry.**

249a, b TOPICS IN PHYSICAL CHEMISTRY. (2, 2)
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. Lecture, 2 hours. **Prerequisite: Chemistry 140b and Mathematics 105**

288a-h GRADUATE SEMINAR. (1 each) I, II **Staff**
Reports and discussions on recent research and current literature. Required of all graduate students.

290a-l RESEARCH IN CHEMISTRY. (5 ea.) I, II, S **Staff**
Work may be taken in the following fields, subject to the approval of the Departmental Graduate Committee: Analytical Chemistry, Industrial Chemistry, Inorganic Chemistry, Organic Chemistry, or Physical Chemistry

ECONOMICS

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Social Studies during the junior and senior years, including the major work.

Requirements for a Major. Prerequisite: Two courses in Economics, including Economics 1. **Required:** A minimum of 21 credits of advanced work in Economics, including Economics 102, 104, and 105; the remainder of credits to be selected from the Arts and Sciences list of Economics courses numbered above 100. In addition tutorial course 16 must be taken in the senior year to prepare for the required comprehensive examination.

List of Courses. The courses that may be used to satisfy the above requirements are listed and described under Commerce, p. 356 and include the following: 1—Principles of Economics; *2—Economic History of Europe; *3—Economic History of the United States; *4—Resources and Industries; *7a and 7b—Principles of Accounting; *9—Business Organization; 15—Applied Economics; 16—Tutorial Work in Economics; 102—Labor Problems; 103—Transportation; 104—Public Finance; 105—Money and Banking; 107—Statistical Method; 110—Business Cycles; 115—Value and Distribution Theory; 124—State and Local Taxation; 125—Evolution of Economic Institutions; 126—Economics of Public Utilities; 127—International Economics; 130—Labor Legislation; 134—Advanced Economic History of the United States; 142—Index Numbers; 147—American Business Leaders; 148—European Business Leaders; 153—The Economics of Consumption.

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

* Open to Freshmen

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

ENGLISH LANGUAGE AND LITERATURE

Herman E. Spivey, Lehre Livingston Dantzler, Robert Barron, Ralph Bergamo, Ben Wather Black, George Keyports Brady, Gifford Blyton, Wallace Earl Briggs, Arthur Louis Cooke, John Levi Cutler, Edward Franklin Farquhar, George P. Faust, Frances W. Gilmore, Robert G. Godfrey, Richard H. Goldstone, A. B. Guthrie, Jr., Leila Gott Harris, Maurice A. Hatch, Grant Cochran Knight, Stanley S. Morton, Georgia Myers, Robert Niederhoffer, Elizabeth Gay Norment, Walter H. Pearce, Frank Rainwater, Woodridge Spears, J. Reid Sterrett, Albert F. Stewart, Thomas B. Stroup, William B. Toran, William Smith Ward, Betty J. Warnick, James Raymond Woodall and James Dudley Woolf.

Requirements for a Major. Prerequisite: English 1a, 1b, 3a, and 3b. **Required:** A minimum of 18 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, and the Arts, including the major work.

English Language and Composition

***D ENGLISH COMPOSITION. (0)** Staff
A remedial grammar course which freshmen are advised to enter on the basis of (a) classification tests or (b) first papers written in English 1a.

***1a ENGLISH COMPOSITION. (3)** Staff
A course designed to teach students to develop and express their own ideas in clear, sensible English. The principal means are the reading and discussion of essays and articles, and practice in writing. Required of all freshmen.

***1b ENGLISH COMPOSITION. (3)** Staff
A continuation of English 1a.

***1bR ENGLISH COMPOSITION. (3)** Staff
A variant of 1b designed for especially qualified students. In the reading assignments for 1bR, imaginative literature is substituted for factual essays and articles. The course is elective for students from English 1a who have been recommended by their instructors and approved by a committee of the staff.

2a ADVANCED COMPOSITION. (3) Staff
A course intended for those who feel the need of further instruction and practice in writing, especially of longer essays, term

* Open to Freshmen.

papers, and other expository material. The emphasis is upon thoughtful organization of material and clear writing. **Prerequisites: English 1a and 1b.**

2b THE SHORT STORY. (2) Guthrie
A course in imaginative writing. **Prerequisites: English 1a, 1b, and consent of the instructor.**

30 BUSINESS ENGLISH. (2) Cutler and others
Primarily for juniors and seniors in the College of Commerce and Engineering. A study of the forms of business correspondence and practice in writing them. **Prerequisites: English 1a and 1b.**

117 WORKSHOP IN IMAGINATIVE WRITING. (2) Guthrie
A continuation and enlargement of 2b, The Short Story. Chief attention again will be directed to the short story, but time also will be given to non-fiction and to the novel. Students who have taken 2b will find it helpful, although 2b is not an absolute prerequisite for the student who has had writing experience which, in the opinion of the instructor, is the equivalent of that gained in 2b. **Prerequisites: English 1a, 1b, and the consent of the instructor.**

101 CURRENT ENGLISH USAGE AND GRAMMAR. (3) Faust
A study of problems in usage, from points of view of descriptive and prescriptive grammar. Designed mainly for prospective and practicing teachers. **Prerequisites: English 1a and 1b.**

102 INTRODUCTION TO THE STUDY OF THE ENGLISH LANGUAGE. (3) Cutler
Phonetics, stymology, semantics, syntax, and inflection; and the special characteristics (phonetic and lexical) of American English. **Prerequisites: English 1a, 1b, 3a, 3b.**

203 OLD ENGLISH. (3) Cutler
A study of Old English language and literature.

204 MIDDLE ENGLISH AND MODERN ENGLISH. (3) Cutler
The transition from Old to Middle English; the major ME dialects; reading in prose and poetry. The transition to Modern English: phonetic changes, sources of the vocabulary, rhetoricians and grammarians, the English dictionaries, historical grammars.

English and American Literature

3a SURVEY OF ENGLISH LITERATURE. (3) Staff
A survey of English literature from Beowulf to the beginnings of the Romantic movement. The emphasis is upon the more important writers with some attention given to their cultural background. **Prerequisites: English 1a and 1b.**

3b SURVEY OF ENGLISH LITERATURE. (3) Staff
A continuation of English 3a, starting with the Romantic movement and continuing to the end of the Victorian era. As in English 3a, the emphasis is upon major writers. English 3a is not a prerequisite for 3b, and either may be taken for credit without the other. **Prerequisites: English 1a and 1b.**

4 INTRODUCTION TO LITERATURE. (3) Spivey and others
An analytical rather than an 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—

the capacity to make discriminating literary choices. Open to any undergraduate who has passed freshman English and especially recommended for those planning to major in English. **Prerequisites: English 1a and 1b.**

5a **MAJOR AMERICAN WRITERS. (3)** Spivey and others
An introduction to American literature, with the emphasis upon extensive reading from four or five major writers each semester. It is intended to promote close acquaintance with these writers but not to provide a survey of American literature or a literary history of America. The approach, therefore, is aesthetic and analytical rather than historical. Writers for the first semester are selected from these: Franklin, Irving, Poe, Longfellow, Hawthorne, Emerson, Thoreau, and Melville. **Prerequisites: English 1a and 1b.**

5b **MAJOR AMERICAN WRITERS. (3)** Spivey and others
A continuation of 5a. Four or five of the following writers will be selected for extensive reading: Whitman, Twain, Howells, James, Frost, Robinson, Elliot, O'Neill, and Maxwell Anderson. English 5a is not a prerequisite for 5b, and either may be taken for credit without the other. **Prerequisites: English 1a and 1b.**

104 **MILTON. (3)** Stroup
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. Individual investigations and reports from students. Special attention to Milton's contribution to literature and thought. **Prerequisites: English 1a, 1b, 3a, 3b.**

105 **CHAUCER. (3)** Cutler
Extensive reading in the chief works of Chaucer with assigned problems relating to Chaucer and his age. **Prerequisites: English 1a, 1b, 3a, 3b.**

106a **ENGLISH ROMANTIC POETRY. (3)** Ward
The philosophical, critical, social, and political backgrounds of romanticism are examined; attention is given to the growth of romanticism in the eighteenth century; but the emphasis is on the major poets of the early nineteenth century: Wordsworth, Coleridge, Byron, Shelley, and Keats. **Prerequisites: English 1a, 1b, 3a, 3b.**

106b **ENGLISH ROMANTIC PROSE. (3)** Ward
A continuation of English 106a. The novel, the essay, literary criticism, periodical literature, and the political treatises of the day are studied. Particular attention is given to prose writers like Lamb, Hazlitt, De Quincey, Scott, and Jane Austen, and to the critical prose of poets like Wordsworth, Coleridge, and Shelley. **Prerequisites: English 1a, 1b, 3a, 3b.**

107a **VICTORIAN POETS. (3)** Brady
An extensive study of the ideas of the chief poets of the Victorian era, with special emphasis on the works of Tennyson, Browning, Arnold, Swinburne, and Rossetti. **Prerequisites: English 1a, 1b, 3a, 3b.**

107b **VICTORIAN PROSE. (3)** Brady
A study of Carlyle, Ruskin, Newman, Spenser, Arnold, Huxley, and related writers of the period in the field of prose. Special emphasis is placed on Carlyle's SARTOR RESARTUS. **Prerequisites: English 1a, 1b, 3a, 3b.**

108a PRINCIPLES OF LITERARY CRITICISM. (3) Farquhar
A course designed to show criticism as a growth and development in an historical survey and to give a corpus of opinion about literature. **Prerequisites: English 1a, 1b, 3a, 3b.**

108b PRINCIPLES OF LITERARY CRITICISM. (3) Farquhar
A continuation of 108a, which is not prerequisite although desirable. **Prerequisites: English 1a, 1b, 3a, 3b.**

109 PRE-SHAKESPEAREAN DRAMA. (3) Staff
A course in English dramatic origins; a study of the works of Lyly, Kyd, Greene, Peele, Jonson, and Marlowe. **Prerequisites: English 1a, 1b, 3a, 3b.**

110a SHAKESPEARE: THE COMEDIES. (3) Staff
Shakespeare's comedies will be studied in detail. **Prerequisites: English 1a, 1b, 3a, 3b.**

110b SHAKESPEARE: THE TRAGEDIES. (3) Staff
A continuation of English 110a, which is not prerequisite, although desirable. Special attention to the great tragedies. **Prerequisites: English 1a, 1b, 3a, 3b.**

111a THE EIGHTEENTH CENTURY NOVEL. (3) Cooke
A study of the novel from its beginning in English Literature to the advent of Scott. **Prerequisites: English 1a, 1b, 3a, 3b.**

111b THE VICTORIAN NOVEL IN ENGLAND. (3) Knight
A continuation of English 111a, although the latter is not prerequisite. The course aims to acquaint the student with the development of the novel to and including Stephen Crane; and to assist him in forming theories concerning the art of fiction and appreciation of masterpieces. **Prerequisites: English 1a, 1b, 3a, 3b.**

116 THE CONTEMPORARY DRAMA. (3) Staff
A course designed to show the development and tendencies in Continental, British, and American dramatic literature, 1850 to date. **Prerequisites: English 1a, 1b, 3a, 3b.**

123a AMERICAN LITERATURE BEFORE 1830. (3) Knight
A survey intended to show the development of American life, thought, and letters up to the Transcendental movement. Emphasis upon Edwards, Paine, Franklin, Irving, Cooper, Bryant. **Prerequisites: English 1a, 1b, 3a, 3b.**

123b AMERICAN LITERATURE AFTER 1830. (3) Knight
A continuation of 123a, which is not prerequisite. Beginning with the Transcendentalists, it studies the triumphant years of American romanticism, with especial attention to Emerson, Thoreau, Hawthorne, Melville, Poe, and Whitman. **Prerequisites: English 1a, 1b, 3a, 3b.**

124a ENGLISH LITERATURE: 1500-1600. (3) Stroup
A study of literature of the Elizabethan period exclusive of the drama. Foreign sources of the English Renaissance. Major English writers from 1500 to 1600, such as More, Ascham, Wyatt, Sidney, Spenser, Raleigh, and Marlowe. A survey of the chief literary forms and main currents of thought. **Prerequisites: English 1a, 1b, 3a, 3b.**

124b ENGLISH LITERATURE: 1600-1660. (3) Stroup
A continuation of 124a. Excluding the drama, this course will cover selected writings of the major literary figures of the period,

such as Bacon, Donne, Ben Jonson, George Herbert, Izaak Walton, Herrick, Sir Thomas Browne, Vaughan, Traherne, and Milton. Intensive readings of carefully selected writings for discussion; extensive readings for reports and papers. Emphasis will fall upon the literary texts themselves, though due attention will be given to thought movements and literary history. **Prerequisites: English 1a, 1b, 3a, 3b.**

127a LITERATURE OF THE BIBLE. (3) Farquhar
A literary study of the Bible. The purpose of the course is to develop an appreciation of literature generally because of the demand that literature identify itself with the highest thought and feeling. **Prerequisites: English 1a, 1b, 3a, 3b.**

127b LITERATURE OF THE BIBLE. (3) Farquhar
A continuation of English 127a, which is not prerequisite, although desirable. **Prerequisites: English 1a, 1b, 3a, 3b.**

130a COMPARATIVE LITERATURE. (3) Brady
Extensive reading of literary masterpieces from Homer to the present day. A study of traditions of civilization as reflected in literary movements. The readings are assigned in English translations, but a reading knowledge of at least one foreign language is desirable. **Prerequisites: English 1a, 1b, 3a, 3b.**

130b COMPARATIVE LITERATURE. (3) Brady
A continuation of English 130a, which is not prerequisite, although desirable. **Prerequisites: English 1a, 1b, 3a, 3b.**

131a-c INDEPENDENT WORK. (3 each) Staff
A course for advanced students of exceptional scholastic standing. Each student pursues a course independently, under the guidance of one member of the staff. The student writes a paper embodying the results of his study and submits to an examination by the staff of the department. **Prerequisites: English 1a, 1b, 3a, 3b.**

133 THE DEVELOPMENT OF AMERICAN REALISM. (3) Knight
Traces the progress of American realism from Yankee and pioneer humorists through the local color school, the leading novelists of the eighties and nineties, their contemporaries in drama and poetry, to the writers of today. Especial attention is given to the social and economic conditions which motivated this literature. **Prerequisites: English 1a, 1b, 3a, 3b.**

143 EDGAR ALLAN POE. (3) Farquhar
A comprehensive study of Poe's works, poetry and prose. **Prerequisites: English 1a, 1b, 3a, 3b.**

145 ELIZABETHAN DRAMA, EXCLUSIVE OF SHAKESPEARE. (3) Stroup
A survey of English drama during the period of Elizabeth. Special study of foreign drama and its influence upon the Elizabethan material. **Prerequisites: English 1a, 1b, 3a, 3b.**

147 AGE OF JOHNSON. (3) Cooke
From 1740 to 1789. Johnson and his circle: Burke, Goldsmith, Gray, Walpole, Cowper. The Pre-Romantic movement. **Prerequisites: English 1a, 1b, 3a, 3b.**

152 THE AGE OF POPE. (3) Cooke
Addison and Steele, Swift, Pope, Defoe and other contemporary figures. **Prerequisites: English 1a, 1b, 3a, 3b.**

153 THE DRAMA OF THE RESTORATION AND EIGHTEENTH CENTURY. (3) Cooke
A study of the dramatic types that arose between the closing of the theaters in 1642 and the death of Sheridan. **Prerequisites: English 1a, 1b, 3a, 3b.**

155a CONTEMPORARY AMERICAN POETRY. (3) Farquhar
An examination of the forces which have developed to create modern poetry in England and America since 1900. The course is an historical study of the movements and currents in their origins and ideas, and a study of literary and esthetic appreciation of form, matter, and style. Collateral reading. **Prerequisites: English 1a, 1b, 3a, 3b.**

155b CONTEMPORARY BRITISH POETRY. (3) Farquhar
A continuation of 155a, which is not prerequisite, although desirable. **Prerequisites: English 1a, 1b, 3a, 3b.**

205 SURVEY OF MIDDLE ENGLISH LITERATURE. (3) Cutler
Romance, drama, lyrics, and ballads. **Prerequisite: English 204.**

206a-d SEMINAR: STUDIES IN THE ENGLISH ROMANTIC PERIOD. (3 each) Ward

210 SEMINAR: BIBLIOGRAPHICAL STUDIES. (3) Brady
This course is required of all candidates for the M.A. degree. It should be taken at the beginning of graduate work.

212a-d SEMINAR: STUDIES IN MEDIEVAL LITERATURE. (3 each) Cutler

213a-d SEMINAR: STUDIES IN EIGHTEENTH CENTURY LITERATURE. (3 each) Cooke
Johnson and his circle, Swift, the Romantic Revolt, the foreign relations of English Literature in the eighteenth century, or the theory and practice of Neoclassicism will be chosen for extensive investigation according to the needs of the students in the group.

214a-d SEMINAR: STUDIES IN VICTORIAN LITERATURE. (3 each) Brady
Intensive studies in the social and literary significance of Arnold, Browning, Carlyle, and Ruskin.

215a-d SEMINAR: STUDIES IN LITERARY CRITICISM. (3 each) Graduate Staff
These seminars seek primarily to present the problems of criticism, structural and historical. Critical backgrounds will be stressed so that critical studies in English literature may be made.

216a-d SEMINAR: STUDIES IN AMERICAN LITERATURE BEFORE 1900. (3 each) Spivey and Knight

217a-d SEMINAR: STUDIES IN CONTEMPORARY AMERICAN LITERATURE. (3 each) Spivey and Knight

224a-d SEMINAR: STUDIES IN ENGLISH LITERATURE FROM 1500 to 1660. (3 each) Stroup
A preliminary survey of the literary and cultural trends of the period is followed by directed research based upon the work of one writer, one group of writers, or one literary type. One long paper and at least one short one are required; oral reports are made on special problems and one such long report is given involving the work of the extensive paper.

Speech

*6 **THE ESSENTIALS OF SPEECH.** (3) Sterrett and Blyton
The course is designed to give the student platform experience in the fundamentals of effective public address. Emphasis will be placed upon correct enunciation, correction of speech defects and other requisite aspects of delivery of the various types of informal address.

7 **ADVANCED PUBLIC SPEAKING.** (3) Sterrett and Blyton
This course is designed to carry further the work begun in English 6, which is prerequisite for this work. **Prerequisites: English 1a, 1b, and 6.**

11 **ARGUMENTATION AND DEBATE.** (3) Blyton
This course is organized to familiarize the student with the theory of argumentative techniques and to provide him with the opportunity to exercise his skill in making logical constructions, logical defenses or refutations of social, political, and economic phases of life. **Prerequisites: English 6 or consent of instructor.**

*14 **PARLIAMENTARY USAGE.** (2) Blyton
The theory and practice of parliamentary procedure as it applies both to governmental and non-governmental organizations. Ample time is allotted for practice in organizing groups and conducting meetings.

38 **ORAL INTERPRETATION.** (3) Sterrett
A course in the study, appreciation, and oral interpretation of selected masterpieces of literature. Recommended for those who plan to teach English literature. **Prerequisites: English 1a, 1b.**

*40a-b **INTERCOLLEGIATE DEBATING.** (1 each) Blyton
Preparation for participation in competitive debates with other universities and colleges. Many opportunities are offered throughout the school year for actual practice in local and off-campus debates. Previous debating experience is beneficial, but not necessary.

40c-f **INTERCOLLEGIATE DEBATING.** (1 each) Blyton
Preparation for and participation in intercollegiate debating.

138 **ADVANCED ORAL INTERPRETATION.** (3) Sterrett

146a **DISCUSSION.** (3) Blyton
The essentials of discussion, with emphasis upon the thinking process as it operates in group situations. Participation in the various forms of discussion. **Prerequisite: English 6 or consent of instructor.**

146b **ADVANCED DISCUSSION.** (3) Blyton
An intensive study of discussion as democracy in action. Ample time devoted to practice discussions. **Prerequisite: English 146a.**

150 **WORKSHOP IN SPEECH EDUCATION.** (6) Blyton
Designed for advanced students, especially teachers and prospective teachers. Individual and group research projects conducted in regular consultation with the instructor. Particular emphasis is placed upon problems pertaining to the teaching of speech.

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* Open to Freshmen.

157 TEACHING OF SPEECH AND ORAL ENGLISH. (3)
Discussions dealing with practical problems in teaching. Intended for teachers and prospective teachers.

158 ADVANCE ARGUMENTATION AND DEBATE. (3) Blyton
The function of argumentation and debate in a democracy, plus a much more detailed and critical examination of the logic of argument than is covered in English 11. **Prerequisite: English 11.**

159 PERSUASION. (3) Blyton
The principles and methods of persuasion. Special attention to speech as an instrument for gaining acceptance. This course will be of particular benefit to teachers, lawyers, business majors, and other persons whose work is concerned with motivating human conduct. **Prerequisite: English 11 or 146a.**

164 SPEECH COMPOSITION. (3) Sterrett
A study of speech structure and oral style through a survey of the major theories of speech composition. The analysis of model contemporary speeches. Preparation and discussion of speech manuscripts. **Prerequisites: English 1a, 1b, 6, 7.**

Dramatic Arts

32 VOICE DEVELOPMENT. (3) Briggs
This course is designed especially for those students interested in speech and dramatics. It attempts to establish good habits of speech through analyzing each student's voice and articulation, and to point out methods of correcting speech faults. Exercises for flexibility, range, relief from tension, and articulation. **Prerequisites: English 1a, 1b.**

***34 HISTORY OF THE STAGE. (2)** Briggs
This course is designed to give the student a knowledge of dramatic history in relation to the problems of staging. Emphasis is placed on those aspects of the development which are of specific interest to players and directors. This course of the drama is traced upon the background of the existing knowledge of the physical stage of each period studied. Laboratory work is offered to acquaint the student with the present-day developments of historic devices and technique of staging.

***35 STAGECRAFT. (2)** Briggs
This course is designed to teach the student the fundamentals of play production. It offers laboratory work which presents the technical problems of construction, painting of scenery, properties, and costuming. It is recommended to prepare the student to meet the problems presented in public school and community theater staging.

***36 STAGING TECHNIQUES. (2)** Briggs
This course is a continuation of Stagecraft, which is not prerequisite, but desirable. Advanced problems of stage management, stage lighting and equipment, and specific types of modern staging are considered, and practical experience is given the student in the design and execution of the various techniques. The student is given instruction in model-building and experimental stage design.

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* Open to Freshmen.

***37 STAGE PRODUCTIONS IN SCHOOL AND COMMUNITY. (2)** Briggs
This course is designed to meet the particular needs of teachers and community theatre workers. It will consider the problems of staging under circumscribed conditions and will discuss minimum essentials of play production and means of constructing or supplying these needs. Individual student problems will be considered in discussing practice of staging.

160 THEORY AND TECHNIQUE OF ACTING. (3) Briggs
Theory of acting applied to individual problems and groups. Development of skill, effectiveness, and grace in the use of the body. Attention to establishing mood, reactions between characters, suspense, through voice modulations, pause and other modes of emphasis, projecting voice and characterization. This course is designed to be helpful to public speakers, actors, and teachers. **Prerequisites: English 1a and 1b.**

161 THEORY AND TECHNIQUE OF DIRECTING. (3) Briggs
Theory of plotting and interpreting a play for directors. 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. Each student will have opportunities to direct plays under supervision. This course is designed especially for teachers who will have to direct plays as a part of their regular work. **Prerequisites: English 1a, 1b.**

162 THEORY AND TECHNIQUE OF THEATRE PRODUCTION. (3)
Intensive study of the practical problems of play production. Application of modern esthetic principles and theories of the theatre. Practice and demonstration of non-professional theatre producing. Attention to coordination of the playwright, designer, technical director, electrician, stage manager, actor, etc. **Prerequisites: English 1a, 1b, 34a, 34b.**

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.

174 WRITING THE FULL-LENGTH PLAY. (3)
Prerequisite: English 172.

GEOGRAPHY

Joseph Raymond Schwendeman, Richard L. Tuthill and Thomas Parry Field.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

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 1, 2, 3a-b, or 10. **Requirements:** A minimum of 18 credits of advanced work

* Open to Freshmen.

in Geography varied according to the curriculum elected by the student, but including at least three credits in Geography 132a-d.

***1 ELEMENTS OF GEOGRAPHY.**
(3) I, II, S Schwendeman and Field
Introduction to the field of geography through a study of its origin, development, terminology, skills especially related to the use of maps, and principles as illustrated in the Modern World. This course will cover geographic concepts and skills necessary (1) for further work in geography, and (2) for certification requirements for students in elementary education; and a desirable course (a) for students as an elective credit in social science in their program of general education, and (b) for students desiring a geographic background in other fields.

***2 REGIONAL GEOGRAPHY OF THE WORLD.**
(3) II, S Schwendeman
A study of the geography of the great climatic regions of the world, an explanation of their (1) position, (2) extent, and (3) influence upon people, and their work in every part of the world. This course provides an introduction to the study of regional geography and serves as a basis for understanding geographic specialization and interdependence. Required of students in Education for elementary certification.

***3a-b SOCIETIES AROUND THE WORLD. (3 ea.) I, II, S** Staff
To apply in the group requirements in Social Studies. The comparative characteristics of preliterate, peasant, and civilized societies in relation to the geography of the land in which they live. Selected societies representing each of these types will be studied in detail. The variations in food, housing, clothing, tools, and transportation will be related, on the one hand, to the habitat, and on the other hand, to occupations and economic organization, form of government, and family system, religion, and art. The first semester's course, 3a, will cover the preliterate and peasant societies; 3b will deal with the civilized societies. (Same as Sociology 3a-b.)

***10 ECONOMIC GEOGRAPHY SURVEY.**
(3) I, II, S Tuthill
This course involves a study of the factors of the natural environment and the economic commodities which are derived from them. Type studies of various agricultural crops, livestock, minerals, manufacturing, and commercial enterprises are made in terms of their geographic relationships. Natural and quantitative factors of production and a real distribution of type commodities are studied. No prerequisite.

20 INTRODUCTION TO METEOROLOGY. (3) I Schwendeman
A study of the facts and principles concerning the behavior and responses of the atmosphere so as to enable the student to acquire an elementary understanding of the physical processes underlying observed weather phenomena. Attention is given to the instruments and methods used in observing and measuring atmospheric conditions. Lecture, two hours; laboratory, two hours. **Prerequisite: Geography 1, for Freshmen.**

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* Open to Freshmen.

22 CLIMATOLOGY. (3) II Schwendeman

Consideration is given to the nature and elements of climate and the factors that give rise to climatic differences. A simplified classification of climate is used in the study of each continent. Attention is given to the influences exerted by climate on soils and land forms, on plants, and on man and his activities. **Prerequisite: Geography 1, for Freshmen.**

100 REGIONAL GEOGRAPHY OF ANGLO-AMERICA. (2) I, S Tuthill

The purpose of this course is to give students a fundamental knowledge of the natural resources, industries, and economic and social developments of the United States, Canada, and Alaska. A regional interpretation is used which considers the location, physical features, climate, and soils on the production of raw materials and foods. **Prerequisite: One geography course or permission of the instructor.**

101 GEOGRAPHY OF KENTUCKY. (2) II, S Schwendeman

This course deals specifically with relationships between the physical environment of Kentucky and the agricultural, industrial, and social conditions. Emphasis is placed upon problems involving human activities, distribution of population, and sequent occupance with special reference to regional and interregional adjustments. **Prerequisite: One geography course or permission of the instructor.**

102 REGIONAL GEOGRAPHY OF LATIN AMERICA. (2) I Schwendeman

A study of the countries and geographic regions of Mexico, Central America, and South America. Special reference will be made to the geographic bases for inter-American relationships. **Prerequisite: One geography course or permission of the instructor.**

103 REGIONAL GEOGRAPHY OF EUROPE. (2) I Tuthill

A study of the European continent exclusive of the U. S. S. R. (see Geography 204) involving the major geographic regions. Climatic, soil, terrain, mineral, and biotic factors will be discussed on both a continental and national basis. Population problems, economic adjustments, and political significance of resources will also be studied. **Prerequisite: One geography course or permission of the instructor.**

104 REGIONAL GEOGRAPHY OF ASIA. (2) II Tuthill

A study of the countries of the Orient and their geographic foundations. Major emphasis is given to the problems and development of India, China, and Japan and to an evaluation of their resources. The role of the Orient in the international landscape will also be studied. **Prerequisite: One course in geography or permission of instructor.**

105 REGIONAL GEOGRAPHY OF AUSTRALIA AND THE PACIFIC ISLANDS. (2) II Field

A study made of the geographic problems and adjustments of the peoples and countries of the Pacific area. Special reference to the strategic nature of their location will be made. **Prerequisite: One geography course or permission of the instructor.**

106 REGIONAL GEOGRAPHY OF AFRICA. (2) II Field

A study of Africa as a complete continent and not as an example of European imperialist policy; as a series of geographic regions rather than as a series of colonial entities. **Prerequisite: One lower division course in Geography.**

110 ADVANCED ECONOMIC GEOGRAPHY. (2) II Tuthill

The geographical foundations and aspects of agriculture, manufacturing, and commerce are subjected to analytical treatment in order that the pattern of their interrelationships be recognized. Various agricultural, mineral, and manufactural commodities are studied both as exemplification of the above analyses and to expand the content of economic geographic information. Particular attention is directed toward modern transportation, trade routes, and the use of statistical data. **Prerequisite: Geography 10.**

112 CONSERVATION OF NATURAL RESOURCES. (2) I Tuthill

The purpose of this course is to acquaint students with the bases of, needs for, and problems in conserving natural resources. The content involves attention to such topics as soils, marginal land use, reclamation, forest conservation, water power, flood control, mineral conservation, wildlife, recreational resources, and the conservation of human beings. The materials concern the resource situation within the United States. **Prerequisite: Geography 10 or equivalent.**

122 APPLIED CLIMATOLOGY. (2) II Schwendeman

The purpose of this course is to acquaint students with the applicability of climatic data to specific economic activities, such as agriculture, ranching, silviculture, manufacturing, transportation, recreation, etc. Attention is directed to the locative influences of climative factors. **Prerequisite: Geography 22 or equivalent.**

130 REGIONAL FIELD OBSERVATION. (3) S Staff

A comparative study of at least four selected regions on any one field trip. The work will consist of preliminary reading, traveling over the regions with close inspection of selected features, and a written report of both reading and field work. **Prerequisite: One course in geography.**

132a-d INDEPENDENT WORK IN GEOGRAPHY. (3 each) I, II, S Staff

Students registering in this course will engage in 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. Entrance by permission of instructor.

133a-k SPECIAL PROBLEMS. (1 each)

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.

134 CARTOGRAPHY. (3) I, II, S Staff

A course in the construction and interpretation of maps. **Prerequisite: Geography 1.**

140 GEOGRAPHICAL FOUNDATIONS OF WORLD POWER. (2) I Schwendeman
A study of the influence of such factors as location, size, form, surface, climate, and natural resources, on the rise and fall of nations. Special consideration will be given to such modern theories as geopolitics and regionalis. **Prerequisite: One course in geography or by permission of instructor.**

202 SEMINAR—GEOGRAPHY OF THE CARIBBEAN REGION. (3) I Tuthill
Principal emphasis is on the islands of the Caribbean region. A study is made of their geographical bases for economic livelihood, their present resource contributions, the significance of their location, and their individual and collective insular problems. **Prerequisite: Geography 102.**

203 SEMINAR—GEOGRAPHY OF THE MEDITERRANEAN BASIN AND THE MIDDLE EAST. (3) I Schwendeman
A study of geographical problems arising in the crucial Mediterranean area is made. Particular attention is directed to the unique locative influences and their effects upon geographical developments in Europe, Asia, and Africa. **Prerequisite: Geography 103.**

204 SEMINAR—GEOGRAPHY OF THE U. S. S. R. (3) II Tuthill
A study of the regional structure, relationships, and problems within Soviet Russia is made. An evaluation is made of the resource basis of modern Soviet development and of present trends in Soviet land expansion. **Prerequisite: Geography 104.**

GEOLOGY

Arthur Crane McFarlan, William R. Brown, Lyn Jacobsen, Vincent E. Nelson, and John A. Stokely.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: Forty credits in the field of Physical and Biological Science, including the major work, in courses not open to freshmen.

Requirements for a Major. Required: Geology 10a, 10b, 101a, 101b, 106a, 106b, 107a, 107b, 123a, 123b, 118a, 124a, 124b. **Field Work:** A summer field course, Geology 118a-d, is 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.

***3 ELEMENTARY GEOLOGY. (3)** Staff
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 laboratory conference.

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* Open to Freshmen.
** There is a special fee of $0.50 to $1.50 for field trips in connection with all courses in elementary and general geology. See catalog, p. 20.

10a FIELD GEOLOGY. (2) Nelson
An introduction to field methods involving the identification and tracing of formations, areal mapping, and structure contouring. **Prerequisite: Geology 30a, 30b.** For special fee see page 20.

10b FIELD GEOLOGY. (2) Brown
Topographic mapping. Six hours of field work a week. **Prerequisite: Geology 30a, 30b; Math. 18, and CE12.**

12a ELEMENTARY GEOLOGY FOR ENGINEERS. (3)
An introduction to the principles of geology. Lecture and Recitation, two hours; one laboratory conference.

12b ELEMENTARY GEOLOGY FOR ENGINEERS. (3)
The practical application of geology to engineering work. A treatment of metallic and non-metallic mineral resources. Geologic Maps. Two lectures, one laboratory conference. **Prerequisite: Geology 12a.**

***14a-d 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 20.

***20a, b LABORATORY WORK IN ELEMENTARY GEOLOGY. (1 ea.)**

***23a-b ELEMENTARY FIELD WORK IN REGIONAL GEOLOGY. (6 each)** McFarlan and Nelson
Eight weeks in the field. The party works along with that in Geology 118a. **Prerequisite: Elementary Geology.** For special fee see page 20.

30a GENERAL GEOLOGY. (5) Nelson
Geological processes—a study of the forces and processes responsible for the features of the earth. Historical geology. Lecture, four hours; laboratory, two hours.

30b GENERAL GEOLOGY. (5) Nelson
Historical Geology. Lecture, four hours; laboratory, two hours.

***50a OUTLINES OF GEOLOGY. (3)** Staff
An introduction to general geology. Lecture, three hours.

***50b OUTLINES OF GEOLOGY. (3)** Brown
A study of some of the more important and better known geological features of the earth. An introduction to mineral resources, historical geology and the fossil record. Lectures, three hours. **Prerequisite: Geology 50a.**

***53 PHYSIOGRAPHY OF NORTH AMERICA. (3)** Hamilton
A regional study of the physical regions of North America, land forms, their nature and origin. Lecture, four hours. **Prerequisite: a course in Elementary Geology.**

101a PALEONTOLOGY. (3) McFarlan
A study of fossil invertebrates, their nature, classification, and geological distribution. Lecture, one hour; laboratory, four hours. **Prerequisite: Geology 30a, 30b, and General Zoology, or a background in Zoology.**

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* Open to Freshmen.

101b PALEONTOLOGY. (3) McFarlan
A study of geologic faunas. Practice in determining stratigraphic horizons. Lecture, one hour; laboratory, four hours. **Prerequisite: Geology 101a.**

105a-f INDEPENDENT WORK IN GEOLOGY. (3 ea.)
Directed work in independent investigations. Thesis required.

106a ECONOMIC GEOLOGY. (3) Brown
Non-metallic mineral deposits. A study of the distribution, mode of occurence, origin, methods of search for and uses of deposits of economic importance. Lecture, two hours; laboratory, two hours. **Prerequisite: Geology 30a, 30b, 123a, and 123b.**

106b ECONOMIC GEOLOGY. (3) Nelson
Metallic Mineral Deposits. Same as above but dealing with metalliferous deposits. The economics of various metal industries and methods of treatment of ores will be briefly considered. Lecture, two hours; laboratory, two hours. **Prerequisite: Geology 30a, 30b, 123a, and 123b.**

106c ECONOMIC GEOLOGY. (3) Hamilton
Engineering aspects and groundwater. Professional training in the work of the geologic consultant and staff geologist in engineering work. Exploratory work for industrial and farm groundwater supplies. **Prerequisite: Geology 30a, b, and 123a, b.**

107a-f ADVANCED FIELD GEOLOGY. (2 ea.) McFarlan
A field course in geologic mapping involving problems of local structure and stratigraphy. Six hours a week in the field. **Prerequisite: Geology 10a, 10b.** Fee see page 20.

118a-d FIELD WORK IN REGIONAL GEOLOGY.
(8 ea.) McFarlan and Nelson
Eight weeks in the field. The course is an effort to bring the student into contact with diverse geological phenomena and problems. Practice in geological field methods. The department conducts a field camp on alternate years in Virginia and Colorado. See special announcement. Required of major students at the end of their junior year. **Prerequisite: Geology 30a, 30b.**

120a GEOLOGY OF KENTUCKY. (3) McFarlan
A study of the geological features of the state other than mineral resources. These include the major events in its geological history, the development of regional characteristics and an explanation of its scenic and natural wonders.

120b GEOLOGY OF KENTUCKY. (3) McFarlan
The mineral resources of the state, their distribution, origin, and uses. Fossil records.

122 PETROLEUM GEOLOGY. (3)
The origin and accumulation of petroleum and natural gas. A study of geological methods used in exploratory work and in the development of known fields. Geology of the principal producing fields. Lecture, two hours; laboratory, two hours. **Prerequisites: Geology 30a, 30b, and General Elementary Physics.**

123a MINERALOGY. (3) Nelson
A study of geometrical crystallography and other physical properties useful in mineral identification. Lecture, one hour; laboratory, four hours. **Prerequisites: Geology 30a, 30b; Chemistry 1a and 1b, or a background in Chemistry.**

123b MINERALOGY. (3) Nelson
The determination of minerals by physical properties, blowpipe analysis, and the petrographic microscope. Includes a study of the origin, occurrence, and associations of these minerals. Lecture, one hour; laboratory, four hours. **Prerequisite: Geology 123a.**

124a, b REGIONAL GEOLOGY. (4 ea.)
A study of the geological regions of the United States.

125 METHODS OF SUBSURFACE CORRELATION. (3)
Methods and practice in subsurface stratigraphic work in petroleum geology. **Prerequisites: Geology 123a and 123b.**

126a-b SEMINAR. (1 ea.) I, II, III Staff
Required of all senior majors.

208 STRUCTURAL GEOLOGY. (3) Nelson
A study of the structural features of the earth's crust with an analysis of the mechanics involved in the production of such structures. Lecture and recitation, three hours; or lecture, two hours; laboratory, two hours. **Prerequisites: Physics 1a and 1b; Geology 30a, 30b, 124a, 124b.**

210a STRATIGRAPHIC PALEONTOLOGY. (3) McFarlan
The succession of Paleozoic faunas and the use of fossils for stratigraphic correlation. Lecture, one hour; laboratory, four hours. **Prerequisite: Geology 30a, 30b, 101a, 101b.**

210b STRATIGRAPHIC PALEONTOLOGY. (3) McFarlan
A continuation of 210a dealing with Mesozoic and Cenozoic faunas. Lecture, one hour; laboratory four hours. **Prerequisite: Geology 210a.**

212a OPTICAL MINERALOGY. (3) Nelson
A study of the optical properties of minerals in thin sections by means of the petrographic microscope. Lecture, one hour; laboratory, 4 hours. **Prerequisites: Geology 123a and 123b; Physics 1a, 1b.**

212b SEDIMENTARY PETROLOGY. (3)
A study of sedimentary rocks based on microscopical analysis. Lecture, one hour; laboratory, 4 hours. **Prerequisite: Geology 212a.**

212c PETROLOGY OF THE IGNEOUS ROCKS. (3) Brown
The occurrence, origin, and classification of igneous rocks. Identification with the petrographic microscope. An introduction to the metamorphic rocks. Lecture, one hour; laboratory, 4 hours. **Prerequisite: Geology 212a.**

217a-d SEMINAR. (1 ea.)

GERMAN LANGUAGE AND LITERATURE

Adolph Edmund Bigge, Daniel Van Brunt Hegeman, John Harms Ubben, Alfred von der Heydt, and Paul Knowlton Whitaker.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: 40 credits in the field of Literature, Philosophy and the Arts, including the major work, in courses not open to freshmen.

Requirements for a Major. Prerequisite: Junior standing, 1a, 1b, 2a, 2b. **Required:** A minimum of 18 credits of work, independent of Junior and Senior Tutorial Courses. Majors must also pass a final comprehensive examination.

The student who presents one unit of high school foreign language will be permitted to enroll in first year work for full credit.

The student who presents two units of high school foreign language will be permitted to enroll in first year work, but will receive credit only if he makes at least a B standing in this course.

Note: No credit will be given for German 1a until German 1b has been completed. No student should enroll in two beginning language courses at the same time.

***1a ELEMENTARY GERMAN. (3) I, II, S** Staff
The essentials of grammar with practice in reading and writing German. No credit is given for course 1a until course 1b is completed.

***1b SIMPLE READING AND PRONUNCIATION. (3) I, II, S** Staff
Continuation of German 1a with more extended exercise in easy reading, writing, and pronunciation. **Prerequisite: German 1a or one high school unit.**

2a TRANSLATION AND RAPID READING. (3) I, II, S Staff
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. **Prerequisite: 1b.**

2b TRANSLATION AND RAPID READING. (3) I, II, S Staff
Continuation of German 2a. **Prerequisite: German 2a.**

10a ELEMENTARY CONVERSATION AND COMPOSITION. (3) I, II, S Staff
This course is conducted mainly in German. The first semester's work will be held to simple every-day terms which any student having had German 1b should be able to master without difficulty. **Prerequisite: 1b or approval of the Department.**

10b ELEMENTARY CONVERSATION AND COMPOSITION. (3) I, II, S Staff
Continuation of German 10a. **Prerequisite: German 10a.**

* Open to Freshmen.

20a READINGS IN MEDICAL GERMAN. (3) I, II, S Staff
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 extensive reading and builds up a graduated vocabulary in the field of the Biological Sciences. **Prerequisite: German 1b.**

20b READINGS IN MEDICAL GERMAN. (3) I, II, S Staff
Continuation of German 20a. **Prerequisite: German 20a.**

21a READINGS IN CHEMICAL GERMAN. (3) I, II, S Staff
This course is designed to meet the needs of Industrial Chemists and Chemistry majors. The reading material provides a well-rounded vocabulary in the field of Chemistry and an intimate acquaintance with the style which is characteristic of German scientific writing. **Prerequisite: German 1b.**

21b READINGS IN CHEMICAL GERMAN. (3) I, II, S Staff
Continuation of German 21a. **Prerequisite: German 21a.**

52 INTRODUCTION TO CLASSICAL AND 19th CENTURY GERMAN LITERATURE. (3) I, II, S Bigge
The emphasis in this and the following course will be on the development of reading facility and the acquisition of vocabulary through extensive reading. Selections from the less difficult works of authors of this period will be read. **Prerequisite: German 2b.**

53 INTRODUCTION TO MODERN GERMAN LITERATURE. (3) I, II, S Bigge
Readings from some of the less difficult works of Hauptmann, Mann, Schnitzler, and other late 19th and 20th Century writers. **Prerequisite: German 2b.**

105a-f INDEPENDENT WORK IN GERMAN. (3 ea.) I, II, S Staff
This course is designed for students who wish to do advanced work in German on any subject. It is not limited to majors in the Department.

106a-b ADVANCED SCIENTIFIC GERMAN. (3 ea.) I, II, S Whitaker
This course is designed primarily 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. **Prerequisite: German 20b or 21b or permission of the Department.**

PROSEMINARS IN THE 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.

Prerequisite for any Proseminar Course: 6 semesters of German.

112 PROSEMINAR IN KLEIST. (2) I

113 PROSEMINAR IN HAUPTMANN. (2) II

114 PROSEMINAR IN SCHILLER. (2) I

115 PROSEMINAR IN GRILLPARZER. (2) II

116 PROSEMINAR IN THOMAS MANN. (2) I

117 PROSEMINAR IN LESSING. (2) II

118 PROSEMINAR IN HEBBEL. (2) I

119 PROSEMINAR IN SUDERMANN. (2) II

120a-b JUNIOR TUTORIAL WORK. (1 ea.) I, II, S Staff
History of German Literature from its beginning to 1500.

130a-b SENIOR TUTORIAL WORK. (3 ea.) I, II, S Staff
Development of the German Epic and Lyric is studied during the first semester, and development of the German Drama during the second semester.

143a-b LIFE AND WORKS OF GOETHE. (3 ea.) I, II, S Hegeman
This course follows the unfolding of Goethe's genius from his first lyrics through the second part of Faust. His principal literary works will be read and special attention devoted to autobiographical material, letters, and diaries. **Prerequisite: 6 semesters of German.**

150 ORIGIN AND DEVELOPMENT OF THE GERMAN LANGUAGE. (3) I, II Staff
This introductory course in Germanic Philology acquaints the student with the position of German in the Indo-European language group and traces the various stages in the development of the German language up to the present. Special emphasis is given to the relationship of German and English words. **Prerequisite: 6 semesters of German.**

151 INTRODUCTION TO MIDDLE HIGH GERMAN. (3) I, II Staff
This is essentially a literary course with only a necessary minimum of Middle High German grammar. Selections will be read from both the epic and lyric poetry of the period and reports will be given on assigned topics. **Prerequisite: 6 semesters of German.**

152 ADVANCED GERMAN CONVERSATION AND COMPOSITION. (3) I, II Staff
This course is primarily one for German majors, particularly those planning to teach German. It will involve intensive practice in the writing of German prose, together with some review of German grammar. **Prerequisite: 6 semesters of German.**

204a GERMAN DRAMA OF THE 19th CENTURY. (3) I Whitaker
This course is a study of the German Drama from Schiller's "Die Braut von Messina" to 1870. **Prerequisite: 6 semesters of German.**

204b THE GERMAN NOVELLE. (3) II Whitaker
This course traces the origin and development of the German Novelle from Goethe to Thomas Mann. **Prerequisite: German 204a or permission of the Department.**

205a-b 20th CENTURY LITERATURE. (3 ea.) I, II Bigge
Extensive readings, discussions, and comprehensive reports on the leading literary minds and movements of this Century. **Prerequisite: 6 semesters of German.**

206 THE AGE OF GOETHE. (3) I, II Hegeman
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. **Prerequisite: 6 semesters of German.**

HISTORY

Thomas D. Clark, James Edward Tuthill, Carl B. Cone, W. Clement Eaton, J. Merton England, Will D. Gilliam, Jr., James F. Hopkins, Albert D. Kirwan, Enno E. Kraehe, Ribert G. Lunde, Robert S. Maxwell, Shelby T. McCloy, Rhea A. Taylor, and Bennett H. Wall.

The introductory courses—2a and 2b in British history, 4a and 4b in European history, and 5a and 5b in American history—will aid freshmen and sophomores in subsequent courses in history, commerce, law, education, journalism, literature, and general liberal arts.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: Forty credits of advanced work in the field of social or humanistic studies, during the Junior and Senior years, including the major work.

Requirements for a Major. Prerequisite: History 2a and 2b, or 4a and 4b, 5a and 5b. **Required:** a minimum of 18 credits of advanced courses in history plus the Senior Seminar.

2a HISTORY OF THE BRITISH PEOPLE TO THE RESTORATION. (3) I, II Cone
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.

2b HISTORY OF THE BRITISH PEOPLE SINCE THE RESTORATION. (3) I, II Cone
From the Stuart period to the present. A continuation of 2a.

***4a MODERN EUROPE TO THE FRENCH REVOLUTION. (3) I, II** Staff
A survey of the growth of Europe from the decline of the Roman Empire to the French Revolution.

***4b MODERN EUROPE SINCE THE FRENCH REVOLUTION. (3) I, II** Staff
A survey of European developments from the French Revolution to the present. A continuation of course 4a.

***5a HISTORY OF THE UNITED STATES THROUGH 1865. (3) I, II** Staff
This course traces the nation's development through 1865. It is designed to meet the demands for a general understanding of American history. This course fulfills the requirements for the elementary teachers' certificate.

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* Open to Freshmen.

***5b HISTORY OF THE UNITED STATES SINCE 1865. (3) I, II** Staff
A continuation of Course 5a, from 1865 to the present.

28 THE ANCIENT WORLD. (2) I
The near East and Pre-Grecian Period. Egypt, Babylonia, Assyria, Persia, Palestine, Greece and Rome.

40 HISTORY OF KENTUCKY. (3) I, II Clark
A general survey of the chief periods of Kentucky's growth and development from 1750 to the present.

I. American History

100a THE DIPLOMACY AND FOREIGN POLICY OF THE UNITED STATES TO 1898. (3) I Hopkins
A survey designed to acquaint the student with the principles of American foreign policy and its historical evolution. **Prerequisite: Course 5a or equivalent.**

100b THE DIPLOMACY AND FOREIGN POLICY OF THE UNITED STATES SINCE 1898. (3) II Hopkins
A continuation of course 100a. Foreign policy after the United States becomes a world power. **Prerequisite: Course 5b or equivalent.**

105a COLONIAL AMERICA. (3) I Gilliam
A study of the origins of the English colonies; their political, social, and economic development; extension of their frontiers, intercolonial wars, and external relations with the Dutch, French, and Spanish. Emphasis on imperial policies and imperial control and the colonial controversies. **Prerequisite: One year of American or European History.**

105b THE AMERICAN REVOLUTION, 1763-1789. (3) II Taylor
This course deals with the American Revolution and the beginning of the United States as a sovereign nation. It discusses the causes of the Revolutionary War, traces the course of that struggle, analyzes the venture under the Articles of Confederation, and explains the change under the Constitution to a permanent form of government. **Prerequisite: One year of American or European History.**

106a COLONIAL LATIN AMERICA. (2) I
A survey of the origins and development of Latin American Colonies and their struggle for independence.

106b LATIN AMERICAN REPUBLICS. (2) II
This course will involve a study of the political, economic, and social institutions, and problems of the Latin American Republics from attainment of independence to the present.

116a, b SENIOR SEMINAR. (2, 2) I, II Staff
A course for seniors designed to present the bibliography and literature in selected fields of history.

124a SOCIAL AND CULTURAL HISTORY OF THE UNITED STATES TO 1865. (3) I England
This course will deal with the transplanting of European peoples and their social and cultural institutions to the New World, the modification and development of these institutions, and the emergence of American forms of life and thought from colonial times through the Civil War.

124b SOCIAL AND CULTURAL HISTORY OF THE UNITED STATES SINCE 1865. (3) II England
A continuation of course 124a.

140a-f INDEPENDENT WORK. (2 ea.) Staff
Under special conditions selected students may investigate problems, with weekly reports to the instructor.

146 RECENT HISTORY OF THE UNITED STATES, 1877-1901. (3) I Wall
A study of the transformation of America from a rural society "isolated" from world affairs into a highly industrialized power. Emphasis placed on the rise and growth of trusts, the development of the American labor movement, the agrarian revolt, and other aspects of the political, social, and intellectual history of the world. **Prerequisite: History 10a and 10b or equivalent.**

147 RECENT HISTORY OF THE UNITED STATES. (3) II Wall
An intensive study of the principal movements and episodes in the history of the people of the United States from the Spanish-American War to the present. **Prerequisite: One year of American History.**

151a THE AMERICAN FRONTIER. (3) I Clark
A course dealing specifically with American westward expansion. This course will consider the westward movement in respect to population, political, economic, social, and cultural development; analyze the process of national adjustments; and weigh the contributions of each succeeding period. **Prerequisite: History 5a and 5b or equivalent.**

151b THE AMERICAN FRONTIER. (3) II Clark
A continuation of Course 151a. It will consider the Trans-Mississippi West.

180a HISTORY OF THE OLD SOUTH. (3) I Eaton
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. The course will consider the various points of sectional development which led to the break up of the Union. The South will be interpreted in both its relationship and contrast to national development. **Prerequisite: History 5a.**

180b THE SOUTH IN THE CIVIL WAR AND RECONSTRUCTION. (3) II Eaton
An intensive study of constitutional theories as a background for secession. The political, social, and constitutional history of the Confederacy and the Reconstruction of the Southern States.

180c HISTORY OF THE NEW SOUTH. (3) II Clark
The evolution of southern life and society, agrarian politics, relationships with other sections, industrial growth, and new leadership. **Prerequisite: History 180a.**

II. England and the British Empire

131a ENGLISH CONSTITUTIONAL HISTORY TO 1603. (3) I Cone
A study of the backgrounds of the English constitution; the Anglo-Saxon contribution; the Norman conquest and development of governmental and legal institutions during the 12th and

13th centuries; the rise of Parliament; the Tudor strong monarchy to its close in 1603. **Prerequisite: History 2a or equivalent.**

131b ENGLISH CONSTITUTIONAL HISTORY SINCE 1603. (3) II Cone
A continuation of Course 131a. The constitutional struggle between the Stuart kings and Parliament; triumph of constitutional monarchy; rise of the Cabinet; effect of the spread of democracy in recent times. **Prerequisite: History 2b or equivalent.**

134 HISTORY OF CANADA. (3) Cone
A brief survey of Canada under the French; increasing emphasis on the development of Canada under British control; evolution of the Dominion; relation with the United States and British Commonwealth of Nations. **Prerequisite: One year of college history.**

135a THE BRITISH EMPIRE TO 1860. (3) I Cone
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. Lectures, class discussions, readings, and reports.

135b THE BRITISH EMPIRE SINCE 1860. (3) II Cone
A continuation of 135a. Great Britain and the growth of the Dominions and the Commonwealth since 1860. Emphasis will be placed upon the Dominion of Canada and extension of the dominion idea to other parts of the Empire. **Prerequisite: 2a and 2b.**

138 BRITISH SOCIAL HISTORY DURING THE TUDOR PERIOD. 1485-1603. (2) II Cone
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. Lectures, discussions, and reports. **Prerequisite: History 2a.**

139 BRITISH HISTORY SINCE 1815. (3) I Cone
A detailed study of Britain's political, social, and diplomatic and industrial development during the modern period. Special consideration will be given to the part played by Britain in World War I and World War II, and her position in the contemporary world.

III. Europe

115 THE RENAISSANCE AND REFORMATION. (3) I McCloy
This course is designed for a study of the birth of modern spirit and institutions. Among the topics studied will be the rise of universities and professions, the expansion of commerce and finance, exploration, the interest in culture and art, the break up of the Medieval Church, the Wars of Religion of the Sixteenth Century, the birth of national states, and the movement toward royal absolutism. **Prerequisite: History 8a or 4a.**

118 SOCIAL HISTORY OF EUROPE IN THE EIGHTEENTH CENTURY. (3) II McCloy
A study of the life and manners of the people of Europe in the 1700's. Especial attention will be given to Western and Southern Europe. Among the topics treated will be living conditions, dress, social conditions, fetes, amusements and entertainments, sumptuary laws, blue laws, police, crime and punish-

ment, prisons, hospitals and asylums, educational institutions, libraries, humanitarian effort, religion, superstition, secret societies, sanitation and disinfection, epidemics, medical care, roads and canals, and travel. **Prerequisite: History 4a and 4b or 8a and 8b.**

119a **THE FRENCH REVOLUTION AND NAPOLEON. (3) I** McCloy
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 1778 to 1795 and subsequent changes under Napoleon.

119b **EUROPE IN THE NINETEENTH CENTURY. (3) II** Kraehe
Starting with the fall of Napoleon, this course treats the successive political changes in 1823, 1830, 1848 and 1871, together with the outstanding commercial, cultural, and scientific developments of European life after 1815; the expansion of Europe in Africa and Asia, and the reactions upon the great states of the world.

120 **EUROPE IN THE TWENTIETH CENTURY. (3) I** Kraehe
A study of recent and contemporary movements. The rise and conflict of the chief colonial empires; European interference and control in Asia and Africa; forces and elements leading up to the great war; socialism; public education; invention and discoveries.

145 **RUSSIA SINCE 1900. (3) II**
This course will trace the development of Russia through the revolutionary upheavals of the present century, from a partly feudal and almost wholly agricultural country under the tsarist regime of the nineteenth century to a proletarian and industrial state under the soviet regime. Special attention will be given to a study of the methods, aims, and achievements of the Bolshevik leaders and the Communist Party; an analysis of the nature of society in the world's principal socialist state; and economic, political, and diplomatic factors which have made Russia a leading world power.

171 **EUROPE IN THE EIGHTEENTH CENTURY. (3) I** Lunde
A study of the development of absolute monarchies from Louis XIV; the European rivalries at home and abroad; benevolent despotism, and the Age of Enlightenment. Considerable attention will be given to the social and cultural aspects of the period. **Prerequisite: History 4a or equivalent.**

179 **MODERN EUROPE. (3)** Kraehe
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. Looking back from 1650, charting the present European progress during the optimistic age; European colonization and imperialism (1650-1914); the world in turmoil; the present-day ordeal of our time. **Prerequisite: History 4a and 4b.**

185a **CULTURAL HISTORY OF SEVENTEENTH CENTURY EUROPE. (3) I** McCloy
A history of the development of culture in various fields. Intended, without serious duplication of the content of other courses, to furnish a background for further study in a number of directions.

185b CULTURAL HISTORY OF EIGHTEENTH CENTURY EUROPE. (3) II McCloy
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. It is to serve as a sequel to the course now listed as History 185a, although that course will not be demanded as prerequisite.

IV. The Far East

190a THE FAR EAST TO 1900. (2) I Vandenbosch
The Portuguese, Dutch, French, and British colonial and trading empires in the Central East (India, Burma, Indo-China and the East Indies). **Prerequisite: History 8a or equivalent.**

190b THE FAR EAST SINCE 1900. (2) II Vandenbosch
The contacts of Europe and America with the Far East (China, Japan, Korea, and the Philippines) in the 19th and 20th centuries. **Prerequisite: History 8b or equivalent.**

194 THE UNITED STATES IN THE PACIFIC AND THE FAR EAST SINCE 1898. (2) I Vandenbosch
This course presents the policies which resulted in annexation of Hawaii and the Philippines, the announcement of the so-called open door policies and the integrity of China, with their historic development. It concludes with the Stimson doctrine of non-recognition.

The "200" Group

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.

202 THE AMERICAN REVOLUTION. (3) Staff
Seminar.

206 THE CONFEDERATION OF THE UNITED STATES. (3) II Clark

247a-d SEMINAR IN UNITED STATES HISTORY. (3 each) Clark
Intensive studies in the political, social, and cultural history of the U. S. since 1914. Different topics will be stressed in rotation.

280 EUROPEAN HISTORIOGRAPHY. (3) I McCloy

281 AMERICAN HISTORIOGRAPHY. (3) II Clark and Eaton

282 HISTORICAL CRITICISM. (3) Staff

The "300" Group

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). It is desirable that the student take

the Senior Seminar before enrolling in "300" courses. 3 hours credit, 2 class hours, and 1 conference hour.

300a-d SEMINAR IN AMERICAN FOREIGN POLICY. (3 each) I, II — Staff
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.

315a-d HENRY CLAY AND HIS TIMES. (3 each) I — Eaton

320a-d ORIGINS OF WORLD WAR I. (3 each) — Kraehe
Seminar.

331 SEMINAR IN MODERN BRITISH HISTORY. (3) — Cone

342 SEMINAR IN KENTUCKY HISTORY. (3) I — Clark
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.

350a-d SEMINAR IN THE FRENCH REVOLUTION. (3 each) I, II — McCloy
Problems selected in the decade of revolution, 1789-1799. A seminar paper based upon research in the official **Moniteur,** in the public documents, and in the memoirs of the period, to be presented and defended in the seminar group. A reading knowledge of French is essential.

365 AMERICAN CIVIL WAR. (3) II — Eaton

366 RECONSTRUCTION. (3) II — Eaton

HOME ECONOMICS

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

George K. Brady, Anne W. Callihan, Arthur L. Cooke, Jesse DeBoer, Betty J. Eilertsen, Dord E. Fitz, Ann G. Green, Maurice A. Hatch, Daniel V. Hegeman, John Kuiper, Mildred S. Lewis, John H. Melzer, Frank J. Prindl, Frank Rainwater, Edward W. Rannells, L. Hobart Ryland, Woodridge Spears, Thomas B. Stroup, and William S. Ward.

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 A, B, or C) and one course in art or music (Humanities D or E). 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.

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. **Prerequisite: Sophomore standing.**

B. THE RENAISSANCE: ROMANTICISM. (2)
Lecture and discussion, and required reading from representative works. Typical of the writers to be considered are Bacon, Machiavelli, Rousseau, Kant, Shelley. **Prerequisite: Sophomore standing.**

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. **Prerequisite: Sophomore standing.**

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. **Prerequisite: Sophomore standing.**

E. MUSIC: THE RENAISSANCE TO THE PRESENT. (2)
Lectures and discussions, with illustrations by performance and from recordings. Study of musical forms; required reading and listening; analyses of selected masterworks. **Prerequisite: Sophomore standing.**

HYGIENE AND PUBLIC HEALTH

John Sharpe Chambers, William Brooks Hamilton, Wilbur August Heinz, and J. D. Farris.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: 40 credits in the field of Biological Sciences and Social Studies (Sociology, Social Work, Political Science), 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.

*1 **PERSONAL AND COMMUNITY HEALTH.**
(1) I, II — Heinz and Hamilton
Lectures and recitations. An introduction to the principles of personal and community health.

7 **FIRST AID.** (2) II — Staff
Meets the standard Red Cross requirements in first aid and leads to a Red Cross certificate which will be awarded to each

* Open to Freshmen.

member of the class who completes the course and satisfactorily passes the final examination. Lectures, discussions, demonstrations, and explanation of first aid methods and principles followed by actual practice work for each student.

*9 **FUNDAMENTALS OF HEALTH. (2) I, II, S** Heinz and Hamilton
A course designed to meet the health requirements for Elementary or Secondary School certification.

51 **PERSONAL HEALTH PROBLEMS. (2) I, II, S** Heinz and Hamilton
A course involving the detailed study of certain practical health problems of the present day. Presentation of essential health knowledge with enough anatomy, physiology, and other underlying sciences to clarify and support the health teaching. Not available for credit to students who have had Hygiene 1. The course may be used by Sophomores, Juniors, and Seniors to meet the general hygiene requirement. Not open to Freshmen.

100a **PUBLIC HEALTH. (3) I, S** Chambers and Heinz
A consideration of the cause, prevalence, transmission, and control of preventable diseases.

100b **PUBLIC HEALTH. (3) II** Chambers and Heinz
A continuation of 100a. Environmental and organizational approach to disease prevention.

104 **MATERNAL AND CHILD HEALTH. (2) II, S**
Problems in Maternal and Child Health.

110 **HEALTH EDUCATION. (3) I, S** Heinz
A course dealing primarily with principles of health education, health service and health protection. Intended to consider also the cooperative nature of school health work through study of problems in the solution of which contributions are made by parents, the school, and the community.

111a-d **INDEPENDENT WORK IN HYGIENE AND PUBLIC HEALTH. (3 ea.) I, II, S** Heinz

115 **COMMUNICABLE DISEASES. (3) II, S** Hamilton
A study of communicable diseases with reference to causal agents, avenues of infection and methods of prevention, with special emphasis on those diseases prevalent in Kentucky. **Prerequisite: Bacteriology 52 or equivalent.**

118 **VITAL STATISTICS. (3) I, S** Heinz
Statistics of population, deaths, births, and morbidity; the collection and analysis of vital statistics.

120a **MENTAL HYGIENE. (3) I**
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 124.

120b **MENTAL HYGIENE OBSERVATION. (3) II**
A continuation of Hygiene 120a. Students are given the opportunity to apply to concrete cases the principles and concepts developed in 120a.

122 SCHOOL AND COMMUNITY HEALTH. (2) II, S Heinz
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.

150a, b PROBLEMS IN HEALTH EDUCATION. (2, 2) II, S Heinz
An individual problems course for students and teachers in service, based upon a systematic attack upon the health problems of a school.
Other courses for Upper Division and Graduate students, such as Vital Statistics (118), School and Community Health (122), and others are given from time to time.

200 EPIDEMIOLOGY. (3) S Chambers
The cause, transmission and control of communicable diseases.

203 PUBLIC HEALTH RECORDS. (2) S
General principles of recording, filing, and use of public health data.

204 MATERNAL AND CHILD HEALTH. (2) S
Lectures and conferences. The principles of prenatal, infant, and child care.

212a PUBLIC HEALTH ADMINISTRATION. (3) S
The organization and administration of public health.

212b PUBLIC HEALTH ADMINISTRATION. (2) S
A continuation of 212a.

218a VITAL STATISTICS. (3) S
Statistics of population, births, deaths, marriage, and morbidity.

218b VITAL STATISTICS. (2) S
A continuation of 218a.

220 MENTAL HYGIENE. (2) S
Lectures and clinics considering the cause, classification, course, treatment, and prevention of mental disorders.

225a COUNTY HEALTH PRACTICE FOR HEALTH OFFICERS. (3) S
An internship in actual county health practice.

225b COUNTY HEALTH PRACTICE FOR HEALTH OFFICERS. (2) S
A critical analysis of one service of the Fayette County Health Department.

290. SEMINAR. (1) S Staff

JOURNALISM

Leonard Niel Plummer, J. A. McCauley, Marguerite McLaughlin, N. B. McMillian, William M. Moore, Victor R. Portmann, and A. B. Brooke, Jr.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in Field of Concentration: Forty credits in courses not open to freshmen, including the major work, in either the field of Social Studies or that of Literature, Philosophy, and the Arts, during junior and senior years.

Requirements for a Major. Prerequisite: Journalism 2, 21, and 22. **Required:** Journalism 100a, 100b, 101, 105, 106, 107, 108, 109, 114, 123, and 127.

The Degree of A.B. in Journalism. Four sequences leading to the degree of A.B. in Journalism are outlined on page 75.

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.

*2 **INTRODUCTION TO JOURNALISM. (2) I, II, S** Plummer
A course of lectures and readings designed to introduce pre-journalism students to the opportunities in journalism and advertising, the qualifications and training implicit in journalism as a profession, and the field of journalistic publication in all its branches.

10 **SURVEY OF JOURNALISM. (3) I, II, S** McLaughlin
A general non-professional course covering newspaper organization and problems of interest to newspaper readers. Lectures and practice in the style of writing employed by the press. Not open to majors in journalism.

21 **ETYMOLOGY. (3) I, II, S** Plummer
A study of words and their fundamental values with reference to development of a writing vocabulary.

22 **PRINCIPLES OF NEWS WRITING. (3) I, II, S** Moore
Lectures and readings on the development of the modern news style. Practice in effective writing.

100a **NEWS REPORTING. (3) I, II, S** McCauley and Brooke
Instruction and practice in news gathering, news evaluation, and news writing. **Prerequisite: Journalism 22.**

100b **NEWS REPORTING. (3) I, II, S** McCauley and Brooke
A continuation of Journalism 100a with emphasis on special fields of information. **Prerequisite: Journalism 100a.**

101 **COPYREADING AND EDITING. (3) I, II, S** McCauley
Instruction and practice in newspaper deskwork. Preparation of local, state, telegraph, and radio news and features; picture editing, and page make-up. Laboratory 6 hours. **Prerequisite: Journalism 100a.**

102 **COMMUNITY JOURNALISM. (3) I, S** Portmann
A study of the problems which confront the community weekly and the small city daily.

103 **NEWSPAPER ADMINISTRATION. (3) II** Portmann
A study of the business, circulation, advertising, and accounting divisions of the newspaper with special emphasis on the community newspapers. **Prerequisite: Journalism 22.**

105 **LAW OF THE PRESS. (2) I** Plummer
A study of the special laws of libel, copyright, and regulatory provisions that pertain to the press.

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* Open to Freshmen.

106 INFLUENCE OF THE NEWSPAPER. (3) I Moore
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. Lectures and readings directed toward the evolution of principles for the guidance of members of the news, editorial, and business staffs of newspapers. **Prerequisite: Senior standing.**

107 EDITORIAL WRITING. (2) I McCauley
A study of editorials, editorial columns, and editorial pages. Publication of copy encouraged. **Prerequisite: Journalism 22.**

108 HISTORY OF JOURNALISM. (3) II Portmann
A study of the rise and development of American journalism and newspapers. **Prerequisite: Senior standing.**

109 TYPOGRAPHY. (2) I Portmann and McMillian
Instruction and practice in typographic composition. Use of type faces in news editing. Study of typography in the make-up of American newspapers. Laboratory, four hours.

110 SUPERVISION OF HIGH SCHOOL PUBLICATIONS. (3) S Portmann
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.

111 VERBAL CRITICISM. (3) II, S McCauley
A study of words and their synonyms with reference to developing accuracy in use of the English language in journalistic work.

112 CRITICAL WRITING FOR THE PRESS. (3) I, II, S McLaughlin
The function of criticism in journalism. Reviewing of motion pictures, plays, concerts, and books for newspapers with emphasis upon student work in Kentucky newspapers.

114 NEWSPAPER ADVERTISING AND PROMOTION. (3) I, II, S Portmann
Relations of newspapers with retail advertisers; newspaper advertising department organization; advertising rate structures; classified advertising; legal advertising; organization and development of the promotion department.

115 ADVERTISING TYPOGRAPHY AND LAYOUT. (3) II Portmann
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, 1 hour; laboratory, 4 hours.

118 PUBLICITY. (3) II, S Plummer
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.

120 SEMINAR IN PUBLIC OPINION. (3) Moore
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. **Prerequisite: Senior or graduate standing.**

123 FEATURE WRITING. (3) I, II Plummer
Instruction and practice in writing features. Lectures, readings, and reports directed toward discovering, gathering, organizing, writing, and marketing feature articles for newspaper supplements, trade journals, and other periodicals. **Prerequisite: Senior standing or consent of instructor.**

125 MAGAZINE ARTICLE WRITING. (3) II, S Moore
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. **Prerequisite: Senior or graduate standing, or consent of instructor.**

127 REPORTING PUBLIC AFFAIRS. (3) II, S Plummer
Instruction and practice in reporting the news originating in courts and other public institutions. **Prerequisites: Journalism 100b and senior standing.**

150 RADIO NEWS SCRIPTS. (2) I, II Moore
Instruction and practice in writing news and feature material for radio presentation. **Prerequisite: Journalism 22.**

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

[1] David Otis Kelley, Laura K. Martin, and [1] Azile Wofford.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in Field of Concentration: Forty credits of advanced work in the Field of Literature, Philosophy, and the Arts, or acceptable equivalent, including the 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 18 semester hours.

General Courses

***25 USE OF THE LIBRARY. (1) I, II** Staff
A practical survey of library book resources, tools, and services; designed to aid the college student in his study, research, and recreational reading.

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* Open to Freshmen.
[1] For changes in status see p. 428.

Professional Courses

101a-d INDEPENDENT WORK. (1 ea.) I, II, S Staff
Conferences, assigned readings, reports, etc. **Prerequisite: L.S. 129, 133a, 145, 152, and either 110 or 121.**

110 THE LIBRARY IN THE SCHOOL. (3) I, S Wofford
A study of the school library as a functioning organization. Topics included: School library objectives; planning and equipment; personnel problems; standards; budgets and finance; circulation records and procedures; attendance and other records; instruction in the use of the library; school library activities; school library and other community agencies.

121 INTRODUCTION TO LIBRARY WORK. (3) I, S Kelley
An orientation course designed to give students a general understanding of libraries and library work. Topics included: Survey of libraries in the United States; types of positions in libraries; training for library work; qualifications expected of the trained librarian; library work as a profession; functions of libraries; general principles of library administration.

127a BOOKS AND RELATED MATERIALS FOR CHILDREN AND YOUNG PEOPLE. (3) I, S Wofford
Designed primarily for school librarians but open to any students preparing to work with children and young people. Consideration of many types of books and related materials for various ages and reading abilities and their use with young readers. Emphasis on library materials to supplement the curriculum and encourage recreational reading.

127b BOOKS AND RELATED MATERIALS FOR CHILDREN AND YOUNG PEOPLE. (3) II, S Wofford
A continuation of L.S. 127a.

129 CATALOGING AND CLASSIFICATION. (3) I, S Wofford
A study of the fundamental principles and methods of classification and cataloging books and related materials. 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.

133a REFERENCE AND BIBLIOGRAPHY. (3) I, S Kelley
A study of the essential reference works, including dictionaries, encyclopedias, atlases, yearbooks, and periodical indexes; of the more important subject and trade bibliographies; vertical file materials; and of the standards and methods by which such material is selected, organized, and efficiently used. Special attention is paid to the reference book collection in the high school library.

133b REFERENCE AND BIBLIOGRAPHY. (2) II, S Kelley
A continuation of L.S. 133a. Emphasis is placed on reference books in subject fields and on the national and subject bibliographies. **Prerequisite: L.S. 133a.**

139 LIBRARY PRACTICE. (3) II, S Roser
Observation and supervised practice in a school library. This course fulfills a requirement of the Southern Association for school librarians.

145 ORGANIZATION OF LIBRARY MATERIALS. (3) I, S Wofford

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 for library use, mending, binding procedures, inventory, and the other processes concerned with the physical maintenance of the collection. The use of library statistics in making reports is investigated.

152 BOOK SELECTION. (3) I, S Martin

A general study of book selection principles and methods, with emphasis on printed materials as they interpret modern problems. Topics and activities included: Principles and standards for the selection of books, periodicals and pamphlets, book publishing, series and editions; extensive reading and evaluation of types of books in philosophy, religion, sociology, science, the fine arts, history and travel; critical examination of aids to book selection, including book reviewing periodicals.

212 THE PUBLIC LIBRARY. (2) I, II, S Martin

A study of the public library as a functioning institution. Topics included: Organization and administration of public library service; selection of books for public libraries; registration and circulation records; analysis of public library services and activities; trends in public library service; the library in relation to other community organizations. The course will include case studies of specific libraries.

214 THE COLLEGE AND UNIVERSITY LIBRARY. (2) I, II, S Kelley

A study of the college and university library as a functioning institution. Topics included: Higher education in America; functions of the library in higher education; library standards; organization and administration of libraries in higher educational institutions; the library staff; finances; book collections; buildings; records and reports; circulation problems and procedures; analysis of library services and activities; trends in college and university library service; library relations with faculty, students, and administration. The course will include case studies of specific libraries.

227 READING FOR YOUNG PEOPLE. (2) II, S Wofford

This course will consider reading needs and interests of young people together with current studies in the field. Methods of reading guidance with various types of readers and employing all kinds of media included. New trends in books and related materials, as well as problems in young people's reading, will be considered. Designed for librarians working with young people who wish further study in the field. **Prerequisite: 127a, b, or equivalent.**

229 ADVANCED CATALOGING AND CLASSIFICATION. (4) II, S Wofford

Expansion of the principles and methods of classification and cataloging books and related materials. Attention given to more advanced problems in cataloging, and types of materials found in larger libraries, especially college and university. Consideration of use of Library of Congress classification and forms for cataloging. **Prerequisite: 129 or equivalent.**

232 LIBRARY WORK WITH CHILDREN. (4) I, S Martin
A study of the origin and present status of library work with children in school and public libraries. Standard books for children in the major areas of interest are presented through story-telling, appreciation hours, and the study of special problems in bringing books and children together. Administration of children's libraries and consideration of the historic development of children's work in America, are included.

233 SUBJECT BIBLIOGRAPHY. (3) II, S Kelley
A comprehensive study of basic reference materials in the humanities, social sciences, and natural sciences. This course emphasizes reference service in research libraries. **Prerequisite: 133a, b, or equivalent.**

235 GOVERNMENT PUBLICATIONS. (2) II Kelley
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. **Prerequisite: 133a, b, or equivalent.**

242 HISTORY OF BOOKS. (2) II Martin
This course is designed to present the background of modern library service. It 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.

250 ADULT READING GUIDANCE. (3) II, S Martin
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. Adaptation of survey techniques to aid the librarian without research specialists at his disposal, will also be emphasized.

252 ADVANCED BOOK SELECTION. (4) II, S Martin
Emphasis on the more imaginative and creative forms of literature, especially the place of fiction in the modern public library. Drama, poetry, and periodicals will also be considered, and presented through reviews, oral and written, and through preparation of book lists and exhibits. **Prerequisite: 152 or equivalent.**

254 SEMINAR. (2) II, S Staff
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.

MATHEMATICS AND ASTRONOMY

Harold Hardesty Downing, Paul P. Boyd, Delbert F. Atkins, Virginia S. Baskett, Marion Clay Brown, Elsie T. Church, Lake Cornett Cooper, Douglas L. Daly, Theodore K. Dyer, Lydia Roberts Fischer, A. E. Foster, Tadeusz Leser, Sallie Elizabeth Pence, Francis M. Pulliam, Charles L. Riggs, Sara L. Ripy, F. Virginia Rohde, Donald C. Rose, Wimberly C. Royster, Genevieve Snider, Dudley Eugene South, Ruric E. Wheeler, and Assistants.

Mathematics

UPPER DIVISION REQUIREMENTS—Junior and Senior Years

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Physical Science during the junior and senior years, including the major work.

Requirements for a Major. Prerequisite: Math. and Ast. 2, 5 or 17, 18, 19, 20a, 20b. **Required:** A minimum of 18 credits of advanced work in mathematics, including Math. and Ast. 25, 26, 27, and one course in Applications.

Requirements for Graduate Work. Graduate students must have had at least 12 credits of mathematics beyond integral calculus before counting work toward an advanced degree.

*1 **BASIC MATHEMATICS.** (3) I, II, S — Staff
A study of elementary mathematics necessary for certain courses in science. Contents: Common and decimal fractions, percentages, averages, powers and roots in arithmetic; formulas, simple equations, and graphs in algebra; simple problems in geometry; and solutions of triangles in trigonometry. Open to Freshmen only.

*2 **SOLID GEOMETRY.** (3) I, II, S — Staff
A study of lines, planes, cubes, spheres, cones, and cylinders. For the student who has not had this subject in high school. Prerequisite for Math. and Ast. 20a. **Prerequisite: 1 unit of high school plane geometry.**

4 **ELEMENTARY THEORY OF STATISTICS.** (3) — South
Formulas and methods for arithmetic mean, geometric mean, median, mode, standard deviation, skewness and linear correlation will be derived; applications with emphasis on assumptions and interpretations. **Prerequisite: 1½ units of high school algebra.**

*5 **COLLEGE ALGEBRA.** (5) I, II, S — Staff
A course designed for those students whose preparation in high school algebra is inadequate for a standard course in college algebra. It contains a review of high school algebra, and topics given in a standard college course. **Prerequisite: Math. and Ast. 1 or its equivalent as determined by the Department of Mathematics and Astronomy from the University placement tests.**

*15 **MATHEMATICS OF FINANCE.** (3) I, II, S — Staff
A study of simple interest, simple discount, compound interest and annuities. Applications to solutions of problems in amortization, sinking funds, valuation of bonds. **Prerequisite: Math. and Ast. 5 or 17.**

*17 **COLLEGE ALGEBRA.** (3) I, II, S — Staff
The standard course. A review of quadratic equations; simultaneous quadratics, variations, permutations and combinations, and theory of equations. **Prerequisite: 1 unit or more of high school algebra and adequate preparation for a standard**

* Open to Freshmen.

course in college algebra as determined by the Department of Mathematics and Astronomy from the University placement tests.

*18 **PLANE TRIGONOMETRY. (3) I, II, S** Staff
This course includes a study of the triangle with applications to surveying, etc. Also a study of analytic trigonometry in preparation for further work in mathematics. **Prerequisite: 1 unit of high school plane geometry, and qualifications admitting to Math. and Ast. 17 or having passed Math. and Ast. 5.**

*19 **PLANE ANALYTIC GEOMETRY. (3) I, II, S** Staff
A brief study of coordinate systems; sketching curves from their equations; conic sections, parametric equations. **Prerequisite: Math. and Ast. 5 or 17 and 18.**

20a **DIFFERENTIAL CALCULUS. (4) I, II, S** Staff
A study of rates of changes of elementary functions through use of the derivative and differential. Applications to problems of physics, chemistry, engineering, etc. Simple integration. **Prerequisite: Math. and Ast. 2 and 19.**

20b **INTEGRAL CALCULUS. (4) I, II, S** Staff
Indefinite and definite integrals. Determination of area, volume, pressure, work, centroid, moment of inertia. More differentiation. Solid analytic geometry. **Prerequisite: Math. and Ast. 20a.**

25 **INTERMEDIATE CALCULUS. (3) II** Jasper
Contents: To include such topics as limits, continuity, curvature, mean value theorem and indeterminate forms, series expansions of functions, hyperbolic functions, partial differentiation, properties of definite integrals, reduction formulas in integration, and other advanced forms of integrals. **Prerequisite: Math. and Ast. 20b.**

26 **ADVANCED COLLEGE ALGEBRA. (3) I** Foster
This course extends the regular college algebra course and introduces new topics. Topics include mathematical induction, determinants, systems of enumeration, binomial and multinomial theorems, Diophantine equations, and partial and continued fractions. **Prerequisite: Math. and Ast. 5 or 17.**

27 **ADVANCED ANALYTIC GEOMETRY. (3)** Staff
Study of general analytic methods as applied to conic sections and other curves. Topics include: Locus of general equations of the second degree, translation and rotation of axes, invariants, simple transformations in the plane, tangents and normals, polar reciprocation, inversion. **Prerequisite: Math. and Ast. 20a.**

102 **VECTOR ANALYSIS. (3)** Downing
Contents: The algebra and calculus of vectors; applications to geometry, electricity, and physics; harmonic functions and potentials. **Prerequisite: Math. and Ast. 20b.**

103 **THEORY OF EQUATIONS. (3)** Downing
Topics included: Solutions of cubic and quartic equations; ruler and compass constructions; roots of units; solutions of numerical equations, systems of linear equations, symmetric functions, and resultants. **Prerequisite: Math. and Ast. 20a.**

* Open to Freshmen.

105a DIFFERENTIAL EQUATIONS. (3) I, II, S Staff
A first course including first order linear differential equations, homogeneous equations, exact equations, second order equations with constant coefficients, and numerous applications. **Prerequisite: Math. and Ast. 20b.**

105b DIFFERENTIAL EQUATIONS. (3) Senior Staff
Further study of ordinary differential equations, special types, sinular solutions, and integration in series. **Prerequisite: Math. and Ast. 105a.**

107 PROJECTIVE GEOMETRY. (3) Pence
A brief course in synthetic projective geometry. Topics include: 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. **Prerequisite: Consent of instructor.**

110a-f INDEPENDENT WORK IN MATHEMATICS. (3 each) I, II, S Staff
Reading courses for upper division and graduate students of high standing. **Prerequisite: Consent of the Department.**

116 ANALYTIC MECHANICS. (3) Downing
Topics included: Composition and resolution of forces, statics of a particle, moments, couples, center of gravity, friction, simple harmonic motion, work, energy, and constrained motion. **Prerequisite: Math. and Ast. 20b.**

118 SOLID ANALYTIC GEOMETRY. (3) Brown
The usual introduction to the geometry of three dimensional space. Topics studied include the development of linear systems of planes, plane coordinates, the concept of infinity, transformation of coordinates, types of surfaces, quadric surfaces, tetrahedral coordinates. **Prerequisite: Math. and Ast. 20a.**

119 COLLEGE GEOMETRY. (3) Rohde
Introduction to a wide and extensive body of synthetic geometry. It concerns the geometry of the triangle and the circle, and requires only the known Euclidean concepts. **Prerequisite: Consent of the instructor.**

120 MATHEMATICAL STATISTICS. (3) II South
Topics considered: Averages, coefficients of dispersion and skewness, correlation and regression lines, curve fitting, Bernoulli Theorem, DeMoivre-Laplace Theorem, generating functions, sampling. **Prerequisite: Math. and Ast. 20b.**

122 ACTURIAL MATHEMATICS. (3) South
Theory of mortality tables, life annuities, premiums, terminal reserves, joint-life annuities and insurances. **Prerequisite: Math. and Ast. 20b.**

123 CURVE TRACING. (3) I Pence
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. **Prerequisite: Consent of instructor.**

125a, b INTRODUCTION TO HIGHER ANALYSIS. (3, 3) Pulliam
Development of the number system, elementary point set theory, limits, sequences, series, continuous functions, derivatives and

integrals, elementary functions, Fourier series. **Prerequisite: Math. and Ast. 20b.**

126a, b INTRODUCTION TO HIGHER ALGEBRA. (3, 3)
Integral domains, fields, polynomials, groups, vector spaces, matrices, and determinants. **Prerequisite: Math. and Ast. 26.**

127a, b INTRODUCTION TO HIGHER GEOMETRY. (3, 3) Pence
The principal aim of this course is to initiate the student in the basic ideas and methods of higher geometry and to furnish him with an adequate background for further geometrical studies. Special emphasis is laid on fundamentals common to all geometry. The geometries associated with the projective group and the group of circular transformations are selected for intensive study. **Prerequisite: Math. and Ast. 27, or its equivalent.**

128a, b INTRODUCTION TO APPLIED MATHEMATICS. (3, 3) Pulliam
Numerical, graphical, and mechanical methods of calculation, approximations, methods of successive approximation, theory of errors in numerical computation, algebra and calculus of vectors, calculus of variations. **Prerequisite: Math. and Ast. 25.**

132 THE CALCULUS OF FINITE DIFFERENCES. (3) South
A study of the methods of differencing, interpolation, finite integration, summation of series, approximate integration and difference equations. **Prerequisite: Math. and Ast. 20b.**

202a, b ALGEBRAIC CURVES. (3, 3) Pence
The topics studied include general properties of algebraic curves, the theory of residuation, singular points, covariant curves, theory of poles and polars, polar reciprocation, characteristics of curves, rational transformations, unicursal curves, higher singularities, systems of curves. **Prerequisite: Math. and Ast. 127a, b.**

203a-d THESIS. (3 each) Senior Staff
A thesis is required, in addition to other requirements, for advanced degrees. Credit may be obtained while doing research for the thesis.

204a, b CALCULUS OF VARIATIONS. (3, 3) Downing
The ordinary problem for the plane and space cases; the necessary conditions of Euler, Weierstrass, Legendre, and Jacobi. The parametric problem; the isoperimetric problem. Sufficiency conditions. **Prerequisite: Math. and Ast. 105b.**

205 DIFFERENTIAL GEOMETRY. (3) I Pulliam
Metric differential geometry of curves and surfaces in 3 dimensional Euclidean space, space curves and developable surfaces, curvature, determination of a surface by its first and second fundamental forms, geodesic curvature and geodesics, mapping of surfaces, absolute geometry of a surface. **Prerequisite: Consent of instructor.**

206 THEORY OF GROUPS. (3)
Permutation groups, isomorphisms, the group postulates, abstract groups, automorphisms, fundamental theorems for groups, homomorphisms, quotient groups, direct products, Abelian groups, groups of transformations, Galois groups. **Prerequisite: Math. and Ast. 126a, b, or consent of instructor.**

207 THEORY OF NUMBERS. (3)
Peano axioms, operations with integers and laws of operation,

primes, greatest common divisor, least common multiple, unique factorization theorem, indicator, congruences, residue classes, theorems of Euler and Fermat, primitive roots, quadratic residues, Diophantine equations. **Prerequisite: Math. and Ast. 126a, b, or consent of instructor.**

208a, b FUNCTIONS OF A REAL VARIABLE. (3, 3)
Transfinite numbers, point set topology, continuous functions, methods of summation, Hilbert spaces, transcendental functions. **Prerequisite: Math. and Ast. 225a, b or consent of instructor.**

209a, b FUNCTIONS OF A COMPLEX VARIABLE. (3, 3) Pulliam
Analytic functions, contour integration, residues, power series, analytic continuation, Riemann surfaces, maximum modulus theorem, conformal mapping, Riemann mapping theorem, simple functions, normal families, integral functions, transcendental functions. **Prerequisite: Math. and Ast. 225a, b, or consent of instructor.**

210 ADVANCED MATHEMATICAL STATISTICS. (3) South
Theory of sampling, the Chi-square distribution, testing statistical hypotheses. **Prerequisite: Math. and Ast. 120.**

214 POTENTIAL FUNCTIONS. (3) Downing
Topics considered: Attraction of bodies, Newtonian potential function, theorems of Green and Gauss, level surfaces, spherical harmonics. **Prerequisite: Math. and Ast. 105b.**

220a, b MATHEMATICS SEMINAR. (2, 2) Senior Staff

221 TENSOR ANALYSIS. (3)
A course on the modern extension of vector analysis with special emphasis on the applications of differential geometry. Topics considered: Algebraic part of the theory of tensors, quadratic differential forms, Riemannian geometry, pseudo-Euclidean geometry. **Prerequisite: Consent of instructor.**

222 ORTHOGONAL SYSTEMS OF FUNCTIONS. (3)
This course supplements 221. Eigen value problems for linear differential equations, systems of orthogonal functions, spherical harmonics, hypergeometric and related functions, completeness. **Prerequisite: Consent of instructor.**

223 INTEGRAL EQUATIONS. (3)
Systems of ordinary linear equations, linear operators, orthogonal systems, linear integral equations of the second kind, thorems of Fredholm, Volterra's equation. **Prerequisite: Consent of instructor.**

225a, b HIGHER ANALYSIS. (3, 3)
Development of the complex number system from the Peano axioms, point set theory, limits, series, continuous functions, analytic functions, elementary functions, measure, Lebesgue, Riemann and Stieltjes integrals. **Prerequisite: Math. and Ast. 125a, b.**

226a, b HIGHER ALGEBRA. (3, 3)
Groups, rings, fields, extension fields, Galois theory, linear algebras, hypercomplex numbers, ideals. **Prerequisite: Math. and Ast. 126a, b, or consent of instructor.**

227a, b HIGHER GEOMETRY. (3, 3) Pence
Topics studied include projective spaces, groups of collineations, invariants and covariants, Cremona transformations, geometry on an algebraic curve, the plane cubic and quartic, space curves, the cubic surface. **Prerequisite: Math. and Ast. 127a, b.**

230 TOPOLOGY. (3) Pulliam
Calculus of sets, closed and open sets, metric and separable spaces, complete spaces, continuous mappings, connection, separation theorems, simply connected domains, accessibility and Jordan domains. **Prerequisite: Math. and Ast. 125a, b, or consent of instructor.**

231 ADVANCED DIFFERENTIAL EQUATIONS. (3) Downing
Existence theorems, partial differential equations, linear equations with periodic coefficients, classical equations, equations in infinitely many variables. **Prerequisite: Math. and Ast. 105b.**

Astronomy

***51a, b DESCRIPTIVE ASTRONOMY. (3, 3) I, II** Rohde
A study of the sun, moon, planets, comets, meteors; the celestial sphere, the telescope, latitude and longitude, time and calendar making; tides; eclipses; stars and stellar systems; and theories of evolution. These courses are non-mathematical. **Prerequisite: none.**

52a, b PRACTICAL ASTRONOMY. (3, 3) Rohde
Courses dealing with the coordinate systems of astronomy; problems involving the shape and dimensions of the earth, aberration, refraction, parallax, diameters and distances of sun and moon from the earth; measurement and computation of time, latitude and longitude, eclipses and occultations. **Prerequisite: Math. and Ast. 51a, b.**

54 ELEMENTARY OBSERVATIONS IN ASTRONOMY. (2) Rohde
A course dealing with the use of maps, charts, globes, field-glasses, transit instrument, telescope, and cross-staff to determine direction, distance, position, and motion of the astronomical bodies. Two evenings, two hours each.

251a CELESTIAL MECHANICS. (3) Downing
Topics included: Rectilinear motion, central forces, potential and attraction of bodies, and the problem of two bodies. **Prerequisite: Math. and Ast. 105a.**

251b CELESTIAL MECHANICS. (3) Downing
Orbit computation, the problem of three bodies. and perturbations **Prerequisite: Math. and Ast. 251a.**

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* Open to Freshmen.

MILITARY SCIENCE
(R.O.T.C.)

Gabriel T. Mackenzie, Frank G. Ashby, Lawrence B. Babcock, David M. Cantrell, Ollie E. Day, J. C. Durr, Donald W. Glenn, Burris N. Holcombe, Elmer O. Kinker, Edgar L. Kiser, Robert H. McAteer, Joseph P. Parker, James F. Pullen, Edward B. Raber, Melville B. Schenck, Lawrence E. Spears, and Raymond G. Teborek.

Branch Immaterial

Military Science I (First Year)

Introductory course in Military Science covering the following subjects: Military Organization, Hygiene and First Aid, Leadership, Drill and Exercise of Command, Individual Weapons and Marksmanship, Map and Aerial Photograph Reading, and National Defense Act and ROTC. The subjects listed above will be offered in the two semesters of the course as local conditions dictate.

*1a **MILITARY SCIENCE I, ROTC.** (2) — Staff
Three hours per week.

*1b **MILITARY SCIENCE I, ROTC.** (2) — Staff
Three hours per week. **Prerequisite: 1a.**

Military Science II (Second Year)

Course in Military Science covering the following subjects: Leadership, Drill and Exercise of Command, Physical Development Methods, Map and Aerial Photograph Reading, Military Administration, Evolution of Warfare, and Military Laws and Boards. The subjects listed above will be offered in the two semesters of the course as local conditions dictate.

*6a **MILITARY SCIENCE II, ROTC.** (2) — Staff
Three hours per week. **Prerequisite: 1a and 1b.**

*6b **MILITARY SCIENCE II, ROTC.** (2) — Staff
Three hours per week. **Prerequisite: 6a.**

Military Science II. R. O. T. C. Band (Second Year)

*3a **MILITARY SCIENCE I, ROTC BAND.** (2) — Prindl
Four hours per week.

*3b **MILITARY SCIENCE I, ROTC BAND.** (2) — Prindl
Four hours per week.

Military Science I. R. O. T. C. Band (First Year)

4a **MILITARY SCIENCE II, ROTC BAND.** (2) — Prindl
Four hours per week.

4b **MILITARY SCIENCE II, ROTC BAND.** (2) — Prindl
Four hours per week.

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* Open to Freshmen.

Advanced Course, ROTC

Advanced courses in Military Science providing training in Infantry, Signal Corps and Air Force. Upon completion of the course, Reserve Commissions as 2nd Lieutenants, Officers Reserve Corps, are granted. Each member of the advanced course will be required to attend a summer camp.

Prerequisites for all Advanced Courses, ROTC, are completion of Basic Military Science I and II, or one (1) year's active duty in the Armed Forces.

Infantry

Course in Advanced Military Science leading to a Reserve Commission as 2nd Lieutenant, Infantry, Reserve.

Military Science III (Third Year) Infantry

The subjects covered in the two semesters are: Geographical Foundations of National Power, Military Leadership, Psychology and Personnel Management, Drill, Military Laws and Boards, and Infantry Tactics and Technique.

7a MILITARY SCIENCE III, ROTC (INFANTRY). (4) Staff
Five hours per week. **Prerequisite: 6a and 6b.**

7b MILITARY SCIENCE III, ROTC (INFANTRY). (4) Staff
Five hours per week. **Prerequisite: 7a.**

Military Science IV (Fourth Year) Infantry

The subjects covered in the two semesters are: Command and Staff, Military Teaching Methods, Psychological Warfare, Military Problems of the United States, Drill, Military Mobilization and Demobilization, and Infantry Tactics and Technique.

8a MILITARY SCIENCE IV, ROTC (INFANTRY). (4) Staff
Five hours per week. **Prerequisites: 7a and 7b.**

8b MILITARY SCIENCE IV, ROTC (INFANTRY). (4) Staff
Five hours per week. **Prerequisite: 8a.**

SIGNAL CORPS

Course in Advanced Military Science leading to a Reserve Commission as 2nd Lieutenant, Signal Corps, Reserve.

Prerequisite: In addition to the prerequisites for all advanced courses given above, the student must meet one of the three requirements listed below:

a. Be enrolled in an Engineering Course leading to a degree in Electrical, Electronic, or Mechanical Engineering or a Major in Physics.

b. Veterans of World War II, regardless of course in which enrolled with a minimum of twelve months service and a technical assignment as MOS (Military Occupational Speciality) or 648

(Radio Repairman) or 952 (Radar Repairman) etc., may be admitted by selecting and successfully completing one or more courses in Electrical Engineering or Communications as electives during the Junior and Senior Year. An example: EE 101, Fundamentals of Electrical Machinery.

c. Students pursuing engineering courses other than those of "a" above may be admitted by selecting and successfully completing one or more courses in Electrical Engineering or Communications as electives during the Junior and Senior Year. An example: EE 101, Fundamentals of Electrical Machinery.

Military Science III (Third Year), ROTC, Signal Corps

The subjects covered in the two semesters are: Military Leadership, Psychology and Personnel Management, Drill, Geographical Foundations of National Power, Military Law and Boards of Officers, and Signals Corps Tactics and Techniques.

9a MILITARY SCIENCE III, ROTC (SIGNAL CORPS). (4) Staff
Five hours per week. **Prerequisites: 6a and 6b.**

9b MILITARY SCIENCE III, ROTC (SIGNAL CORPS). (4) Staff
Five hours per week. **Prerequisite: 9a.**

Science IV (Fourth Year), ROTC, Signal Corps

The subjects covered in the two semesters are: Command and Staff, Military Teaching Methods, Psychological Warfare, Military Problems of the United States, Drill, Mobilization and Demobilization, and Signal Corps Tactics and Techniques.

10a MILITARY SCIENCE IV, ROTC (SIGNAL CORPS). (4) Staff
Five hours per week. **Prerequisites: 9a and 9b.**

10b MILITARY SCIENCE IV, ROTC (SIGNAL CORPS). (4) Staff
Five hours per week. **Prerequisite: 9a.**

Air Force

Course in Military Science leading to a Reserve Commission as a 2nd Lieutenant, Air Force Reserve.

The Third Year Course, Senior Air-ROTC, will consist of subjects peculiar to the USAF; History of the USAF, Organization of the USAF, USAF Training, USAF Statistical Control Methods, Air Intelligence and Combat Orders, Navigation, Aeronautics, Communications and Guided Missiles. A summer camp will be required of all students as a part of the course.

11a MILITARY SCIENCE III, ROTC (AIR FORCE). (4) Staff
Five hours per week. **Prerequisites: 6a and 6b.**

11b MILITARY SCIENCE III, ROTC (AIR FORCE). (4) Staff
Five hours per week. **Prerequisite: 11a.**

The Fourth Year Course, Senior Air-ROTC will specialize the individual student in his desired field of the USAF. The student emerges with an AF military occupational specialty (MOS) authorized for AF Personnel and upon completion of four academic years at the University will lead to a commission in the Air Reserve as 2nd Lieutenant. Students who volunteer and are qualified may attend an Air Force Flying School in grade upon completion of the Air ROTC Course.

Military Science IV (Air Force)

12a AIR SERVICE IV, ROTC (AIR FORCE ADMINISTRATION AND MILITARY MANAGEMENT). (4) Staff
Administration and Military Management.
Five hours per week. **Prerequisites: 11a and 11b.**

12b AIR SERVICE IV, ROTC (AIR FORCE ADMINISTRATION AND MILITARY MANAGEMENT). (4) Staff
Administration and Military Management.
Five hours per week. **Prerequisites: 11a and 11b.**

13a AIR SERVICE IV, ROTC (AIR FORCE, AIRCRAFT MAINTENANCE ENGINEERING). (4) Staff
Aircraft Maintenance Engineering.
Five hours per week. **Prerequisites: 11a and 11b.**

13b AIR SERVICE IV, ROTC (AIR FORCE, AIRCRAFT MAINTENANCE ENGINEERING). (4) Staff
Aircraft Maintenance Engineering.
Five hours per week. **Prerequisites: 11a and 11b.**
Advanced Course—4 credits per semester.

MUSIC

Edwin E. Stein, Perry R. Adams, Lela W. Cullis, Edward B. Hornowski, Gordon J. Kinney, Aimo Kiviniemi, Mildred Sinclair Lewis, Ford Montgomery, Robert Morgan, Ruth Pinnell, and Frank J. Prindl.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in Field of Concentration: Forty credits of advanced work in the field of Literature, Philosophy, and the Arts during junior and senior years, including the major work.

Music Requirements for a Major. Prerequisite: Junior standing; Humanities E, 12a, 12b; 33a and 33b; Applied Music 12 credits.

Required: A minimum of 15 credits of advanced work in music: 19a, 19b, 34a, 34b, 114a and 114b or 115 (depending on instrumental or choral major and Applied Music). Other courses, such as Music 4a, 4b, Music 7, 8, 9; 13a and 13b or 26 may be elected.

Music 42 and a comprehensive examination are required of all music majors in the senior year.

Participation in Musical Groups: All music majors are required to participate in either the Orchestra, Glee Club or Concert Band for the entire four years for which credit is allowed.

4a PUBLIC SCHOOL MUSIC. (2) I, S Lewis
A course in music methods and materials for use in **Primary Grades,** stressing care of the child voice: rote-song singing, and Repertoire; rhythmic development; listening experiences of standard musical literature; beginning phases of notation.
For music majors and non-music majors.

4b PUBLIC SCHOOL MUSIC. (2) II, S Lewis
A course in music methods and materials for use in the **Intermediate Grades.** Continuation of 4a with the development of two and three part singing; minor mode; chromatics, and rhythmic notation, as found in typical music texts for fourth, fifth, and sixth grades. **Prerequisite:** 4a.
For music majors and non-music majors.

7 STRINGS—Methods, Materials, and Techniques. (2) I, S Hornowski
This course includes a practical study in the elementary techniques of the violin, viola, violoncello, and string bass, together with the study of teaching methods and materials as related to instrumental music in public schools. **Prerequisite: Junior standing.**
For music majors and non-music majors.

8 BRASSES AND PERCUSSION—Methods, Materials, and Techniques. (2) II, S Adams
This course includes a practical study in the elementary techniques of the cornet and trumpet, horns, trombone, baritone, tuba, timpani, bass and snare drums, together with the study of teaching methods and materials as related to instrumental music in the public schools. **Prerequisite: Junior standing.**
For music majors and non-music majors.

9 WOODWINDS—Methods, Materials, and Techniques. (2) I, S Prindl
This course includes a practical study in the elementary techniques of the flute, oboe, clarinets, saxophones, and bassoon, together with the study of teaching methods and materials as related to instrumental music in the public schools. **Prerequisite: Junior standing.**
For music majors and non-music majors.

†12a COUNTERPOINT. (2) I, S Kinney
A study of melody writing and the combining of melodies; melodic and rhythmic dictation; study of scales and intervals at the keyboard; drill in sight singing. Study of master works in two voices; the writing of counterpoint in two voices on original or given **canti fermi,** leading to the composition of original two-part inventions and free forms in vocal style. Required of all music majors.

†12b COUNTERPOINT. (2) II, S Kinney
A continuation of Music 12a. A study of master works in three and four voices, leading to the writing of short fugues on given and original themes. Required of all music majors. **Prerequisite: Music 12a.**

† Courses a, b, open to Freshmen; c, d, courses for Sophomores; e, f, courses for Juniors; and g, h, courses for Seniors.

13a FORM AND ANALYSIS. (2) I, S — Hornowski
A study of the design and harmonic structure of simple and complex forms of music through analyses of standard musical compositions. **Prerequisite: Music 33a, b.**

13b FORM AND ANALYSIS. (2) II, S — Hornowski
A continuation of Music 13a. **Prerequisite: Music 13a.**

†15a-h APPLIED MUSIC—Piano.
(2 ea.) I, II, S — Montgomery, Morgan, and Cullis

†16a-h APPLIED MUSIC—Strings. (2 ea.) I, II, S — Hornowski and Kinney

†17a-h APPLIED MUSIC—Voice. (2 ea.) I, II, S — Pinnell and Kiviniemi

†18a-h APPLIED MUSIC—Organ. (2 ea.) I, II, S — Cullis

19a, b HISTORY OF MUSIC. (3, 3) I, II, S — Stein
A general study of the history of music development from the standpoint of form. Open to music majors and non-music majors.

†20a SURVEY OF MUSIC LITERATURE. (2) I, S — Hornowski
This course is intended for non-music majors desiring to acquire an understanding of the literature of music. It consists of a presentation of the composers and works representing the polyphonic and classic periods. Opportunity is afforded for extensive listening to recorded music together with lecture presentation, demonstrations, and collateral reading.

†20b SURVEY OF MUSIC LITERATURE. (2) II, S — Hornowski
A continuation of Music 20a. A study of the symphony, piano music, songs, and opera from Beethoven to the present era. (Not open to music majors.)

***22a-b BAND.** (2 ea.) I, II — Prindl
For Freshmen enrolled in Military Science.

***22a-b BAND.** (2 ea.) I, II — Prindl
For sophomores enrolled in Military Science.

26 HIGH SCHOOL METHODS. (2) II, S — Lewis
Development of knowledge and skills in handling the music programs in junior and senior high schools. This includes study of the adolescent in the junior high school; general music classes; music appreciation and theory classes; organization and training of special music groups as band, orchestra, and glee clubs; material for assemblies and integrated units.

28a-b CONCERT BAND. (2 ea.) I, II — Prindl
For juniors.

29a-b CONCERT BAND. (2 ea.) I, II — Prindl
For Seniors.

†31a-h APPLIED MUSIC—Woodwind Instruments. (2 ea.) I, II, S — Adams

†32a-h APPLIED MUSIC—Brass and Percussion Instruments. (2 ea.) I, II, S — Prindl

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* Open to Freshmen.
† Courses a, b, open to Freshmen; c, d, courses for Sophomores; e, f, courses for Juniors; and g, h, courses for Seniors.

33a ELEMENTARY HARMONY, SIGHTSINGING, AND DICTATION. (4) I, S Kinney
Melodic and rhythmic dictation, drill in sightsinging and keyboard harmony. Harmonizing of given and original melodies, using tonic, dominant, and dominant seventh chords and their inversions. Required of all music majors. **Prerequisite: Music 12b.**

33b ELEMENTARY HARMONY, SIGHTSINGING, AND DICTATION. (4) II, S Kinney
A continuation of Music 33a. Introduction of the dominant ninth and the incomplete domininant dissonance; the sub-dominant and subordinate triads and the dominant seventh chord and non-harmonic tones. A continuation of harmony, sightsinging, dictation, and keyboard. Required of all music majors. **Prerequisite: Music 33a.**

34a ADVANCED HARMONY, SIGHTSINGING, AND DICTATION. (4) I, S Kinney
A continuation from elementary harmony. Modulation by common chord and by diminished seventh; chromatic alterations of all principal and subordinate triads and seventh chords. Required of all music majors. **Prerequisite: Music 33b.**

34b ADVANCED HARMONY, SIGHTSINGING, AND DICTATION. (4) II, S Kinney
Continuation of Music 34a. Modulation by chromatic alterations and further study of chromatic dissonances; scales other than the diatonic, and survey of contemporary harmonic experiments. Required of all music majors. **Prerequisite: 34a.**

†**39a-h GLEE CLUB.** (1 ea.) I, II, S Lewis and Kiviniemi
Any student in the University may be admitted to the glee club after consultation with the director.

†**40a-h ORCHESTRA.** (1 ea.) I, II Stein
Students who have demonstrated the required ability are given an opportunity to study standard orchestral literature. Public performances are given at regular intervals.

42 SEMINAR. (1) II, S Staff
A general study of any particular phase of music or music education; preparation for comprehensive examination, and graduation recital.

110 RESEARCH PROBLEMS IN PEDAGOGY OF THEORY. (2) I, II, S Kinney
An independent course in the teaching of counterpoint and theory to be selected by the instructor on the basis of prerequisite training and practical need. **Prerequisite: Music 33a, 33b, 34a, 34b or equivalent, 12a, and 12b.**

111 RESEARCH PROBLEMS IN MUSIC. (2) I, II, S Hornowski
A research course in some phase of music other than history or pedagogy of music theory. The student will confer with the instructor whenever either or both of them deem it advisable.

112 RESEARCH PROBLEMS IN MUSIC. (2) I, II, S Staff
This course permits research in some phase of music which may, or may not, lead to the Master's Degree.

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† Courses a, b, open to Freshmen; c, d, courses for Sophomores; e, f, courses for Juniors; and g, h, courses for Seniors.

114a ORCHESTRATION. (2) I, S Hornowski
This course includes a study of the individual instruments of the symphony orchestra and concert band; practice in arranging primarily for the string orchestra; the technique and practice of the fundamentals of orchestral conducting and score reading; and the problems of organizing and developing school bands and orchestras.

114b INSTRUMENTAL CONDUCTING AND SCORE READING. (2) II, S Hornowski
A continuation of 114a which includes a further study of orchestral conducting and arranging for woodwind and brass ensembles and symphony orchestra. Recommended for instrumental majors.

115 CHORAL METHODS AND CONDUCTING. (2) II, S Lewis
This course is intended for music supervisors majoring in the choral field and will be a study of materials, techniques, and problems of presenting choral literature on the secondary level. Recommended as elective for choral supervisors.

200a, b PROBLEMS IN CREATIVE WORK IN HOMOPHONIC FORMS OF COMPOSITION. (2 ea.)* Hornowski and Kinney
An independent course dealing with creative work, of the structure of the theme and variations, the rondo and the sonata-allegro. Analysis of works of the masters is supplemented by original compositions in the various forms. **Prerequisite: Music 34b and 13b.**

201a, b PROBLEMS IN CREATIVE WORK IN CONTRAPUNTAL FORMS OF COMPOSITION. (2 ea.)* Hornowski and Kinney
An independent course dealing with the structure of the chorale, the motet, the canon, the invention and the fugue. Analysis of works of the masters is supplemented by original compositions in these forms. **Prerequisite: Music 12b and 34b.**

203 CHORAL LITERATURE AND TECHNIQUE. (2) II, S Lewis
An opportunity to study the world's best choral literature and remedial work along the lines of choral presentation; interpretation as influenced by harmonic and melodic structure, vowel production, tone quality, tempi, traditions, program building, etc.

204 ADVANCED BAND TECHNIQUE. (2)* Prindl
An advanced course in band techniques with concentration on band organization and materials, the technique of band conducting and general preparation of band instrumentations for balance, the study of transposition of band repertoire, and an intensive study in the field of band arranging.

208a-c SEMINAR IN MUSIC. (1 ea.) I, II, S Stein
One two-hour meeting is held each week for discussion of current developments in music found in recent books and periodicals.

210 BAROQUE MUSIC. (2) II Stein
An intensive study of the baroque period beginning with the close of the Renaissance and culminating with Handel and Bach. It considers the underlying religious, philosophic, social, and scientific influences of that era and their effect upon the forms and style of music. **Prerequisite: Music 19a, b or 20a, b.**

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* Offered according to demand.

211 THE CLASSIC AND ROMANTIC PERIODS. (2)* Stein
An intensive study of keyboard compositions, chamber music and early orchestra writing in Italy, France, and Germany; and the music of the romantic period in Germany and France. Lectures, conferences, and reports. **Prerequisite: Music 19a, b or 20a, b.**

212 MUSIC IN AMERICA. (2)* Stein
This course considers the history of music in America from Colonial times to the present day. Analysis of certain important works of contemporary native composers. Recitations, assigned readings, and research. **Prerequisite: Music 19a, b or 20a, b.**

213 INTERPRETATION OF INSTRUMENTAL LITERATURE. (2)* Prindl
This course is intended for experienced leaders of school musical organizations, particularly of orchestras and bands. It includes a critical study of the standard classical chamber and symphonic scores and their interpretive problems based upon the composer, period, and style. Lectures, demonstrations, and assigned readings. **Prerequisite: Music 114a or the approval of the instructor.**

214 ADVANCED INSTRUMENTAL CONDUCTING. (2)* Stein
This course is intended to develop the ability to interpret and conduct the larger forms written for the symphony orchestra. It provides further opportunity for practice in reading from the full score and includes problems of phrasing, balance, tempo, timbre, and dynamics. Lectures and drill periods with the University Symphony Orchestra. **Prerequisite: Music 114a, b or with the permission of the instructor.**

215a, b APPLIED MUSIC—Piano. (2 ea.) I, II, S Montgomery and Morgan
A study of advanced major piano works such as the sonatas and concertos of Mozart, Beethoven, Brahms, and other masters. Two half-hours of individual lesson a week. **Prerequisite: Eight credits of accredited undergraduate study in Applied Music. Piano.**

216a, b APPLIED MUSIC—Strings. 2 ea.) I, II, S Kinney, Hornowski
A study of the literature of the violin, viola, or violon-cello, including the advanced studies and caprices of Fiorillo, Rode, Dont, Campagnoli, Goltermann, and others; and the major sonatas and concertos of Beethoven, Tschikovsky, Brahms, etc. **Prerequisite: Eight credits of accredited undergraduate study on the string instrument in which graduate work is desired.**

217a, b APPLIED MUSIC—Voice. (2 ea.) I, II, S Kiviniemi and Pinnell
A study of the more advanced type of song literature covering the classic, romantic, and modern periods. **Prerequisite: Eight credits of accredited undergraduate study in voice.**

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* Offered according to demand.

PHILOSOPHY

John Kuiper, Jesse DeBoer, and John Henry Melzer.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in Field of Concentration: Forty credits of advanced work, including the major courses, which may be elected in either (1) the field of Literature, Philosophy, and the Arts, or (2) the field of Social Studies.

Requirements for a Major. Prerequisite: 6 credits in Philosophy. **Required:** A minimum of 15 credits in Philosophy; Philosophy 35a, b; and a comprehensive examination in the senior year.

21 INTRODUCTION TO PHILOSOPHY. (3) I, II, S Staff
An elementary study of the principal types of philosophy, past and present.

31 ELEMENTARY LOGIC. (3) I, II, S Melzer
A study of the logical principles underlying valid thought.

35a-e TUTORIAL WORK IN PHILOSOPHY. (1 ea.) I, II, S Staff
Weekly conferences with major students; reports on assigned readings; readings in preparation for the comprehensive examination. Required of senior majors in Philosophy.

51 ETHICS. (3) I, II DeBoer
A beginning course intended to describe the moral life and to discuss the question of moral standards. Study of ethical terms, of the principal moral theories, of the nature and organization of values, both individual and social, and of some moral problems in modern society.

101a HISTORY OF PHILOSOPHY—ANCIENT AND MEDIEVAL. (3) I DeBoer
A survey of the philosophical thought of ancient Greece and Rome, and of medieval Christendom.

101b HISTORY OF PHILOSOPHY—MODERN. (3) II Kuiper
A survey of modern European and American philosophy from the Renaissance to contemporary times.

102 CONTEMPORARY PHILOSOPHY. (3) I Melzer
A study of contemporary philosophic tendencies, notably naturalism, empiricism, pragmatism, idealism, and neoscholasticism. Bertrand Russell, John Dewey, George Santayana, A. N. Whitehead, and Henri Bergson are among the philosophers to be discussed.

106 REPRESENTATIVE MODERN PHILOSOPHERS. (3) Kuiper
A study in the original works of the chief figures in modern philosophy. Special attention will be given to Descartes, Spinoza, Locke, Hume, and Kant.

109a-d INDEPENDENT WORK. (3 ea.) I, II, S Staff
Open only to students who have distinguished themselves in Philosophy or in allied subjects.

115 INTERMEDIATE LOGIC. (3) Kuiper
A second course in logic, including the logic of classes, of relations, of propositions, and of propositional functions; the theory of deductive systems; and a consideration of the rival schools of contemporary logical theory.

118 THE PHILOSOPHY OF PLATO. (3) DeBoer
Plato against the background of his society with its contending cultural ideals: his philosophical development as mirrored in the chief dialogues, such as **Gorgias, Protagoras, Theaetetus, Sophist, Parmenides, Philebus, Timaeus,** portions of **Republic** and **Laws,** which reveal his achievements in cultural analysis, ethics, psychology, theory of knowledge, metaphysics, and cosmology. Lectures, discussion, reading, and outlines of selected passages.

119 THE PHILOSOPHY OF ARISTOTLE. (3) II DeBoer
Reading and discussion of passages in Aristotle's major systematic works: **Physics** (cosmology or natural philosophy); **Metaphysics** (investigation of the most general principles); **De Anima** (psychology and the analysis of human knowledge); **Categories, Prior** and **Posterior Analytics** (topics in logic, the structure of scientific knowledge, human knowledge and the real); **Nicomachean Ethics, Politics** (moral and social life). Lectures, outlines.

120 GREAT RELIGIONS OF THE WORLD. (3) S DeBoer
A descriptive survey of several religions as they developed within their culture, for example, Shintoism, Confucianism, Hinduism, Buddhism, Judaism, Christianity.

125 PHILOSOPHY OF RELIGION. (3) Melzer
A philosophical examination of religious ideas, including such topics as the origin of religion; the nature of religion; the various conceptions of God, the soul, sin and salvation; and some consideration of the relationships between religion and other aspects of life, such as art, science, and practical activity.

130 METAPHYSICS. (3) II DeBoer
Investigation of major problems and doctrines in the field of philosophy so far as it concerns the general structure of reality; the significance of recent scientific advances; the status of space and time, of change and causality, of events, substance and relation; the nature and status of matter, soul, value, God; an attempt to appreciate the intent and procedure of contending metaphysical theories, such as naturalism, idealism, dualism, monism, mysticism, realism, pragmatism.

135 EPISTEMOLOGY. (3) Kuiper
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 development in semantics.

201a-h SEMINAR IN PHILOSOPHY. (2 ea.) Staff
One 2-hour meeting a week for discussion of current developments in Philosophy as found in books and periodicals. Readings and reports.

210a, b TYPES OF LOGICAL THEORY. (3, 3) Kuiper
An intensive study of recent and contemporary contributions to logical theory: Whitehead and Russell, C. I. Lewis, R. Carnap, John Dewey, and others.

220a, b RESEARCH IN PHILOSOPHY. (3, 3) Staff
This course is primarily intended for advanced students who desire and are prepared to do research in philosophy.

PHYSICAL EDUCATION

Don Cash Seaton, William V. Brook, Martha G. Carr, Maurice A. Clay, Charles Wm. Hackensmith, Bernard Mason Johnson, Milo Gist Karsner, Earl Kauffman, Jr., Lovaine C. Lewis, William E. McCubbin, Marjorie Murray, Revell Estill Shaw, and Florence O. Stout.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

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

Requirements for a Major. Prerequisites: Anatomy and Physiology 4, 5, Sociology 3a, 3b, Zoology 1; Physical Education 40, 51, 60, 80, 90; for Men 41, 42, 43, 45, 48, 56, 70; for Women 46, 47, 49, 57, and Hygiene 7. **Required:** 61, 62a, 62b, 140, 143, 144, 165, 172, 173, Home Economics 101; for Women 190. Minimum on Major 19 credits for Men, 22 credits for Women.

For teacher certification requirements check with the Dean of the College of Education and the Head of the Department of Physical Education.

Service Courses for Men

For information regarding requirements, see page 84.

***1 ORIENTATION. (0) I, II, S** Karsner and Staff
All men students, except veterans and those assigned to Physical Education 2 because of disabilities, are required to enroll in this course their first semester. In this course, the student is given a physical conditioning program and an orientation to various carry-over sports followed by a physical fitness test and an opportunity to take written and performance tests in three sports of his choice.

***2 ADAPTED SPORTS. (0) I, II, S** Hackensmith
Those students found by the medical and physical examination to have physical disabilities are assigned to this course instead of Physical Education 1. The student is taught various remedial and preventive exercises and adapted sports recommended as desirable by the Department of Health and Hygiene.

***29 WEIGHTLIFTING AND CONDITIONING. (0) I, II, S** Johnson
A general conditioning course including the use of bar bells, wall weights, medicine balls, and bag punching. Especially desirable for those students with underdeveloped physiques. Men failing the P. F. 1 test in Physical Education are assigned to this course.

Service Courses for Women

***1 ORIENTATION. (0) I, II, S** — Shaw and Staff
All women students, except veterans and those assigned to Physical Education 2 because of disabilities, are required to enroll in this course their first semester. In this course, the student is given posture training and an orientation to various carryover sports followed by a posture test and an opportunity to take written and performance tests in three sports of his choice.

***2 ADAPTED SPORTS. (0) I, II, S** — Carr
Those students found by the medical and physical examination to have physical disabilities are assigned to this course instead of Physical Education 1. Each student is taught various remedial and preventive exercises and adapted sports recommended as desirable by the Department of Health and Hygiene. Students failing in Physical Education 1 are also assigned to this course the succeeding semester.

Service Courses for Men and Women

Courses Open to Those Who Have Completed Physical Education 1.

The following courses are open to all students who have completed the requirements for Physical Education 1. These sports courses will fulfill the sports proficiency requirements when passed. All are designed for beginners. The history and rules are taught as well as fundamental skills.

***3 APPARATUS AND TUMBLING FOR MEN. (0) I, II**	Johnson
***4 ARCHERY. (0) I, II, S**	Karsner and Lewis
***5 BADMINTON. (0) I, II**	Karsner and Murray
***6 BASKETBALL (Women only). (0) I**	Carr
***8 BOWLING. (0) I, II, S**	Brook
***9 FENCING. (0) I, II**	Hackensmith and Shaw
***10 FOLK DANCING. (0) I, II, S**	Karsner and Lewis
***11 GOLF. (0) II, S**	Johnson and Murray
***13 HANDBALL (Men only). (0) I, II**	Staff
***14 HOCKEY (Women only). (0) I**	Carr
***15 HORSEBACK RIDING. (0) I**	Johnson
***17 MODERN DANCE. (0) I, II**	Shaw
***20 SOFTBALL. (0) II**	Staff
***21 SWIMMING FOR BEGINNERS. (0) I, II, S (Pending opening of pool)**	Staff
***23 TAP DANCING. (0) I**	Lewis
***24 TENNIS. (0) II, S**	Staff
***27 TUMBLING FOR WOMEN. (0) II**	Lewis

* Open to Freshmen.

*28 **VOLLEYBALL. (0) I, II** Staff

*31 **GROUP GAMES. (0) I, II, S** Staff
A comprehensive course in learning the skills and in teaching methods of low organized type games. Designed primarily for students in the College of Agriculture and Home Economics but open to all.

Courses Not Fulfilling Requirements

The following courses are open to all men students who have completed Physical Education 1 but will not count toward the fulfillment of the Physical Education requirement (because they are not considered carryover sports) unless the student is granted special permission by the Director of the Service Curriculum.

*6 **BASKETBALL (Men only). (0) I** Clay

*19 **SOCCER (Men only). (0) II** Staff

*26 **TOUCH FOOTBALL (Men only). (0) I** McCubbin

*30 **WRESTLING (Men only). (0) I, II** McCubbin

Advanced Courses

The following advanced courses are open with credit to all students who **have completed** their physical education requirements.

*7 **ADVANCED BASKETBALL (Men only). (1) II** Clay
A course for skilled players. Open to those students who earned a letter in high school basketball. Cannot be used to fulfill sports performance requirements.

*12 **ADVANCED GOLF. (1) II, S** Staff
Open to men and women students. **Prerequisite: Physical Education II or equivalent.**

*16 **HORSEMANSHIP. (1) II** Johnson
Instruction in jumping and showmanship. **Prerequisite: Physical Education 15 or equivalent.**

*18 **ADVANCED MODERN DANCE. (0) II** Shaw
Prerequisite: Physical Education 17 or instructor's permission.

*22 **ADVANCED SWIMMING.**
(1) I, II, S (Pending opening of pool). Staff

*25 **ADVANCED TENNIS. (1) II** Staff
This course provides an opportunity for skilled players to compete. Open to students who have passed Beginning Tennis, P. E. 24, or by consent of the instructor.

Professional Courses

Courses for Men and Women

40 **PROFESSIONAL ORIENTATION. (1) I** Carr and Clay
Survey of and introduction to the field of health, physical education, and recreation. The qualifications of each student are

* Open to Freshmen.

measured in an effort to judge his suitability as a future professional person. Two hours per week. Required of all students the first fall semester enrolled in the University as a major in Physical Education.

50 EQUITATION. (2) I Johnson
The techniques of horsemanship and methods of instruction. Four hours laboratory. **Prerequisite: Physical Education 15 or 16 or consent of instructor.**

51 CO-RECREATIONAL ACTIVITIES. (3) I, S Karsner
Theory and practice in the techniques and teaching procedures of archery, badminton, and bowling. Six hours laboratory per week.

60 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL. (3) II, S Gilb
Required of all who wish to qualify for the Elementary School Teaching Certificate. Materials, practice, and techniques in physical education activities suitable for elementary school children. Consideration of the significance of physical education in the elementary school and responsibilities of the class room teacher for leadership.

61 FIELD TRIP. (0) II Clay
Required the spring semester of all Juniors majoring in physical education. Visitation and inspection of physical education programs.

62a, b TUTORIAL WORK IN PHYSICAL EDUCATION. (1 each) I, II Seaton
This work is to be given in preparation for the comprehensive examination. For Arts and Sciences majors only. One hour per week.

80 RECREATION LEADERSHIP. (2) I Kauffman
Discussion, observation, and practice of methods and techniques in conducting activities on playgrounds, in community centers and on special occasions such as Hallowe'en and birthday parties and picnics. One hour lecture and/or observation and two hours practical work.

81 CAMP LEADERSHIP. (2) II Kauffman and Murray
Designed for the training of camp administrators and counselors. One hour lecture and two hours laboratory per week.

90 FOLK, TAP, AND SOCIAL DANCING. (3) II Shaw and Karsner
The basic principles of folk dances of various nations, including practice in executing and calling American Square dances. Practice and teaching methods in ballroom dancing, and the fundamentals of tap dancing. Open to male students. Six hours per week.

140 ORGANIZATION AND ADMINISTRATION OF PHYSICAL EDUCATION. (3) I, S Carr and Clay
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.

143 HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION.
(3) II Hackensmith and Carr
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.

144 PHYSICAL EDUCATION IN THE SECONDARY SCHOOL.
(3) I, S Carr and Clay
Required for teacher certification in physical education. Study of theory, practice, and methods of teaching physical education activities and supervising programs in the secondary school. Three hours per week of lecture, recitation, and visitation.

145 INTRODUCTION TO TESTS AND MEASUREMENTS.
(3) II Hackensmith
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 laboratory two hours per week.

165 SAFETY IN PHYSICAL EDUCATION.
(2) II, S Seaton
Designed to prepare majors to teach safety education or to serve as school safety coordinators. Provides a knowledge of all common areas of safety education but emphasizes safety in athletics, physical education, and recreation.

172 KINESIOLOGY. (3) I Hackensmith
A study of muscular and mechanical factors in bodily movements. Three hours per week lecture. **Prerequisite: Anatomy and Physiology 4 and 5.**

173 REMEDIAL PHYSICAL EDUCATION. (3) II Hackensmith
A study of the prevention and treatment of physical defects. Two hours of lecture and two hours practice per week. **Prerequisite: Physical Education 172.**

174 TECHNIQUES OF REHABILITATION. (2) II Hackensmith
A practical course in rehabilitation techniques employed in hospitals and rehabilitation centers. Emphasis is upon the use of play and recreation as therapy for the mentally ill, handicapped, and those recuperating from temporary impairment. Four hours per week laboratory. **Prerequisite: Physical Education 173 or consent of the instructor.**

180 ADMINISTRATION AND ORGANIZATION OF RECREATION.
(3) II, S Kauffman
Study of administrative policies in organizing and conducting municipal recreation and its relationship to other municipal functions, particularly the public school systems. Consideration of principles and programs of social recreation. Three hours lecture and recitation. **Prerequisite: Physical Education 80.**

181 CAMPING IN EDUCATION. (2) I, S Kauffman
Purpose, history, organization, and conduct of camps of various types. **Prerequisite: Physical Education 81 or permission of instructor.**

182 INTRAMURAL SPORTS. (2) II, S McCubbin and Murray
A study of the history and development of Intramural sports on the elementary, secondary, and college levels. Lecture, recitation, and practice in accepted methods of organizing and

administering intramural sports. Three hours per week. One hour lecture and two hours laboratory.

183 INTERPRETATIONS OF LEISURE AND RECREATION. (3) I, S Kauffman
Designed to provide students who are 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 in our modern society. Problems to be investigated include: changes in our social structure resulting in the spread of leisure to all groups; the social implications of leisure; planning recreation to achieve social goals; the role of professional, part-time, and volunteer leaders in the recreation programs. **Prerequisite: Sociology 40.**

185 COMMERCIAL RECREATION. (3) II, S Brook and Kauffman
Designed for students who plan to become operators or owners of commercial recreation facilities. It is concerned with the socio-economic aspects of this field as well as the development of acceptable standards and techniques for the operation of such enterprises. Two hours lecture and two hours laboratory per week.

Graduate Courses for Men and Women

240 GRADUATE SEMINAR IN PHYSICAL EDUCATION. (2) I, II, S Hackensmith
Required of all graduate students upon entrance. An orientation course required of graduate students with a major interest in physical education. Guidance in thesis writing and standards for publications and treatment of standards required for the preparation of papers. Two hours lecture and recitation.

241 CURRENT STUDIES AND TRENDS IN HEALTH AND PHYSICAL EDUCATION. (3) II, S Seaton
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.

242 PROBLEMS COURSE IN PHYSICAL EDUCATION. (3) I, S Seaton
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. An attempt is made by the instructor to visit each student on the job and to provide guidance in his work.

243 PROBLEMS IN THE ADMINISTRATION OF ATHLETICS. (2) II, S Seaton and Shively
For athletic directors, supervisors, and athletic coaches. A study of representative athletic administration procedures for colleges, public school systems, and municipal athletic leagues. Business management is also stressed. Two hours per week.

244 TESTS AND MEASUREMENTS IN HEALTH AND PHYSICAL EDUCATION. (3) I, S Hackensmith
The theory and practice of measurement of strength, size and maturity, power, motor educability, and agility. Tests of track and field events, general motor capacity and ability, endurance, and special abilities. Two hours lecture and two hours laboratory per week.

280 PROBLEMS IN RECREATION. (2) I, S Kauffman
A study of the cause and content of current problems in recreation. Formation of policies and consideration of research

projects which would aid in the solution of these problems. Two hours lecture and recitation. **Prerequisite: Physical Education 180 or consent of the instructor.**

290 **DANCE AND EDUCATION. (3) S** Shaw
The function of dance in the educational curriculum on the elementary secondary and college levels including teacher training and administrative problems. **Prerequisite: Physical Education 91 or equivalent.**

Courses for Men

41 **BASKETBALL COACHING FUNDAMENTALS. (2) I, II** Clay
Theory and practice in coaching fundamentals involved in basketball. Four hours laboratory per week.

42 **FOOTBALL COACHING FUNDAMENTALS. (2) I** McCubbin
Theory and practice in coaching fundamentals of football. Four hours laboratory per week.

43 **TRACK AND FIELD COACHING FUNDAMENTALS. (2) I** Seaton
The theory and practice of coaching track and field events. Six hours laboratory per week.

44 **BASEBALL AND SOFTBALL COACHING FUNDAMENTALS. (3) S** Johnson
Theory and practice in coaching fundamentals involved in baseball and softball. Six hours laboratory per week.

45 **TEAM SPORTS FOR MEN. (2) II** Johnson
Coaching fundamentals, instruction, practice and rules in the following sports: Touch football, volleyball, speed ball, and soccer. Four hours per week laboratory.

48 **INDIVIDUAL SPORTS FOR MEN. (2) II, S** Kauffman
Theory and practice in the techniques and teaching procedures of golf, tennis, handball, bait and fly casting and gunmanship. Four hours per week.

52 **ADVANCED SWIMMING AND DIVING FOR MEN. (2) I, S (Pending opening of pool)** Staff
The techniques and methods of teaching swimming, springboard diving, officiating and conducting meets, games, pageants, and carnivals. Four hours per week laboratory. **Prerequisite: Satisfactory completion of the University swimming test; Physical Education 21 or 22; or possession of a life saving certificate.**

54 **LIFE SAVING FOR MEN. (1) II, S (Pending opening of pool)** Staff
The technique of life-saving, leading to the senior's and instructor's certificates of the American Red Cross, and knowledge of the principles of water safety. Two hour laboratory course. **Prerequisite: Physical Education 21 or 52, or ability to swim 440 yards.**

56 **GYMNASTICS FOR MEN. (3) I** Johnson
Theory and practice of various types of formal and informal calisthenics. Practical work in organizing and conducting classes in calisthenics, apparatus, and tumbling. Demonstration and practice of the fundamentals of tumbling, pyramid building, trampolin, parallel bars, horizontal bar, and spring board. Six hours per week, all laboratory.

70 TRAINING AND FIRST AID. (2) II, S Berger and Brook
Principles and practice in the techniques of first aid, massage, taping and therapy available to the coach and teacher for prevention and care of injuries and sudden illnesses. Administration of training room and training table. American Red Cross certificate awarded to all students who successfully complete course. Three hours lecture, demonstration, and practice.

141 COACHING ADVANCED BASKETBALL. (2) I, S Rupp
Lecture and recitation on the theory and practice of team play in basketball. Special emphasis is placed upon systems of offense and defense as used by the leading coaches throughout the country. Two hours per week. **Prerequisite: Physical Education 41 or consent of instructor.**

142 COACHING ADVANCED FOOTBALL. (2) II, S Bryant and McCubbin
Lecture and recitation on the theory of football. Special emphasis is placed on generalship, signal systems, scouting and conditioning of players. Leading football systems are studied. Two hours per week. **Prerequisite: Physical Education 42 or consent of instructor.**

158a SPORTS OFFICIATING FOR MEN. (1) I, S Johnson
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 laboratory.

158b SPORTS OFFICIATING FOR MEN. (1) II, S Johnson
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 laboratory.

Courses for Women

46 FALL TEAM SPORTS FOR WOMEN. (3) I Carr
Materials, practice, and techniques for the teaching and coaching of field hockey, soccer, and basketball. Six hours per week.

47 SPRING TEAM SPORTS FOR WOMEN. (3) II Carr
Materials, practice, and techniques for the teaching and coaching of softball, volleyball, and speedball for women. Six hours per week.

49 INDIVIDUAL SPORTS FOR WOMEN. (2) II, S Murray
Theory and practice in methods and principles involved in the teaching of the fundamental skills and advanced coaching techniques in golf and tennis. Four hours per week.

53 ADVANCED SWIMMING AND DIVING FOR WOMEN. (2) I, S (Pending opening of pool) Staff
The techniques and methods of teaching swimming, diving, officiating and conducting meets, games, pageants, and carnivals. Four hours laboratory per week. **Prerequisite: Passing the University swimming test, Phys. Educ. 21 or 22, or a life saving certificate.**

55 LIFE SAVING FOR WOMEN.
(1) II (Pending opening of pool) **Staff**

Theory and practice in Red Cross Life Saving in preparation for an instructor's rating or senior certificate. Advanced diving theory and practice including teaching and coaching methods. Two hours laboratory course. **Prerequisite: Physical Education 21, 22, or 53, or ability to swim 440 yards.**

57 GYMNASTICS FOR WOMEN. (3) I Lewis

Theory and practice of various systems of calisthenics, including the German and Swedish. Demonstration and practice of the fundamentals of tumbling, pyramid building, and exercises on the various pieces of gymnasium apparatus. Six hours per week.

91 TECHNIQUE AND PROCEDURE OF THE DANCE.
(3) II Shaw

An analytical study of the structure and technique of contemporary dance through the basic principles of kinesthetics, form and creativity. An approach to dance as an educational function. Open to male students. Two hours lecture and recitation, and two hours laboratory. **Prerequisite: Physical Education 18.**

159a SPORTS OFFICIATING FOR WOMEN. (1) I, S Carr

Instruction, interpretation of rules, and practice in officiating field hockey, volleyball, basketball, and other sports. Preparation for Women's National Official's rating in athletics. One hour lecture, two hours laboratory.

159b SPORTS OFFICIATING FOR WOMEN. (1) II, S Carr

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 laboratory.

190 HISTORY AND SURVEY OF THE DANCE. (3) I, S Shaw

The study of the evolution of dance through the cultural periods of history and the corelation of social structure and dance forms. Open to male students. Three hours per week.

191 RHYTHMICAL FORM AND ANALYSIS. (2) I

A functional study of rhythms presented in relation to movement. The employment of percussion instruments and musical accompaniment for dance. Open to male students. Three hours per week, one hour lecture and recitation, and two hours laboratory.

192 DANCE COMPOSITION. (4) II Shaw

Creative composing in dance choreography and program planning. Directing, staging, costuming of dance production to be presented formally by the student. Open to male students. Two hours lecture and recitation and four hours laboratory per week. **Prerequisite: Physical Education 91.**

PHYSICS

William Snyder Webb, Floyd Marion Carter, Lewis Wellington Cochran, Marvin Stanley Cohen, Clyde Brooks Crawley, Richard Hanau, Otto Townsend Koppius, Karl Otto Lange, Louis Arthur Pardue, George Clinton Patterson, Franklin Benjamin Pauls, Rufus Haynes Ritchie, William Oscar Shropsire, and Jacob LaRue Warner.

UPPER DIVISION REQUIREMENTS—Junior and Senior Years

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

Requirements for a Major. Prerequisite: Physics 3a-b; Mathematics 17, 18, and 19. **Required:** Mathematics 20a-b; Physics 125c, and a minimum of fifteen credits of advanced work in Physics; a comprehensive examination in the senior year.

1a GENERAL ELEMENTARY PHYSICS. (5) I, II, S Staff
An elementary college course covering Mechanics of Solids, Liquids and Gases, and Heat. Lectures and recitations, four hours; laboratory, two hours. **Prerequisite: High School or College Algebra, Plane Geometry.**

1b GENERAL ELEMENTARY PHYSICS. (5) I, II, S Staff
Continuation of Physics 1a, covering Magnetism and Electricity, Sound and Light. Lectures and recitations, four hours; laboratory, two hours. **Prerequisite: Physics 1a or equivalent.**

3a GENERAL COLLEGE PHYSICS. (6) I, II, S Staff
An advanced general course covering Mechanics of Solids, Liquids and Gases, and Heat. Lectures and recitations, four hours; laboratory, four hours. **Prerequisite: Mathematics 17, 18, and 19; Chemistry 1a-b; or their equivalents; Concurrent, Mathematics 20a.**

3b GENERAL COLLEGE PHYSICS. (6) I, II, S Staff
An advanced general course covering Magnetism and Electricity, Sound and Light. **Prerequisite: Physics 3a or equivalent.**

***51a INTRODUCTION TO PHYSICS. (3) I** Webb
A lecture demonstration course covering the subjects of Mechanics of Solids, Liquids and Gases, and Heat.

***51b INTRODUCTION TO PHYSICS. (3) II** Webb
A lecture demonstration course covering the subjects of Magnetism and Electricity, Sound and Light. **Prerequisite: Physics 51a or equivalent.**

104 THEORETICAL MECHANICS. (4) I Crawley
This course covers the fundamental laws of mechanics and the conditions under which they hold. The work is usually based on some standard text. The student is expected to solve a representative list of problems. Lectures and recitations, four hours. **Prerequisite: Physics 3b; Mathematics 20b.**

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* Open to Freshmen.

108 LIGHT. (3) Hanau
A lecture and problem course covering the basic phenomena of geometrical and physical optics. Topics treated include thick lenses, apertures, wave motion, interference, diffraction, polarization, double refraction, absorption, scattering, the velocity of light, and the theory of selected optical instruments. **Prerequisite: Physics 3b; Mathematics 20b.**

110 SPECTROSCOPY. (3) Hanau
A lecture course dealing with the production, recording, measuring, and interpretation of atomic and molecular spectra. Topics treated include basic principles of atomic structure, conduction of electricity through gases, light sources, prism and grating spectrographs, photographic and other recording methods, photometry, and the interpretation of spectra in the fields of atomic structure and spectrographic analysis. **Prerequisite: Physics 3b; Mathematics 20b.**

111 ELECTRICITY AND MAGNETISM. (3) Crawley
A study of the fundamental theory of electricity and magnetism. The course covers electrostatic forces and energy, conductors and dielectrics, electrolysis, thermoelectricity, magnetic forces and energy of currents, magnetization of iron, and transient and alternating currents. **Prerequisite: Physics 3b; Mathematics 20b.**

114 VACUUM TUBES AND CIRCUIT THEORY. (3) Crawley
The course covers the theory of vacuum tubes and associated circuits. **Prerequisite: Physics 3b; Mathematics 20b.**

115 THEORY OF MEASUREMENTS. (3) Staff
A course in analysis of experimental data. Some of the topics considered will be to find an empirical equation to fit a set of data, evaluation of the arbitrary constants, the qualitative and quantitative graph, approximations, probability distributions, errors and deviations, least square equations representing observed data, etc. **Prerequisite: Physics 104; Mathematics 20b.**

119 X-RAYS AND CRYSTAL STRUCTURE. (3) Pardue
A basic course in X-rays for the advanced undergraduate and graduate, dealing with the production and properties of X-rays, the mathematical development of the formulae of absorption, scattering, polarization, etc.: methods of wave length measurement; the Compton effect and related quantum phenomena. **Prerequisite: Physics 3b; Mathematics 20b.**

120 X-RAY TECHNIQUE. (2) Crawley
An introductory course in X-ray technique primarily for medical technologists. The first half of the course deals with the design and operation of X-ray equipment, the physical basis of voltage, current, time and distance factors, intensifying screens, darkroom procedure, etc. The second half is devoted to practice in the radiography of the extremities, chest, head, teeth, etc. **Prerequisite: Physics 1b.**

123a HEAT AND THERMODYNAMICS. (3) Koppius
This course will stress some of the fundamental principles of heat phenomena such as high and low temperatures, elementary kinetic theory, specific heat phenomena both classical and modern, expansion, conduction, and radiation. The first and second laws of thermodynamics. Equations of state for ideal and real gases.

continuity and changes of state. Derivation of thermodynamic relations and their application to processes in physics and allied sciences. **Prerequisite: Physics 3b; Mathematics 20b.**

123b HEAT AND THERMODYNAMICS. (3) Koppius
A continuation of Physics 123a. Thermodynamic functions. Thermodynamic equilibrium. The 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. **Prerequisite: Physics 123a or equivalent.**

125a-d INDEPENDENT WORK IN PHYSICS. (3 ea.) Staff

130 EXPERIMENTAL PHYSICS: SPECTROSCOPY. (2) Hanau
An advanced laboratory study of the use and properties of various light sources, prism and grating spectrographs, photographic materials, and photometric methods. Qualitative and quantitative analysis of unknown materials by spectrographic methods will be made. **Prerequisite: Physics 110 or permission of the instructor.**

131 EXPERIMENTAL PHYSICS: ELECTRICITY AND MAGNETISM. (2) Crawley
The course provides advanced laboratory practice in electrical measurements. It includes calibration and use of the quadrant electrometer, the d'Arsonval galvanometer and the Type K potentiometer; studies of dielectrics and the magnetization of iron; measurements of capacitance, resistance and inductance; absolute determinations of electrical quantities. **Prerequisite: Physics 111, or equivalent.**

134 EXPERIMENTAL PHYSICS: VACUUM TUBES. (2) Crawley
The course deals with 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. **Prerequisite: Physics 114, or equivalent (may be taken simultaneously).**

135 EXPERIMENTAL PHYSICS: ATOMICS AND NUCLEONICS. (2) Pardue
Methods of producing and detecting nuclear particles will be studied. Instruments to be employed in the measurements are ionization chambers, Geiger counters, Cloud chambers, photographic films, mass spectrographs, and Van de Graaff generator. Measurements will be made on half-lives, absorption coefficients, ranges, particle energies. The experiments include methods appropriate to alpha particles, electrons and positrons, photons, neutrons, fission fragments and mesons. **Prerequisite: Physics 155 or equivalent (may be taken simultaneously).**

137 EXPERIMENTAL PHYSICS: HEAT. (2) Koppius
An advanced laboratory course in modern methods of measuring thermal quantities. Opportunity is provided for using the gas thermometer, resistance thermometer, types of radiation pyrometers. Construction and calibration of thermocouples. Determination of coefficients of expansion, vapor pressures and densities, viscosity, surface tension, freezing and boiling points, specific and latent heats, ratio of specific heats, thermal conductivities, radiation constants, etc. **Prerequisite: Physics 123a or equivalent (may be taken simultaneously).**

138 EXPERIMENTAL PHYSICS: LIGHT. (2) Hanau
An advanced laboratory course dealing with the properties of lenses, mirrors, prisms, gratings, and combinations of these elements in optical systems. The important phenomena of geometrical and physical optics are studied experimentally as well as the use and properties of specific instruments such as the microscope, telescope, spectrometer, interferometer, polarimeter, etc. **Prerequisite: Physics 108, or permission of the instructor.**

155a FUNDAMENTAL ATOMIC AND NUCLEAR PHYSICS. (3) Pardue
This course will stress the fundamental principles of atomic and and nuclear theory and practice thereby providing a foundation for students interested either in applied nucleonics or in a broader study of atomic and nuclear physics. Topics: atomic nature of matter, electricity and radiant energy, atomic and molecular structure, general laws of radioactivity, alpha, beta, and gamma radiations and their interaction with matter, nuclear structure, artificial transmutation of nuclei, nuclear fission. **Prerequisite: Physics 3b; Mathematics 20b.**

155b FUNDAMENTAL ATOMIC AND NUCLEAR PHYSICS. (3) Pardue
A continuation of Physics 155a in which a more detailed and more theoretical study of nuclear structure will be made. Topics treated are: basic facts for nuclear theory—size, spin, and statistics, constituent particles; disintegration; nuclear dynamics and nuclear forces. **Prerequisite: Physics 155a or equivalent.**

205 KINETIC THEORY OF MATTER. (3) Senior Staff
A course of lectures covering the classical kinetic theory of gases, including the theorems of Clausius, Joule, Maxwell, and Boltzmann. Coefficients of viscosity and slip. Brownian movements and specific heat relations are treated from the kinetic theory standpoint and equations of change of state are developed. **Prerequisite: Two "100" courses in Physics; Mathematics 105a.**

208 MICROWAVES. (3) Senior Staff
A review of electro-magnetic wave theory with emphasis on solutions of Maxwell's wave equations and their applications to the modern problem of microwave transmission. Plane, rectangular, and cylindrical wave guides are treated, and the special problems of transmission at hyperfrequency are studied. Lectures and assigned problems. **Prerequisite: Mathematics 105a; Physics 111; Electrical Engineering 133 or equivalent.**

210 ELECTRODYNAMICS. (3) Senior Staff
A treatment of the subject from the relativity point of view and on the electron theory. The topics treated will be the field equations and their transformation properties, the potential solutions of the field equations, the retarded and simultaneous fields of a point charge, fields of a system of point charges, dynamical equation of electron. The course will end with a short preview of quantum electrodynamics. **Prerequisite: Physics 111; Mathematics 105a.**

212 CONDUCTION OF ELECTRICITY THROUGH GASES. (3) Senior Staff
A lecture course covering the basic phenomena of electrical discharge in gases at low pressures. Topics treated include the formation of ions, and their mobility, diffusion, and recombination.

Representative discharges are studied such as the arc, glow, spark, corona, etc. **Prerequisite: Physics 111, and either 110 or 155b; Mathematics 105a.**

213 ELECTROMAGNETIC THEORY. (3) Senior Staff
A lecture course dealing with the application of classical electromagnetic theory to the optical phenomena of reflection, refraction, polarization, and absorption. Isotropic and non-isotropic media, as well as conducting and non-conducting media are treated. **Prerequisite: Physics 111 and 108; Mathematics 105a.**

214 TRANSIENT ELECTRIC AND VACUUM TUBE PHENOMENA. (3) Senior Staff
A study of transient currents in circuits containing variable amounts of inductance, capacitance, and resistance. Investigation of various types of coupled circuits including vacuum tube circuits. Both the methods of differential equations and of Heaviside's operational circuit analysis are used. **Prerequisite: Physics 111 or 114; Mathematics 105a.**

215a QUANTUM THEORY. (3) Senior Staff
A brief review of the origin of quantum theories and of the older theories of Bohr and Sommerfeld; mathematical techniques of quantum mechanics; the general aspects of wave mechanics and matrix mechanics; the uncertainty principle. **Prerequisite: Physics 217a-b or equivalent.**

215b QUANTUM THEORY. (3) Senior Staff
A continuation of 215a 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. **Prerequisite: Physics 215a or equivalent.**

217a THEORETICAL PHYSICS. (4) Senior Staff
A course of lectures presenting the basic aspects of theoretical physics in a unified way. Much of the material will be taken from such standard texts as Page's and Slater and Frank's books on theoretical physics. Representative topics: advanced dynamics; hydrodynamics; elasticity. **Prerequisite: Two "100" courses in Physics and Mathematics 105a.**

217b THEORETICAL PHYSICS. (4) Senior Staff
A continuation of 217a; statistical mechanics; thermodynamics; electrodynamics, relativity, quantum theory. **Prerequisite: Physics 217a or equivalent.**

218 THERMODYNAMICS. (3) Senior Staff
A review of the two classical laws of thermodynamics and their dynamical and statistical mechanical support; Nernst's heat theorem; applications of classical thermodynamics to important problems, relativity thermodynamics. **Prerequisite: Physics 123a-b; Mathematics 105a.**

220a-h SEMINAR. (1 ea.) Senior Staff
A weekly meeting of the staff and advanced students of the department for presentation and discussion of recent developments in physics as reported in the current literature and of work in progress in the department. Credit is given to those who satisfactorily present papers.

224 ADVANCED X-RAYS AND CRYSTAL STRUCTURE. (3) Senior Staff
A study of the theories of production, scattering and absorption of X-rays, the interpretation of X-ray spectra, the analysis of crystals, and experimental techniques in X-ray measurements. Much of the material will be taken from "X-Rays in Theory and Experiment" by Compton and Allison. **Prerequisite: Physics 119.**

225 THESIS. (0) Senior Staff
This course is intended for graduate students who are prepared to undertake special problems. Except in the case of a purely mathematical problem the entire time is to be devoted to work in the laboratory.

226a-b RESEARCH. (3 ea.) Senior Staff

227a-b RESEARCH. (5 ea.) Senior Staff

250 RELATIVITY. (3) Senior Staff
A lecture course dealing with the special and general theories of relativity. The application of the theories to mechanics, electricity and magnetism, and other fields is considered. **Prerequisite: Physics 104 and 111; Mathematics 105a.**

POLITICAL SCIENCE

Amry Vandenbosch, Hager W. Bach, Alexander T. Edelmann, Gladys M. Kammerer, John Estill Reeves, Thomas A. Rusch, J. B. Shannon, Claude B. Stephenson, Ernest Green Trimble, and Assistants.

Requirements In Field of Concentration: Forty credits of advanced work in the field of Social Studies, during the junior and senior years, including the major work.

Requirements For a Major. Prerequisite: Political Science 51a and b. **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 190; minimum of fifteen credits of advanced work in Political Science; a comprehensive examination in the senior year.

51 AMERICAN GOVERNMENT. (3) I, II, S
A survey course in the structure and operation of the Federal Government.

52 MUNICIPAL GOVERNMENT. (3) I Reeves
An introductory course in the study of the structure and functions of modern city governments.

80 STATE GOVERNMENT. (3) I, II, S Reeves
A study of the forms and functions of government in operation in the states of the United States

111 CURRENT PUBLIC AFFAIRS. (1) I, II Staff
An analysis and discussion of the most significant contemporary problems and events affecting public policy.

180a-d INDEPENDENT WORK. (3 ea.) I, II, S — Staff
Honors course for seniors who are majors or minors in the department. Consent of the department required for admission.

190 SEMINAR IN POLITICAL SCIENCE. (3) II — Staff
Open to major students.

I. Political Parties and Public Opinion

170 POLITICAL PARTIES. (3) I — Shannon
An analysis of public opinion and pressure groups; a survey of the history, organization methods, and functions of political parties in the United States; with first-hand studies of the individual's participation in government.

173 PUBLIC OPINION. (3) II — Shannon
The concept of public opinion; public opinion as an agency of political control; influence of the press, propaganda technique and control; competition of pressure groups for political influence.

RELATED COURSE IN OTHER DEPARTMENTS

Psychology 104, Social Psychology.

II. Public Administration

172 KENTUCKY GOVERNMENT AND CONSTITUTION. (3) II — Reeves
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.

177a INTRODUCTION TO PUBLIC ADMINISTRATION. (3) I, S — Kammerer
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.

177b PUBLIC PERSONNEL ADMINISTRATION. (3) II — Kammerer
An introductory survey of the history and changing concepts 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 and his relationship to management.

177c ADMINISTRATIVE REGULATION. (3) II, S
An examination of the regulatory movement, legal bases of regulation, problems in the organization and administration of regulatory agencies, practice and procedure in rule making and administrative adjudication, and the extent of judicial control over the regulatory process.

RELATED COURSES IN OTHER DEPARTMENTS

Economics 102. Labor Problems.
Economics 104. Public Finance.
Economics 124. State and Local Taxation.
Economics 130. Labor Legislation.
Law 153. Taxation.
Law 167. Administrative Law.

Social Work 100. Public Welfare Administration.
Social Work 112. Fields of Social Work.
Social Work 151. Public Assistance.

III. Theory

171a EARLY POLITICAL THEORY. (3) I Shannon
The political theories of Plato and Aristotle, and Roman Political Thought. Thomas Acquinas, Dante, Christian Political Thought.

171b MODERN POLITICAL THEORY. (3) II Shannon
Detailed study of Machiavelli, Hobbes, Locke, Rousseau, Burke, and the theories of the American and French Revolutions, the English Utilitarians, Democratic Political Theory, Socialism, and Communism.

175 CONTEMPORARY AMERICAN POLITICAL THOUGHT. (3) II, S Shannon
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.

RELATED COURSES IN OTHER DEPARTMENTS

Philosophy 101a and 101b. History of Philosophy.
Philosophy 110. Making of the Modern Mind.

IV. Comparative Government

155a COMPARATIVE GOVERNMENT—PARLIAMENTARY DEMOCRACIES. (3) I, S Edelmann or Trimble
A study of the governments of Great Britain and the Dominions, France, and Scandinavia.

155b COMPARATIVE GOVERNMENT—CONTEMPORARY DICTATORSHIPS. (3) II, S Edelmann or Trimble
A study of the totalitarian states of Europe and Asia.

168 THE GOVERNMENTS AND POLITICS OF EASTERN ASIA. (3) I, S Vandenbosch
An introductory study of the political institutions of China, Japan, the Philippines, and Dutch East Indies, and India. Constitutional principles, governmental organization, the party systems, current political issues, and contemporary problems of international relations.

V. Public Law

159a AMERICAN CONSTITUTIONAL DEVELOPMENT. (3) I, S Trimble
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.

159b AMERICAN CONSTITUTIONAL DEVELOPMENT. (3) II Trimble
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 on "due process," congressional powers, and changes in the federal system.

176 LEGISLATION. (3) II Kammerer or Reeves
A functional study of legislative bodies and the process of legislation. Emphasis is placed on the organization of legislative assemblies, the operation of the committee system, the actual process of enactment, including the drafting of bills, and the external controls over legislation.

RELATED COURSES IN OTHER DEPARTMENTS

History 131a, b. English Constitutional History.
Law 149. Municipal Corporations.
Law 161a, b. Constitutional Law I and II.

VI. International Law and Diplomacy

101 LATIN AMERICAN RELATIONS. (3) II, S Edelmann
The relations between the United States and the Latin American countries, with emphasis on the Monroe Doctrine and Pan-Americanism.

150 INTERNATIONAL LAW. (3) II Vandenbosch
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; and the treatment of aliens and international claims.

165 WORLD POLITICS. (3) I, II, S Edelmann or Vandenbosch
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.

166 THE UNITED NATIONS. (3) II, S
Background of the United Nations. Dumbarton Oaks conversations and draft proposal; problems and issues at the San Francisco Conference; analysis of charter and comparison with League of Nations Covenant; nature, structure, and functions. International Court of Justice and specialized agencies; development; problem of the veto; prospects.

RELATED COURSES IN OTHER DEPARTMENTS

Economics 127. International Economic Policies.
History 100a, b. The Diplomacy and Foreign Policy of the United States.
History 120. Europe in the Twentieth Century.
History 135. The British Empire.
History 145. Russia Since 1900.
History 176. France Since 1870.
History 177. Germany Since 1870.
History 190. The Far East.
Law 164. Conflict of Laws.

202 NATIONAL AND REGIONAL PLANNING. (3) II, S Shannon
A survey of conditions leading to efforts at planning. A study of the theories and principles of planning; a detailed investigation of the regional life of selected areas.

204 INTERNATIONAL RELATIONS AND ORGANIZATION. (3) II Vandenbosch
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.

206 SPECIAL PROBLEMS IN PUBLIC ADMINISTRATION. (3) I Kammerer or Reeves
A research course in selected problems of public administration. The problems will be selected in accordance with the needs and desires of students registered for the course.

211 THE CONSTITUTION AND CIVIL RIGHTS. (3) I, S Trimble
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. Special attention will be given to the decisions of the United States Supreme Court.

213 FEDERAL CENTRALIZATION. (3) II Trimble
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. Special attention will be given to the development of such provisions of the constitution as the commerce clause, the taxing clause, and of grants-in-aid and the more important measures of the New Deal.

217 CONTEMPORARY AMERICAN DIPLOMATIC PROBLEMS. (3) I, S Vandenbosch
The following topics would be included in the scope of the course, the specific subjects varying from time to time: the Monroe Doctrine, Pan-Americanism, the Open Door, arbitration, limitations of armament, non-recognition doctrine, problems of the Philippines, American-Canadian relations, American-Mexican relations, and such other current issues along this line as may arise from time to time.

271 SEMINAR IN CONTEMPORARY POLITICAL THEORY. (3) I, S Shannon
An intensive study of the nature of the contemporary ideologies of Socialism, Communism, Syndicalism, pluralism, anarchism, facsism, political and social democracy.

PSYCHOLOGY

James S. Calvin, John H. Baker, Robert E. Bills, Lysle W. Croft, Graham B. Dimmick, Richard Griffith, William E. Harris, Robert W. Henderson, Herbert H. Humphreys, Jessie Irvine, Parl L. Mellenbruch, Ernest Meyers, Edward Newbury, Frank A. Pattie, A. Dudley Roberts, Stanley C. Skiff, Erwin W. Straus, Walter E. Watson, M. M. White, and Assistants.

For information regarding the Industrial Psychological, Child Guidance, and Testing Services, see "Special Services of the University", p. 371, and "Special Services for the Student", p. 261.

UPPER DIVISION REQUIREMENTS—Junior and Senior Years

Requirements for a Major. Prerequisite: Psychology 1a and 1b and 8, 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.

***1a INTRODUCTION TO PSYCHOLOGY. (3) I, S** Staff
An introduction to the study of the fundamental problems of human behavior. Among the topics discussed are: intelligence and its measurement, heredity and environment in human development, motivation, the emotions, personality and its appraisal, and problems of maladjustment. Two lectures and a two-hour period for recitation and laboratory demonstration each week. Course 1a may be taken alone for credit, but 1a and 1b are prerequisites for all other courses in the Department except Psychology 7.

***1b INTRODUCTION TO PSYCHOLOGY. (3) II** Staff
A continuation of 1a. Among the topics discussed are sensation and perception, the nervous system, learning and memory, problem solving and thinking. **Prerequisite: Psychology 1a.**

5 PSYCHOLOGY OF ADVERTISING AND SELLING. (3) I, II Mellenbruch
General principles of psychology applied to these fields as a fundamental basis for preparing advertisements and plans for selling. Attention is given to research methods and to the social significance of advertising. **Prerequisite: Psychology 1a and 1b or equivalent.**

7 PSYCHOLOGY OF THE CHILD. (3) I, II, S Bills
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. **Prerequisite: Psychology 1a.**

8 INDIVIDUAL DIFFERENCES. (3) I, II, S Newbury
An introduction to the study of individual differences in behavior in relation to measurement in psychology. The relation of such factors as race, sex, heredity, physical constitution, environment, and training to differences in behavior will be considered. This course is a prerequisite to Psychology 101, 102, 103, and 105. Three hours of lecture a week. **Prerequisite: Psychology 1a and 1b or equivalent.**

101 PRACTICE IN TESTING: INTELLIGENCE TESTS. (3) I, II, S Skiff
This course provides advanced laboratory practice in the measurement of intelligence by individual techniques. Six hours a week. **Prerequisite: Psychology 8 or equivalent.**

* Open to Freshmen.

102 PRACTICE IN TESTING: PERSONALITY TESTS. (2) II Skiff
The purpose of this course is to give the student practical training and experience in the use of a selected list of personality tests and closely related techniques commonly used in evaluating the non-intellectual aspects of personality. Six hours a week. **Prerequisite: Psychology 8 or equivalent.**

103 PRACTICE IN TESTING: APTITUDE AND TRADE TESTS. (3) II Mellenbruch
This course provides laboratory practice in the use, scoring, and interpretation of industrial tests used in the fields of vocational and educational guidance and selection. Six hours a week. **Prerequisite: Psychology 8 or equivalent.**

104 SOCIAL PSYCHOLOGY. (3) I White
Description and explanation of social phenomena in terms of the original and acquired reaction systems of the individual. So-called types are characterized in respect to the social problems they present. Topics given special consideration: Crowds, mob behavior, propaganda, and nationalism. **Prerequisite: Psychology 1a and 1b.**

105 EMPLOYMENT PSYCHOLOGY. (3) I, S Mellenbruch
Emphasis is placed on the characteristics of an effective interview, the significance of certain items in the application blank, the use of objective tests in selection and the relation of adjustment, interests, special abilities, and experience to job fitness. Opportunities are provided for practice in interviewing and evaluating essential information in employment work. **Prerequisite: Psychology 8 or equivalent.**

106 INDUSTRIAL PSYCHOLOGY. (3) II Mellenbruch
Applications of psychology to industrial personnel problems: training and upgrading of employees, merit ratings, factors involved in industrial fatigue, surveys of attitudes, improvement of morale, reduction of turnover and absenteeism, safety promotion, providing incentives, welfare provisions, etc. Opportunities are provided for observation of successful methods in use in industrial situations. **Prerequisite: Psychology 1a and 1b.**

108 EXPERIMENTAL PSYCHOLOGY. (4) I Meyers
An experimental study of the nature of sensation and perception—of the entire process by which we know the world through our senses. Chief topics are: methods of measuring sensory thresholds; the skin senses; taste and smell; vision; hearing; attention; association. Two hours lecture, four hours laboratory. **Prerequisite: Psychology 1a and 1b.**

113 PSYCHOLOGY OF LEARNING. (4) II Calvin
An experimental study of the learning process with an analysis of various types of learning. Experiments and lectures are based on the various forms of learning—verbal learning, form learning, conditioned-response learning, acquisition of skills, memory, problem solving, thinking. Two hours lecture, four hours laboratory. **Prerequisite: Psychology 1a and 1b.**

114 ABNORMAL PSYCHOLOGY. (3) II Pattie
An intensive course on 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 is provided. **Prerequisite: Psychology 1a and 1b.**

115 GENETIC PSYCHOLOGY. (3) I, S Newbury
Influence of hereditary factors in the development of human behavior, with a critical survey of the problem and the evidence in connection with certain psychological traits such as musical and other special abilities, intelligence, insanity, and interests. **Prerequisite: Psychology 1a, and 1b.**

116 ANIMAL BEHAVIOR. (4) II Newbury
A survey of the field of animal behavior with special reference to experimental technique. Opportunity for research experience in an animal laboratory. Topics include: problems of heredity and environment, activity, instinct, motivation, learning, sensory discrimination, and personality in subhuman species. Relationships to human problems are indicated. Three hours of lecture, two hours of laboratory a week. **Prerequisite: Psychology 1a, 1b.**

117 BIOLOGY OF MOTIVATION. (2) S Newbury
Fundamental activating and goal-seeking processes of living organisms, biologically considered, including experimental and theoretical studies on such topics as instincts, drives, motives, appetites, and taste preferences. **Prerequisite: Psychology 1a, 1b.**

120a-d INDEPENDENT WORK IN PSYCHOLOGY. (2 ea.) I, II, S Staff
Designed for advanced students and graduates who undertake minor research problems to be conducted in regular consultation with the instructor. A minimum of six hours a week is required. **Prerequisite: Major in the Department with a standing of two in psychology courses.**

121 STUDENT PERSONNEL. (3) I Henderson
The methods of dealing with student personnel problems in college and high school, including the problems of selection, classification, sectioning of classes, grading, personal adjustment, motivation, guidance, and vocational placement. The functions of a personnel officer in schools and colleges. **Prerequisite: Psychology 1a and 1b.**

124 MENTAL HYGIENE. (3) I Bills
The objective of the course is to give 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. Not available for credit to students who have had Hygiene 120a. The courses are taught at the same time, and the student may take the course either as Hygiene or Psychology. **Prerequisite: Psychology 1a and 1b.**

125 EXPERIMENTAL CHILD STUDY. (3) II Humphreys
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 in the University Nursery, Pre-School, and Elementary School. **Prerequisite: Psychology 7.**

126 MENTAL HYGIENE OBSERVATION. (3) II
A continuation of Psychology 124. Students are given the opportunity to apply to concrete cases the principles and concepts developed in 124. **Prerequisite: Psychology 124 or Hygiene 120a. This course is offered also as Hygiene 120b, but cannot be carried in both departments.**

201a-h SEMINAR IN PSYCHOLOGY. (1 ea.) I, II — **Pattie**
One two-hour discussion each week of some current systematic concepts and of research under way by graduate students and members of the staff.

203a-h PROBLEMS IN PSYCHOLOGY. (2 ea.) I, II, S — **The Staff**
Shorter research problems are registered under this number. A minimum of six hours a week is required in consultation with the instructor.

210a-h RESEARCH IN PSYCHOLOGY. (3 ea.) I, II S — **The Staff**
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.

211 MENTAL WORK AND FATIGUE. (3) I — **Calvin**
A laboratory course. Two hours devoted to experiments and two hours discussion each week. **Prerequisite: An advanced course in Experimental Psychology and Elementary Statistics or their equivalent.**

212 THE EMOTIONS. (3) II — **Calvin**
An experimental study of feeling and emotion. Topics covered include development of emotional behavior, facial and body expressions of emotion, emotion as conscious experience, neurological and physiological mechanisms involved in emotional behavior, theories of emotion and experimental techniques for investigating emotional behavior. Two hours lecture, two hours laboratory. **Prerequisite: Psychology 109 or equivalent.**

213 THE OBSERVATION PROCESS. (3) I — **Calvin**
An advanced course in sensation and perception, with special emphasis on: historical development of the problems of sensation and perception; experimental findings and techniques of investigating vision and hearing; theories of sensation and perception. Two hours lecture, two hours laboratory. **Prerequisite: Psychology 110 or equivalent.**

214 THEORIES OF LEARNING. (3) II — **Calvin**
An examination of theories which attempt to explain the processes of learning and memory. The principal types of theories examined are the behavior theories and the field theories; other views are discussed as variations of these. Theories are evaluated in terms of their capacity to explain existing experimental data and to predict outcomes where no experimental observations have been made. **Prerequisite: Psychology 113 or equivalent.**

215 PSYCHOMETRICS. (3) II — **Mellenbruch**
An advanced course which considers the treatment 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. **Prerequisite: Mathematics 4 or its equivalent.**

217 PSYCHOLOGY OF LANGUAGE. (2) II — **Humphreys**
A survey of experimental and clinical findings in regard to the language function in the child, adult, primitive peoples, mentally disordered, and brain-injured cases. A framework for a developmental and comparative approach to language problems is developed and the relation of language to the general problems of concept formation and symbolism is examined.

219 CLINICAL PSYCHOLOGY. (4) I, II, S Humphreys
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.

222 SYSTEMS OF PSYCHOLOGY AND THEIR HISTORY. (3) I Pattie
A survey of the history of psychology and an intensive study of current systems of psychology.

230 PERSONALITY THEORY. (3) I Humphreys
An intensive survey of the major psychiatric, psychological, and sociological theories of personality structure and development. The relation of these theories to psychological research on personality, accomplished and potential, and personality theory underlying the major clinical testing techniques will be examined.

234a PRINCIPLES OF TEST CONSTRUCTION. (3) I Mellenbruch
A survey of the principles involved in different types of standardized tests, followed by the construction of an original test by the student. This test is administered by the student to an adequate sampling of the appropriate population group. The student then is to carry through an item analysis and other evaluations of the content of the preliminary form of his test. Recommended for those preparing for personnel administration and research in business and industry. **Prerequisite: Psychology 215.**

234b TEST STANDARDIZATION. (3) II Mellenbruch
A continuation of Psychology 234a. The student will administer a revised form of his preliminary test, as prepared in Psychology 234a, to an adequate sampling of the population and will utilize all pertinent statistical techniques in determining the reliability, validity, and other characteristics of his test. **Prerequisite: Psychology 234a.**

235 DIAGNOSIS AND COUNSELING IN A STUDENT PERSONNEL PROGRAM. (3) II Croft
An advanced course requiring recent background in both psychological measurement and the principles of guidance. It lays stress on skill in interpreting diagnostic material rather than on theory. Attention is given to techniques for collecting information regarding the student, the making of a diagnosis, and the techniques of counseling and interviewing. **Prerequisite: A graduate major in Psychology or Education and Psychology 121.**

237 CLINICAL TESTING. (2) I, II Watson
Provides the student with extensive experience in the use of clinical diagnostic techniques with a variety of pathological subjects at different age levels. Emphasis will be placed upon the critical analysis and evaluation of the patient's test performances. Special consideration will be given such matters as: Item analysis of subtests, patterns of scatter and differential diagnostic value of characteristic patterns. In the interpretation of test results, a major emphasis will be placed upon the interrelations existing in respect to the total picture presented by the patient as these become meaningfully correlated with the data of the social history, the medical history, and the psychiatric study. Six hours a week. **Prerequisite: Psychology 101.**

238 THE RORSCHACH TEST. (4) I, II Dimmick
The purpose of this course is to introduce the student to the Rorschach test as a clinical instrument. The course provides for

practice in administering, scoring, and interpreting the test data derived from a diversity of normal and pathological subjects. Emphasis is placed upon the integration of the Rorschach data with those derived from other sources and its particular value in delineating the affective and conative factors of the personality as these play a dynamic role in the individual's competence in handling his reality relationships. **Prerequisite: Psychology 219.**

239 **THE THEMATIC APPERCEPTION TEST. (2) II, S** Dimmick
This course introduces the student to the Thematic Apperception test as a clinical diagnostic procedure of primary importance in obtaining a picture of the actual thought content, attitudes, and feelings of the patient. Thus the data obtained serve to supplement and fill in the personality frame-work etched in outline by the Rorschach and by other tests of cognitive functions such as tests of intelligence, concept formation, impairment and/or deterioration, etc. The course will provide practice in administering, scoring, and interpreting data from normal and pathological subjects. **Prerequisite: Psychology 238.**

240 **THERAPEUTIC PROCEDURES. (3) II** Dimmick
This course will present the history, evolution, and rationale of a wide range of interrelated therapeutic procedures. These will be discussed in respect to their indications and contra-indications. Emphasis will be placed upon direct therapy, but supportive and indirect therapy will be accorded consideration. Demonstrations of selected therapeutic procedures will be provided, and the student will be given supervised experience in respect to: (1) Non-directive psycho-therapy (interview), (2) Directive psycho-therapy (interview), (3) Play therapy, and (4) Use of painting and drawing. **Prerequisite: Psychology 239.**

241 **MOTIVATION. (2) I, S** Dimmick
This course will survey our present knowledge, clinical, experimental, and observational, in respect to the affective and conative factors in psychopathological reactions. In this course our interest will center predominantly in the dynamics of human behavior as elaborated in the psychology of Freud and the psychoanalytic school.

245 **ADVANCED ABNORMAL PSYCHOLOGY. (3) II** Dimmick
An advanced course intended primarily for clinical psychologists. Special consideration is given the neuroses and the psychoses. Emphasis is placed upon the problems of differential diagnosis through the use of psychological techniques. **Prerequisite: A master's degree in psychology or equivalent training, and the consent of the instructor.**

250 **THE RORSCHACH TEST: (Advanced Course). (3) II** Dimmick
In this course emphasis will be placed on the interpretation of a wide range of normal and pathological Rorschach records. **Prerequisite: Psychology 238.**

300a **MEDICAL THERAPEUTIC PROCEDURE. (1) I** Straus
This course presents the rationale, indications, procedures, and results of four important psychiatric therapeutic methods: (1) electrical and pharmacological shock, (2) narcohypnosis or drug-analytic methods, (3) malaria and other types of fever therapy, and (4) prefontal lobotomy. Opportunity for a demonstration of these procedures will be provided, and this will be followed by a a discussion and interpretation of the results in the light of the total personality picture presented by the patient.

300b MEDICAL THERAPEUTIC PROCEDURE. (1) II Straus
This course presents the history, rationale, indications, procedures, and results of psycho-therapeutic methods.

431a-p SPECIAL FIELD PRACTICUM. (2) I, II, S Dimmick
An intensive course in field work for students planning to get a Ph. D. with a major in clinical psychology. Minimum of twenty hours a week.
For special fee see page 20.

RADIO ARTS

[1] Elmer Griffith Sulzer and [1] Lolo Lemme Robinson.

UPPER DIVISION REQUIREMENTS—Junior and Senior Years

Requirements in Field of Concentration: Forty credits in courses not open to Freshmen, including the major work, in the field of Literature, Philosophy, and the Arts, during the Junior and Senior years.

Requirements for a Major. Prerequisite: Radio Arts 1a, b. **Required:** Radio Arts 2a, 2b, 101, 102, 105, 106a, 106b, and 110; Comprehensive Examination.

***1a RADIO TODAY. (3) I** Sulzer
The networks, the broadcasting station, electrical transcriptions, radio reception, radio speaking, specialized types of speech programs, oral interpretation scope, problems of pronunciations, and dialects. Types of writing, including the commercial continuity, the radio address, the radio play, adaptation of the plot into a script, the preparation of children's programs. Lecture and recitation, three hours.

***1b RADIO TODAY. (3) II, S** Sulzer
The musical mike including the fundamental radio musical forms; radio in public service; broadcasts to schools; the use of sound equipment in schools; building the radio schedule; serving the sponsor; listener problems; the law as it affects broadcasting; radio as a vocation; the newer radio arts (FM, Facsimile, Television); and teaching the broadcaster. Lecture and recitation, three hours.

2a RADIO ANNOUNCING. (2) I, II, S Robinson
The study and practice of radio announcing, with emphasis on studio and microphone techniques, pronunciation, inflection, and adaption of manner to material. Workshop on WBKY. Lecture and recitation, one hour; laboratory, two hours. No prerequisite. Not open to freshmen.

2b RADIO DRAMA. (2) I Robinson
The use of drama in radio; methods of interpretation, script reading; the integration of effects (music, manual and recorded sound effects, filter microphones, montages, cross fades, etc.). Workshop on WBKY. Lecture and recitation, one hour; laboratory, two hours. No prerequisite. Not open to freshmen.

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* Open to Freshmen.

[1] See appended list of changes in Status, p. 428.

101 RADIO REGULATIONS. (2) I Sulzer
An intensive study of Parts 2, 3, and 4 of the Rules and Regulations of the Federal Communications Commission, including various application procedures; the music licensing regulations of ASCAP, SESAC, and BMI, and programming practices; censorship through FCC licensing practices; libel and slander; copyrights as applied to broadcasting. Lecture and recitation, two hours. No prerequisite.

102 ADVANCED RADIO ANNOUNCING. (2) II Robinson
The study of techniques and theory pertaining to specialized radio announcing; news commentating, public events, man-on-the-street, the interview, round table participation and moderation, public forum on the radio; the master of ceremonies; concert announcing and intermission comment. Workshop on WBKY. Lecture and recitation, one hour; laboratory two hours. **Prerequisite 2a.**

105 RADIO SCRIPT WRITING. (2) I, II Robinson
Practice in script writing in the various forms including; music, variety programs, audience participation, talks, commercials. Original writing and adaptations. Analysis and evaluation of the various forms; study of audience program reactions. Lecture and recitation, one hour; laboratory, two hours. No prerequisite.

106a RADIO PRODUCTION. (2) I Sulzer
The fundamentals of radio production, including program planning, casting, rehearsals. Practice in production. Lecture and recitation, one hour; laboratory, two hours. No prerequisite.

106b RADIO PRODUCTION. (2) II Sulzer
A continuation of 106a. Advanced practice in radio production involving research on assigned projects for radio presentation in educational broadcasts. Conferences and laboratory, four hours. **Prerequisite: Radio Arts 105 and 106a or consent of instructor.**

110 PRO-SEMINAR IN RADIO. (1) II Sulzer
Discussion and reports. Required of all seniors in preparation for the comprehensive examination. Open only to majors.

ROMANCE LANGUAGES AND LITERATURES

Hobart Ryland, Clarence Hal Albro, Betty J. Eilertsen, Jane Haselden, J. Eduardo Hernandez, Margaret Bennett Horsfield, Blaine W. Schick, Alberta Wilson Server, Thomas Capell Walker, and Assistants.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in 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.

Requirements for a Major. Prerequisite: Junior standing; in French: R. L. 1a, 1b, 2a, 2b; 4a, 4b, or 5a, 5b; 3a, 3b or 8a, 8b; in Spanish: R. L. 5a, 5b, 7a, 7b, 10a, 10b, 10c; 1a, 1b, or 4a, 4b. **Required:** a minimum of 15 credits of advanced work in Romance Languages; R. L. 80a-b. Comprehensive examination in the senior year.

Note: The student who presents one unit of high school foreign language will be permitted to enroll in first year work for full credit.

The student who presents two units of high school foreign language will be permitted to enroll in first year work, **but will receive credit only if he makes at least a B standing** in this course.

*1a **ELEMENTARY FRENCH.** (3) I, II, S — Staff
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.

*1b **ELEMENTARY FRENCH.** (3) I, II, S — Staff
A continuation of 1a. Several short readers are translated. **Prerequisite: 1a or one year of high school French.**

2a **INTERMEDIATE FRENCH.** (3) I, II, S — Staff
Supplementary reading. A good pronunciation, a thorough knowledge of grammar and verbs, reading and conversation are the aims of the course. Rapid reading of ordinary French and the ability to express oneself in French are stressed. **Prerequisite: 1a-b or two years of high school French.**

2b **INTERMEDIATE FRENCH.** (3) I, II, S — **Staff**
Continuation of 2a. **Prerequisite: 2a or three years of H. S. French.**

3a, b **FRENCH CONVERSATION AND COMPOSITION.**
(2, 2) I, II, S — Ryland
This course is designed to give students a fair amount of fluency in the use of the spoken language. The grammar will be developed by the writing of exercises out of class. Vocabulary will be built by the use of images rather than by translation, i.e. the direct method. **Prerequisite: 2a, b.**

6a, b, c **FRENCH NOVEL AND DRAMA.** (3 ea.) I, II, S — Eilertsen
Reading of standard texts in prose, fiction and drama. Verb drill, dictation, composition, conversation drill, based on some text read and memorized. Reports on assigned reading outside of classroom. **Prerequisite: 2a, b.**

8a, b **FRENCH PHONETICS.** (3, 3) I, II, S — **Schick**
A scientific study of French sounds based on the International System of Phonetic Symbols. **Prerequisite: R. L. 2a, b.**

80a, b **TUTORIAL SEMINAR.** (1, 1) I, II — Ryland and Server
To prepare seniors for the Comprehensive Examination. Required of all Majors in Romance Languages during the senior year.

103a, b **ADVANCED PHONETICS.** (3, 3) I, II, S — Schick
This course is especially planned for teachers of phonetics both in high school and in college. **Prerequisite: 8a, b and 6a, b.**

109a, b **FRENCH LITERATURE OF THE XIX CENTURY.**
(3, 3) I, II, S — Ryland
During the year some of the standard works are studied. Written

* Open to Freshmen.

reports in French on assigned topics. Outside reading of 1500 to 2000 pages to be assigned when the class has been started. **Prerequisite: 6a, b.**

110a, b FRENCH LITERATURE OF THE XVII CENTURY. **(3, 3) I, II, S** Schick
A course in the Classic Drama of the XVII Century. During the year the student is expected to read in class plays from the works of Corneille, Racine and Moliere. Other writers of the XVII Century will also be read. **Prerequisite: 6a, b.**

113a, b ADVANCED FRENCH GRAMMAR. (3, 3) I, II, S Ryland
A study of the finer points of French Grammar. **Prerequisite: 6a, b.**

114a-h INDEPENDENT WORK IN ROMANCE LANGUAGES. **(3 ea.) I, II, S** Staff
Prerequisite: 6a, b.

115a, b FRENCH LITERATURE OF THE XVIII CENTURY. **(3, 3) I, II, S** Walker
A study of the representative writers of the XVIII century with special attention given to Voltaire and Rousseau. **Prerequisite: 6a, b.**

116a, b FRENCH LITERATURE OF THE XX CENTURY. **(3, 3) I, II, S** Horsfield
A study of the modern writers starting with the Symbolist Group and continuing up to the present. **Prerequisite: 6a, b.**

122a, b ADVANCED FRENCH CONVERSATION. (2, 2) I, II, S Ryland
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. **Prerequisite: R. L. 3a, b and R. L. 8a, b.**

201a, b FRENCH LITERATURE OF THE RENAISSANCE. **(3, 3) I, II, S** Ryland
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. **Prerequisite: 21 semester hours of college French.**

202a, b OLD FRENCH. (3, 3) I, II, S Schick
First Semester, a study of the syntax and composition of old French. Second semester, reading of texts in old French. **Prerequisite: 2 years of German, 4 years of French. Recommended: 2 years of Latin.**

204a ROMANCE PHILOLOGY. (3) I, II, S Schick
A study of the elements of Vulgar Latin. The phonology, etymology, morphology and historical grammar of the various Romance Languages. **Prerequisite: 202a, b.**

204b ROMANCE PHILOLOGY. (3) I, II, S Schick
General trends and comparative Romance Philology. **Prerequisite: 204a.**

205a, b SEMINAR IN FRENCH LITERATURE. (3, 3) I, II, S Staff
Prerequisite: 21 semester hours of college French.

Spanish

*5a **ELEMENTARY SPANISH.** (3) I, II, S — Staff
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.

*5b **ELEMENTARY SPANISH.** (3) I, II, S — Staff
A continuation of 5a. Several short readers are translated. **Prerequisite: 5a or one year of high school Spanish.**

7a **INTERMEDIATE SPANISH.** (3) I, II, S — Staff
Review of grammatical principles, composition work, and reading of selected Spanish works. **Prerequisite: 5a, b or two years of high school Spanish.**

7b **INTERMEDIATE SPANISH.** (3) I, II, S — Staff
Continuation of 7a. **Prerequisite: 7a or three years of high school Spanish.**

9a, b, c **SPANISH NOVEL AND DRAMA.** (3, 3, 3) I, II, S — Server
Reading of standard texts; brief survey of Spanish Literature composition, and outside reading. **Prerequisite: 7a, b.**

10a, b, c **SPANISH CONVERSATION AND COMPOSITION.**
(3, 3, 3) I, II, S — Server
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; grammar developed by oral exercise. Class conducted entirely in Spanish. **Prerequisite: 7a, b.**

102a, b **ADVANCED SPANISH GRAMMAR AND COMPOSITION.**
(3, 3) I, II, S — Server
A study of the finer points of Spanish Grammar. **Prerequisite: 9a, b.**

104a, b **SPANISH LITERATURE OF THE XVII CENTURY.**
(3, 3) I, II, S — Hernandez
Selected literature of the Golden Age; Cervantes, the picaresque novel. **Prerequisite: 9a, b.**

106a, b **SPANISH LITERATURE OF THE XX CENTURY.**
(3, 3) I, II, S — Niess
Beginning with the later works of the Generation of 1898 and continuing up to the present; representative works of recent writers are studied. **Prerequisite: 9a, b.**

108a, b **SPANISH AMERICAN LITERATURE.** (3, 3) I, II, S — Server
A study of representative writers and principal literary productions of Spanish America. Outside reading of 2000 to 2500 pages of selected works. **Prerequisite: 9a, b.**

112a **SPANISH LITERATURE OF THE XIX CENTURY.**
(3) I, II, S — Server
A study of Spanish Romanticism and the works of the leading Constumbristas. **Prerequisite: 9a, b.**

112b **SPANISH LITERATURE OF THE XIX CENTURY.**
(3) I, II, S — Server
A study of the novel and drama of the second half of the XIX Century. **Prerequisite: 9a, b.**

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* Open to Freshmen.

203a OLD SPANISH. (3) I, II, S — Server
A study of the vocabulary and grammar of Old Spanish contrasting and comparing it to modern Spanish. **Prerequisite: 21 semester hours of college Spanish.**

203b OLD SPANISH. (3) I, II, S — Server
Reading in texts of Old Spanish. **Prerequisite: 203a.**

206a, b SEMINAR IN SPANISH LITERATURE. (3, 3) I, II, S — Staff
Prerequisite: 21 semester hours of college Spanish.

Italian

***4a, b ELEMENTARY ITALIAN.** (3, 3) I, II, S — Schick
A study of the grammar and composition of Italian. **Prerequisite for 4b is 4a or one year of high school Italian.**

15a, b INTERMEDIATE ITALIAN. (3, 3) I, II, S — Schick
Review of grammatical principles and readings in selected Italian works. **Prerequisite for 15a: 4a, b. Prerequisite for 15b: 15a.**

Russian

30a-b ELEMENTARY RUSSIAN. (3) — Hernandez
The study of the basic principles of the language through grammar and reading with emphasis on oral practice through the use of oral exercises.

SOCIAL WORK

Harold E. Wetzel, Irving A. Gail, and Alice K. Rucker.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: Forty credits of advanced work in the field of social studies during the junior and senior years, including the major work in the department.

Requirements for a Major: Prerequisite: Social Work 24. A basic minimum of twenty-four credits in social work including 100, 113, 116, 122, 130a, and 140a plus additional courses depending on the students area of specialization, including specific courses in sociology, psychology, hygiene, and rural sociology. Tutorial and comprehensive examination in the senior year.

Graduate Work. The graduate curriculum is offered to students interested in social work as a profession and leads to a certificate. **Prerequisite:** Graduate standing, an undergraduate major in the social sciences, and the consent of the department. Students lacking the prerequisite number of hours in the social sciences will be

* Open to Freshmen.

required to carry additional courses to make up the deficiency in this field. Application should be made to the department in advance of registration.

24 ORIENTATION TO SOCIAL WELFARE PRACTICE. **(3) I, II** Rucker
An introduction to the organization and function of selected social work agencies in the community. Lectures, discussions, and observational visits. This course is the prerequisite for all majors in the department.

100 PUBLIC WELFARE ADMINISTRATION. (3) II Wetzel
Philosophy, background, and methods of tax-supported social work. The inter-relationship of federal, state and local services; standards and supervision as influenced by federal security legislation. **Prerequisite: two courses in social work.**

105 CHILD WELFARE SERVICES. (3) I, S Wetzel
A study of community and national programs for child care and protection, including aid to dependent children and other social security services.

110 PSYCHIATRIC INFORMATION FOR SOCIAL WORKERS. **(2) I** Gail
An analysis of personality development and behavior patterns with special reference to psychiatric interpretation and their implication for social case work. For majors in the department. **Prerequisite: two courses in social work.**

111a-d INDEPENDENT WORK. (1 ea.) I, II, S Staff
Conferences, assigned readings, reports on minor research problems. Open to majors in the department by special permission.

113 INTRODUCTION TO SOCIAL CASE WORK I. (2) II
An introductory course in the generic principles of social case work. Discussion based on selected readings and case records. For majors in the department. **Prerequisite: two courses in social work.**

116 SOCIAL WORK RESEARCH AND STATISTICS. (3) I Wetzel
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. **Prerequisite: two courses in social work.**

122 FIELD OF SOCIAL WORK. (3) I, II, S Staff
An introduction to the 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) the relationship of social work to the social sciences and allied professions, and the professional status of social work will be considered.

127a, b TUTORIAL WORK IN SOCIAL WORK. (1 each) I, II, S Staff
For senior majors in the department.

130a COMMUNITY ORGANIZATION FOR SOCIAL WELFARE. **(3) I, S** Rucker
Methods and techniques of social welfare planning for the treatment and prevention of social problems. Analysis of needs and resources, coordination of existing agencies, financing and de-

veloping chest and council programs, and the interpretation of social work to the community, will be among the subjects treated.

130b COMMUNITY ORGANIZATION FOR SOCIAL WELFARE. **(3) II** Rucker
A continuation of 130a with special emphasis on the organization and function of national and international welfare agencies. **Prerequisite: 130a or permission of the instructor.**

131 FIELD PRACTICE IN COMMUNITY ORGANIZATION. **(2) I, II** Rucker
One hundred clock hours of supervised work in planning and execution of simple projects in community organization. For senior majors by special permission.

140a PRINCIPLES OF SOCIAL GROUP WORK. (3) I, S Rucker
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.

140b ADMINISTRATION AND SUPERVISION OF GROUP WORK AGENCY PROGRAMS. (3) II Rucker
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 in the group work field. **Prerequisite: 140a or consent of the instructor.**

144a, b FIELD PARTICIPATION IN GROUP WORK PROGRAMS. **(2 each) I, II, S** Rucker
Supervised experience in the practice of group work in connection with a program in a local group work agency. For senior majors specializing in group work. **Prerequisite: SW 140a, and consent of the instructor.**

151 PUBLIC ASSISTANCE PROGRAMS. (3) II Wetzel
A study of the current function of public assistance upon the federal, state, and local levels with emphasis on the public assistance provisions of the Social Security Act, general relief, and work relief policies. **Prerequisite or concurrent: SW 122.**

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. **Prerequisite: SW 113, or special permission.**

220a SUPERVISED FIELD WORK. (2) I, II
150 clock hours of supervised field work in a public or a private agency.

221 ADVANCED SOCIAL CASE WORK I. (2) II
An advanced course built around the theoretical aspects of case work problems encountered by the students in their field work, and supplemented by cases presenting other problems.

225 SOCIAL INSURANCE. (2) II Wetzel
A study of social insurance in Europe and the United States. Emphasis will be given to the problems in administration, financing, and coverage.

SOCIOLOGY

Irwin T. Sanders, C. Arnold Anderson[1], Harry Best, Percy Black, William Clayton Bower, John H. Given, Sarah Bennett Holmes, Catharine L. Kennedy, and Willard E. Ruggles.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Social Studies during the junior and senior years, including the major work.

Requirements for a Major. Prerequisite: Sociology 3a and 3b, or equivalent. **Required:** Minimum of 18 credits of advanced work in Sociology, including at least 3 credits in Theory and Methodology, 6 credits in one of the other sub-divisions below, and Sociology 19a and b, and 20a and b. Comprehensive examination in senior year.

Courses in Sociology

I. Introductory and General Sociology

*1 **PRINCIPLES OF SOCIOLOGY.** (3) I, II, S — Best and Holmes
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. Not open to seniors.

*3a, b **SOCIETIES AROUND THE WORLD.** (3, 3) I, II, S — Staff
To apply in the group requirements in social studies. The comparative characteristics of preliterate, peasant, and civilized societies in relation to the geography of the land in which they live. Selected societies representing each of these types will be studied in detail. The variations in food, housing, clothing, tools, and transportation will be related, on the one hand, to the habitat and, on the other hand, to occupations and economic organization, form of government and family system, religion and art. The first semester's course, 3a, will cover the preliterate and peasant societies; 3b will deal with the civilized societies. (Not open to seniors in Arts and Sciences College.) (Same as Geography 3a, b.) (3a prerequisite to 3b.)

18 **COMPARATIVE SOCIOLOGY.** (3) I — Sanders
A study of the dynamics of culture as shown in a primitive, a peasant, and a modern culture system.

19a, b **JUNIOR TUTORIAL.** (1 each) I, II, S — Staff
Conferences, assigned readings, reports, etc. For junior majors.

20a, b **SENIOR TUTORIAL.** (1 each) I, II, S — Staff
Conferences, assigned readings, reports, etc. For senior majors.

II. Theory and Methodology

105 **SOCIAL THEORY: PLATO TO COMTE.** (3) I — Sanders
The social theories of representative social thinkers, together with a brief study of their lives and the times in which they lived.

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* See appended list of changes of status, p. 428.
* Open to Freshmen.

Extensive reading of their works. **Prerequisite: one sociology course.**

114a-d **INDEPENDENT WORK.** (1 each) I, II, S — Staff
Study of some special topic by duly authorized students. For sociology majors only.

122 **CONTEMPORARY SOCIOLOGICAL THEORY.** (3) II — Anderson
A study of the leading developments in sociological theory and methodology from Comte to the present time. **Prerequisite: two sociology courses.**

124 **TECHNIQUES OF SOCIAL INVESTIGATION.** (3) I — Kennedy
A study of the practical applications of sociology in organizing, conducting, and interpreting social surveys and other forms of sociological research. **Prerequisite: one sociology course.**

130 **SOCIAL SYSTEMS.** (3) S — Best
A study of the different social systems, including experimental communities that have been proposed or attempted in human society from the earliest times to the present.

201a, b **SOCIOLOGY SEMINAR.** (2 each) I, II, S — Staff
Consideration mainly of methods of research and of current sociological literature.

225 **SYSTEMATIC SOCIOLOGY.** (3) I — Sanders
An intensive study of certain selected sociological theorists such as Weber, Durkheim, Simmel, Pareto, and others.

III. Social Organization and Process

6 **AMERICAN IMMIGRANTS AND RACES.** (2) II — Best
A study of ethnic groups in the United States, and of national policies for dealing with related problems, including special attention to the Negro problem.

*7 **SOCIAL INSTITUTIONS.** (3) II — Ruggles
A comparative analysis of the familial, economic, religious, recreational and other basic institutions of human society, with emphasis upon the institutionalization process.

27 **RELIGION AND CULTURE.** (3) I — Bower
A functional approach to the understanding of religion as a form of social behavior. Cultural sources of religious ideas and practices are traced, and special attention is given to the church as a social institution, ceremonials as symbols, secularization and other trends. Open to sophomores who have had an introductory sociology course and to all juniors and seniors.

28 **THE CULTURAL PROCESS AND THE HEBREW-CHISTIAN RELIGION.** (3) II — Bower
A study of the reciprocal relation of religion and culture in the Hebrew-Christian religion as a specific social phenomenon. Cultural substrata of cultic life in Palestine and the Near East as disclosed by archaeological remains. Effects of cultural change upon Hebrew religious thought. Social origins of Christianity. Open to sophomores who have had an introductory sociology course and to all juniors and seniors.

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* Open to Freshmen.

40 THE COMMUNITY. (3) I, S Given
Social organization and process in modern communities; social techniques of community improvement.

109 THE FAMILY. (3) I, S Ruggles
A study of the family, both in its historical aspects and in connection with modern life.

126 INDUSTRIAL SOCIOLOGY. (3) I Anderson
A sociological analysis of the division of labor, the characteristics of occupational groupings; principal socio-economic movements, and group relationships in modern industry. **Prerequisite: one sociology and one economics course.**

127 SOCIAL CLASSES. (3) II Anderson
A systematic treatment of the factors underlying social differentiation and stratification, with particular attention to class and caste; social mobility in American society. **Prerequisite: one sociology course.**

128 HUMAN RESOURCES OF THE SOUTH. (3) II, S Anderson
Intensive analysis of the population and sociological organization of the south. Consideration of the sociological factors influencing the optimum development and utilization of the human resources of this region. **Prerequisite: for social science majors, senior standing; for others by arrangement.**

164 THE BALKANS: THE STUDY OF A PEASANT SOCIETY. (3) II, S Sanders
A description of the basic social structure of the Balkan region, which is predominantly rural, and an analysis of the social changes occurring in the peasant way of life. Countries covered are Albania, Bulgaria, Greece, Rumania and Yugoslavia.

170 THE CITY. (3) II Sanders
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. The trend toward metropolitan interdependent areas is described. The sociological aspects of city and regional planning are also considered. **Prerequisite: An introductory sociology course or with approval of instructor.**

209 SEMINAR IN THE FAMILY. (2) II Sanders
A seminar for advanced students interested in family research, family counseling, or dealing with family relationships in some other professional capacity.

224 MINORITY GROUPS. (3) I Best
A sociological scheme of analysis is applied to the special problems of adjustment arising from ethnic group relations and culture contacts.

230 EDUCATIONAL SOCIOLOGY. (3) I Hartford
(Same as Educational Sociology 230.) An advanced course in the application of sociological findings to educational programs. Special emphasis is placed upon the problems and potentialities of Southern regions with implications for education. **Prerequisite: 16 quarter hours in Education.**

IV. Social Disorganization and Reorganization

*2 **MODERN SOCIAL PROBLEMS.** (3) I, II, S — Best and Holmes
An introductory course involving an examination of selected social problems of the present day. Some topics dealt with are family disorganization, poverty, crime, racial issues, handicapped classes, housing conditions, population movements, social implications of industrial development, etc. Not open to seniors in Arts and Sciences College.

101 **SOCIAL DEPENDENCY.** (3) I — Best
A study of poverty and social dependence and of measures for their alleviation and reduction, with special attention to present private and public activities in this direction, including social insurance.

102 **SOCIAL PATHOLOGY.** (3) II — Kennedy
A systematic examination of the various types of social disorganization, with particular emphasis upon the sociological explanation of underlying factors. **Prerequisite: one sociology course.**

103 **CRIMINOLOGY.** (3) I, II, S — Best
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.

121 **POPULATION PROBLEMS.** (3) I — Kennedy
A study of movements and trends in population, with respect to race, age, birth-rates, etc. **Prerequisite: Sociology 124 or its equivalent.**

V. Personality and the Group

25 **COLLECTIVE BEHAVIOR.** (3) I — Kennedy
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.

104 **SOCIAL PSYCHOLOGY.** (3) II — White
(Same as Psychology 104.) Description and explanation of social phenomena in terms of the original and acquired reaction systems of the individual. Topics given special attention: crowd and mob behavior, propaganda, and nationalism.

VI. Rural Sociology

(The following courses in Rural Sociology are offered in the College of Agriculture. For course descriptions, see College of Agriculture material.)

10 **INTRODUCTION TO RURAL SOCIOLOGY.** (3) I, II — Beers

115 **ORGANIZATION OF RURAL GROUPS.** (3) II, S — Kaufman

125 **RURAL MOVEMENTS AND SOCIAL POLICY.** (3) I

160 **RURAL COMMUNITY ANALYSIS.** (3) I, II — Kaufman

* Open to Freshmen.

180 ADVANCED RURAL SOCIOLOGY. (3) I, S

190a-c SPECIAL PROBLEMS IN RURAL LIFE. (2) I, II **Staff**

200a-c RESEARCH IN RURAL SOCIOLOGY. (2) I, II, S Staff

210 SEMINAR IN RURAL ORGANIZATION. (3) I **Beers**

220 SEMINAR IN RURAL ATTITUDES. (3) II **Kaufman**

230 RURAL URBAN RELATIONS. (3) I

250 TOPICAL SEMINAR. (3) II **Staff**

ZOOLOGY

William R. Allen, Alfred Charles Brauer, James M. Edney, William A. Muller and Joe K. Neel.

UPPER DIVISION REQUIREMENTS—**Junior and Senior Years**

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Biological Sciences, during the junior and senior years, including the major.

Requirements for a Major. Prerequisite: Junior standing; Zoology 1. **Required:** Zoology 7a, 7b or 157a, 157; Zoology 106; Zoology 108a, 108b; Zoology 114a, 114b; a minimum of fifteen credits above 1, passing a comprehensive examination before graduation.

Courses Recommended for Special Curricula: Medical Sciences, 1, 7a, 101a, b, 105, 106, 115, 166, 168; Teacher Training, 1, 7a, b, 103a, b, 108a, b; Pre-Conservation Training, 1, 7a, b, 30, 102, 103a, b, 105, 109.

***1 PRINCIPLES OF ANIMAL BIOLOGY. (4) I, II, S** Staff
Two lectures and two laboratory periods per week for one semester. Studies of protoplasm, metabolism, the cell, cell-division, primary tissues, maturation; living Protozoa and the earthworm in complete detail as the Invertebrate types; the frog as the Vertebrate type. Frog life cycle as an ontogenetic series; selected types as a phylogenetic series. Exercises in general animal physiology, homology, ecology, palaeontology.

7a COMPARATIVE ANATOMY. (4) I Neel
Invertebrates. An intensive study of the anatomy of representatives of all the important phyla, classes, orders and a few families with gross studies of many genera. Life histories of important forms. Comparative organology and physiology of higher phyla.

7b COMPARATIVE ANATOMY. (4) I, II, S Edney
Vertebrates. Systematic consideration of classes, orders and some families of Vertebrata. Comparative organology and physiology.

* Open to Freshmen.

30 LIMNOLOGY. (4) I Neel
Field and laboratory studies of the physical, chemical and biological features that affect biological productivity in inland waters with special reference to animal life. Analysis of fresh-water environment. Lecture, recitations, laboratory and field work. Two lectures; four hours field and laboratory per week. **Prerequisite: Zoology 1.**

101a HISTOLOGY. (3) I, II, S Brauer and Muller
Histology of the tissues. A course in the technique of the preparation of animal tissues for microscopic study. Practice in imbedding, staining, sectioning, mounting, and identification of tissues. **Prerequisite: Zoology 1.**

101b HISTOLOGY. (3) II, S Allen
Histology of the organs. A continuation of Course 101a in which the studies are based on the organs and special attention given to pathology. **Prerequisite: Zoology 101a.**

102 ORNITHOLOGY. (3) II, S Allen
A study of the life histories, anatomy and physiology of birds with particular reference to the habits, songs, nests, migration, and economic importance of our native birds. Field excursions.

103a GENERAL ENTOMOLOGY. (3) I Allen
A beginning course in the study of insects. Gross anatomy, morphology, and life-histories of representatives of the most important orders of insects and other arthropod classes.

103b GENERAL ENTOMOLOGY. (3) II Allen
A continuation of Course 103a. Taxonomy and entomotaxy are given special attention during the second semester. Individual collecting and field work.

105 PARASITOLOGY. (3) I, S Edney
Designed especially for pre-medical, medical technology, pre-veterinarian and agricultural students. Protozoan, helminth, and arthropod parasites of man and domestic animals with particular emphasis on life histories, epidemiology, methods of control, methods for the diagnosis of parasitic diseases of both man and other vertebrate hosts, techniques for the examination of hosts for their parasites and the preparation of parasites for critical study. **Prerequisite: Zoology 1, 101a (7a desirable).**

106 EMBRYOLOGY. (4) II, S Brauer and Muller
A general course in ontogeny. Studies in maturation, fertilization, cleavage, organogenesis and anomalies of development with laboratory work based on the chick and the pig. **Prerequisite: Zoology 1.**

108a PRINCIPLES OF ZOOLOGY. (2) I, S Allen
(Evolution.) An advanced lecture course on the fundamental principles of biology. The first semester is devoted primarily to the study of organic evolution and related dynamic aspects of the living organism. Three times a week.

108b PRINCIPLES OF ZOOLOGY. (2) II, S Muller
(Heredity.) The second semester is devoted to the study of variation, heredity and eugenics. Three times a week.

109 ANIMAL ECOLOGY AND FIELD BIOLOGY. (3) I Allen
An analysis of the environment and the adjustment of animal life to the environmental complex. Habitats, food, respiratory needs, life histories, animal associations. **Prerequisite: Zoology 1.**

110a-d INDEPENDENT WORK. (3 ea.) I, II, S Staff
Special problems for individual students who are capable of pursuing independent investigations. For Zoology Majors.

112 ICHTHYOLOGY. (3) I Allen
Taxonomy of fishes with life-histories and biology of types. Fish structure and physiology, habits, ecology. Fish culture and economic ichthyology; care of fishes, aquaria, etc. Two lectures, one field or laboratory exercise per week. **Prerequisite: Zoology 1.**

114a-d ZOOLOGICAL SEMINAR. (1 ea.) I, II Staff
Presentation of results of research; reports on technical papers in current literature; book reviews; news notes; discussions of recent developments in zoology; and reports on meetings of scientific societies. Juniors majoring in Zoology are advised, and Seniors required to attend in order to receive tutorial instruction preparatory to the final comprehensive examination. For students majoring in biological subjects.

115a ADVANCED PARASITOLOGY. (3) II, S Edney
(Protozoology.) The etiology, pathology, epidemiology, diagnosis, prophylaxis and control of protozoan diseases of man. Practical studies in diagnosis. **Prerequisite: Zoology 1; 105.**

115b ADVANCED PARASITOLOGY. (3) II, S Edney
(Helminthology.) The etiology, pathology, epidemiology, diagnosis, prophylaxis and control of cestode, trematode, and round-worm diseases of man. The analysis of life cycles and the diagnosis of helminth parasites of man. Three lectures, two laboratory periods. **Prerequisite: Zoology 1; 105.**

115c ADVANCED PARASITOLOGY. (3) II Neel
(Medical Entomology.) A study of Arthropods important in the causation and transmission of disease. Structure, life histories, methods of recognition and control. Collection, identification, and experimental approach to life cycles. **Prerequisite: Zoology 1; 105.**

130 ADVANCED LIMNOLOGY. (4) I Neel
Detailed analysis of fresh water environments with special emphasis upon biological productivity. Two hours lecture; four hours field and laboratory. **Prerequisite: Zoology 1.**

157a INVERTEBRATE ANATOMY. (4) I Neel
An advanced course on the comparative anatomy of invertebrate animals with special attention paid to phylogeny, organology, and taxonomy. **Prerequisite: Zoology 1.**

157b VERTEBRATE ANATOMY. (4) I, II, S Edney
(1) Systematic consideration of classes, orders, and some families of Vertebrata. (2) Detailed dissection of types not previously studied. (3) Comparative organology and (briefly) physiology of the several classes. (4) Preparation of charts and diagrams of nervous systems, urinogenital systems, and vascular systems. (5) Complete demonstration of the mammalian anatomy. **Prerequisite: Zoology 1.**

166 PHYSIOLOGY OF DEVELOPMENT. (2) I Brauer
A review of theories of differentiation and a consideration of the genetic environmental, and correlative physiological factors in differentiation. Lectures, assigned readings and literature reports. **Prerequisite: 1; 7a, 7b or 106.**

168 BIOLOGY OF SEX. (2) II Brauer
The cytological, genetic, and physiological problems of sexual differentiation. Such cases as hermaphroditism, gynandromorphism, intersexuality, and reversals are considered. Lectures, literature reports, assigned readings. **Prerequisite: 1; 7a, 7b or 106.**

210a-b PROBLEMS IN ZOOLOGY. (3 ea.) I, II, S Staff
Students qualified to undertake graduate work will be assigned to appropriate research problems to be pursued independently. Conferences, laboratory, field, and library work. Six hours per week. Written reports.

COLLEGE OF AGRICULTURE AND HOME ECONOMICS

AGRICULTURAL ENTOMOLOGY

Walter Allen Price and Lee Hill Townsend.

1 AGRICULTURE ENTOMOLOGY. (3) I, II, S Townsend
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. Lecture, 2 hours; laboratory, 2 hours.

2 APICULTURE. (3) II Price and Townsend
The anatomy of the bee; the colony; location and equipment of the apiary; production of comb and extracted honey; diseases and enemies of bees. Much of the laboratory work has to do with manipulation of beekeeping equipment and with the bees themselves. Lecture, 2 hours; laboratory, 2 hours.

3 ECONOMIC ENTOMOLOGY: HOUSEHOLD INSECTS. (2) I Townsend
Life histories, habits and control of the more common insects which are injurious and troublesome in the home. Consideration is also given to certain other insects which have public health importance. Lecture, 2 hours.

102 ECONOMIC ENTOMOLOGY. (3) S Townsend
Especially planned for those intending to take up vocational agricultural teaching and county agent work. The life histories of the common and important economic insects of Kentucky are considered. The making and care of school collections, cages, etc., are described. Lecture, 2 hours; laboratory, 2 hours.

103 ECONOMIC ENTOMOLOGY: FRUIT AND GARDEN INSECTS. (3) I Townsend
Life histories, habits, distribution, and control of insects injurious to fruit and garden crops, with special attention to those species found in Kentucky. The various diseases, parasites, and predators of these injurious species are also given attention. Lecture, 2 hours; laboratory, 2 hours. **Prerequisite: A. E. 1.**

104 ECONOMIC ENTOMOLOGY: FARM CROP INSECTS AND ANIMAL PARASITES. (3) II Townsend
Life histories, habits, distribution, and control of insects injurious to common farm crops including those of stored grain and forage; also insect parasites, and predators of these injurious species are given attention. Lecture, 2 hours; laboratory, 2 hours. **Prerequisite: A. E. 1.**

105a-b SYSTEMATIC AND TECHNICAL AGRICULTURAL ENTOMOLOGY. (3 ea.) I, II Townsend
Insect physiology, anatomy, ecology, and taxonomy entomological literature and technique; studies of special groups of insects. Time to be arranged. **Prerequisite: A. E. 1 and any of the following: 102, 103, 104.**

201a-b ENTOMOLOGICAL PROBLEMS. (3 ea.) I, II Price
Investigations of chosen insect problems, including original work. Discussion and assignment of current insect subjects. Time to be arranged. **Prerequisite: A. E. 102, 103, 104, 105.**

AGRICULTURAL EXTENSION

Thomson Ripley Bryant

101 METHODS IN AGRICULTURAL EXTENSION. (1) II Bryant
Methods used in Extension Work in agriculture and home economics; legislative background, organizing the working forces; administration and financing; cooperating agencies, proper relationships, methods of making and executing effective programs of work. Lecture, 1 hour.

AGRONOMY

Edmund J. Kinney, Stephen Diachun, Ernest N. Fergus, Perry E. Karraker, James B. Kelley, Paul M. Phillippe, William G. Survant, and Earl R. Young.

Courses in Crops

1 ELEMENTARY FARM CROPS. (3) I, II, S Phillippe
A survey course considering geographical distribution, science of production and uses of important field crops. Lecture and recitation, 2 hours; laboratory 2 hours.

2 MARKET GRAIN GRADING. (2) II, S Phillippe
Studies of federal classes and grades of market grains. Laboratory, 4 hours. **Prerequisite: Agron. 1.**

102 FIELD CROP ECOLOGY. (3) I, S Phillippe
A study of the environmental factors affecting the yield and quality of field crops. Lecture and recitation, 3 hours. **Prerequisites: Agron. 1; Botany 1.**

103 WEEDS. (2) II, S Phillippe
The important characteristics, identification, and control of weeds, with emphasis on identification and control of Kentucky weeds. Lecture and discussion, 2 hours. **Prerequisite: Botany 1.**

104 ADVANCED CROPS: FORAGE CROPS. (3) I, S Fergus
A comprehensive study of forage crops with special emphasis upon their production in Kentucky. Lecture and recitation, 3 hours. **Prerequisite: Agron. 1; Botany 1.**

105 ADVANCED CROPS: TOBACCO AND CEREALS. (3) II, S Kinney
Tobacco and the important cereal crops are studied in considerable detail as regards distribution, soil and climatic adaptations, and technique of production. Lecture and recitation, 3 hours. **Prerequisite: Agron. 1; Botany 1.**

106 FIELD CROP IMPROVEMENT. (3) II Kinney
A study of the principles involved and the technique used in breeding crop plants. Lecture and recitation, 3 hours. **Prerequisite: Botany 1; Agron. 1; A. I. 61.**

200a, b AGRONOMY SEMINAR. (1 ea.) I, II Staff

204a, b SPECIAL PROBLEMS IN PRODUCTION OF FORAGE CROPS. (3, 3) II, S Fergus and Phillippe
Intensive studies of research relative to particular problems in forage crop production. **Prerequisite: Approval of instructor.**

205a, b SPECIAL PROBLEMS IN PRODUCTION OF TOBACCO OR CEREALS. (3, 3) II, S Kinney
Prerequisite: Approval of instructor.

Course in Plant Pathology

23 PLANT PATHOLOGY. (4) II Diachun
A general survey of the causes, effects of, and methods of control of plant diseases. Recitation, 2 hours; laboratory, 4 hours. **Prerequisite: Botany 1.**

Courses in Soils

10 SOILS. (3) I, II Survant
A general study of the origin, classification, properties, and management of soils. It is desirable that students take Agronomy 11 concurrently. Lecture and recitation, 3 hours. **Prerequisite or concurrent: Chemistry 1b or 4b.**

11 SOILS LABORATORY. (2) I, II Survant
Laboratory and field exercises dealing with important soil properties and processes, designed to accompany Agronomy 10. Two 2-hour laboratory periods. **Prerequisite or concurrent: Agron. 10.**

12 SOIL CONSERVATION. (3) I, II Survant
A study of the scope and nature of the soil conservation problem, and the application of soil conservation methods to the planning and management of individual farms. Lecture and recitation, 2 hours; laboratory, 2 hours. **Prerequisite: Agron. 10.**

110 SOIL BIOLOGY. (3) I
A study of soil organisms and biological soil processes in relation to soil productivity. Lecture, 1 hour; laboratory, 4 hours. **Prerequisite: Agron. 10; Bacteriology 52.**

112a, b SPECIAL PROBLEMS IN SOILS. (3, 3) I, II, S Karraker and Survant
Intensive studies of specific soil problems. **Prerequisite: Agron. 10 and approval of instructors.**

113 EXPERIMENTAL METHODS AND INTERPRETATION OF RESULTS. (3) II Roberts
A study of the essentials of reliable experimentation, including sources of error; a study of experimental data with emphasis on interpretation. **Prerequisite: Agron. 10.**

114 FERTILIZERS AND SOIL MANAGEMENT. (3) II Karraker
Sources, manufacture, evaluation, and use of fertilizers and lime materials; soil moisture, tillage, and soil organic matter and nitrogen. Lecture and recitation, 3 hours. **Prerequisite: Agron. 10.**

119 SOIL ORIGIN, CLASSIFICATION, AND MAPPING. (3) II
Factors and processes of soil formation, characteristics, and agricultural significance of the great soil groups, classification of soils, and the nature, use, and preparation of soil maps. Lecture and recitation, field work. **Prerequisite: Agron. 10.**

200a, b AGRONOMY SEMINAR. (1 ea.) I, II Staff

212a-d RESEARCH IN SOILS. (3 ea.) I, II, S Karraker
Prerequisite: Approval of instructor.

ANIMAL PATHOLOGY

Floyd Edgar Hull, Ross Brown, and William Wallace Dimock

51 ANIMAL HYGIENE. (3) I, II Hull and Dimock
A consideration of both general and specific measures designed to promote health and prevent diseases. Animal Hygiene includes feed and water, housing and ventilation, yards and pastures, sanitation and environment. All are part of the many problems to be considered in a program of animal health. Lecture, three hours.

101 ANATOMY AND PHYSIOLOGY OF DOMESTIC ANIMALS. (3) I Brown
Correlation of structure and function of the organs and systems of the animal body; a study of anatomy and physiology as related to work offered in courses in livestock judging, animal nutrition, butchering, animal breeding and infectious diseases. Lecture, three hours.

102 INFECTIOUS DISEASES OF DOMESTIC ANIMALS. (3) II Dimock and Brown
Distribution, general nature, manner of dissemination, methods of control, prevention, and eradication of infectious and parasitic diseases of animals. Lecture, three hours. **Prerequisite: A.P. 101.**

104a-b SPECIAL PROBLEMS IN ANIMAL PATHOLOGY. (3 ea.) I, II Hull and Dimock
Prerequisite: A.P. 101, 102 and approval of instructor.

201a-b INVESTIGATIONS IN ANIMAL DISEASES. (3 ea.) I, II Hull and Dimock
This course is open only to persons who have degrees in veterinary medicine.

Farm Engineering

1 MECHANICS OF THE FARMSTEAD. (3) I, II, S Kelley and Young
A study of the fundamentals of engineering as applied to agriculture. The course includes the following subjects: Mechanics of Materials, Transmission of Power, Farm Implements, Farm Sanitation Equipment, and Farm Electrical and Heating Problems. Lecture and recitation, 2 hours; laboratory, 2 hours.

2 FARM MOTORS. (3) II Kelley and Young
A study of the fundamental principles governing the selection, construction, operation, and repair of motors, tractors, and tractor equipment adapted for farm use. Lecture and recitation, 2 hours; laboratory, 2 hours.

3 FARM STRUCTURAL ENGINEERING. (3) I, II, S Young
A combination drawing and shop course in the construction, care, and repair of farm buildings and equipment. Includes study and practice in drawing, use of lumber, farm woodworking, use and care of woodworking tools and concrete work. Lecture, one hour; laboratory, 4 hours.

4 FARM SHOP. (3) I, II, S — Young
Principles and practices in farm metal work including cold metal work, forging, oxyacetylene and electric arc welding, pipe fitting, machinery repair, soldering, rope work and painting. Shop exercises and projects in repair and construction of farm equipment. Lecture, one hour; laboratory, four hours.

101a-c SPECIAL PROBLEMS. (2 ea.) I, II, S — Kelley and Young
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. May be taken only with the approval of the instructor.

102 DAIRY ENGINEERING. (2) II — Kelley
A study of the engineering principles involved in the construction, installation, operation, and management of machinery and equipment used in the handling and manufacturing of dairy products. Lecture and recitation, 2 hours. **Prerequisites: F.E. 1.**

104 RURAL ELECTRIFICATION. (2) I — Kelley
This course is designed to give students information on how to obtain electric service and on the problems involved in the selection, operation and care of electrical equipment in the home and on the farm. Open to juniors and seniors. Lecture and recitation, 2 hours.

105 ENGINEERING PRACTICES IN WATER MANAGEMENT. (3) II — Kelley
Surveying, mapping, and determining areas of farm land; designing farm drainage systems; farm reservoirs; problems in controlling water erosion with terraces and other mechanical structures. Lecture, 1 hour; laboratory, 4 hours.

ANIMAL INDUSTRY

Wesley Patterson Garrigus, John Orville Barkman, Charles Elmer Barnhart, Ralph Francis Elliott, Richard Mather Forbes, Theodore Russell Freeman, Wyatt Marion Insko, Jr., Forrest Dwight Johnson, Henry Bartlett Morrison, Dwight M. Seath, Dewey G. Steele, Ernest Thomas Wightman, and Edward James Wilford.

Courses in Animal Husbandry

1 FARM LIVESTOCK PRODUCTION. (3) I, S — Barnhart
Types, market classes, and grades of beef cattle, sheep, swine, horses, and mules; the origin, development, and characteristics of the more important breeds; importance and place of livestock in Kentucky agriculture. Lecture, two hours; laboratory, two hours.

2 LIVESTOCK JUDGING. (3) II, S — Johnson
Evaluation of purebred and commercial beef cattle, sheep, swine, draft horses, and mules. Practice in writing reasons and in giving reasons orally. Laboratory, six hours. **Prerequisite: A.I. 1.** Not open to freshmen.

3 LIVESTOCK MANAGEMENT. (1) II — Johnson
Livestock management problems with approved equipment, materials, and methods. Laboratory, two hours. **Prerequisite: A. I. 1.**

4 ADVANCED LIVESTOCK MANAGEMENT. (1) I Johnson
Intensive training in approved livestock management practices with emphasis on the preparation of animals for show and sale. Laboratory, two hours. **Prerequisite: A.I. 3.**

5 LIGHT HORSE HUSBANDRY. (3) II Garrigus
A brief study of the breeds of light horses; selection, feeding, and management; fundamental instruction in equitation. Lecture, two hours; laboratory, two hours. Not open to freshmen.

6 FARM BUTCHERING AND MEAT CURING. (4) I, II Wilford
Slaughtering and cutting of beef, veal, hog, and lamb carcasses into wholesale, minor wholesale, and retail cuts; correlation of breeding and feeding with carcass values; meat curing, with special emphasis on pork. Lecture, two hours; laboratory, four hours. **Prerequisite: A.I. 1.** Not open to freshmen.

7 IDENTIFICATION AND EVALUATION OF MEATS. (1) I Wilford
Meat cutting, identification, selection, grading and judging with emphasis on the nutritional and economic values of the different grades and cuts of meats. Laboratory, two hours. Not open to freshmen.

8 RETAIL MEATS. (1) II Wilford
A study of meat cutting and processing methods; cut-out values, consumer preferences, and processing meats for freezing. Laboratory, two hours. **Prerequisite: A.I. 6.**

100 ANIMAL BREEDING. (3) II Steele
History of animal improvement; survey of hereditary traits in livestock; inbreeding and outcrossing; progeny tests and herd analysis. Lecture, three hours. **Prerequisite: A.I. 1, A.I. 61.**

102 ADVANCED LIVESTOCK JUDGING. (3) I Johnson
Primarily for judging team candidates. Open only to those who have made good standings in the prerequisite courses. Laboratory, six hours. **Prerequisite: A.I. 1, A.I. 2, and approval of instructor.**

103 WORK STOCK PRODUCTION. (3) I
History and importance of the horse and mule industry; selection, breeding, feeding, and management of horses and mules. Lecture, two hours; laboratory, two hours. **Prerequisite: A.I. 1 and A.I. 81.**

104 SHEEP PRODUCTION. (3) II Garrigus
History and importance of the sheep industry; selection, breeding, feeding, and management of sheep; production and handling of wool. Lecture, two hours; laboratory, two hours. **Prerequisite: A.I. 1 and A.I. 81.**

105 BEEF PRODUCTION. (3) II Garrigus
History and importance of the beef cattle industry; selection, breeding, feeding and management of beef cattle. Lecture, two hours; laboratory, two hours. **Prerequisite: A.I. 1 and A.I. 81.**

106 PORK PRODUCTION. (3) I Wilford and Barnhart
History and importance of the swine industry; selection, breeding, feeding, and management of swine. Lecture, two hours; laboratory, two hours. **Prerequisite: A.I. 1 and A.I. 81.**

108 MEAT JUDGING. (1) I Wilford
Intensive instruction in the evaluation of carcasses and cuts of beef, veal, pork, and lamb. Laboratory, two hours. **Prerequisite: A.I. 6.**

109a-c SPECIAL PROBLEMS IN ANIMAL HUSBANDRY. (3 ea.) I, II, S Staff
Approval of instructor required.

200a-c ANIMAL INDUSTRY SEMINAR. (1 ea.) I, II Staff

201a-c RESEARCH IN MEATS. (3 ea.) I, II, S Wilford
Problems involving original investigation.

203a-c RESEARCH IN HORSE HUSBANDRY. (3 ea.) I, II, S
Problems involving original investigation.

204a-c RESEARCH IN SHEEP HUSBANDRY. (3 ea.) I, II, S Garrigus
Problems involving original investigation.

205a-c RESEARCH IN BEEF CATTLE HUSBANDRY. (3 ea.) I, II, S Garrigus
Problems involving original investigation.

206a-c RESEARCH IN SWINE HUSBANDRY. (3 ea.) I, II, S Wilford
Problems involving original investigation.

Courses in Dairying

21 FARM DAIRYING. (3) I, II Morrison and Elliott
The place of dairying in agriculture; factors affecting the secretion, composition, physical and chemical properties of milk and cream; the food value of dairy products; common dairy calculations; clean milk production; common farm dairy processes, such as separation, churning and storage of dairy products. Lecture, three hours.

22 JUDGING DAIRY PRODUCTS. (2) I Barkman
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, 1 hour; laboratory, two hours.

23 JUDGING DAIRY CATTLE. (3) II Seath
Selection of sires, cows, and heifers with due consideration for breed and dairy type; application of the principles involved in the problem of herd improvement. Laboratory, six hours. **Prerequisite: A.I. 21.**

27 TRAVEL COURSE IN DAIRYING. (3) S Staff
A course designed to acquaint students with research problems and methods at other institutions and with commercial dairy operations in other sections of the country. Full time for approximately two and one-half weeks. **Prerequisite: A.I. 21 or permission of instructor.** For special fee see page 19.

120 DAIRY CATTLE BREEDING. (3) II Seath
The application of genetics to present day problems of breed and herd improvement; the progeny testing of sires; type classification, selective registration; the rise and fall in popularity of prominent families and strains within the leading dairy breeds. Lecture, two hours; laboratory, two hours. **Prerequisite: A.I. 61.**

121 DAIRY CATTLE FEEDING AND MANAGEMENT.
(3) I Seath and Elliott
The application of the 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; laboratory, two hours. **Prerequisite: A.I. 81 or 181.**

122 ADVANCED DAIRY CATTLE JUDGING. (3) I Seath
Primarily for judging team candidates. Open only to those who have made good standings in the prerequisite courses. Lectures and laboratory by appointment. **Prerequisite: A.I. 21 and A.I. 23.**

123 DAIRY BACTERIOLOGY. (2) I Morrison
The application of bacteriological principles to the production and processing of milk and other dairy products, involving entrance of micro-organisms into dairy products, effects of their growth and methods for their control. Lecture, two hours. **Prerequisite: Bact. 52 or 102.**

124 DAIRY BACTERIOLOGY LABORATORY. (2) I Morrison
Laboratory to accompany A.I. 123, Dairy Bacteriology. Laboratory, four hours. **Prerequisite or concurrent: A.I. 123.**

125 BUTTER AND ICE CREAM. (5) I Barkman
The principles involved in the commercial manufacture, handling, and storage of butter and ice cream. Lecture, three hours; laboratory, six hours. **Prerequisite: A.I. 21.**

127 TRAVEL COURSE IN DAIRYING. (3) S Staff
Same as A.I. 27 except that graduate students will be given additional assignments. For special fee see page 19.

128 TECHNICAL CONTROL OF DAIRY PRODUCTS.
(3) II Morrison and Freeman
Various chemical and bacteriological tests used in the control of production or processing of dairy products. Laboratory and recitation, six hours. **Prerequisites: A.I. 21, 123, and 124.**

129a-c SPECIAL PROBLEMS IN DAIRYING. (3 ea.) I, II, S Dairy Staff
Approval of instructor required.

130 MARKET MILK. (3) II Morrison
A study of problems concerning the production and processing of market milk and its related products. Lecture, two hours; laboratory, three hours. **Prerequisite: A.I. 21.**

131 CHEESE-MAKING. (3) II Freeman
A study of problems and practices in the manufacture and ripening of cheddar and other common types of cheese. Lecture, two hours; laboratory, three hours. **Prerequisite: A.I. 21.**

139a, b DAIRY SEMINAR. (1) II Dairy Staff
Open to Seniors and Graduate Students.

221a-c RESEARCH IN DAIRYING.
(3 ea.) I, II, S Seath, Morrison, Elliott, Freeman
Problems involving original investigation in either dairy production or dairy manufacturing.

Note.—See also A.I. 200, Animal Industry Seminar.

Courses in Poultry Husbandry

41 FARM POULTRY PRODUCTION. (3) II Wightman
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; laboratory and demonstration, two hours.

43 HATCHERY MANAGEMENT. (3) II Wightman
Principles involved in operating incubators and brooders; hatchery operation and management; factors influencing the avian embryo; practice in the operation of commercial incubators. Lecture, two hours; laboratory, two hours. **Prerequisite: A.I. 41 and approval of instructor.**

44 POULTRY JUDGING. (3) II Wightman
Selection of breeding stock as a basis for flock improvement, including breed type and production values. Lecture, one hour; laboratory, four hours. **Prerequisite: A.I. 41.**

46 TRAVEL COURSE IN POULTRY. (3) S Staff
A course designed to acquaint students with research problems and methods at other institutions and with commercial poultry operations in other sections of the country. Full time for approximately two and one-half weeks. **Prerequisite: A.I. 41 or permission of instructor.**

140 POULTRY BREEDING. (3) I Wightman
Genetic principles involved in poultry breeding; disease resistance; inheritance of egg production and related characters; development of breeding programs. Lecture, three hours. **Prerequisite: A.I. 41 and A.I. 61.**

141 ADVANCED POULTRY PRODUCTION. (3) I Wightman
Studies of control measures in poultry diseases, nutrition, marketing; flock management and replacement. Lecture, two hours; laboratory and demonstration, two hours. **Prerequisite: A.I. 41.**

142 MARKETING AND PROCESSING POULTRY PRODUCTS. (2) I Wightman and Roberts
Organization and functioning of markets, methods of selling, prices, and price making forces are combined with laboratory instruction in grading, packaging, and handling poultry and eggs according to recognized commercial standards. Lecture, one hour; laboratory, two hours. **Prerequisite: A.I. 41 and M. & R. F. 100.** This is the same course as M. & R. F. 142.

145 ADVANCED POULTRY JUDGING. (3) I Wightman
Primarily for judging team candidates. Open only to those who have made good standings in the prerequisite courses. Lecture, one hour; laboratory, four hours. **Prerequisites: A.I. 41 and A.I. 44.** For special fee see page 19.

146 TRAVEL COURSE IN POULTRY. (3) S Staff
Same as A.I. 46 except that graduate students will be given additional assignments.

149a-c SPECIAL PROBLEMS IN POULTRY. (3 ea.) I or II, S Wightman
Approval of instructor required.

241a-c RESEARCH IN POULTRY. (3 ea.) I or II, S Wightman
Problems involving original investigation.

Note.—See also A.I. 200, Animal Industry Seminar.

Courses in Genetics

61 GENETICS. (3) I, II, S Steele
The elementary principles of heredity and their relationship to plant and animal breeding. Attention is directed briefly to human heredity. Lecture, three hours. **Prerequisite: At least one course in biology.**

62 GENETICS LABORATORY. (1) I, II Steele
Technic of Drosophila breeding; analysis of Mendelian ratios in corn; observation of chromosomes in mitosis and reduction. Laboratory, two hours. To be taken concurrently with A.I. 61, at student's option.

161 GENETICS. (3) I, II, S Steele
Lectures of A.I. 61 and assigned readings. Primarily for graduate students. Lecture, three hours. **Prerequisite: At least one course in biology.**

162 GENETICS LABORATORY. (1) I, II Steele
Similar to A.I. 62 but additional work required. Primarily for graduate students. Laboratory, two hours. To be taken concurrently with A.I. 161, at student's option.

163 ADVANCED GENETICS. (3) II Steele
Concerned chiefly with the physical basis of heredity, mutations chromosomal aberrations, linkage, genetics and development, and reports on current literature. Lecture, three hours. **Prerequisite: A.I. 61 or A.I. 161.**

169a-c SPECIAL PROBLEMS IN GENETICS. (3 ea.) I, II, S Steele
Approval of instructor required.

261a-c RESEARCH IN GENETICS. (3 ea.) I, II, S Steele
Problems involving original investigation.

Courses in Animal Nutrition

81 PRINCIPLES OF ANIMAL NUTRITION. (3) I, II
Digestion, absorption, assimilation and utilization of nutrients by domestic animals; principal feeds, rations, and nutritive ratios. Lecture, three hours. **Prerequisite: Chem. 4a or 1a.**

181 ANIMAL NUTRITION. (3) I Forbes
The chemistry and physiology of animal nutrition and the nutritive requirements for growth, fattening, reproduction, lactation and other body functions. Lecture, three hours. **Prerequisite: Chem. 37 or equivalent.**

182 LABORATORY METHODS IN ANIMAL NUTRITION. (3) I Forbes
The use of laboratory techniques and equipment in the solution of fundamental problems of nutrition. Lecture and recitation, one hour; laboratory, four hours. **Prerequisite or concurrent: A.I. 181.**

282 ADVANCED ANIMAL NUTRITION. (3) II Forbes
History and development of nutritional theories and techniques; a critical review of current literature. Lecture and recitation, three hours. **Prerequisite: A.I. 181.**

Note.—See also A.I. 100, Animal Breeding; A.I. 120, Dairy Cattle Breeding; A.I. 140, Poultry Breeding, and A.I. 200, Animal Industry Seminar.

289a-c SPECIAL PROBLEMS IN ANIMAL NUTRITION. (3 ea.) I, II, S Forbes
Approval of instructor required.

281a-c RESEARCH IN ANIMAL NUTRITION. (3 ea.) I, II, S Forbes
Problems involving original investigation.

FARM ECONOMICS

William Durrett Nicholls, Lawrence Allen Bradford, Glenn Leroy Johnson, and Paul Sinclair McComas.

1 AGRICULTURAL ECONOMICS. (3) I, II, S Bradford
A study of the agricultural industry in the United States, economic forces that affect agriculture from within and without, its place and importance, geography of agricultural production, land rents and land values, an elementary treatment of governmental programs. **Prerequisite: Econ. 1.**

110 FARM MANAGEMENT. (3) I, II, S Bradford
A study of organizing and managing farms. Factors affecting farm earnings. Individual farm organization and farm management problem assignments assist students in learning to apply the principles of business to farms. **Prerequisite: F. E. 1.**

111 ADVANCED FARM MANAGEMENT. (3) I Johnson
A fuller study of the principles of farm management. Current and recent literature relevant to the management of individual farm businesses will be studied. The elements of production economics will be developed and applied to the problems of individual farms. Special attention will be given to the problem of adjusting farm businesses and households to future non-certain economic, weather and technical events. Also, the elements of farm management research will be examined with the purposes in view of training students to use the results of farm management research in vocational agricultural teaching and extension work, and giving the student elementary training in the techniques of farm management research. **Prerequisite: F. E. 110.** For special fee see page 19.

112a-c SPECIAL PROBLEMS IN FARM ECONOMICS.
(3 ea.) I, II, S Nicholls
Students are assigned a special problem in the field of farm economics. **Prerequisite: F. E. 110 and approval of professor.**

113 TYPES AND SYSTEMS OF FARMING. (3) II Nicholls
A critical study of the business organization and management of successful Kentucky farm businesses. Various systems of farming are given emphasis. Several field trips will be made to farms whose operators have achieved outstanding financial success while at the same time maintaining or increasing the productivity of their farms. **Prerequisite: F. E. 110 and approval of professor.** For special fee see page 19.

115 FARM ACCOUNTING. (3) II Bradford
A study of farm records and farm accounts including farm cost accounting. **Prerequisite: F. E. 110.**

120 LAND ECONOMICS. (3) I McComas
A critical examination of the utilization of land resources in relationship to present and prospective needs. The course is developed around the topics of land utilization, reclamation, land classification, soil conservation, drainage, flood control and the institutional aspects of land management, taxation and land tenure. **Prerequisite: F. E. 1 or approval of professor.**

121 LAND-USE PLANNING. (3) II McComas
A study of the national needs and national policies which led to the land-use pattern; social and economic implications of the present destruction and loss of soil resources; contribution and limitations of land-use planning toward the development of socially desirable programs for the use of natural resources. **Prerequisite: F. E. 120 or approval of professor.**

122 LAND VALUE AND APPRAISAL. (3) I Nicholls
The capitalization process, and other devices for valuing farm land; appraisal procedures of the Federal Land Banks and of other credit institutions. **Prerequisite: F. E. 120 or approval of professor.** For special fee see page 19.

130 PRODUCTION ECONOMICS. (3) I, S Bradford
Economic analysis of agricultural production. A theoretical treatment of land rents, land returns, capital returns, costs and similar functions of agricultural production. **Prerequisite: F. E. 110.**

200a-b AGRICULTURAL ECONOMICS SEMINAR. (1) I, II Staff
Discussion and papers on methods, problems, current literature and research in the field of agricultural economics. Required of all graduate students in the department.

201a-c RESEARCH IN FARM ECONOMICS.
(3 ea.) I, II, S Nicholls and Staff
Assignment of an advanced problem in the field of farm economics. Stress is placed on the plan, technique, and scientific method used by the student in developing his research. **Prerequisite: Approval of professor.**

202a-b ECONOMICS OF PRODUCTION AS APPLIED TO AGRICULTURE. (3 ea.) I, II Johnson
This course places emphasis upon the fundamental consideration essential to the study of production organization in the economy of modern agriculture. Theoretical analysis will be applied to such questions as the combination of the agents of production, scale and intensity of production, comparative advantage and interregional analysis, and to an evaluation of national agricultural policies and programs. **Prerequisite: Approval of professor.**

203 COST, PRICE, AND PRODUCTION RELATIONSHIPS IN AGRICULTURE. (3) II, S Johnson
Consideration is given to the different concepts of cost which are encountered in the agricultural research field; considerable attention is paid the applicability of the traditional cost-price rationale in the agricultural industry. **Prerequisite: Approval of professor.**

204 RESEARCH METHODS IN FARM ECONOMICS. (3) II McComas
An analytical examination of research methods and techniques used in farm economics research. Topics include enterprise cost

studies, detailed cost route method, experimental research method, statistical or comparative method, work simplification and methods of collecting information to be analyzed. **Prerequisite: F. E. 110 and approval of professor.**

HOME ECONOMICS

Statie Estelle Erikson, Marie Rodes Barkley, Leora Bentley, Stella Elizabeth Helton, Mary Mumford, Frances Seeds, Lottie Ellen Sumner, Roberta Seat Taylor, Helen Wilmore, and Mary Carolyn Wooldridge.

Courses in Foods and Nutrition

2 NUTRITION AND PUBLIC HEALTH. (3) S Erikson
Nutrition as it affects social and family problems in the field of public health. Consideration is given to family food budget on different economic levels. Lecture and discussion, three hours.

3 DIETETICS FOR NURSES. (4) I, II Taylor
Principles of normal nutrition and the value of diet in maintaining and restoring health. Emphasis is placed on the modifications that may be made in normal diet without changing its nutritional value to meet requirements for good nutrition in disease. Lecture, two hours; laboratory, four hours.

5 FOODS. (4) I, II, S Barkley and Taylor
An introduction to the study of food. The course includes the classification and composition of foods and study of methods of preparation and principles involved. Lecture, one hour; laboratory, four hours.

6 FOODS. (3) II, S Barkley and Taylor
Meal planning and service. The course includes the selection, purchase and preparation of food. Practice is given in different types of food service. Lecture and laboratory, six hours. **Prerequisite: H. E. 5.**

11 FOODS AND NUTRITION. (3) I, II Erikson
Properties and nutritive values of food. Functions of food for maintenance of body processes. Metabolism of food in the body. Lecture, two hours; laboratory, three hours. **Prerequisite: A. & P. 5.**

12 INFANT AND CHILD NUTRITION. (3) II Erikson
Nutrition for normal children. Effects of adequate and inadequate diets on growth and development. Work with parents to improve nutritional status of children. Laboratory work includes opportunity to plan, prepare and serve a limited number of noon meals to the Nursery School children. Lecture, two hours; laboratory, three hours.

101 PRINCIPLES OF NUTRITION. (3) II, S Erikson
A non-technical course that treats of the essentials of adequate diet for optimum health, food plans to meet nutritional needs and environmental factors which affect nutrition. Lecture and discussion, three hours. Not open to home economics majors.

102 DIETETICS. (3) I, II, S Wooldridge
Daily food requirements at different age levels, emphasis being given to satisfying the divergent needs of families and other groups. Practice is given in normal dietaries. Lecture, two hours; laboratory, three hours. **Prerequisite: H. E. 6 and H. E. 11.**

103a-b PUBLIC SCHOOL NUTRITION. (3 ea.) I, II, S Wooldridge
Study of nutrition education movement with emphasis on causes and effects of malnutrition, methods of judging nutrition and height and weight standards, development of health programs in public schools. Lecture, two hours; laboratory, two hours. **Prerequisite or concurrent: H. E. 102.**

105a-c EXPERIMENTAL COOKERY. (3) I, II, S Wooldridge
Study of factors that affect the results obtained in cooking and food preparation processes. Experimental work is carried out under controlled conditions and special emphasis is placed on physical, chemical and mechanical conditions. Lecture, one hour; laboratory, four hours. **Prerequisite: Chem. 37, H. E. 5 or approval of instructor.**

106a-c FIELD WORK IN NUTRITION. (1 ea.) I, II, S Wooldridge
Nutrition problems at different age levels with emphasis on the child in the public school, correlated with surveys and experimental studies to show the relation between diet selection and its physical and mental effects. Lecture and laboratory. **Prerequisite: H. E. 103a or H. E. 103b, or approval of instructor.**

107 WORKSHOP IN NUTRITION. (4) Alternate S Erikson
This workshop gives opportunity to workers in the field of nutrition to obtain help in presenting community nutrition programs. The nutrition problem is analyzed in its relation to agricultural and socio-economic problems. The latest findings in technical information on nutrition are presented. Opportunity is given to collect visual aid material for teaching nutrition.

108a-c SEMINAR IN NUTRITION. (1 ea.) I, II Wooldridge and Erikson
Investigations of recent research in nutrition. Two hours. **Prerequisite: Senior or graduate standing.**

111 ADVANCED NUTRITION. (4) I, S Erikson
Application of biochemistry to understanding of characteristic properties of body cell structure and the utilization of nutrients for bodily processes. Laboratory work includes analysis of digestive juices, blood and urine; balance experiments. Lecture, three hours; laboratory, six hours. **Prerequisite: H. E. 11.**

112 NUTRITION IN DISEASE. (4) I, S Erikson
Metabolic processes of the body in normal and diseased conditions, correlating the metabolic changes due to disease with diet therapy. Practice is given in planning, calculating and preparation of therapeutic diets. Lecture, two hours; laboratory, four hours. **Prerequisite: H. E. 111; H. E. 102 or taken concurrently.**

114 FOOD PRESERVATION. (3) S Helton
The principles of preserving food by canning, drying, pickling, salting and quick freezing. Practice in the canning of fruits, vegetables and meats; the pickling of fruits and vegetables; the making of jams, jellies and preserves; brining, drying and freezing of fruits, vegetables and meats. **Prerequisite: Bact. 52 and H. E. 5.**

119a-c SPECIAL PROBLEMS IN FOODS AND NUTRITION.
(2 ea.) I, II Wooldridge and Erikson
Intensive work on a specific phase of the field. Senior or graduate standing.

200a-c SEMINAR IN NUTRITION. (3 ea.) I Erikson

206a-c ADVANCED FIELD WORK IN NUTRITION.
(1 ea.) I, II, S Wooldridge
The course is a continuation of H. E. 106a-d with investigations of recent research in the field. Lecture and laboratory. **Prerequisite: H. E. 103, H. E. 106a, or approval of instructor.**

219a-c SPECIAL PROBLEMS IN FOODS AND NUTRITION.
(2 ea.) I, II Wooldridge and Erikson
Independent advanced work on a specific problem. Graduate standing.

Courses in Clothing, Textiles, Costume Design, and Interior Decoration

20 CLOTHING. (3) I, S
Principles of clothing selection and management. Techniques of garment construction. Laboratory, six hours. Open only to non-home economics students.

25 TEXTILES. (2) I, II, S Sumner
A study of fundamental weaves, yarns, fibers, and finishes, with reference to the proper selection and use of fabrics from both economics and artistic view-points Lecture, one hour; laboratory, two hours.

26 CLOTHING SELECTION AND COSTUME DESIGN. (3) I, S Seeds
Selection of costume and management of the wardrobe. Study of clothing costs and values. Designing of costumes to meet the varied needs of the individual. Lecture, one hour; laboratory, four hours. **Prerequisite: Art 30a, or approval of instructor.**

27 CLOTHING CONSTRUCTION. (4) I, II, S
Fundamental principles of clothing construction applied to the making of garments. Use of commercial patterns; modification of patterns. Lecture, one hour; laboratory, six hours. **Prerequisite: H. E. 25 and H. E. 26.**

125 ADVANCED TEXTILES. (2) I, S Sumner
Individual term problems. Lecture, one hour; laboratory, two hours. **Prerequisite: H. E. 25 and H. E. 161.**

126 COSTUME DESIGN. (3) I, S Seeds
The arts of costume today and throughout the past. Costumes are designed to meet today's needs. Lecture, one hour; laboratory, four hours. **Prerequisite: H. E. 27, Art 30a, Art 30b.**

127 ADVANCED CLOTHING. (3) I, II, S Seeds and Sumner
A creative approach to costume problems is encouraged. Values in both individually made and ready-to-wear clothes are analyzed. Costumes are designed and constructed—giving as wide experience as possible with various techniques of pattern making, of construction and of fitting. Lecture, one hour; laboratory, four hours. **Prerequisite: H. E. 27.**

128a-c SPECIAL PROBLEMS IN CLOTHING AND COSTUME DESIGN. (2 ea.) I, II, S Sumner and Seeds
Intensive work on specific phases of the field. Senior or graduate standing.

129 INTERIOR DECORATION. (3) II, S Seeds
A study of color, line, texture as they are used to create effective interiors suited to modern living. Lecture, two hours; laboratory, two hours. **Prerequisite: H. E. 25, Art 30a, Art 30b, H. E. 61 or approval of instructor.**

130 INTERIOR DECORATION PROJECTS. (2) II, S Seeds
Selected projects in furnishing the home, including furniture refinishing, upholstering and slip cover making. Costs in terms of time and money are considered. Laboratory, four hours. **Prerequisite: H. E. 129.**

134 ECONOMICS OF CLOTHING. (2) II, S
The economic aspects of clothing are emphasized—budgeting and buying clothes for the family, how the clothing industry operates, the influence of the consumer, the part the clothing trades play in the national and world economy. Lecture, one hour; laboratory, two hours. **Prerequisite: H. E. 127, and H. E. 161.**

135 DECORATIVE TEXTILES. (2) II, S Sumner
Survey of decorative textiles through the ages, with emphasis on the modern use of fabrics. Opportunity is given to use various technique in applying design to fabrics. Lecture, one hour; laboratory, two hours. **Prerequisite: H. E. 25, Art 30a, Art 30b.**

136a-c SPECIAL PROBLEMS IN TEXTILES. (2 ea.) I, II, S Sumner
Intensive work on specific phases of the field. Senior or graduate standing.

137 TAILORING. (2) I, S
Analysis of tailoring technique in the shop and in the home. Tailored garments are planned and constructed. Laboratory, four hours. **Prerequisite: H. E. 127.**

138a-c SPECIAL PROBLEMS IN INTERIOR DECORATION. (2 ea.) I, II, S Seeds
Intensive work on specific phases of the field. Senior or graduate standing.

139 ADVANCED INTERIOR DECORATION. (2) II, S Seeds
The art of interior decoration throughout the past and today. A series of interiors are planned to meet today's needs. Lecture, one hour; laboratory, two hours. **Prerequisite: H. E. 129.**

228a-c SPECIAL PROBLEMS IN CLOTHING AND COSTUME DESIGN. (2 ea.) I, II, S Sumner and Seeds
Independent advanced work on a specific problem. Graduate standing.

236a-c SPECIAL PROBLEMS IN TEXTILES. (2 ea.) I, II, S Sumner
Independent advanced work on a specific problem. Graduate standing.

237a-c SEMINAR IN TEXTILES, CLOTHING AND COSTUME DESIGN, AND INTERIOR DECORATION. (2 ea.) I, II Seeds and Sumner
Investigation of special textile, clothing and costume design or interior decoration. Lecture, two hours.

238a-c SPECIAL PROBLEMS IN INTERIOR DECORATION. **(2 ea.) I, II, S** Seeds
Independent advanced work on a specific problem. Graduate standing.

Courses in Institution Management

41 INSTITUTION MARKETING. (3) I, S Helton
The economics of food and supplies for institutions. Factors that influence selection and purchase by the institution manager. Field trips are made to wholesale houses, distribution centers and food production plants. Movies of food production, packaging, and distribution are used extensively. Lecture, two hours; laboratory, two hours. **Prerequisite: Econ. 1.**

42 INSTITUTION FOODS. (4) I, II Helton
Large quantity food preparation and service. Experience in using modern equipment in preparation of large quantities of food. Introduction to food cost accounting, job analysis, and time studies. Lecture, two hours; laboratory, four hours. **Prerequisite: H. E. 5.**

140 THE SCHOOL LUNCH. (3) I, S Helton
Designed for those teachers who manage the lunch room in connection with teaching. The importance of the lunchroom to the school health program, the opportunities of the lunchroom as a teaching unit and as a community co-operative project. Duties of the manager in formulating employment policies and personnel management. Consideration will be given to the selection, arrangement, maintenance, and care of equipment; the planning of menus, and purchase, storage, preparation and serving of food; the records necessary for financial control. A study of the Federal School Lunch program and ways in which a state may participate will be emphasized. Lecture, two hours; laboratory, two hours. **Prerequisite: H. E. 5, Econ. 1.**

141 INSTITUTION ORGANIZATION AND MANAGEMENT. **(3) II** Helton
Principles of institution organization, types of institution service, personnel and financial management. Methods of accounting used in institutions. Legal aspects of institution management. Personal and professional qualifications of an institution manager. **Prerequisite: H. E. 41; H. E. 42,**

142a-c INSTITUTION ADMINISTRATION. (2 ea.) I, II, S Helton
Application of scientific principles of institution management. Practice is given in office management in different food units on the campus. Lecture, one hour; laboratory, two hours. **Prerequisite: H. E. 141.**

143 INSTITUTION EQUIPMENT. (3) II Helton
Selection, arrangement, cost and care of institution equipment, problems of lighting, heating, ventilation and refrigeration. Two all day field trips taken to neighboring cities to equipment houses and installations. Lecture, two hours; laboratory, two hours. **Prerequisite: H. E. 42.**

149a-c SPECIAL PROBLEMS IN INSTITUTION MANAGEMENT. **(2 ea.) I, II** Helton
Intensive work on specific problems. Senior or graduate standing.

249a-c SPECIAL PROBLEMS IN INSTITUTION MANAGEMENT. (2 ea.) I, II Helton
Independent, advanced work. Graduate standing.

Courses in Child Development

51 HEALTH OF THE FAMILY. (3) I, II Erikson
Study of the factors that influence health, the agencies and forces to be utilized for health improvement, applications of modern science to health and prevention of diseases, techniques of home nursing. Lecture, three hours.

52 INTRODUCTION TO CHILD DEVELOPMENT. (4) I, II Bentley
Study of what to expect of children of various ages in the preschool years; characteristics of physical growth, factors that affect mental development, emotional stability, and learning to get along with others. Emphasis is placed on increased understanding of adult personality through study and observation of young children. Lecture three hours; laboratory two hours.

150 TECHNIQUES OF GUIDANCE FOR THE PRESCHOOL CHILD. (4) I, II Mumford
An opportunity for advanced work in child development. Extensive laboratory assistance in the nursery school is required with emphasis on specific guidance techniques to foster the child's growth in independence and general physical and social development. Lecture, two hours; nursery school laboratory, four hours. **Prerequisite: H. E. 152.**

152 CHILD CARE AND DEVELOPMENT. (3) I, II Bentley
Opportunity for gaining better understanding of young children through study of the normal development, care and guidance of the preschool child—two to five years of age. Laboratory work consists of observation and participation in nursery school. Attendance at parent meetings is required. Lecture, two hours; nursery school laboratory, four hours. **Prerequisite: A. & P. 5; Psych. 7; H. E. 52.**

154 FAMILY LIVING. (4) II, S Mumford
The relationships of community and family living. Emphasis is given to the influence of home conditions on the members of the family and preparation for marriage and parenthood. Lecture, four hours and occasional field trips in the local community.

155 THE CHILD AND HIS CLOTHING. (3) S Mumford
A study of the appreciation of the needs in children's clothing, the physiological and psychological functions, as well as the selection, cost and care of children's clothing. Lectures and laboratory.

156 PLAY AND PLAY MATERIALS. (2) S Bentley
Typical play activities of young children and characteristics of good play materials. Emphasis is given to the relationship of play equipment to the development of preschool children. Criteria for selection and construction of toys, including survey of inexpensive materials for home-made toys. Toys suitable for the child of preschool age are constructed in laboratory. Lecture and laboratory.

157 INFANT DEVELOPMENT. (2) S Bentley
Study of the development of the child in the pre-natal and infant periods. Consideration is given to the pre-natal factors that affect the child's development, such as heredity, the anatomy and physiology of reproduction, prenatal nutrition of both the mother and the fetus. The neo-natal period includes study of sleep, emotion, motor activities, vocalization of the infant and infant feeding. Field trips are required. Lecture, two hours. **Prerequisite: A. & P. 5.**

159a-c SPECIAL PROBLEMS IN CHILD DEVELOPMENT AND FAMILY LIVING. (2 ea.) I, II Mumford and Bentley
Intensive work on specific problems. Senior or graduate standing.

259a-c SPECIAL PROBLEMS IN CHILD DEVELOPMENT AND FAMILY LIVING. (2 ea.) I, II Mumford and Bentley
Independent advanced work. Graduate standing.

Courses in Home Management

61 HOUSING. (4) I, S Wilmore
The first part of the course deals with the social and economic problems of housing American families. The second half deals with the problems of house buying and house planning from the standpoint of the consumer. Lecture, four hours. **Prerequisite: Econ. 1.**

161 CONSUMER PROBLEMS. (3) II, S Wilmore
A study of consumer buying and its social and economic aspects. An analysis of the common problems of the manufacturer, the merchant and the consumer in order to understand better the needs and responsibilities of each group. Lecture, three hours. **Prerequisite: Econ. 1; H. E. 61.**

162a HOME MANAGEMENT AND FAMILY RELATIONSHIPS. (2) I, II, S Wilmore
The philosophy and principles of home management. A study of the management of resources available to the family for optimal development. Includes study of the mechanics of time, energy and money management. Emphasis is placed on personal development, social and family relationships. Lecture, two hours. **Prerequisite: Econ. 1; H. E. 61.**

162b HOME MANAGEMENT AND FAMILY RELATIONSHIPS. (3) I, II, S Wilmore
A residence period in the University Home Management House is required of all seniors in home economics. The course consists of laboratory work affording experience in the application of principles presented in other courses. **Prerequisite: H. E. 162a; prerequisite or concurrent: H. E. 102.**

169a-c SPECIAL PROBLEMS IN HOME MANAGEMENT. (2 ea.) I, II Wilmore
Intensive work on specific phases of home management. Senior or graduate standing.

262 ADVANCED HOME MANAGEMENT AND FAMILY RELATIONSHIPS. (3) II Wilmore
A course affording opportunity for special study of social and economic problems affecting family life. Lecture, three hours. **Prerequisite: H. E. 162b, graduate standing.**

269a-c SPECIAL PROBLEMS IN HOME MANAGEMENT. **(2 ea.) I, II** Wilmore
Independent advanced work. Graduate standing.

General Courses

73 FARM HOME PROBLEMS. (4) II Agric. Staff
A course in agriculture for home demonstration agents, teachers in rural schools, and others engaged in rural work. Lecture, three hours; laboratory, two hours.

74 HOME ECONOMICS FOR MEN. (2) I H. E. Staff
Study in selected areas of home economics dealing with values in personal and family living. Lecture, two hours.

175 RURAL COMMUNITY ANALYSIS. (3) I, II Bauder
The nature of the town-country community and a study of programs for its development and the correlation of activities. Residence in a rural community during a part of the semester affords for those students for which it is possible laboratory experience in the application of principles developed during the period of residence in the college. **Prerequisite: An introductory course and consent of instructor.**

HORTICULTURE

Albert Jackson Olney, O. Malcolm Davenport, Norris Raymond Elliott, Emery Meyers Emmert, and Clair Smith Waltman.

1 GENERAL HORTICULTURE. (3) I, II Olney
A study of the principles and practices basic to the production of fruit, flowers, and vegetable crops. Lecture, three hours.

2 PRINCIPLES OF SPRAY PRACTICE. (2) I Waltman
A study of the principles and practice of spraying for the control of pests of horticultural crops. Lecture, one hour; laboratory, two hours. **Prerequisite: Hort. 1, Chem. 4a, Ag. Ent. 1.**

20 ELEMENTARY LANDSCAPE. (2) II Elliott
The elementary principles of landscape as applied to the planting of urban home grounds and farmsteads. Lecture, two hours. Offered 1949 and on alternate years, thereafter.

22 ELEMENTARY FLORICULTURE. (2) II Elliott
The elementary principles of growing flowers and decorative plants, as house plants, and outdoor culture. Lecture, two hours. Offered 1950 and on alternate years, thereafter.

103 POMOLOGY: POME FRUITS. (3) I Waltman
A course dealing with the theory and practice of commercial pome fruit production, with major emphasis on apple growing. Lecture, two hours; laboratory, two hours. **Prerequisite: Hort. 1.**

104 POMOLOGY: STONE FRUITS. (3) I Waltman
A detailed study of commercial peach, plum and cherry growing, with special emphasis on peach production. Lecture, two hours; laboratory, two hours. **Prerequisite: Hort. 1.**

105 POMOLOGY: SMALL FRUITS. (2) I Waltman
A detailed study of the care and management of commercial

plantings of strawberries, raspberries, and other bush fruits. Lecture, one hour; laboratory, two hours, first half; lecture, two hours a week, last half. **Prerequisite: Hort. 1.**

106a-c **SPECIAL PROBLEMS IN POMOLOGY. (3) I, II, S** Waltman
This course is designed to meet the need for advanced work. **Prerequisite: Hort. 1, 103, 104, 105, and approval of instructor.**

110 **THE PRINCIPLES OF VEGETABLE GARDENING. (3) I** Emmert
A study of the fundamental principles underlying commercial production of vegetables. Lecture, two hours; laboratory, two hours. **Prerequisite: Hort. 1 and Agronomy 10.**

111 **GROWING VEGETABLE PLANTS UNDER GLASS. (3) I** Emmert
Production of vegetable plants grown for transplanting; types of hotbeds, cold frames, and simple greenhouse structures. Lecture, two hours; laboratory, two hours. **Prerequisite: Hort. 110.**

112a-c **SPECIAL PROBLEMS IN VEGETABLE CROPS. (3) I, II, S** Emmert
This course is designed to meet the need for advanced work. **Prerequisite: Hort. 1, 110, and approval of instructor.**

120 **LANDSCAPE GARDENING. (3) II, S** Elliott
The adaptation of principles of landscape architecture; including the coordination of buildings with surroundings; identification and uses of decorative materials and their requirements. Lecture, two hours; laboratory two hours.

121 **ADVANCED LANDSCAPE. (3) II** Elliott
A continuation of Horticulture 120, with special emphasis on design and use of materials. Lecture, two hours; laboratory, two hours. **Prerequisite: Hort. 120.**

122 **FLORICULTURE. (2) II** Elliott
A detailed study of specific groups of flowers such as bulbs, iris, and roses. Lecture, two hours. **Prerequisite: Hort. 22.**

123 **PLANT PROPAGATION. (3) II** Elliott
A detailed study of the methods of propagating certain horticultural plants. Includes cuttings, grafting, and budding. Lecture, two hours; laboratory, two hours. **Prerequisite: Hort. 1; Bot. 1 and 2.**

124a-c **SPECIAL PROBLEMS IN ORNAMENTAL HORTICULTURE. (3) I, II, S** Elliott
This course is designed to meet the need for advanced work. Approval by the instructor required. **Prerequisite: Hort. 1, 120, 121; Bot. 1 and 2.**

125 **PLANTS AND PLANTING MATERIALS. (2) II** Elliott
A study of woody and herbaceous plants and their identification, suitability for landscape uses and the effects produced. Lecture, one hour; laboratory, two hours. **Prerequisite: Hort. 120.**

200a-c **SEMINAR. (1) I, II, S** Olney and Staff

201a-c **RESEARCH IN HORTICULTURE. (3) I, II, S** Olney and Staff
Prerequisite: Approval of instructors.

Forestry

1 ELEMENTS OF FORESTRY. (3) I Davenport
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. Lecture, three hours.

2 FARM FORESTRY. (3) I, II Davenport
The general principles of forestry as applied to the farm woodland. Characteristics of the important trees of Kentucky. Tree structure and physiology. Reproduction, management and protection of the farm woodland. Measuring and utilization of wood products. Lecture, two hours; laboratory two hours.

10 ELEMENTS OF FOREST MENSURATION. (3) I Davenport
The theory and application of measurements of logs, trees, and stands of timber. Lecture, two hours; laboratory, two hours. **Prerequisite: For. 1 or 2, Math. 3 or approval of instructor.**

20 SEEDING AND PLANTING. (3) II Davenport
Artificial regeneration of forest stands; fundamentals of forest nursery practice; planting techniques and methods. Lecture, two hours; laboratory, two hours. **Prerequisite: For. 1 or 2.**

110 WOOD IDENTIFICATION AND TECHNOLOGY. (3) I Davenport
General anatomy of wood, identification of commercial species of the United States based on gross and microscopic features. Properties and uses. Lecture, two hours; laboratory, two hours. **Prerequisites: For. 1 or 2; Bot. 1 and approval of instructor.**

111 LUMBER AND OTHER FOREST PRODUCTS. (3) II Davenport
Manufacture, grading, and seasoning of lumber. Forest products other than logs or lumber, their methods of utilization and markets. Lecture, three hours. **Prerequisite: For. 1 or 2 and approval of instructor.**

120a-c SPECIAL PROBLEMS IN FORESTRY. (3) I, II, S Davenport
This course is designed to meet the need for advanced work. **Prerequisites: For. 110 and 111, and approval of instructor.**

MARKETS AND RURAL FINANCE

Aubrey J. Brown, Dana George Card, Carl McKinley Clark, Frank LeRond McVey, Hugh Bruce Price, John Bissell Roberts, and Leon A. Vennes.

30 SOURCES AND USES OF AGRICULTURAL DATA. (2) II Card
Methods of collecting, tabulating, and presenting agricultural information; the use of tables, graphs, frequency distributions, averages and ratios; principal sources of production and market information; the interpretation of agricultural census, crop and livestock estimate, and market news reports. Lecture, one hour; laboratory, two hours.

100 AGRICULTURAL MARKETING.
(3) I, II, S Brown, Clark, and Vennes
Principles and methods of marketing farm products, methods of marketing at country and central markets; classes and functions

of middlemen; marketing specific commodities; market prices; marketing costs; and cooperative marketing. Lecture and recitation, three hours. **Prerequisite: Economics 1.**

101 COOPERATIVE MARKETING. (3) II Vennes
Principles, methods, and problems involved in the cooperative marketing of farm products, and the purchase of farm production supplies; legal organization and management problems which cooperatives encounter. Lecture and recitation, three hours. **Prerequisite: Markets and Rural Finance 100.**

102 MARKETING TOBACCO AND OTHER FARM CROPS. (2) I Clark
Principles, methods and problems in marketing farm crops, with special emphasis on marketing tobacco, including systems of marketing, organization of markets, functional problems of warehousing, efficiency in pricing, monopoly aspects of competition and international movement of grains and tobacco. Lecture and recitation, two hours. **Prerequisite: Markets and Rural Finance 100.**

103 MARKETING LIVESTOCK AND LIVESTOCK PRODUCTS. (2) II Brown
Analysis of livestock and dairy markets, market organization, market agencies, market institutions, market services and public regulation. Lecture and recitation, two hours. **Prerequisite: Markets and Rural Finance 100.**

110 AGRICULTURAL PRICES. (3) S Card
Price behavior among agricultural products. Seasonal, cyclical and longtime trends; supply-price relationships; price movements during inflation and deflation; relation of agriculture to the general price level and factors affecting commodity prices. Lecture and recitation, three hours. **Prerequisite: Farm Economics 1.**

120 AGRICULTURAL FINANCE. (2) II Clark
Credit needs of agriculture, including short-time, intermediate, and farm mortgage credit requirements; problems of financing farm ownership and production and marketing of farm products; organization and operation of various types of credit agencies including the Farm Credit Administration. Lecture and recitation, two hours. **Prerequisite: Farm Economics 1.**

130 AGRICULTURAL STATISTICS. (3) I Card
Principles and methods involved in the analysis, interpretation, and use of agricultural statistics; the measurement or relationships by tabular analysis, gross correlation and graphic correlation; sampling, standard errors, and simple analysis of variance, as used in agricultural research. Lecture and recitation, three hours.

140 AGRICULTURAL POLICY. (3) I Price
Development of principles underlying agricultural policy, including analysis of the place of agriculture in the national economy, objectives of agricultural policy, recent developments in agriculture, appraisal of current and proposed agricultural programs, and legislation for remedial action. Lecture and recitation, three hours. **Prerequisite: Markets and Rural Finance 100.**

142 MARKETING AND PROCESSING POULTRY. (2) I Roberts and Wightman
Organization and functioning of markets for poultry and eggs, methods of selling, prices and price making forces are combined with laboratory instruction in grading, packaging and handling poultry and eggs according to recognized commercial standards.

Lecture, one hour; laboratory, two hours. **Prerequisites: Animal Industry 41 and Markets and Rural Finance 100.** This is same course as Animal Industry 142.

200a-c AGRICULTURAL ECONOMICS SEMINAR. (1) I, II Brown and Staff
Analysis of current problems in the field of marketing and rural finance.

202a-c SPECIAL PROBLEMS IN MARKETING AND RURAL FINANCE. (3) I, II, S Brown and Staff
Open to graduate students who have the necessary training and ability to do research on individual problems. The course consists of individual work on some selected problem related to agricultural marketing or agricultural finance. **Prerequisite: Approval of head of department.**

204 RESEARCH IN MARKETING. (3) I Price
A critical examination of methods, objectives, and results of various types of research in marketing organization, marketing functions and market management. Lecture, three hours. **Prerequisite: Markets and Rural Finance 100.**

210 THEORY OF AGRICULTURAL PRICES. (3) S Brown
The application of economic theory to the field of agricultural prices. Variability and flexibility in the price structure in terms of price behavior. Attention will be given to the economic aspects of certain of the price plans in agriculture. Lecture, three hours. **Prerequisite: Markets and Rural Finance 110 or approval of instructor.**

230a STATISTICS FOR AGRICULTURAL RESEARCH: SOCIAL SCIENCES. (3) II Card
Multiple, partial, and joint correlation in agricultural research; measures of seasonal variation; agricultural index numbers; theory and practice of sampling methods; and tests of significance. Lecture, three hours. **Prerequisite: Markets and Rural Finance 130.**

230b STATISTICS FOR AGRICULTURAL RESEARCH: PLANT AND ANIMAL SCIENCES. (2) S Card
Analysis of variance and covariance; statistical considerations in the design of experiments; tests of significance and confidence limits. Lecture and laboratory, three hours. **Prerequisite: Markets and Rural Finance 130.**

240 EFFECTS OF POLITICAL, ECONOMIC, AND CULTURAL FORCES ON RURAL LIFE IN AMERICA. (2) II McVey
A course for graduate students in the heritages and political and economic forces that have affected the life and the property of the people engaged in agriculture. The period covered is from colonial times to the present. Lectures, readings, and assigned topics, two hours a week.

RURAL SOCIOLOGY

Howard Wayland Beers and Ward W. Bauder

10 INTRODUCTION TO RURAL SOCIOLOGY. (3) I, II Beers
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. Students in this course analyze their own experiences in comparison with situations described in assigned readings.

115 **ORGANIATION OF RURAL GROUPS. (3) II, S** Bauder
A study of leadership, membership participation, and program planning in agricultural organizations and other organized rural groups. **Prerequisite: An introductory course or consent of instructor.**

125 **RURAL MOVEMENTS AND SOCIAL POLICY. (3) I**
A study of social factors involved in selected rural movements. Emphasis will be put upon the social needs in response to which the movements arose, the organization and development of the movements, and their influence upon state and federal policy. **Prerequisite: An introductory course or consent of instructor.**

160 **RURAL COMMUNITY ANALYSIS. (3) I, II** Bauder
The nature of the town-country community and a study of programs for its development and the correlation of activities. Residence in a rural community during a part of the semester affords for those students for which it is possible laboratory experience in the application of principles developed during the period of residence in the college. **Prerequisite: An introductory course or consent of instructor.**

180 **ADVANCED RURAL SOCIOLOGY. (3) I, S**
Selected historical factors in rural life in the United States; rural-urban differences; social differentiation, stratification, social processes. Each student applies the principles of the course in the analysis of a selected community. **Prerequisite: An introductory course or approval of instructor.**

190a-c **SPECIAL PROBLEMS IN RURAL LIFE. (2) I, II** Staff
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. **Prerequisite: An introductory course or consent of instructor.**

200a-c **RESEARCH IN RURAL SOCIOLOGY. (2) I, II, S** Staff
Individual graduate research with correlated study of rural social research types and methods. **Prerequisite: Introductory course in statistics.**

210 **SEMINAR IN RURAL ORGANIZATION. (3) I** Beers
Basic theories of social organization, comparative study of selected systems of rural social organization; examples of purposeful organization. **Prerequisite: Approval of instructor.**

220 **SEMINAR IN RURAL ATTITUDES. (3) II** Bauder
The nature and genesis of rural attitudes and their relation to rural social control; analysis of contemporary rural attitudes and opinion. **Prerequisite: Approval of instructor.**

230 **RURAL URBAN RELATIONS. (3) I**
Study of the interdependence of city and country; solidarity and antagonistic relationships of city and country; the process of urbanization, and problems of rural adjustment to urban influences. **Prerequisite: Approval of instructor.**

250 TOPICAL SEMINAR. (3) II **Staff**

Analysis of topics of scientific interest in rural sociology, selected from such fields as the following: criticism of contemporary research; sociological factors in land use; migration; rural social ecology of the South; highland societies; sociography of rural groups. **Prerequisite: Approval of instructor.**

COLLEGE OF ENGINEERING

CIVIL AND ARCHITECTURAL ENGINEERING

Robert Ezekiel Shaver, David Knox Blythe, Alvin Lee Chambers, Frank Jacobs Cheek, Jr., Clinton Kelly Hoffmann, Ernst Vern Johnson, James Llewellyn Leggett, Jr., and Samuel Albert Mory, Jr.

Architectural Engineering

1 ARCHITECTURAL RENDERING. (2) I, II Johnson
Pictorial delineation of architectural subjects in the medium of pencil, ink, and water color. Drawing, six hours. **Prerequisite: Junior classification.**

3 SANITATION, ACOUSTICS, FIRE PREVENTION. (3) I Cheek
Theory and practice as applied to architectural design. Lecture and recitation, three hours. **Prerequisite: Junior classification.**

4a ARCHITECTURAL DESIGN. (3) I, II Johnson
Principles of aesthetic design and functional planning of buildings. Drawing room, nine hours. **Prerequisite: Junior classification and Arch. Eng. 1.**

4b ARCHITECTURAL DESIGN. (3) I, II Johnson
Continuation of Arch. Eng. 4a. Drawing room, nine hours. **Prerequisite: Arch. Eng. 4a.**

5 BUILDING EQUIPMENT. (2) II Cheek
Theory and practice of modern building equipment. Lecture and recitation, two hours. **Prerequisite: Junior classification.**

6 INDEPENDENT PROBLEMS. (4) I, II Johnson
Development of complete working drawings and specifications of a building, to be selected by the student with the approval of the instructor. Drawing room, twelve hours. **Prerequisite: Senior classification and Arch. Eng. 4b.**

7 BUILDING CONSTRUCTION. (1) I Cheek
Theory and practice of modern building construction. Materials and their use. Contractor's operation, inspection and methods of procedure. Lecture, two hours. **Prerequisite: Junior classification.**

8 THEORY OF ARCHITECTURAL DESIGN. (2) I, II Johnson
Theory of architectural design with special emphasis on factors effecting the development of plan. Lecture and recitation, 2 hours. **Prerequisite: Junior classification.**

Civil Engineering

12 PLANE SURVEYING. (3) I, II Blythe
Theory and use of the transit, level, and compass in land surveys, leveling, and municipal and topographic surveys. General use and care of surveying instruments, note keeping, field problems, and computations. Class work, two hours; field work, three hours. **Prerequisite: Math. 3.**

15 GENERAL SURVEYING. (3) S Shaver and Blythe
Given at the summer surveying camp located at Camp Robinson, Noble, Breathitt County, Kentucky. Land surveys, plane and elementary topographic surveying. Determination of azimuth, time, latitude and longitude, triangulations and base lines, including field and office practice. **Prerequisite: Civ. Eng. 16a and junior classification.**

16a ROUTE SURVEYING. (3) I, II Shaver
Curves, line, grade, earthwork, theory of location as it applies to railways and highways, overhaul, mass diagram, and estimate of cost. Lecture and recitation, three hours. **Prerequisite: Civ. Eng. 12.**

16b ROUTE SURVEYING. (3) S Shaver and Blythe
Given at summer surveying camp located at Camp Robinson, Noble, Breathitt County, Kentucky. Complete location survey of railway or highway, including preliminary survey, topography, projected line and final location, plan, profile, grade lines, cross-sections, earthwork, estimate of quantities and cost. **Prerequisite: Civ. Eng. 16a and junior classification.**

17 HYDROGRAPHIC SURVEYING. (1) S Shaver and Blythe
Given at the summer surveying camp located at Camp Robinson, Noble, Breathitt County, Kentucky. Stream gauging, sounding, and measuring the flow in Kentucky River, location surveys for bridges and power dams. Surveys for impounded water supplies, and location of small dams. Notes taken to be used by the students for future work. **Prerequisite: Civ. Eng. 16a and junior classification.**

18 MAPPING AND TOPOGRAPHIC DRAWING. (2) I, II Hoffman
Construction of maps from field notes, reproductions and changing scale of maps, topographic symbols, contours, projected location, profile, line, and grade. Drafting room, six hours. **Prerequisite: Civ. Eng. 12.**

23 SEMINAR. (1) I, II Chambers
A study of current engineering literature as related to civil engineering; assigned reading and reports. Round table conference, two hours. **Prerequisite: Senior classification.**

24 SANITARY ENGINEERING FOR SANITARY INSPECTORS. (4) S Cheek
Elementary principles of sanitary engineering including municipal and rural sanitation, water supply, sewage disposal, collection and disposal of waste, dairy inspection, and insect control. Total time 45 hours of lectures, recitations, and field trips; 36 hours of laboratory followed by four weeks of supervised field work in approved county health offices, with a weekly seminar in the Fayette County Health Office.

31 HIGHWAY LOCATION, CONSTRUCTION, AND MAINTENANCE. (2) I, II Chambers
Principles of location, topographic conditions, economic considerations, benefits, and costs. Materials and types of roads, and general maintenance. Lecture and recitation, two hours. **Prerequisite: Civ. Eng. 16a.**

32 STREETS AND PAVEMENTS. (2) I, II Chambers
Drainage, subgrade, foundations, surfacing materials; resistance to friction, safety appliances, construction, maintenance, and traffic census. Lecture and recitation, two hours. **Prerequisite: Civ. Eng. 31.**

37 HIGHWAY MATERIALS. (2) I, II Chambers
Methods of testing highway materials and the relation of such tests to standard specifications. Laboratory, four hours. **Prerequisite or concurrent: Civ. Eng. 32.**

49 RAILWAY CONSTRUCTION AND MAINTENANCE. (2) I, II Shaver
Theory of construction, road bed, track, sub-drainage, structures, yards, terminals, revisions, cost of operation, and maintenance of way. Lecture and recitation, two hours. **Prerequisite: Civ. Eng. 16a.**

81 TESTING MATERIALS. (1) I, II, S Chambers
Experimental investigations and tests of woods, metals, cement, concrete, and other construction materials to verify the laws governing their behavior under given conditions. Laboratory, two hours. **Prerequisite or concurrent: Applied Mech. 100.**

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; laboratory, three hours. **Prerequisite: Senior classification.**

110a REINFORCED CONCRETE. (4) I, II Mory and Leggett
Theory and design of beams, slabs, girders and columns as related to building frames, retaining walls and bridges. Lecture and recitation, three hours; drawing room, three hours. **Prerequisite: Civ. Eng. 171a.**

110b REINFORCED CONCRETE. (3) I, II Mory
Continuation of Civ. Eng. 110a, with special emphasis on complete structures. Lecture and recitation, two hours; drawing room, three hours. **Prerequisite: Civ. Eng. 110a.**

114 ADVANCED SURVEYING. (3) I, II Shaver
Principles of geodetic surveying as related to the establishment of control systems. Observations and calculations for determining time, azimuth, latitude and longitude. Theory and practice of mapping including stadia, plane table and photographic methods. Lecture and recitation, two hours; field work, three hours. **Prerequisite: Summer Camp.**

120 HYDRAULICS. (2) I, II Cheek
Principles of hydraulics and hydrodynamic pressure. Flow of water through orifices, nozzles, pipes, and open channels, over weirs, and against stationary and moving vanes. Loss from friction and other sources. Lecture and recitation, two hours. **Prerequisite: App. Mech. 100 and App. Mech. 4.**

123 HYDRAULICS LABORATORY. (1) I, II Cheek
Experimental investigation of flow of water in pipes, channels, over wiers, measure of friction and hydrostatic pressure, and hydraulic machinery. Laboratory, three hours. **Prerequisite or concurrent: Civ. Eng. 120.**

151 WATER SUPPLY AND WATERWORKS. (2) II Cheek
Sources of supply; rainfall, surface water, rivers, lakes, and ground water. Theory of filtration, purification, equipment, and distribution. Problems in design and construction. Lecture and recitation, two hours. **Prerequisite: Civ. Eng. 120.**

152 SEWERS AND SEWAGE DISPOSAL. (2) II Cheek
Sanitary and storm sewer systems, theory of design, and method of disposal. Lecture and recitation, two hours. **Prerequisite: Civ. Eng. 120.**

157 SANITARY ENGINEERING FOR HEALTH OFFICERS. (2) S Cheek
General principles of Sanitary Engineering, including municipal and rural sanitation, water supply, collection of waste, sewers and sewage disposal, insect control, milk sanitation, principles of heating, lighting and ventilation. Lectures, recitation and field trips, eight hours a week for eight weeks.

158 SANITARY ENGINEERING DESIGN. (3) I, II Cheek
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. **Prerequisite: Civ. Eng. 151 and 152.**

159 DESIGN AND OPERATION OF WATERWORKS AND SEWERS. (2) I, II Cheek
Investigation and partial designs of water supplies, purification plants, distribution problems, pipe networks, sewers and disposal plants. Practice covering the more common laboratory tests used in water treatment and sewage disposal plants. Laboratory and drawing room, six hours. **Prerequisite: Civ. Eng. 151 and 152.**

171a THEORY OF STRUCTURES. (3) I, II Mory and Leggett
Analysis of stresses in simple and indeterminate structure, including beams, girders, trusses, towers and building frames. Lecture and recitation, three hours. **Prerequisite or concurrent: App. Mech. 100.**

171b THEORY OF STRUCTURES. (3) I, II Mory
Continuation of Civ. Eng. 171a with emphasis on indeterminate structures. Lecture and recitation, three hours. **Prerequisite: Civ. Eng. 171a.**

173a STEEL STRUCTURES. (3) I, II Mory
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. **Prerequisite: Civ. Eng. 171a.**

173b STEEL STRUCTURES. (2) I, II Mory and Leggett
Continuation of Civ. Eng. 173a with emphasis on floor systems, trusses and plate girders for bridges. Drawing room, six hours. **Prerequisite: Civ. Eng. 173a.**

174 GRAPHIC SOLUTIONS. (2) I, II Mory and Leggett
Analysis of stresses by graphical methods, in simple structures including, beams, girders and trusses. Design and details of timber structure. Drawing room, six hours. **Prerequisite or concurrent: Civ. Eng. 171a.**

182 SANITATION. (2) I, II Cheek
Presented from an engineering viewpoint. Municipal and rural sanitation, treatment and protection of water supplies, disposal of refuse and sewage, control of insects, food supply, plumbing and ventilation. Lecture and recitation, two hours. **Prerequisite: Bact. 57.**

Prerequisite for graduate work: Students desiring to take any of the following courses should have a thorough working knowledge of Chemistry, Physics, and Mathematics. These courses are offered to graduates and to such practicing engineers as may be qualified to pursue them. For major work, a candidate must hold a bachelor's degree in Civil Engineering, or its equivalent.

202a-d CONSTRUCTION. (3 ea.) I, II Mory
Advanced work in plain and reinforced concrete. Theory, design and details for rigid buildings, bridge frames and arches. Calculation of stresses by the method of column analogy. Class work, one hour; laboratory, four hours.

221a, b ADVANCED SOIL MECHANICS. (3 ea.) I, II
Advanced study of the engineering properties of soils, dealing directly with flow of water through soils, stresses in earth masses, shearing resistance and conditions of failure, clay mineral content and its effect, airphoto classification of soils, and the application of these theories to the design of engineering structures. Lecture, one hour; laboratory, four hours a week. **Prerequisite: Civ. Eng. 107.**

232a-d HIGHWAY ENGINEERING. (3 ea.) I, II Chambers
Advanced course designed for graduate civil engineers who wish to enter the field of highway engineering. Road laws, organization of highway departments, traffic cost, contracts and specifications, and laboratory investigations on all kinds of surfacing materials. Structures, their design and maintenance. Class work, one hour, laboratory, four hours.

242a-d RAILROAD ENGINEERING. (3 ea.) I, II Shaver
Advanced course in location, construction, maintenance, economical selection of lines, grade reduction, cost of operation, valuation, and structures and their maintenance. Class work, one hour; laboratory, four hours.

252a-d SANITARY ENGINEERING. (3 ea.) I, II Cheek
Advanced course in sewer design, construction and maintenance; design, maintenance, and operation of sewage disposal plants; water supply and waterworks design; and construction and maintenance. (Courses in water analysis and bacteriology should be taken in connection with this course.) Class work, one hour; laboratory, four hours.

262a-d GEODETIC SURVEYING. (3 ea.) I, II Shaver
Advanced course in geodetic calculations, development, and use of formulas used by the United States Coast and Geodetic Survey. Modern methods of field practice. Class work, one hour; laboratory, four hours.

272a-d STRUCTURAL ENGINEERING. (3 ea.) I, II Mory
Advanced work in structural steel. Theory, design and details of arches, continuous highway and railroad plate girders, trussed bridges and building frames. Class work, one hour; laboratory, four hours.

282a-f SPECIAL PROBLEMS IN CIVIL ENGINEERING. (3 ea.) Staff
Open to graduate students who have the ability to carry on research. Each course consists of individual work in one of the various fields of Civil Engineering. Laboratory, six hours a week. **Prerequisite: Approval of Head of the Department.**

283a-d SEMINAR. (1 ea.) Staff
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.

ELECTRICAL ENGINEERING

Ernest A. Bureau, Leslie Keene Adams, Nathan B. Allison, Brinkley Barnett, Joseph Aubrey Boyd, Hansford White Farris, Maurice Wayne Long, Arthur A. Nierenberg, Earl T. Noble, and Harry Alex Romanowitz.

11 ELECTRICAL LABORATORY. (1) I, II Adams
A study of the methods and materials used in connecting electrical apparatus and in the wiring of buildings with emphasis on adequacy, serviceability, safety, code requirements, and costs. Laboratory, two hours.

21 PRINCIPLES OF ELECTRICAL ENGINEERING. (4) I, II Staff
A first course in electrical engineering. A study of the application of the fundamental laws of electric, magnetic, and dielectric circuits. Classroom, three hours; laboratory, two hours. **Prerequisite or concurrent: Math. 20b and Phys. 3b.**

101 FUNDAMENTALS OF ELECTRICAL MACHINERY. (3) I Staff
(For Civil, Metallurgical and Mining Engineers.) A study of the more common types of D. C. and A. C. electrical equipment and machinery. Classroom, 2 hours; laboratory, 2 hours. **Prerequisite: Phys. 3b.**

102 ELECTRICAL MACHINERY. (2) II Bureau
(For Metallurgical and Mining Engineers.) A study of electric power and its control as applied to mining machinery and metallurgical processes. Classroom, 2 hours. **Prerequisite: Elec. Eng. 101.**

105a ELECTRICAL ENGINEERING CIRCUITS AND MACHINERY. (4) I Staff
(For Mechanical Engineers.) Study of electrical circuits and machinery and their control as found in modernly equipped installations. Classroom, three hours; laboratory, three hours. **Prerequisite: Phys. 3b and Math. 20b.**

105b ELECTRICAL ENGINEERING CIRCUITS AND MACHINERY. (4) II Staff
(For Mechanical Engineers.) Continuation of Elec. Eng. 105a. Classroom, three hours; laboratory, three hours.

107 ELECTRICAL CONTROLS. (3) I Boyd
A study of the field of electrical engineering which is concerned with the control of electric equipment. It involves a study of the individual types of contractors, relays, etc., as well as the typical circuits with which they are tied together into units for automatic functioning. Classroom, two hours; laboratory, two hours. **Prerequisite: Elec. Eng. 116, Elec. Eng. 105b or Elec. Eng. 101.**

108 INDUSTRIAL ELECTRONICS. (3) II Romanowitz and Boyd
A study of electronic principles and devices for industrial use, with emphasis on control, gas diodes, thyratrons, ignitrons and their applications in the control of rectifiers, motors and welders; high frequency heating, timing circuits, trigger circuits and relaxation oscillators; phototubes and their application, etc. Lecture and recitation, 2 hours; laboratory, three hours. **Prerequisite: Elec. Eng 116, and Elec. Eng. 161.**

110 ELECTRICAL LABORATORY. (2) I, II Staff
An experimental study of electrical machinery. Lecture, one hour; laboratory, one three-hour period. **Prerequisite or concurrent: Elec. Eng. 116.**

111 ADVANCED ELECTRICAL LABORATORY. (1) I Staff
Continuation of Elec. Eng. 110. Laboratory, two hours.

114 ALTERNATING CURRENT CIRCUITS. (4) I, II Staff
A mathematical study of single phase and polyphase circuits under the influence of steady state sinusoidal and non-sinusoidal voltages. Classroom, three hours; laboratory, three hours. **Prerequisite: Elec. Eng. 21 and Math. 20b.**

115 DIRECT CURRENT MACHINERY. (3) I Staff
A study of D. C. Machinery construction and design, and its operation and characteristics. Classroom, two hours; laboratory and calculating room, three hours. **Prerequisite: Elec. Eng. 21 and Math. 20b.**

116 ALTERNATING CURRENT MACHINERY. (4) II Staff
A study of A. C. machinery construction and its operation and characteristics. Classroom, three hours; laboratory and calculating room, three hours. **Prerequisite: Elec. Eng. 114 and Elec. Eng. 115.**

117 ADVANCED ALTERNATING CURRENT MACHINERY. (3) II Staff
Advanced analytical study of A. C. machinery characteristics. Classroom, three hours. **Prerequisite: Elec. Eng. 116.**

118 ELECTRICAL POWER PLANT EQUIPMENT. (3) Staff
A study of the electrical elements of a modern power plant and their operation and characteristics. Lecture and recitation, three hours. **Prerequisite: Elec. Eng. 116.**

120 ELECTRICAL CIRCUIT ANALYSIS. (3) II Allison and Nierenberg
The study of higher mathematics applied to electrical engineering problems. It includes the use of differential equations, power series, hyperbolic functions. Bessel's functions, vector analysis, etc. Classroom, three hours. **Prerequisite: Elec. Eng. 114 and Math. C105a.**

123 ELECTRICAL EQUIPMENT PROBLEMS. **(2) I, II** Bureau and Nierenberg
(For Electrical Engineers.) Individual problems related to engineering practice are assigned. The solutions involve economic as well as engineering considerations. A formal written report is required for each assignment. Calculating room, six hours. **Prerequisite: Elec. Eng. 116 and Math. C105a.**

124 ELECTRICAL DESIGN. (2) I, II Barnett
Special problems in D. C. and A. C. machine design. Calculating room, six hours. **Prerequisite: Elec. Eng. 116.**

135 ELECTRICAL NETWORKS. (4) I Allison and Romanowitz
Fundamentals of network theory in communication and power circuits. Network theorems, transmission lines and wave filters. Lecture and recitation, three hours; laboratory, three hours. **Prerequisite: Elec. Eng. 114. Concurrent: Elec. Eng. 120.**

136 ILLUMINATION ENGINEERING. (3) I Noble and Romanowitz
A study of the spectral nature of light sources as it affects the illumination of surfaces and objects. Entities in the illumination system; measurements and standards; design of interior and outdoor lighting systems. Lecture and recitation, two hours; laboratory, two hours. **Prerequisite: Phys. 3b and Math. 20b.**

137 ELECTRIC POWER TRANSMISSION AND DISTRIBUTION. (3) II Barnett and Boyd
A study of the problems involved in the transmission of electric power with special emphasis on the elements of the transmission line. Classroom, three hours. **Prerequisite: Elec. Eng. 116 or equivalent, and Math. 20b.**

139 TELEPHONY. (3) II Staff
The theory and practice of modern telephone operation. Lecture and recitation, three hours. **Prerequisite: Elec. Eng. 135.**

151a, b SEMINAR. (1 ea.) I, II Staff
Weekly meeting with staff for reports and discussion on research and modern trends and practices in Electrical Engineering. Two hours. **Prerequisite: Senior standing.**

152a-c INDEPENDENT PROBLEMS. (1 ea.) I, II Staff
(For Electrical Engineers.) A problem, approved by the Head of the Department, forms the background for study and research. Only students, the character of whose previous work justifies it, will be allowed to register for this work.

152d-f INDEPENDENT PROBLEMS. (2 ea.) I, II Staff
(For Electrical Engineers.) A problem, approved by the Head of the Department, forms the background for study and research. Only students, the character of whose previous work justifies it will be allowed to register for this work.

161 ELECTRONICS. (4) I, II Staff
High vacuum and gas tubes, thermionic emission; elementary electronic circuits, rectifiers and smoothing filters; audio amplifiers, harmonic distortion, impedance matching; audio oscillators; use of electronic instruments. Lecture and recitation, three hours; laboratory, three hours. **Prerequisite: Elec. Eng. 114.**

162 RADIO ENGINEERING I. (4) I **Staff**
Resonance phenomena at radio frequencies; coupled circuits and impedance transformation; radio frequency amplifiers, tuned, narrow band IF, linear amplifiers; modulation, AM and FM; detection: superheterodyne receiver circuit. Lecture and recitation, 3 hours; laboratory, three hours. **Prerequisite: Elec. Eng. 161.**

164 RADIO ENGINEERING II. (4) I, II Farris and Romanowitz
High frequency phenomena: Coupled circuits, impedance transformation, high frequency lines, antenna feeding and matching, wide band amplifiers, square wave testing; trigger-and-pulse circuits, high frequency measurements. Lecture and recitation, three hours; laboratory, three hours. **Prerequisite: Elec. Eng. 162.**

165 RADIO ENGINEERING—FUNDAMENTALS OF ELECTRIC WAVES. (2) II **Romanowitz**
A study of fundamental theory of electric current, potential, electromagnetism and electromagnetic fields using vector analysis: introduction to Maxwell's equations; plane waves, power flow and the poynting vector. Lecture and recitation, two hours. **Prerequisite: Elec Eng. 120 and Elec. Eng. 114.**

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.

206 ELECTRIC POWER TRANSMISSION. (3) Bureau and Barnett
The theory underlying the calculation and operation of long distance transmission circuits. Special attention to relay control. Recitation, three hours.

210 SYMMETRICAL COMPONENTS. (3) **Bureau**
A study of the symmetrical component method of analyzing unbalanced conditions on transmission lines and its use in solving relay applications. Recitation, three hours.

211 ELECTRICAL CIRCUIT ANALYSIS—TRANSIENTS. (3) Bureau
Mathematical study of transient electric phenomena. Recitation, three hours. **Prerequisite: Elec. Eng. 120, Elec. Eng. 116 and Elec. Eng. 135.**

212 SERVOMECHANISMS. (3) **Bureau**
An analytical study of the characteristics of various types of servomechanisms. Lecture and recitation, three hours. **Prerequisite: Elec. Eng. 107, Elec. Eng. 108, and Elec. Eng. 211.**

221 ADVANCED ELECTRONICS. (3) Romanowitz
High vacuum tubes: electron flow, thermionic emission, transit time effects. Gas Tubes: performance of mercury vapor rectifiers, thyratrons, ignitrons, and ionized gas light sources. Lecture and recitation, three hours. **Prerequisite: Elec. Eng. 161 and Elec. Eng. 120.**

223 COMMUNICATION ENGINEERING—ADVANCED TRANSMISSION LINE THEORY. (3) Romanowitz
Open wire and coaxial lines, reflections, standing waves; circle diagram; stub matching; impedance transformation; wave guides. Continuation of Elec. Eng. 135. Lecture and recitation, three hours. **Prerequisite: Elec. Eng. 135 and Math. 120.**

226 RADIO ENGINEERING—ULTRA HIGH FREQUENCY. (3) Romanowitz
Generation, detection and measurement of microwave energy; vacuum tubes at ultra high frequencies, the klystron and the magnetron. Lecture and recitation, 2 hours; laboratory, three hours. **Prerequisite: Elec. Eng. 163 and Elec. Eng. 165.**

227 ELECTROMAGNETIC FIELDS. (3) Romanowitz
Advanced studies in electric and magnetic fields, using vector methods and Maxwell's equations; wave equations, radiation and propagation of energy. A continuation of Elec. Eng. 165. Lecture and recitation, three hours. **Prerequisite: Elec. Eng. 165.**

230a-f SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING. (3 ea.) Staff
Open to graduate students who have the ability to carry on research. Each course consists of individual work in one of the various fields of Electrical Engineering. Laboratory, six hours a week. **Prerequisite: Approval of Head of the Department.**

231a-d SEMINAR. (1 ea.) Staff
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 hours.

ENGINEERING—GENERAL

Robert Dawson Hawkins, Staley Fields Adams, William Jackson Barber, Brinkley Barnett, David Knox Blythe, Ernest Adolphe Bureau, Willis Merle Carter, Alvin Lee Chambers, Charles Stevens Crouse, Edward Everett Elsey, Clinton Kelly Hoffman, John Sherman Horine, Clifton O'Neal Mock, Louis Edward Nollau, William Frederick Savage†, and Dwight Tenney.

Applied Mechanics

2 MECHANISMS. (3) I, II, S Hawkins and Barber
(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, laboratory, three hours. **Prerequisites: Phys. 3a and Eng. Draw. 18.**

3 STATICS. (3) I, II, S Hawkins, Barber, and Adams
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. **Prerequisite: Phys. 3a. Prerequisite or concurrent: Math. 20a.**

4 DYNAMICS. (2) I, II, S Hawkins, Barber, and Adams
Motion of a particle, dynamics of moving bodies, impulse and momentum, work and energy. Lecture and recitation, two hours. **Prerequisite: Appl. Mech. 3. Prerequisite or concurrent: Math. 20b.**

† See appended list of changes of status, p. 428.

6 MECHANISMS. (2) I, II, S Hawkins and Barber
(For Electrical Engineers.) Movement of machine parts such as crank and link motions, cams, gears, straight line and quick return motions. Lecture and recitation, two hours. **Prerequisites: Phys. 3a and Eng. Draw. 16 (1b).**

7 DYNAMICS. (3) I, II, S Hawkins, Barber, and Adams
(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. **Prerequisite or concurrent: Math. 20b. Prerequisite: Appl. Mech. 3.**

100 STRENGTH OF MATERIALS.
(4) I, II, S Hawkins, Barber, and Adams
A general course in the application of the principles of mechanics to the solution of problems in stress and strain due to direct forces, shear, bending, torsion, eccentric loads and combined stresses in beams, columns, thin cylinders, springs, etc. Lecture and recitation, four hours. **Prerequisite: Applied Mech. 3 and Math. 20b.**

106 ADVANCED STRENGTH OF MATERIALS.
(3) I, II, S Hawkins and Adams
Unsymmetrical bending of beams, bending and deflection of thin plates, stress of analysis of thick walled cylinders, and rotating discs. Theory of elastic energy and curved beams, stress concentration, and fatigue. Lecture and recitation, three hours. **Prerequisite: Math. 20b and Applied Mech. 100.**

107 MECHANICAL VIBRATIONS. (4) I, II Hawkins and Barber
Vibrations of systems of one and several degrees of freedom, balancing of rotating machines, critical speeds, and torsional and lateral vibrations of shafts. Lecture and recitation, four hours. **Prerequisites: Applied Mech. 4 or Applied Mech. 7 and Applied Mech. 100. Prerequisite or concurrent: Math. 105a.**

NOTE: Credit will not be given in both A. M. 2 and A. M. 6.
Credit will not be given in both A. M. 4 and A. M. 7.

Engineering Administration

102 ENGINEERING ADMINISTRATION. (3) I, II Tenney
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. **Prerequisite: Senior classification.**

Engineering Drawing

1a ELEMENTARY ENGINEERING DRAWING.
(2) I, II, S Nollau, Hoffman, and Mock
Freehand lettering, care of and exercises in the use of instruments, principles of orthographic and axonometric projection, technical sketching, tracing, methods of reproduction of drawings, and chart and diagram drawings. Working drawings both detail and assembly. Three 2-hour periods a week.

1b DESCRIPTIVE GEOMETRY.
(2) I, II, S Nollau, Hoffman, Horine, and Mock
A study of the essential principles of descriptive geometry and

the solution of practical problems pertaining to the various branches of engineering. Three 2-hour periods a week. **Prerequisite: Eng. Draw. 1a.**

2 MECHANICAL DRAWING.
(1) I, II, S Nollau, Hoffman, and Mock
(For students in Industrial Chemistry.) Freehand lettering, exercises in the use of instruments, orthographic, and axonometric projection, graphs and tracing. One 2-hour period and one 1-hour period a week.

12 GRAPHICAL COMPUTATIONS. (2) Carter
Graphic solution of problems in mechanism, construction, and use of alignment charts and practice in the use of planimeter and mechanical integrator. Lecture, 1 hour; drafting room, 3 hours. **Prerequisite or concurrent: Phys. 3a, Applied Mech. 2. Prerequisite: Eng. Draw. 18.**

18 ADVANCED ENGINEERING DRAWING.
(2) I, II, S Nollau and Mock
Comprises working drawings of parts of machines, both detail and assembly; technical sketching of simple machines and working drawings from technical sketches; and tracing in pencil and ink. Six hours. **Prerequisite: Eng. Draw. 1b.**

115 PHOTOGRAPHY. (3) Nollau
(For Metallurgical Engineers.) Fundamental principles of photography. Lectures on the optics and chemistry of photography together with practical demonstrations. Negative making, printing, etc. Lecture, one hour; laboratory, four hours a week. **Prerequisite: Chem. 1a, Physics 3a.**

Flight Training

1a FLIGHT TRAINING. (2) I, II, S Savage
Ground school training in Civil Air Regulations, navigation, and meteorology including study of aëronautical charts, course plotting, position fixes, composition and structure of the atmosphere, cloud formations, and fronts. Two hours of flight instruction will be given per week. Lecture, one hour; flight instruction, two hours. **Prerequisite: Physics 51 (or equivalent) and Math. 3.**

1b FLIGHT TRAINING. (2) I, II Savage
Continuation of Flight Training 1a. Passing a Civil Aeronautics Authority examination for private pilot's license is required upon completion of course. Lecture, one hour; flight instruction, two hours. **Prerequisite: Flight Training 1a.**

Student Assemblies

***1 INTRODUCTION TO ENGINEERING. (0) I, II** Horine
Scientific lectures and demonstrations covering all branches of engineering and the allied sciences. Study of the curricula of the College of Engineering to aid the student in choosing the branch of engineering which he wishes to follow. One hour a week.

***2 ENGINEERING PROBLEMS. (1) I, II** Staff
Analysis and solution of basic engineering problems as applied to the particular branch of engineering in which the student is registered, including the use of the slide rule. Two hours a week.

* Open to Freshmen.

3a, b CLASS SOCIETY. (Sophomore)
(0 ea.) I, II Barnett, Carter, Chambers, and Crouse
The class societies are affiliated as student branches of the four founder national engineering societies. Lectures on engineering projects of local and national interest. One hour a week.

4a, b CLASS SOCIETY. (Junior)
(0 ea.) I, II Barnett, Carter, Chambers, and Crouse
One hour a week. Content same as 3a.

5a, b CLASS SOCIETY. (Senior)
(0 ea.) I, II Barnett, Carter, Chambers, and Crouse
One hour a week. Content same as 3a.

MECHANICAL ENGINEERING

Estel Burdell Penrod, Willis Merle Carter, Oliver William Gard, Charles Dingee Jones, Richard Bennett Knight, Fritz Mangelsen, Andre Johannes Meyer, William Frederick Savage†, Dwight Tenney, and John Joe Willis.

****15a, b MANUFACTURING PROCESSES.**
(2 ea.) I, II, S Carter and Mangelsen
Covering modern precision machine shop methods, work layout, machine tool operation, inspection, measurement of finished work, foundry practice, casting methods, welding, and forming of metals. Lecture and recitation, one hour; machine shop, three hours.

100a MACHINE DESIGN. (3) I, S Carter and Gard
Design of machine and structural elements. Lecture and recitation, three hours. **Prerequisite: Eng. Draw. 18, Mech. Eng. 15b Prerequisite or concurrent: Applied Mech. 100.**

100b MACHINE DESIGN. (3) I, II, S Carter and Gard
Continuation of Mech. Eng. 100a. Drawing room, nine hours. **Prerequisite: Mech. Eng. 100a**

104a ENGINEERING THERMODYNAMICS. (3) I, S Penrod and Jones
Fundamental principles of thermodynamics including the application and theory of fluid flow, engines, turbines, air compressors, refrigeration, gaseous mixtures and combustion. Lecture and recitation, three hours **Prerequisite: Phys. 3b and Math. 20b.**

104b ENGINEERING THERMODYNAMICS. (3) II, S Penrod and Jones
Continuation of Mech. Eng. 104a. Lecture and recitation, three hours. **Prerequisite: Mech. Eng. 104a.**

105 POWER PLANT ENGINEERING. (3) II, S Willis
Study of the characteristics and use of steam and diesel power plant equipment including steam generators, fuel handling and burning equipment, coal and ash handling, draft producers, dust collectors, smoke abatement, prime movers, generators, air preheaters, economizers, feed water heating and treatment, pumps, continuous blow down, and combustion control. Lecture and recitation, three hours. **Prerequisite: Mech. Eng. 104b.**

** Not open to Freshmen.
† See appended list of changes of status, p. 428.

107 FLUID MECHANICS. (3) II Penrod, Savage, and Baker
Covering the statics, kinematics, dynamics, and thermodynamics of fluids, both liquids and gases, including the derivation and use of all fundamental formula for flow through orifices, nozzles, pipes, fittings, etc., together with the study of dams, weirs, metering devices, turbines, pumps, the aerodynamics of bodies moving through air and the hydrodynamics of bodies moving through water. Lecture and recitation, three hours. **Prerequisite: Mech. Eng. 104a.**

108 INTERNAL COMBUSTION ENGINES. (3) II Carter and Meyer
A study of internal combustion engine cycles and the characteristics and performance of actual engines, valve gears, and materials of construction. Lecture and recitation, four hours. **Prerequisite: Mech. Eng. 104b or Mech. Eng. 134.**

109 REFRIGERATION. (3) I, S Knight and Baker
A course which deals with compression and absorption refrigeration machines in which special attention is given to properties of refrigerants, laws and properties of solutions, heat balance, heat exchangers, theory of freezing, food storage and refrigeration capacity. Lecture and recitation, three hours. **Prerequisite: Mech. Eng. 104b or Mech. Eng. 134.**

110 HEATING AND VENTILATING DESIGN. (1) II Knight and Baker
Brief course for Architectural Engineers, covering the selection and layout of heating and ventilating equipment. Drawing room, three hours. **Prerequisite or concurrent: Mech. Eng. 116.**

112 MECHANICAL LABORATORY. (2) II, S Staff
Practice in the operation, use, calibration, and care of mechanical and industrial test and research instruments and apparatus, followed by a study of the methods used for the determination of certain fundamental coefficients and constants; also a study of the records and results from operating and test instruments in actual commercial use. Lecture and recitation, one hour; laboratory, three hours. **Prerequisite: Mech. Eng. 104a or Mech. Eng. 134.**

113a MECHANICAL LABORATORY. (2) I Staff
Performance tests on heating, ventilating, and power plant equipment. Lecture and recitation, one hour; laboratory, three hours. **Prerequisite: Mech. Eng. 104b and Mech. Eng. 107.**

113b MECHANICAL LABORATORY. (2) II Staff
Continuation of Mech. Eng. 113a. Lecture and recitation, one hour; laboratory, three hours. **Prerequisite: Mech. Eng. 113a.**

114a AIR CONDITIONING, HEATING AND VENTILATING. (3) I Baker and Knight
Theory of air conditioning and the mechanical equipment of buildings. Special attention is given to construction and use of psychrometric charts; heat transmission, heat and cooling load calculations, heating and cooling systems, the gas-fired air conditioner and the heat pump system. Lecture and recitation, three hours. **Prerequisite or concurrent: Mech. Eng. 109.**

114b AIR CONDITIONING, HEATING AND VENTILATING DESIGN. (3) II Baker and Knight
Continuation of Mech. Eng. 114a and the complete design and layout of a year-round air conditioning system. Lecture, one hour; drawing room, six hours. **Prerequisite: Mech. Eng. 114a.**

116 ELEMENTARY HEATING, VENTILATING AND AIR CONDITIONING. (3) II Baker and Knight
A course involving heating and ventilating calculations with descriptions of various types of equipment. Latter part of semester devoted to a discussion of the basic principles of air conditioning. Lecture and recitation, three hours. **Prerequisite: Physics 1a.**

122a SEMINAR. (1) I Baker, Carter, and Knight
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. **Prerequisite: Senior Classification.**

122b SEMINAR. (1) II Baker, Carter, and Knight
Continuation of Mech. Eng. 122a. Two hours a week. **Prerequisite: Senior Classification.**

129 ELEMENTS OF HEAT TRANSFER. (4) I, S Baker, Jones and Penrod
The transfer of heat by conduction, convection and radiation with special attention given to dimensionless ratios, film theory, heat transfer and pressure drop, and heat exchangers. Lecture and recitation, four hours. **Prerequisite: Mech. Eng. 104b.**

130 APPLIED AERODYNAMICS. (3) I Savage
Study of the atmosphere, boundary layers, fluid mechanics principles as applied to aerodynamics, wind tunnel weighing systems, circulation theory, basic wing theory, lift and drag, compressibility, performance of propeller-engine and jet-propelled aircraft, thermodynamics principles, and stability and control of the airplane. Lecture and recitation, three hours. **Prerequisite: Mech. Eng. 104b and Mech. Eng. 107.**

131a AIRPLANE DESIGN. (3) Savage
Design of a small light plane including study of basic design problems; aerodynamic factors in design, stress analysis of structures, aircraft materials, control systems, weight and balance control, engine installations, inboard profile, and cost items. Lecture and recitation, three hours. **Prerequisite or concurrent: Mech. Eng. 130a.**

131b AIRPLANE DESIGN. (3) Savage
Continuation of Mech. Eng. 131a. Lecture and recitation, one hour, laboratory, two two-hour periods. **Prerequisite: Mech. Eng. 131a.**

133 TOOL DESIGN. (3) I Carter
An introduction to Tool Engineering which embodies the fundamental principles of designing jigs, fixtures, cams, gages, punches, dies, and automatic machine tools. Lecture, one hour a week, drawing room, six hours a week. **Prerequisite: Mech. Eng. 100b.**

134 ELEMENTS OF ENGINEERING THERMODYNAMICS. (3) I Staff
Brief course for Civil, Electrical, and Mining Engineers covering the general energy equations, mixtures of gases and vapors, flow of fluids, vapor power cycles, internal combustion cycles, gas compression, and refrigeration cycles. Recitation, three hours a week. **Prerequisite: Phys. 3b and Math. 20b.**

135 EXPERIMENTAL AERODYNAMICS. (3) II Savage
Study of basic wind tunnel design, wind tunnel support systems, velocity distribution in tunnel working sections, drag of various objects, and pressure distribution over airfoils at various angles of attack. A complete wind tunnel analysis of a scale made to obtain lift, drag, pitching moment, and side force data. Lecture, one hour; laboratory, four hours. **Prerequisite: Mech. Eng. 130.**

136 INTERNAL COMBUSTION ENGINE LABORATORY. (1) I, II Staff
A study of magnetos, distributors, fuel ignition, timing, carburetors, oil systems, and performance tests on engines. Aeronautical laboratory, three hours. **Prerequisites or concurrent: Mech. Eng. 108, Mech. Eng. 113a.**

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.

201a-d AUTOMOTIVE ENGINEERING. (3 ea.) Meyer
An advanced course in the essentials of motor vehicle design, construction, and operation. Drafting room, laboratory, and lectures by appointment.

202a-d POWER PLANT ENGINEERING. (3 ea.) Penrod and Willis
Advanced work in the design, selection, layout and operation of heat-power plant equipment.

203a-d HEATING, VENTILATING, AND AIR CONDITIONING. (3 ea.) Baker and Knight
Advanced work in the design, selection, layout and operation of heating, ventilating, and air conditioning equipment.

204a-d ADVANCED MACHINE DESIGN. (3 ea.) Carter
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.

210a-f SPECIAL PROBLEMS IN MECHANICAL ENGINEERING. (3 ea.) Staff
Open to graduate students who have the ability to carry on research. Each course consists of individual work in one of the various fields of Mechanical Engineering. Laboratory, six hours a week. **Prerequisite: Approval of the Head of the Department.**

211a ADVANCED ENGINEERING THERMODYNAMICS. (4) I, II Penrod
Critical treatment of the laws of thermodynamics, properties of gases, and vapors, temperature scales; applications of theory to compressors and internal combustion engines; frequent reference to research papers. Lecture, four hours a week. **Prerequisite: Mech. Eng. 104c or consent of the instructor.**

211b ADVANCED ENGINEERING THERMODYNAMICS. (4) II Penrod
Continuation of 211a. **Prerequisite: Mech. Eng. 211a.**

212a ADVANCED FLUID MECHANICS. (4) I Penrod
Fundamentals of hydro-and aero-mechanics treated by the use of vector and tensor calculus. Theorems in vector and tensor analysis will be developed and applied to the flow of fluids. Lecture, four hours a week. **Prerequisite: Mech. Eng. 107 or consent of instructor.**

212b ADVANCED FLUID MECHANICS. (4) II Penrod
Continuation of Mech. Eng. 212a. **Prerequisite: Mech. Eng. 212a.**

213a ADVANCED HEAT TRANSFER. (4) I Baker and Penrod
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 a week. **Prerequisite: Mech. Eng. 107 and Mech. Eng. 129 or the equivalent.**

213b ADVANCED HEAT TRANSFER. (4) II Penrod
Continuation of 213a. **Prerequisite: Mech. Eng. 213a.**

214a, b SPECIAL PROBLEMS IN AERONAUTICAL ENGINEERING. (3 ea.) I, II Meyer and Savage
Advanced course in aircraft power plant engineering dealing with special problems in reciprocating engines, gas turbines, and jet propulsion. Aeronautical laboratory, nine hours a week. **Prerequisite: Approval of the Head of the Department of Mechanical Engineering.**

215a-d SEMINAR. (1 ea.) Penrod, Carter, and Knight
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.

METALLURGICAL AND MINING ENGINEERING

Charles Stevens Crouse, Morris Wilson Beebe, Carroll Sparks Carter, Robert Carlisle Duncan, George Richard Gerhard, Thomas Alexander Kendall, Frank Lewis Orrell, Jr., and Stephen Thaddeus Saunier*.

Metallurgical Engineering

26 ENGINEERING METALLURGY. (2) I, II Gerhard
This is an elementary course in metallurgy covering the fundamental principles employed in the production and treatment of metals and alloys in order to furnish a background for the intelligent use of these materials. This is designed as a terminal course. Lecture and recitation, two hours. **Prerequisite: Chem. 2a.**

27 GENERAL ELEMENTARY METALLURGY. (3) I, II Gerhard
This is an elementary course covering general metallurgical principles and includes a consideration of fuels, refractories, furnaces, pyrometry and the several alloy types. Lecture and recitation, three hours. **Prerequisite: Chem. 1a.**

29 METALLURGY OF THE FERROUS METALS. (3) I, II Beebe
This course comprises a study of the principles and processes employed in the production, treatment, and preparation of iron and steel together with a brief consideration of their constitution including the iron-carbon phase diagram. Lecture and recitation, three hours. **Prerequisite: Met. Eng. 27 and Chem. 1b.**

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* See appended list of changes of status, p. 428.

37 ADAPTIVE METALLURGY FOR ENGINEERS. (4) I, II Gerhard
This course is designed to cover the fundamental principles employed in the production and treatment of metals and alloys. It includes a study of the correlation of metallic structures to properties, machinability and applications, of the engineering metals, primarily from the standpoint of the needs of mechanical engineers. Lecture and recitation, three hours; laboratory, two hours. **Prerequisite: Chem. 1b or Chem. 2b, and Phys. 3a.**

60 METALLURGICAL LABORATORY AND SHOP PRACTICE. (6) S Gerhard and others
This is a summer course and consists of metallurgical and allied problems worked out practically in the laboratories and shops of the College. Laboratory, forty-four hours per week for six weeks. **Prerequisite: five semesters in Metallurgical Engineering or its equivalent.**

121 FUEL AND METALLURGICAL LABORATORY. (2) I, II Kendall
This course comprises the analytical determination of the constitutents of ores, slags and other metallurgical products by both wet and dry methods as well as the determinative methods utilized in the analysis of coals, gases, and other fuels. Laboratory, six hours. **Prerequisite: Chem. 21a and Met. Eng. 27.**

128 METALLURGY OF NON-FERROUS METALS. (3) I, II Crouse
This course comprises a study of the principles and processes employed in the production and preparation for use of copper, lead, aluminum, and other non-ferrous metals together with a consideration of the strategic and economic importance of these metals. Lecture and recitation, three hours. **Prerequisite: Met. Eng. 27.**

132 METALLURGICAL CALCULATIONS. (5) I, II Crouse
This course comprises a study of the calculations involved in the practical application of metallurgical principles both general and specific. Recitation and problems, five hours. **Prerequisite: Chem. 21a, Met. Eng. 29 and Met. Eng. 128.**

140 THE SCIENCE OF METALS. (3) I, II Crouse
This is a first course in physical metallurgy and involves a consideration of the correlation of the structure of metals and alloys to their physical properties together with the effects of mechanical work and heat. Lecture and recitation, three hours. **Prerequisite: Phys. 2b, Chem. 21a and Met. Eng. 29.**

142 HEAT TREATMENT. (3) I Orrell
This course comprises a study of the methods used and the principles involved in the heat treatment of metals and alloys. Lecture and recitation, two hours; laboratory, three hours. **Prerequisite: Met. Eng. 60 and Met. Eng. 140.**

143a PHYSICS OF METALS. (3) I Orrell
This course comprises a study of the laws governing the formation of alloys. Among the subjects discussed are the atomic structures of metals and alloys, atomic forces, super-lattices, perfect and imperfect crystals, corrosion, the physical properties of metals as a function of their periodic and electro-chemical position, diffusion, free energy, and Hume-Rothery and other rules. The course also entails the application in the X-Ray laboratory of the work taken in the classroom with the development of an operating technique

in radiography as applied to metals and alloys. Lecture and recitation, two hours; laboratory, three hours. **Prerequisite: Phys. 123b, Chem. 140b and Met. Eng. 140.**

143b PHYSICS OF METALS. (3) II Orrell
This is a continuation of Met. Eng. 143a without the laboratory. Lecture and recitation, three hours. **Prerequisite: Met. Eng. 143a.**

144 FERROUS AND NON-FERROUS METALLOGRAPHY. (3) II Orrell
This course comprises a study of the structure of metals and alloys by means of microscopic examination together with the reasons for observed structural changes. The techniques involved in the preparation of specimens for the microscope are also stressed. Lecture and recitation, one hour; laboratory, six hours. **Prerequisite: Met. Eng. 140.**

164 ELEMENTS OF LOW TEMPERATURE CARBONIZATION. (3) I, II Crouse
This course comprises a study of the principles involved in the low temperature treatment of coals and other carbonaceous materials, including hydrogenation. Lecture and recitation, three hours, with assigned reference reading. **Prerequisite: Phys. 123b and Chem. 140b.**

166 EXTRACTIVE METALLURGY. (5) II Carter
This course comprises a study of the principles and mechanics applied to the practice of ore beneficiation involved in the preparation of mine products for market, including discussion of the principles of plant design, with reference reading planned to keep the student informed of current technological developments. Lecture and recitation, five hours. **Prerequisite: Chem. 21a, Phys. 3b, and Met. Eng. 26 or Met. Eng. 27.**

167 EXTRACTIVE METALLURGY PLANT PRACTICE. (2) S Carter
This course comprises the laboratory application of the principles studied in Met. Eng. 166. Laboratory, forty-four hours a week for two weeks in the summer between the Junior and the Senior years. **Prerequisite: Met. Eng. 166.**

175a, b SEMINAR. (1 ea.) I, II Staff
This course includes general round table discussions of various metallurgical principles and problems, the preparation and delivery of papers and reports on metallurgical subjects, extemporaneous speaking, and the briefing of technical books and articles in the current literature. Two hours. **Prerequisite: six semesters in Metallurgical Engineering.**

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.

205 HEAT TREATMENT OF METALS AND ALLOYS. (6) I, II Crouse, Gerhard, and Orrell
This is an advanced course in which the various factors involved in the heat treatment of metals and alloys are considered with special emphasis on the particular metal or alloy on which the

student wishes to specialize. Reference reading and laboratory work are emphasized. Lecture and recitation, two hours; laboratory, eight hours.

207 TECHNOLOGY OF ALLOYS. (6) I, II Crouse and Gerhard
This course comprises a study of the principles and practices used in the production of alloys of various kinds with special stress upon any particular group of alloys that the student may choose. Reference reading and laboratory work are emphasized. Lecture and recitation, two hours; laboratory, eight hours.

208 ADVANCED METALLOGRAPHY. (6) I, II Crouse and Orrell
This course comprises a detailed study of the structure of metals and alloys together with their preparation for examination under the microscope. In addition instruction is given in the taking of microphotographs. Reference reading and laboratory work are emphasized. Lecture and recitation, two hours; laboratory, eight hours.

209 ADVANCED ORE DRESSING. (6) I, II Carter
This course comprises a study of the technique of ore dressing plant design and gives an opportunity for original research in concentration problems. Lecture and recitation, two hours; laboratory, eight hours.

210 TECHNOLOGY OF LOW TEMPERATURE CARBONIZATION. (6) I, II Crouse
This course comprises a detailed study of the principles and practices employed in the low temperature carbonization of carbonaceous materials such as oil shales, bituminous and cannel coals. Reference reading and laboratory work are emphasized. Lecture and recitation, two hours; laboratory, eight hours. **Prerequisite: Sufficient background in Physics, Chemistry and Metallurgy, this background to be determined by the Head of the Department after consultation with the student.**

213 X-RAY METALLOGRAPHY. (4) I, II Orrell
Radiography of castings and welds. The atomic structure of metals and alloys will be determined. Laue, Debye, focusing, rotating crystal, Phragmen and Sacks type diffraction cameras will be studied; also stereographic and gnomonic projection, pole figures, fibre patterns, crystal structure and Cohen's analytical method of calculating lattice parameters. Radiographs will be made and interpreted. Lecture and recitation, two hours; laboratory, four hours.

214 THE METALLIC STATE. (2) I, II Orrell
Fibre patterns, stereographic projections, and goniometry. Crystal chemistry and metallic crystals. Quantum mechanical concepts for isolated atoms are applied to interacting atoms leading to methods of calculating energies and forces binding atoms together in crystals. Lecture and recitation, two hours.

215 ALLOY STEELS. (3) I, II Crouse and Gerhard
The thermal behavior of low and high alloy steels is discussed on the basis of each particular phase diagram. The sub-critical transformation of austenite in alloy steels and the physical properties of the product of this type of decomposition of austenite are reviewed. Martensite and intermediate transformations are treated. The heat treatment of complex alloy steels such as the high speed and high alloy die steels receive particular emphasis

as well as the heat resisting steels and the alloy cast irons. Lecture and recitation, two hours; laboratory, three hours.

216 THE PHYSICAL CHEMISTRY OF STEEL MAKING. **(6) I, II** Crouse and Orrell
A study of the kinetics and equilibria involved in steel making processes. The reactions of the open hearth furnace are considered in terms of the free energies of substances at elevated temperatures and the activities of components in the metal, slag, and gaseous phases. Special attention is given to slag constitution, slag control, and the effects of alloying and deoxidizing additions to the liquid metal. The influences of melting, refining, and deoxidizing practices on the properties of the finished steel are also emphasized. The laboratory work consists largely of the production and testing of small experimental heats of both acid and basic electric furnace steels. Lecture and recitation, five hours; laboratory, three hours.

217 THE MICROSCOPY OF SLAGS AND REFRACTORIES. (3) I, II Orrell
The identification and study of phases in slags and other non-opaque materials of metallurgy through microscopic examination and the use of X-Ray diffraction methods. Emphasis is placed on the interpretation of microstructural features as indicators of high temperature reaction tendencies among silicate and oxide phases. Phase equilibrium relationships in silicate and oxide systems are also considered with some consideration being given to phase identification. Lecture and recitation, one hour; laboratory, six hours.

218 DIFFUSION AND HEAT FLOW IN METALS. **(2) I, II** Orrell and Gerhard
The differential equations of Fick and Fourier are applied to diffusion in the homogenization of alloys and in solid state transformations, to the heating of metals by furnace and induction methods, and to the cooling of metals in heat treatment, welding and casting. Radiation and convection, in addition to conduction, are given consideration as modes of heat transfer involved in the principles of furnace design. Lecture and recitation, two hours.

230a-d RESEARCH IN X-RAY METALLOGRAPHY. (6) I, II Orrell
This course comprises research problems in X-Ray metallography, both diffraction and radiographic, and allied subjects. Lecture and recitation, two hours; laboratory, eight hours.

240a-f SPECIAL PROBLEMS IN METALLURGICAL ENGINEERING. (3 ea.) I, II Staff
Open to graduate students who have the ability to carry on research. Each course consists of individual work in one of the various fields of metallurgical engineering. Laboratory, six hours.

250 INDUSTRIAL MINERAL PREPARATIONS AND USES. **(3) I, II** Beebe
This course comprises a study of the more common non-metallic substances utilized in industry such as carbon, lime, clay, nitrogen and so on. Lecture and recitation, three hours.

275a-d SEMINAR. (1 ea.) Staff
Review of current literature in the field of Metallurgical Engineering, general discussion and presentation of papers on departmental research. Required of all graduate students. Two hours.

Mining Engineering

126 ELEMENTS OF MINING. (5) I Carter
This course comprises a study of the origin of mineral deposits, prospecting, boring, explosives, drilling, blasting, support of mine workings, mine surveying and related subjects. Lecture and recitation, five hours; with assigned reference reading and reports. **Prerequisite: Chem. 1b, Physics 3b and Geology 12b.**

127a, b MINING TECHNIQUES. (5, 4) I, II Carter
This course comprises a study of open cut mining, placer mining, coal stripping, transportation and hoisting, shaft sinking, and other development operations, mechanical loading of coal underground, underground mining methods, mine surveying, accident prevention, and related techniques. Min. Eng. 127a, lecture and recitation, five hours; Min. Eng. 127b, lecture and recitation, three hours; laboratory, three hours. **Prerequisite: Min. Eng. 126.**

129 MINE VENTILATION AND DRAINAGE. (5) II Carter
This course comprises a study of the principles involved in the conditioning of underground mine atmospheres, the drainage of underground mine workings, and the problems encountered in the handling of emergencies such as fires and floods in underground workings. Lecture and recitation, five hours. **Prerequisite: Min. Eng. 126.**

130 MINE ADMINISTRATION. (3) I Carter
This course comprises a study of the engineering aspects of mine administration and management, of the technology and mechanization studies of mining and market preparation processes, and practice in the fundamentals of mine plant design. Lecture and recitation, three hours, with assigned reference reading. **Prerequisite: Min. Eng. 126.**

175a, b SEMINAR. (1 ea.) I, II Carter
This course includes general round table discussions of various mining principles and problems, 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. **Prerequisite: six semesters in Mining Engineering.**

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.

203 MINE ORGANIZATION. (3) I, II Carter
This course comprises a detailed study of the structure and function of a mining enterprise from both the financial and the engineering standpoints. Lecture and recitation, three hours.

206 EXPLOSIVE ENGINEERING. (2) I, II Carter
This course comprises a study of the principles involved in the use of explosives in large scale mining and quarrying practice. Lecture and recitation, two hours.

207 ADVANCED PROSPECTING. (2) I, II Carter
This course comprises a detailed study of the principles involved in the geophysical investigation of the minerals of the earth's crust. Lecture and recitation, two hours.

208 COAL DUST INVESTIGATION. (4) I, II Carter
This course consists essentially of research in the design and utilization of a laboratory scale gallery for the investigation of the explosive qualities of native bituminous coals. Laboratory, twelve hours.

209 ADVANCED MINE ENGINEERING. (7) I, II Carter
This course comprises a detailed study of the procedure and methods used in collecting and recording data and engineering information involved in the systematic development and exploitation of a mining property. Lecture and recitation, three hours; drawing and mapping, eight hours.

220a-f SPECIAL PROBLEMS IN MINING ENGINEERING. (3 ea.) I, II Carter
Open to graduate students who have the ability to carry on research. Each course consists of individual work in one of the various fields of Mining Engineering. Laboratory, six hours.

221a-d SEMINAR. (1 ea.) Carter
Review of current literature in the field of Mining Engineering, general discussion and presentation of papers on departmental research. Required of all graduate students. Two hours.

COLLEGE OF LAW

Elvis J. Stahr, Jr., Maurice S. Culp, Alfred B. McEwen, W. L. Matthews, Jr., Roy Moreland, Frank Murray, Hubert E. Nelson, Paul Oberst, and Margaret Dorothy Salmon.

First Year Subjects

ORIENTATION FOR LAW STUDY. (No credit) Staff
Lectures by faculty on various basic topics. Required of all new students.

101a, b **CONTRACTS I-II.** (3 ea.) I, II Murray and Nelson
Williston's Cases (4th ed.)
The formation of contracts, offer and acceptance, consideration, contracts under seal. The Statute of Frauds. Parties affected by contracts, contracts for the benefit of third persons, assignments, joint and several contracts. The performance of contracts, express and implied conditions, impossibility of performance, and illegal contracts. Lecture and recitation, three hours.

102a, b **TORTS I-II** (3 ea.) I, II Oberst and McEwen
Thurston and Seavey's Cases.
Breach of legal duty, causation, duty of care, contributory negligence, care in the use or occupation of land, extra-hazardous occupation, joint torts, deceit, defamation, slander, libel, privilege, malicious prosecution, interference with social and business relations, inducing breaches of duty, unfair competition, strikes, boycotts, and business combinations. Lecture and recitation, three hours.

103-104 **PROPERTY I AND II.** (4) I Matthews
Casner and Leach's Cases.
Basic course in property: wild animals, possession, gifts, bona fide purchasers of personalty and realty, estates in land, the Statute of Uses, controlling the use of land, easements, and rights incident to ownership of land. Lecture and recitation, four hours.

105 **AGENCY.** (2) I Stahr and Murray
Mechem's Cases. (3d ed.)
Nature of relation, appointment, liabilities of principal for agent's torts, contracts, crimes, liabilities of agents, parties to writing, undisclosed principal doctrines, delegation of agency, termination, and ratification. Lecture and recitation, two hours.

106a, b **PLEADING I-II.** (2 ea.) I, II McEwen
Keigwin's Cases on Common Law Pleading. (2d ed.)
Clark's Cases on Code Pleading.
Pleading I: Common-law forms of action—a study of common-law pleading sufficient to aid the student in an understanding of modern code pleading. Lecture and recitation, two hours.
Pleading II: Pleading under the code system with some emphasis on that of Kentucky. The topics include parties, causes of action and joinder thereof, and the different pleadings considered separately. Lecture and recitation, two hours.

107a CRIMINAL LAW. (2) I Moreland
Hall and Glueck's Cases.
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. Lecture and recitation, two hours.

107b CRIMINAL PROCEDURE. (2) II Stahr
Mikell's Cases on Criminal Procedure. (3d ed.)
Orfield's Criminal Procedure from Arrest to Appeal.
Arrest, preliminary examination, bail, jurisdiction and venue, methods of prosecution, the grand jury, indictment and information, arraignment and pleas, nolle prosequi and motion to quash, trial and verdict, motions after trial, judgment and sentence. Lecture and recitation, two hours.

144 LEGAL BIBLIOGRAPHY. (1) I, II Salmon
Brandt's How to Find the Law (4th ed.).
Practice in the library in the use of statutes, reports, digests, encyclopedias, annotated cases, citation books, reference tables, indices, and textbooks. Lecture and recitation, one hour.

148 DOMESTIC RELATIONS. (2) II Culp and Stahr
Madden and Compton's Cases.
Contracts to marry; breach of promise; marriage; formal requisites, capacity, etc.; property rights of husband and wife; status of married women at common law and under statute; transactions between husband and wife; torts affecting the marital relations, divorce and separation; parent and child; custody, services, and earning; torts to children; torts by children; adoption, bastardy; infancy—voidable acts; disaffirmance, ratification; contracts for necessaries; liability for torts; insanity; drunkenness, and aliens. Lecture and recitation, two hours.

Second Year Subjects

120 TRIAL PROCEDURE. (4) I Culp
Hays' Cases and Materials on Civil Procedure.
Procedure in the trial courts and also in the appellate courts. Discovery before trial, pretrial hearings, as well as all the steps in the trial of cases and selection of juries. Lecture and recitation, four hours, and court visitation.

121a, b EQUITY I-II (3 ea.) I, II Moreland
Chafee and Simpson's Cases. (2d ed.)
Basis of equity jurisdiction, specific performance of contracts, reformation, reexecution, rescission and cancellation, injunctions in relation to torts, bills of peace, quia timet, interpleaders, accounts, and position of equity in the legal system. Lecture and recitation, three hours.

122 PROPERTY III. (3) I Murray and Matthews
Martin's Cases.
Titles and conveyancing. Adverse possession; prescription; accretion dedication; mode of conveyance at common law, under the Statute of Uses, and under modern statutes; execution of easements by implication; estates; covenants for title; estoppel by deed, and priorities. Lecture and recitation, three hours.

123 NEGOTIABLE INSTRUMENTS. (3) II Stahr and Murray
Britton's Cases on Bills and Notes.
A general study of the law of bills and notes following the Uniform Negotiable Instruments Law, including: operative facts of negotiability; transfer of negotiable instruments, including types and effects of indorsements; the rights of a holder in due course; defenses that may be asserted against a payee, holder, and holder in due course; the effect of illegality, mistake, lack of consideration, forgery, and fraud; the liability of primary and secondary parties and the requirement of presentment, notice, and protest; the liability of accommodation parties; problems of collection; transfers after maturity; implied warranties of a transferor; and the method and results of acceptance. Lecture and recitation, three hours.

124 EVIDENCE. (4) I McEwen
Tracy's Cases.
Rules of admissibility, real evidence, circumstantial evidence, testimonial evidence, rule for preference of documentary origin, rules for preference between different kinds of witnesses, the hearsay rule and its exceptions, rules of conditional and absolute conclusion, procedure of admissibility, law and fact, judge and jury, burden of proof and presumptions, judicial notice, and parol evidence rule. Lecture and recitation, four hours.

145 INSURANCE. (2) II Murray and Nelson
Patterson's Cases and Materials on Insurance.
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. Lecture and recitation, two hours.

161a, b CONSTITUTIONAL LAW I-II. (2 ea.) I, II Oberst
Dowling's Cases. (4th ed.)
Amending constitutions, function of judiciary in enforcing constitutions, separation and delegation of powers of government, powers of Congress in regulation of interstate commerce and taxation, the 14th Amendment, due process and equal protection of the laws, powers of the President, citizenship and suffrage, and intergovernmental relations. Lecture and recitation, two hours.

163 WILLS AND THE ADMINISTRATION OF ESTATES. (2) II Nelson
Mechem and Atkinson's Cases. (3d ed.)
Descent and distribution, the making and revocation of wills, including testamentary capacity, execution, attestation, integration, revocation by mistake and dependent relative revocation; probate and administration, including will contests, jurisdiction of probate courts, contracts of personal representatives, and claims against the estate and settlement of estates. Lecture and recitation, two hours.

Third Year Subjects

125 PRACTICE COURT. (1) I McEwen
This course is designed to fit the student for actual court practice following his training in the various subjects of substantive law. This training will give some knowledge of the work the young lawyers will experience in their professional career. All pro-

ceedings will be conducted in the main under the Kentucky code, but so treated as to give a fair understanding of like work in other states. Lecture and practice, one hour.

153 **TAXATION. (3) I** Culp
Magill and Maguire's Cases.
Problems in state and federal taxation. Lecture and recitation, three hours.

160a, b **PRIVATE CORPORATIONS I-II. (4) I** Nelson
Stevens and Larson's Cases.
Characteristic features of a corporation, formation, powers and liabilities, rights of stockholders, directors, legislative control, dissolution, and creditors of the corporation. Lecture and recitation, four hours.

162 **PROPERTY IV (Future Interests). (3) II** Matthews
Simes' Cases.
Rights of entry for condition broken, escheat and possibilities of reverter, reversions, vested remainders and executory interests, contingent remainders, limitations to classes, freehold interest subject to a term, rule against perpetuities, and illegal restraints and conditions. Lecture and recitation, three hours.

164 **CONFLICT OF LAWS. (3) II** McEwen, Culp and Moreland
Cheatham, Dowling, and Goodrich's Cases.
Nature of the subject, penal laws, procedure, judgments, domicile, capacity, form, particular subjects, litigation, family law, inheritance, foreign administrator. Lecture and recitation, three hours.

165 **TRUSTS. (4) I** Matthews
Scott's Cases (3d ed.).
Uses and Statutes of Uses; trusts distinguished from other relationships; their creation; their elements; the transfer of the beneficiary's interest; the administration, termination, and modification of trusts; charitable trusts; liability to third persons and of third persons; and resulting and constructive trusts. Lecture and recitation, four hours.

166 **SALES. (3) II** Murray
Woodward's Cases (3d ed.).
Subject matter of the contract; transfer of property and title; destruction of goods and risk of loss; obligation of seller and buyer; rights of unpaid seller against the goods; remedies of the seller on the contract; and remedies of the buyer on the contract. Lecture and recitation, three hours.

Elective Subjects Open to Second and Third Year Students

141 **PARTNERSHIP. (2) II** Murray
Crane and Magruder's Cases.
Distinction between partnership and other forms of business association, partnership by contract and estoppel, competency of partners to become partners, nature and character of partnership, characteristics of partnership ownership of property, transfer of property, nature of the partnership obligation, powers of partners, rights and remedies of creditors, and termination of partnership. Lecture and recitation, two hours.

147 RESTITUTION. (2) S — Murray
Woodruff's Cases.
Restitution of law for mistake, duress and undue influence, illegality, impossibility, benefits received under contracts within and without the Statute of Frauds, and benefits received without contracts. Lecture and recitation, two hours.

149 MUNICIPAL CORPORATIONS. (2) S — Stahr
Stason's Cases (2d ed.).
Legislative control over municipal corporations; municipal powers —in general; municipal action to promote public welfare; licenses and franchises; appropriation of municipal funds; municipal contracts; municipal indebtedness; municipal torts; municipal property; special assessments. Lecture and recitation, two hours.

150 PUBLIC UTILITIES. (3) S — Moreland
Robinson's Cases (2d ed.).
Consideration will be given to the numerous classes of business and undertakings which have a double aspect of being privately owned and conducted for private profit and subject to abnormal duties of public service—common carriers, hotels, telephone, telegraph, express, gas, electric light, irrigation, and pipe line businesses; undiscriminatory service, and provision of reasonable rates. Lecture and recitation, three hours.

152 OIL AND GAS. (2) S — Moreland
Kulp's Cases (2d ed.).
General considerations as to oil and gas leases—infants, married women, life tenants, and others as parties. Special study of the granting clause—lessee's interest, lessee's right to ejectment; the habendum clause—duration of lease; the operating and related clauses; termination; right to specific performance; construction of oil and gas leases; and doctrine of development. Lecture and recitation, two hours.

154 DAMAGES. (2) S — Oberst
McCormick's Cases.
Nature of damages, avoidable consequences, counsel fees, certainty, compensation, damages for non-pecuniary injuries, pain, inconvenience, mental suffering, aggravation value, interest, special rules in certain acts, damages for death, and eminent domain. Lecture and recitation, two hours.

167 ADMINISTRATIVE LAW. (3) II — Oberst
Stason's Cases (2d ed.).
The creation, function, and powers of administrative tribunals; procedure before such tribunals, the scope and manner of judicial review of their orders. Lecture and recitation, three hours.

169 LAW OF THE AIR. (2) II — Staff
Selected cases and readings.
The course deals principally with aircraft law as follows: proprietary rights in air space at common law, federal and state statutes, torts liability, criminal responsibility, aircraft as common carriers, the rules of the road, international aspects of air law; and legislation for future development of air law. Lecture and recitation, two hours.

170 LEGAL ETHICS. (2) S — Matthews
Cheatham on the Legal Profession.
A study of the requirements for admission to the bar; bar organizations, with special reference to the organization in Ken-

tucky and other states having integrated bars; procedure in disciplining lawyers; unauthorized practice of law; proper and improper methods of securing clients; fees and charges; contingent fees, and the relation of the lawyer to his client with special attention to confidential communications, representing conflicting interests, collections and accounting, and the effect of negligence and incompetence. The course also includes a study of the obligation of the lawyer to the court and society and the limitation on the lawyer in serving the interest of his client. There are chapters on the relation of lawyers and judges, lawyers and juries, lawyers and witnesses, lawyers and other lawyers, and on the effect of a lawyer's acts in private life. The course is taught from special assignment sheets with references to Kentucky Statutes and cases, and the Canons of Ethics of the American Bar Association. Lecture and recitation, two hours.

172a-h **LEGAL RESEARCH AND WRITING. (2 ea.) I, II, S** Staff
This course is reserved for students who are preparing to make an independent study of some legal problem under the supervision of some member of the Law School staff.

173 **FEDERAL JURISDICTION AND PROCEDURE.**
(2) II Culp and McEwen
Dobie and Ladd's Cases.
Jurisdiction of and procedure in the several federal courts, diversity of citizenship, jurisdictional amount, venue, concurrent jurisdiction, original and appellate jurisdiction, procedure in district court, circuit court of appeals, and Supreme Court. Special attention is given to pleading and trial practice.

174 **CREDIT TRANSACTIONS. (3) II** Matthews and Nelson
Hanna's Cases on Security.
Simpson's Cases on Suretyship.
Mortgages: Real property as security; creation, assignment, and priority of mortgages; the Statute of Frauds; foreclosure; redemption.
Suretyship: Real estate loans, pledges, disposition of stocks and bonds, problems of agricultural finance; suretyship rights, suretyship defenses, Statute of Frauds.
Lecture and recitation, three hours.

176 **TRADE REGULATION. (3) II** Oberst
Oppenheim's Cases.
Contracts not to compete at common law. Competitive practices; intimidating and molesting; unfair practices; unfair advertising, combinations; the federal statutes.

177 **STATUTORY INTERPRETATION. (2) S** Murray
de Sloovere's Cases.
This course covers the interpretation of statutes, including such matters as process of interpretation, subject matter and purpose of the statute, content, associate words, extrinsic aids, relation to other statutes and to the common law, mandatory and directory provisions, judicial notice, operation, effect, and repeal of statutes.

178 **CREDITORS' RIGHTS. (3) II** Culp and Stahr
Hanna and McLaughlin's Cases (4th ed.).
Enforcement of judgments; fraudulent conveyances; general assignments; receiverships, bankruptcy, assets, and distribution.

179 LEGISLATION. (3) II Culp and Matthews
Horack's Cases.
Typical federal and state statutes will be used. The history of legislation, legislative agencies, content, preparation, province and subject matter, legislative drafting, means of making laws effective, mechanics, interpretation, operation, amendment, abrogation and repeal, and relation of traditional law to legislation.

180 LABOR LAW. (3) II Stahr
Selected materials.
A study of the law which is applicable to labor controversies, collective bargaining and the right to organize. Consideration will be given to strikes, the ends for which men may strike, federal intervention in labor disputes, anti-trust laws affecting labor, and wage and hour laws.

181a, b LAW JOURNAL NOTE EDITING. (2) I, II Staff
This course is to be required of all senior members of the Law Journal staff and consists of study and criticism of the notes and comments prepared by the student editors of the Law Journal for publication. Definite assignments are made prior to the meeting of the class and the class is under the supervision of a member of the faculty in whose particular field the note or comment happens to fall.

183 LANDLORD AND TENANT. (2) II Murray
Walsh and Niles' Cases.
The course in Landlord and Tenant deals with the characteristics of leases; the creation of the relationship of landlord and tenant; covenants implied in the lease; restrictions on the lessee's use of the property; transfers by the lessor and by the lessee; rent; taxes; repairs; and termination of the relationship.

184 KENTUCKY PRACTICE. (No credit)
I, II Staff and Guest Lecturers
Open only to seniors in their final semester.
A brief orientation for the practice of law, with emphasis on practice in Kentucky. Lectures, court visitation, and special problems. One hour per week for minimum of eight weeks.

COLLEGE OF EDUCATION

DIVISION OF ADMINISTRATION

Ralph W. Cherry, Leo M. Chamberlain, Leonard E. Meece, Maurice F. Seay, and William S. Taylor.

101 SCHOOL ORGANIZATION. (3) I, II, S Cherry and Meece
A course designed to familiarize the prospective teacher with the organization for the support and control of public education and with the administrative relationships and duties of the teacher. Topics emphasized are administrative control, personnel administration, salary schedules, community relationships, professional organizations, and professional ethics.

198 THE ADMINISTRATION OF PUPIL PERSONNEL. (3) S Cherry
A course designed primarily for prospective superintendents and attendance officers. Topics include theory and development of compulsory attendance, philosophy of educational rights, child accounting, duties and relationships of the attendance officer, and the use of community resources in improving attendance.

202 LOCAL SCHOOL ADMINISTRATION. (3) I, S Cherry and Meece
Public school administration for the prospective superintendent of a county or city school system. The course deals with the state as an educational agency, the local school district, the board of education, the superintendent, the internal organization for the administration of a school system, problems of the teaching personnel, problems of pupil personnel, business management, finance and accounting, the curriculum, school building planning and management, and the supervision of instruction. This is one of the basic courses in school administration and should be taken at or near the beginning of the student's graduate program.

203 CONSTITUTIONAL AND LEGAL BASIS OF PUBLIC SCHOOL ADMINISTRATION. (3) II Meece
A study of court decisions, to discover the legal principles involved in practical problems of school administration. Topics discussed are: the school and the state, school districts, school officers, relations of school districts and municipalities, authority of school districts and district officers, school board procedure and records, tort liability of school districts, personal liability of school officers, contractual authority and liability of boards of education, school money, the school debt, acquisition and use of school property, employment and dismissal of teachers, school attendance, rules and regulations of school boards, discipline and punishment of pupils, textbooks and studies. **Prerequisite: Education 202, 213, or 232.**

207 SCHOOL BUILDINGS AND EQUIPMENT. (3) Cherry
Measurement and evaluation of existing building facilities, planning new school buildings, financing the building program, building operation and maintenance. **Prerequisite: Education 202 or its equivalent.**

210a, b INDEPENDENT WORK IN SCHOOL ADMINISTRATION. (3, 3) I, II Staff
For students who have completed at least one semester of graduate work in education and who present an acceptable plan for the study of a practical problem or a particular phase of school administration. Approval of the instructor must be secured prior to registration.

213 STATE SCHOOL ADMINISTRATION. (2) S Meece
The administration of American education from the standpoint of the federal and state governments. The course deals with federal relations to education, the state as an educational agency, local units for the administration of education, the scope of the school system, state school support, state control of the material environment and equipment, the training and certification of teachers, and teachers' contracts, tenure, and retirement.

221a, b SEMINAR IN ADMINISTRATION. (4, 4) II, S Cherry and Meece
A critical study of selected problems in school administration. The course is designed primarily for students who have had some administrative experience. **Prerequisite: Education 202 and 225 or equivalent.**

231 BUSINESS ADMINISTRATION AND FINANCE OF PUBLIC EDUCATION. (3) II, S Meece
A specialized course for prospective superintendents. The course emphasizes the following aspects of school administration: the organization for business management; principles and procedures in the management of and accounting for school funds and school property; payroll procedure; purchasing, management, and accounting for supplies, textbooks, and equipment; school support, including state, local, and federal revenues; budgetary policy and procedure; school costs; indebtedness; and records and reports in the field of business management and finance.

233 THE ADMINISTRATION OF THE TEACHING PERSONNEL. (3) Cherry
A specialized course in school administration, primarily for prospective superintendents. The course emphasizes principles and practices in teacher preparation, teacher selection and placement, measurement of teaching efficiency, salaries, tenure, retirement, teaching loads, sick leave and related problems, and personnel records.

238 TRENDS IN HIGHER EDUCATION. (3) Chamberlain
A survey of modern tendencies in American higher education in the following areas: scope and development, objectives, organization, administration, curricula, finance, faculty and student personnel. The course is designed to serve the needs of present and prospective college administrators and teachers and others interested in developments in higher education. For those desiring special instruction in the work of the registrar a program of laboratory work will be arranged.

276 ADMINISTRATIVE PROBLEMS IN TODAY'S EDUCATION. (3) Cherry
Present-day problems of persons in administrative positions in public education. The course is designed to be of assistance particularly to superintendents of schools.

290a, b **TECHNIQUE AND PROFESSIONAL WORK OF THE REGISTRAR.** (3, 3) I, II, S Seay
A comprehensive study of permanent records and transcripts, including the history, literature, and present day tendencies; rules of the University, recommendations of the American Association of Collegiate Registrars; special problems in the administration of the office.

301a, b **RESEARCH PROBLEMS IN EDUCATIONAL ADMINISTRATION.** (3, 3) I, II, S Cherry and Meece
An independent research course. Students confer individually with the instructor. **Prerequisite: One year of graduate work.**

321a, b **RESEARCH PROBLEMS IN HIGHER EDUCATION.** (3, 3) I, II, S Taylor, Chamberlain, and Seay
An independent research course. Students confer individually with the instructor. **Prerequisite: One year of graduate work.**

DIVISION OF FOUNDATIONS OF EDUCATION

Ellis Ford Hartford, Herbert Sorenson, and William S. Taylor.

16 **EDUCATIONAL PSYCHOLOGY.** (3) I, II Sorenson
Application of psychology to the problems of learning and teaching.

35 **INTRODUCTION TO EDUCATION.** (2) I, II Hartford
A general orientation to the field of education. Topics include: the school in a democratic society, the teacher, the learner, the educative process, and principles of education.

119 **THE ELEMENTARY SCHOOL PUPIL.** (2) I, S Sorenson
The psychology of the child in the primary and intermediate grades. **Prerequisite: One quarter of Psychology.**

122 **EDUCATIONAL TESTS AND MEASUREMENTS.** (3) I, S Sorenson
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.

147 **THE SECONDARY SCHOOL PUPIL.** (2) II, S Sorenson
The psychology of the pupil in junior and senior high school. **Prerequisite: One quarter of Psychology.**

200a, b **PHILOSOPHY OF EDUCATION.** (3, 3) I, II Hartford
An advanced course dealing with the philosophy of democratic education and applications to some of the larger educational problems of today. **Prerequisite: 12 semester hours in Education.**

201 **FOUNDATIONS IN EDUCATION.** (5) I, S Hartford and Sorenson
A required course for all graduate students in education. Utilizes findings from the fields which contribute to an understanding of the development of the individual-in-society and social interaction.

205 **REVIEW OF CURRENT EDUCATIONAL LITERATURE.** (3) II, S Hartford
An extensive study of current educational literature as found in educational periodicals. **Prerequisite: 12 semester hours in Education.**

217 GENERAL HISTORY OF EDUCATION. (3) Hartford
A survey of the history of education from the Greek period to the present.

218 HISTORY OF EDUCATION IN THE UNITED STATES. (3) Hartford
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.

219 HISTORY OF EDUCATIONAL THOUGHT. (3) I, S Hartford
A study of the lives and writings of the world's educators to acquaint the student with the ideals and contributions to society of great educators.

220 COMPARATIVE EDUCATION. (3) II Taylor
Comparisons of modern national systems of education.

222 METHODOLOGY OF EDUCATIONAL RESEARCH. (3) II Taylor and Sorenson
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. **Prerequisite: 12 semester hours in Education.**

223 EDUCATIONAL STATISTICS. (3) I Sorenson
A non-mathematical study of the applications of statistical and graphical methods to educational data.

228a, b SEMINAR IN EDUCATION. (1, 1) I, II Taylor and Hartford
A course planned for graduate students majoring in education, given under the direction of the faculty of the College of Education.

230 EDUCATIONAL SOCIOLOGY. (3) II, S Hartford
The sociological foundations of education. Topics include: the role of the school and contributions of non-school educative agencies, home-school-community relationships, social factors affecting child development, social needs as foundations of school curricula and adult education programs, and the application of sociological findings to the field of education.

237a, b INDEPENDENT WORK IN HISTORY OF EDUCATION. (3, 3) I, II, S Taylor and Hartford
Independent work problems and topics for advanced students in history of education.

247a, b INDEPENDENT WORK IN PHILOSOPHY OF EDUCATION. (3, 3) I, II, S Hartford
An independent work course for students who have done a minimum of 12 semester hours of graduate work, including Education 200a, b, 219, and 230.

254 PROBLEMS IN EDUCATIONAL PSYCHOLOGY. (3) II, S Sorenson
A critical survey of the conflicting schools of psychology, theories of learning, etc. **Prerequisite: One year of Psychology.**

255a, b GUIDANCE AND COUNSELING IN TODAY'S SCHOOLS. (3, 3) S
A course for superintendents, principals, teachers, counselors, and others who have the responsibility of carrying out an effective

program of guidance in the public schools. The course deals with principles and techniques for the formulation and evaluation of a complete guidance program including inventories, counseling, placement, and follow-up.

258a, b INDEPENDENT WORK IN EDUCATIONAL PSYCHOLOGY. (3, 3) I, II, S Sorenson
An independent work course for students who have done a minimum of 12 semester hours of graduate work including Education 122, 147, or 254.

260 PROBLEMS IN EDUCATIONAL SOCIOLOGY. (3) Hartford
An advanced course in the application of sociological findings to educational problems. Special emphasis is placed upon problems and potentialities of the Southern region with implications for education. Open to students who have done a minimum of 12 semester hours of graduate work including Education 230.

DIVISION OF INSTRUCTION AND PLACEMENT

Lyman V. Ginger, Estelle Adams, Grace Anderson, Olive Barrett, Anna Bruce Boone, Louis Clifton, Katherine Conroy*, Frank G. Dickey, May K. Duncan, Stella Gilb, Gordon Clay Godbey, Ruth Haines, Annelle Kelley, D. C. Kemper, Mildred Lewis, David McMurtry, Vernon Musselman, Robert Myers, Emma Neubauer, Anna B. Peck, Leon Porter, Annie Laurie Rankin, Helen Reed, Margaret Roser, Martha Shipman, Charles R. Spain*, Ruth Stallings, Elsie Stephens, Mary West, and Louise Willson.

Business Education

104 FOUNDATIONS OF BUSINESS EDUCATION IN THE HIGH SCHOOL. (3) I, II, S Musselman
The origin, the status, and the objectives of business education in the secondary school. Required of business education majors.

158a TEACHING SECRETARIAL SUBJECTS. (2) II, S Musselman
Special techniques and devices for teaching shorthand, typewriting, and secretarial office practice. Required of business education majors.

158b TEACHING BOOKKEEPING AND ACCOUNTING. (2) I, S Musselman
Methods, materials, and techniques used in the teaching of bookkeeping and accounting. Required of business education majors.

184 TEACHING OFFICE APPLIANCES. (2) II, S Musselman
Methods and materials used in teaching the various office appliances. Dictating machines, mimeographs, mimeoscopes, addressing machines, filing devices, calculating machines, and other office appliances are used.

192 TEACHING GENERAL BUSINESS SUBJECTS IN THE SECONDARY SCHOOLS. (2) S Musselman
The aims and purposes of the general business course are studied. Analysis is made of the objectives of the general business sub-

* See appended list of changes of status, p. 428.

jects, and methods and materials used in teaching them are emphasized.

194 **TEACHING CONSUMER COURSES IN THE HIGH SCHOOL.** (3) I, S Musselman
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.

208a-d **PROBLEMS IN BUSINESS EDUCATION.** (3 ea.) I, II, S Musselman
Advanced problems in the field. The type of problems considered is influenced by the interests and needs of the group. Some of these problems are: testing in business subjects, extra-curricular activities in commerce, job studies, placement and follow-up, type of equipment, and supervision.

256 **THE SOCIAL BUSINESS SUBJECTS IN HIGH SCHOOL.** (3) I Musselman
An examination of the various social business subjects, to determine their contribution to the objectives of business education.

257a, b **SEMINAR IN BUSINESS EDUCATION.** (1, 1) I, II, S Musselman
A study of current literature in business education with special reference to trends in this field.

259 **THE COMMERCE CURRICULUM.** (3) II, S Musselman
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.

270 **BUSINESS EDUCATION IN COLLEGES AND UNIVERSITIES.** (3) S Musselman
A survey of business education in public and private colleges, teachers colleges, and universities. Emphasis is placed upon a consideration of the problems pertaining to the teaching of business subjects at the college level. Consideration is also given to the development of curricula which will meet teacher certification requirements in the various states.

271 **ADMINISTRATION AND SUPERVISION OF BUSINESS EDUCATION.** (3) II, S Musselman
Duties and responsibilities of city and state supervisors, department heads, and others engaged in directing business education.

272a, b **INDEPENDENT WORK IN BUSINESS EDUCATION.** (3, 3) I, II, S Musselman
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.

273 **CLASSIFICATION AND POSSIBLE USE OF COMMUNITY RESOURCES IN BUSINESS EDUCATION.** (3) I, S Musselman
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.

Curriculum and Instruction

107 SAFETY EDUCATION. (3) S Ginger and Myers
A course designed to present the techniques and skills necessary to further automobile and pedestrian safety. The following aspects of safety are included in the course: engineering, training in developing proper attitudes toward safety, common safety laws, enforcement problems and practices, and the techniques for furthering correct driving practice. Many problems are presented as they relate to the total picture of home and school safety, as well as highway and pedestrian safety.

127 THE ELEMENTARY CURRICULUM. (3) Spain
The philosophy and techniques of curriculum construction and some practical work in construction.

175a-f MODERN EDUCATIONAL PROBLEMS. (3 ea.)
A brief survey of some of the problems in modern education.

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.

175i MODERN EDUCATIONAL PROBLEMS: COMMUNITY ORGANIZATION IN ADULT EDUCATION. (3)
Problems of community organizations as they affect the adult life of citizens of the community served.

186 VISUAL TEACHING. (3) I, II, S Myers and Godbey
Methods and techniques of visual instruction. Special emphasis is placed on charts, slides, graphs, maps, still pictures, motion pictures, and other visual aids; their effective use in teaching; and the planning of outlines and lessons involving their use. Attention is given also to the administration of visual aids in the school. It is recommended that this course be taken with student teaching.

206 PROBLEMS OF COLLEGE TEACHING. (3) Taylor
Methods commonly used in college teaching, bases for measuring instruction, marking systems, qualifcations for college teaching, and efforts being made to improve college instruction.

224 ORGANIZATION AND SUPERVISION OF STUDENT TEACHING. (3) II Duncan
A course planned for students preparing to do critic teaching in the fields of elementary and secondary education. It includes the basic principles underlying the entire program and deals with specific problems for critic teachers on the elementary and secondary levels.

225 SUPERVISION OF INSTRUCTION. (4) II, S Spain
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.

226a-f PROBLEMS OF THE SCHOOL CURRICULUM. (3 ea.)
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.

227 PRINCIPLES OF CURRICULUM CONSTRUCTION. (4) I Spain
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.

234 PROBLEMS OF CURRICULUM MAKING. (3) I Spain
The selection of materials in the elementary and secondary fields, the types of units used in modern instruction, how the child learns, the various educational agencies in the community, and how the school may be made a real community center.

245 ORGANIZATION OF AUDIO-VISUAL AIDS. (3) II
Beginning the audio-visual program, qualifications and duties of staff members assisting in the audio-visual program, sources, and criteria for judging equipment and supplies, the audio-visual aids budget, projection mechanics, and in-service teacher training.

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.

249 EXTRACURRICULAR ACTIVITIES. (3) S
The underlying principles and common practices of extracurricular activities programs in public schools: home room activities, student councils, clubs, athletics, publications, speech and dramatics, honor societies, service clubs, commencement, and social events. Any other extracurricular activity will be discussed by the class if interest is sufficiently great to justify the time.

292a, b FIELD PROBLEMS IN CURRICULUM AND SUPERVISION. (4, 4) I, II Spain
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.

305a, b RESEARCH PROBLEMS IN CURRICULUM AND SUPERVISION. (3, 3) I, II, S Spain
An independent research course. Students confer individually with the instructor. **Prerequisite: One year of graduate work.**

Elementary Education

20 INDUSTRIAL ARTS IN THE ELEMENTARY SCHOOL. (3) I Haines
Designed to give a general understanding of the industrial arts and crafts fields as they are related to the elementary school. The industrial arts topic of utensils is studied. Industrial processes are illustrated by mural painting and blackboard drawing. Coiled pottery is constructed and use of papier-mache is demonstrated. The problem of improving a classroom is considered, from the standpoint of simple, inexpensive equipment, construction, and decoration.

42 TEACHING ARITHMETIC IN THE ELEMENTARY SCHOOL. (3) II Duncan
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.

44 CHILD DEVELOPMENT AND THE CURRICULUM. (6) I Duncan
A course planned to give the students a chance to develop a point of view and objectives of education by observing and studying child growth and development in a modern elementary school. Special emphasis on the social studies and communication skills. This course includes observation and some participation, library reading, and discussion. The class meets two hours daily. (This course may be substituted for student teaching on the sophomore level for the Provisional Elementary Certificate.)

110 ART AND CRAFT ACTIVITIES IN THE ELEMENTARY SCHOOL. (2) II Haines
Planned to give the elementary teacher an understanding of teaching methods involved in, and construction of, art activities which would enrich the classroom program.

133 STUDENT TEACHING IN THE ELEMENTARY SCHOOL. (12) I, II, S Ginger and Supervising Teachers
A course designed to give the student experience with and practice in the program of a modern elementary school. (Note: the student spends from 8:00 a. m. until 2:30 p. m. in the classroom for the semester. One hour per day additional, 2:30 p. m. to 3:30 p. m., is spent in conference and discussion with the supervising teacher. The student is permitted to take one additional 3 credit course at a suitable hour. A student who has had three credits in student teaching may take this course with reduced hours and reduced credits.) **Prerequisite: Education 44 or equivalent; senior standing in the elementary curriculum.**

141 PROBLEMS IN DIAGNOSTIC AND REMEDIAL READING. (3) Duncan
Problems of prevention, diagnostic, and remedial work in reading with demonstration of the use of instrumentation in diagnosis and correction of reading difficulties and the application of these clinical procedures to problem cases. The course includes problems of elementary and high school teachers and administrators.

172 THE TEACHING OF READING. (3) II Duncan
A practical application of principles derived from psychology and research, with discussion of aims, primary reading and readiness, activities leading to reading, reading in the intermediate grades, oral and silent reading, phonics, diagnostic and remedial work, means of testing, and suitable materials for each grade.

173 CHILDREN'S LITERATURE. (3) II Duncan
Literature for children from kindergarten to Grade VI; children's interests at different ages and stages of development, story telling and dramatization; reading and book reports from various types of literature—modern fantastic tales, realistic stories, biography, folklore, myths and legends, and poetry.

174 TEACHING IN THE KINDERGARTEN. (3) I Duncan
The nature, development, and education of the child of kindergarten age. Organization, equipment, curriculum, and procedures used with children of this age. Students are scheduled regular periods for observing and participating in the kindergarten.

196 SCIENCE IN THE ELEMENTARY SCHOOL. (3) I Adams
A background of elementary science usable with children in the first six grades. The course includes planning units of work, organizing and using materials and references, making bibliographies for teachers and children, use of illustrative materials, and excursions.

212 THE ELEMENTARY SCHOOL. (3) II Duncan
A course designed to help the superintendent, elementary principal, and elementary supervisor in a better understanding of the modern elementary school. The objectives, research, and modern trends in the skills and content subjects of the elementary curriculum are discussed from the standpoint of supervision.

215a, b INDEPENDENT WORK IN ELEMENTARY EDUCATION. (2, 2) I, II Duncan
An independent work course for students who have done a minimum of 12 semester hours of graduate work including Education 212 or 229.

229 THE ELEMENTARY PRINCIPAL. (3) I Duncan
Problems related to the elementary principalship; the professional preparation, selection, and status of the principal; the relation of the principal to other administrative officers, supervisors, teachers, pupils, and parents; problems of attendance, discipline, health, and records; and the application of sound principles to the improvement of teaching. Emphasis is placed on the community relationship of elementary principals and teachers and ways in which they may cooperate and improve the life of the community. Attention is given also to problems presented by members of the class.

308a, b RESEARCH PROBLEMS IN ELEMENTARY EDUCATION. (3, 3) I, II Duncan
An independent research course. Students confer individually with the instructor. **Prerequisite: One year of graduate work.**

Music Education

251 PROBLEMS IN PUBLIC SCHOOL AND COMMUNITY MUSIC. (2) Lewis
Problems in teaching, supervising, organizing, and leading public school and community music activities. Students in-service have an opportunity to bring problems from their own school or community situations and, when possible, the instructor visits them in the field. This course includes projects, demonstrations, readings, and discussion.

252 FIELD PROBLEMS IN MUSIC. (2) Lewis
A course designed to permit the teacher or leader in the field to work out his local problems as an independent graduate teaching project under the guidance of the music staff.

253 INDEPENDENT WORK IN MUSIC EDUCATION. (2)
A course designed for graduate students who undertake research problems in music education, conducted in regular consultation with the instructor.

Secondary Education

105 FUNDAMENTALS OF SECONDARY EDUCATION.
(3) I, II, S Dickey
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.

111 REMEDIAL READING IN THE SECONDARY SCHOOL. (2) Duncan
A study of diagnostic and remedial work with reading disability cases in the junior and senior high school. This course is designed to enable the teacher to diagnose reading difficulties and to remedy them. Observation, case studies, and practice in remedial work with children are required of all students. The course includes a critical study of the investigations and literature in the field.

142 STUDENT TEACHING IN ART*. (8) I, II Haines
A course planned for teachers who contemplate becoming supervisors of art in the public schools and designed to give students experiences with teaching children in the elementary and secondary schools through the medium of art activities. Interests at different age levels are studied and art problems suitable for these levels are worked out.

153 STUDENT TEACHING IN ENGLISH.*
(9) I, II, S Anderson, Neubauer, and Shipman
Course of study, essentials of English, grammar, materials, methods, testing, language and composition, and literature. The course includes observation and practice in the content field. Safety education, audio-visual aids, and planning conferences with the supervising teacher are also included as a part of the student teaching program.

154 STUDENT TEACHING IN LANGUAGES.* (9) I, II, S West
Aims and objectives, course of study, methods, tests, equipment, and analysis of textbooks. The course includes observation and practice in the content field. Safety education, audio-visual aids, and planning conferences with the supervising teacher are also included as a part of the student teaching program.

155 STUDENT TEACHING IN THE SCIENCES.* (9) I, II, S Kemper
Aims and objectives, courses of study, methods, tests, equipment, general science, biology, physics, and chemistry. The course includes observation and practice in the content field. Safety education, audio-visual aids, and planning conferences with the supervising teacher are also included as a part of the student teaching program.

156 STUDENT TEACHING IN MATHEMATICS.* (9) I, II, S Porter
Course of study, materials, methods, and testing in elementary algebra, advanced algebra, plane geometry, solid geometry, and trigonometry. The course includes observation and practice in the content field. Safety education, audio-visual aids, and planning conferences with the supervising teacher are also included as a part of the student teaching program.

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* Education 105 is required and Education 186 is recommended if more than one course is permitted during the student teaching semester. Special permission must be granted for more than one course.

157 STUDENT TEACHING IN THE SOCIAL STUDIES.*
(9) I, II, S Peck, Neubauer, and Shipman
Objectives, preparation of the teachers, courses of study, methods, supplementary materials, testing, and professional helps. The course includes observation and practice in the content field. Safety education, audio-visual aids, and planning conferences with the supervising teacher are also included as a part of the student teaching program.

169a, b STUDENT TEACHING IN PHYSICAL EDUCATION.* (4, 4) I, II Clay and Gilb
A course for students who desire to become either instructors in physical education, directors of physical education, or coaches of athletics in the public schools. The student is expected to take student teaching for both semesters, and this course should be scheduled first so that proper placement will be possible. Seven hours a week is to be spent in observation, teaching, work with safety education, present use of audio-visual aids in education, and conferences with the supervising teacher.

177a, b STUDENT TEACHING IN MUSIC.* (4, 4) I, II Stallings
A course planned for teachers who expect to become either instructors or supervisors of music in the public schools. Seven hours per week in observation, teaching, work on research problems, and conferences with the supervising teacher.

193 STUDENT TEACHING IN BUSINESS EDUCATION.*
(9) I, II, S McMurtry
Practice in junior business training, shorthand, typewriting, and such other commercial subjects as are commonly taught on the secondary level. The course includes observation and practice in the content field. Safety education, audio-visual aids, and planning conferences with the supervising teacher are also included as a part of the student teaching program.

214 THE SECONDARY SCHOOL. (3) I, II, S Dickey
A course designed to acquaint the secondary teacher and the administrator with the nature and function of the secondary school.

232 HIGH SCHOOL ADMINISTRATION. (3)
A course designed primarily for high school principals and prospective administrators. Topics emphasized are secondary school organization, the principal, the staff, the pupil, program of studies, schedules, community relationships, records and reports, articulation, library, plant, finance, and the aims of secondary education.

248a, b INDEPENDENT WORK IN SECONDARY EDUCATION. (3, 3) I, II, S Ginger and Dickey
An independent work course for students who have done a minimum of 12 semester hours of graduate work including Education 214 or 232.

307a, b RESEARCH PROBLEMS IN SECONDARY EDUCATION. (3, 3) I, II, S Ginger and Dickey
An independent research course. Students confer individually with the instructor. **Prerequisite: One year of graduate work.**

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*Education 105 is required and Education 186 is recommended if more than one course is permitted during the student teaching semester. Special permission must be granted for more than one course.

DIVISION OF VOCATIONAL EDUCATION

Carsie Hammonds, Watson Armstrong, Ruth Averitt, W. Maurice Baker, Harold Binkley, Charles C. Crumpton, Thelma Monical, Charles O. Neel, Ethel L. Parker, Evangeline Smith, Ruth Sneed, William Roy Tabb, J. P. Truitt, Harlan Veal, and Maurice Stanley Wall.

Agricultural Education

179 DETERMINING CONTENT IN VOCATIONAL AGRICULTURE. (3) S Hammonds and Wall
Interpretation of local data as a basis for course building. Each student works out the content of a four-year course in vocational agriculture.

181 TEACHING VOCATIONAL AGRICULTURE. (15) I, II Hammonds, Binkley, Neel, Tabb, Truitt, and Veal
Preparation for teaching of agriculture. About one-half of the course is practice.

182 ADULT-FARMER SCHOOLS AND YOUNG-FARMER COURSES IN AGRICULTURE. (3) I, II Hammonds
A general introduction to adult-farmer schools and young-farmer courses with some observation of work in both of these fields.

185a-d PROBLEMS IN AGRICULTURAL EDUCATION. (3 ea.) I, II, S Hammonds, Wall, and Tabb
Class work on current problems in agricultural education common to special groups of students (not individual-problem work).

188 FARM PRACTICE SUPERVISION. (1) I, II, S Hammonds and Tabb
Practice and directed study in supervising farming programs in vocational agriculture.

280 METHOD IN TEACHING VOCATIONAL AGRICULTURE. (3) S Hammonds
The principles of method applied to the teaching of agriculture. **Prerequisite: Experience in teaching vocational agriculture.**

281 TEACHING PREVOCATIONAL AGRICULTURE. (3) Hammonds
Aims, purposes, and methods of teaching prevocational agriculture. Each student works out the content of a course, including selecting the teaching materials.

285a-d MODERN PROBLEMS IN AGRICULTURAL EDUCATION. (3 ea.) I, II, S Hammonds and Tabb
Class work (not individual-problem work) on modern problems in agricultural education.

287a ADVANCED PROBLEMS IN AGRICULTURAL EDUCATION. (3) I, II, S Hammonds, Armstrong, and Tabb
Specific problems selected according to the needs of the individuals.

287b SELECTING TEACHING MATERIALS. (3) S Wall
Selection of specific references and other teaching materials to be used in the teaching of vocational agriculture.

287c ADULT-FARMER SCHOOLS. (3) S Tabb
Preparation for teaching adult farmers; organization of adult-farmer schools, curriculum content, method of teaching, and follow-up work.

287d DIRECTING FARM PRACTICE. (3) S Hammonds
Supervised farming as a method of teaching; standards, planning, supervision, and records.

287e TEACHING FARM SHOP. (3) S Tabb
A study of necessary content for shop, plans for securing and equipping the shop, and methods of teaching farm shop.

287f YOUNG-FARMER SCHOOLS. (3) S Hammonds and Armstrong
Content and method of teaching young-farmer courses in vocational agriculture.

289a, b RESEARCH IN AGRICULTURAL EDUCATION. (3, 3) I, II, S Hammonds, Armstrong, and Tabb
Individual problems of importance to agricultural education.

Distributive Education

112 DETERMINING TEACHING CONTENT IN DISTRIBUTIVE EDUCATION. (3) I, II, S Baker
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.

115a, b PROBLEMS IN DISTRIBUTIVE EDUCATION. (3, 3) I, II, S Baker
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. **Prerequisite: Education 112 and 128.**

116 PROBLEMS OF THE COORDINATOR IN DISTRIBUTIVE EDUCATION. (3) I, II, S Baker
Problems facing the coordinator as he acts in the capacity of intermediator between the school and the business world. Problems in placing students in stores, in follw-up methods, in store contacts, and in securing the cooperation of personnel management are discussed.

128 TECHNIQUE OF TEACHING DISTRIBUTIVE EDUCATION. (3) I, II, S Baker
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.

Home Economics Education

160 TECHNIQUE OF TEACHING HOME ECONOMICS. (3) I, II Parker
A study of methods of teaching as applied to home economics **Prerequisite: Home Economics 26, 27, and 61; Education 147.**

162 STUDENT TEACHING IN HOME ECONOMICS. (6) I, II Parker, Averitt, Monical, and Smith
Practical application of methods in teaching various phases of home economics. **Prerequisite: Education 160.**

165 ADULT EDUCATION IN HOME ECONOMICS. **(3) I, II, S** Parker, Averitt, Monical, and Smith
Problems in teaching vocational homemaking in day, part-time, and evening schools. **Prerequisite: Education 160; parallel 162.**

166a-d PROBLEMS IN HOME ECONOMICS EDUCATION. (3 ea.) S Parker and Sneed
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.

261 HOME ECONOMICS SUPERVISION. (3) I, S Parker
A course planned primarily to help prepare teacher-trainers and supervisors of home economics education. **Prerequisite: Education 160 and 162; experience in teaching; approval of instructor.**

263 CURRENT PROBLEMS IN HOME ECONOMICS EDUCATION. (3) II, S Parker and Sneed
Recent developments in home economics education. **Prerequisite: Education 160 and 162; experience in teaching.**

264 MODERN TRENDS IN HOME ECONOMICS EDUCATION. (3) I, S Parker
A basic course for graduate students in home economics education. It is designed to acquaint students with modern trends in education. Some problems considered are the contribution of home economics to the general education of boys and girls, research in home economics education.

265a, b INDEPENDENT WORK IN HOME ECONOMICS EDUCATION. (3, 3) I, II, S Parker
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.

266a-c SEMINAR IN HOME ECONOMICS EDUCATION. (3 ea.) I, II, S Parker
Individual investigations and reports on special problems in home economics education.

267 DIRECTED SUPERVISION IN HOME ECONOMICS EDUCATION. (3) I, II Parker
Teaching home economics classes for observation, directing student teachers under the guidance of a supervising teacher, visiting schools with the itinerant teacher-trainer in different sections of the state, and organizing teaching materials. (This course may be taken parallel to or following Education 261.) **Prerequisite: Two years teaching experience; recommendation by the Department of Home Economics Education.**

268 HOME ECONOMICS CURRICULUM CONSTRUCTION. (3) S Parker and Sneed
A study of the underlying principles of curriculum building for junior and senior high school and adult education in home economics. **Prerequisite: Education 160 and 162.**

269 EVALUATION IN HOME ECONOMICS EDUCATION. (3) I, S Parker
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. **Prerequisite: Teaching experience.**

Industrial Education

71 TRADE ANALYSIS. (2) S Crumpton
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.

77 SHOP MANAGEMENT PROBLEMS. (2) S Crumpton
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.

78 CONFERENCE LEADER TRAINING. (2) Crumpton
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.

82 INSTRUCTIONAL MATERIAL IN INDUSTRIAL EDUCATION. (2) I, II, S Crumpton
Selecting and arranging course material in trade and industrial subjects. Preparation of instruction and check sheets with emphasis on their uses. **Prerequisite: Education 71.**

83 PRINCIPLES OF TRADE TEACHING. (2) I, II, S Crumpton
(2) I, II, S Hankins and Crumpton
This course deals with the fundamentals of learning and teaching that have special significance in trade and technical subjects.

123 VOCATIONAL GUIDANCE. (2) Crumpton
A course designed to give the teachers, principals, superintendents, and welfare workers a comprehensive view of the factors in vocational guidance and of the agencies contributing to or influencing life choices, and an analysis of the human and economic resources of a given civic unit.

134 ORGANIZATION AND OPERATION OF PART-TIME AND EVENING CLASSES. (2) I, II, S Crumpton
A course for administrators, coordinators, and teachers in part-time and evening industrial education. Covers the duties of a co-ordinator in cooperative training programs.

136 SURVEYS IN INDUSTRIAL EDUCATION. (2) I, II, S Crumpton
Techniques and methods for making various types of surveys to determine needs for vocational training in trades and industries. Forms, questionnaires, outlines, interviews and conferences are studied as means of evaluating the effectiveness of industrial education programs.

137 SPECIAL PROBLEMS IN INDUSTRIAL EDUCATION. (2) I, II, S Crumpton
The supervised study of approved problems in industrial education on a research basis.

143 MODERN INDUSTRIAL ANALYSIS. (2) I, II, S Crumpton
Modern industrial organizations; trends in industrial educational policies; the proper approach to and analysis of these problems as they affect the industrial vocational teacher.

171a, b PRINCIPLES AND PHILOSOPHY OF INDUSTRIAL EDUCATION. (2, 2) I, II, S Crumpton
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.

183a, b METHODS IN INDUSTRIAL EDUCATION. (2, 2) S Crumpton
The most approved methods in instructional management, including lesson planning, in the field of vocational industrial education.

Vocational Education

211 THE ADMINISTRATION OF VOCATIONAL EDUCATION. (3) I, II Hammonds and Armstrong
A course designed for superintendents and principals of high schools. The purpose of the course is to train for administering and supervising vocational education. Topics emphasized include aims and purposes of vocational education, relationship of vocational to other education, financing vocational education, and relationship of local to state administration.

282 SPECIAL PROBLEMS IN VOCATIONAL EDUCATION. (3) I, II, S Hammonds and Staff
An independent work course for students interested in vocational education. Students make individual investigations and report on special problems.

COLLEGE OF COMMERCE

Cecil C. Carpenter, Wendell Everett Beals, Lucian Hugh Carter, Robert H. Cojeen, William S. Connor, Merrill DeVoe, Herman A. Ellis, Russell S. Grady, Herbert W. Hargreaves, Robert D. Haun, William W. Haynes, Margaret Bell Humphreys, Walter W. Jennings, Homer C. Lewis, Robson Duncan McIntyre, James Walter Martin, Joe Logan Massie, John T. Masten, Ralph R. Pickett, Eldred C. Speck, Rodman Sullivan, Ruth E. Thomas, and William Allan Tolman.

ECONOMICS

1 PRINCIPLES OF ECONOMICS. (3) I, II Carpenter and others
The theory of production, consumption, value, and distribution. **Not open to freshmen.**

2 ECONOMIC HISTORY OF EUROPE. (3) I, II Jennings and others
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.**

3 ECONOMIC HISTORY OF THE UNITED STATES. (3) I, II Jennings and others
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.**

4 RESOURCES AND INDUSTRIES. (3) I, II Jennings
The economic factors which govern the utilization of world resources and the exchange of products.

7a, b PRINCIPLES OF ACCOUNTING. (4, 4) I, II Ellis and others
Instruction in the science and adaptation of the accounts of going concerns, together with sufficient practice to acquire proficiency. Recitation, two hours; laboratory, four hours a week.

9 BUSINESS ORGANIZATION. (3) I, II Pickett and others
A course designed to introduce students to the field of business. The relation of the business unit to the economic system; the internal organization of business firms of different types and in varied industries; description of the major functions of departments of a business unit; governmental regulation of monopoly and other undesirable commercial practices.

15 APPLIED ECONOMICS. (3) II Masten
Fundamental aspects of money and banking, industrial efficiency, marketing, transportation, public utilities, public finance, social control, et cetera.

16 TUTORIAL WORK IN ECONOMICS. (1) I, II Carter
Open only to Arts and Sciences majors.

102 LABOR PROBLEMS. (3) I Carter
Insecurity, wages and income, substandard workers, industrial conflict; wage theories, the economics of collective bargaining, unionism in its structural and functional aspects; recent developments. **Prerequisite: Econ. 1.**

103 TRANSPORTATION. (3) I Sullivan
Railways, waterways, highways, and airways. Rates, service, management, and regulation. **Prerequisite: Econ. 1.**

104 PUBLIC FINANCE. (3) I Martin and Sullivan
A study of public receipts; public expenditures; the principles of taxation with special reference to their application to the tax systems, federal and state. **Prerequisite: Econ. 1.**

105 MONEY AND BANKING. (3) II Masten
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. **Prerequisite: Econ. 1.**

107 STATISTICAL METHOD. (3) I Connor and Massie
Introduction to the sources of business data, the use of calculating machinery, tabulation, simple charts and graphs, the averages, dispersion, correlation, and time series analysis.

110 BUSINESS CYCLES. (3) II Haynes
The nature and characteristics of the economic factors which underlie the cyclical fluctuations in business conditions and the methods of business and investment forecasting. **Prerequisite: Econ. 1 and an elementary course in statistics.**

112a-f INDIVIDUAL WORK IN ECONOMICS. (1) I, II Staff
Students confer individually with the instructor.

115 VALUE AND DISTRIBUTION THEORY. (3) I Sullivan
The major emphasis is on current theory.

124 STATE AND LOCAL TAXATION. (3) II Martin
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.

125 EVOLUTION OF ECONOMIC INSTITUTIONS. (3) II Jennings
The rise of economic institutions such as property rights, capital formation, contractual labor, et cetera, as influenced by the family, the city-state, nationalism, commerce, finance, the manor, the guilds, and the industrial revolution. **Prerequisite: Econ. 2 or consent of instructor.**

126 ECONOMICS OF PUBLIC UTILITIES. (3) II Haynes
No credit for this course can be given if the student has credit for Political Science 158. Growth and development of public utilities; valuation; rate-making; financing, the holding company, regulations, current problems, and accounting. **Prerequisite: Econ. 1.**

127 INTERNATIONAL ECONOMICS. (3) II Sullivan
Modern fallacies respecting foreign trade, free trade, protectionism, preferential tariffs, colonial tariff policies, dumping, commercial treaties, control of raw materials, encouragement of shipping, international investments and the movement of capital, international debts, and reparations. **Prerequisite: Econ. 1.**

130 LABOR LEGISLATION. (3) II Carter
The status of labor law, mediation, conciliation, arbitration, the minimum wage, the eight-hour day, unemployment relief, safety and health legislation, and social insurance. **Prerequisite: Econ. 1.**

134 ADVANCED ECONOMIC HISTORY OF THE UNITED STATES. (3) II Jennings
An advanced study of English colonial policy, population growth, immigration, territorial expansion, agriculture, manufactures, tariff, labor, industrial combinations, commerce, transportation facilities, money and banking, and conservation. **Not open to students who have had Econ. 3 except when doing graduate work.**

142 INDEX NUMBERS. (2) II Connor
The problems of sampling, selection of formula and weighting in the construction of index numbers; a study of the construction and use of the common index numbers of prices and production. **Prerequisite: An elementary course in statistics.**

147 AMERICAN BUSINESS LEADERS. (2) I Jennings
Biographical sketches of a selected list of men including their business achievements and their relationships to the economic and social life of their time. **Prerequisite: Econ. 3 or consent of instructor.**

148 EUROPEAN BUSINESS LEADERS. (1) II Jennings
Biographical sketches of a selected list of men including their business achievements and their relationships to the economic and social life of their time. **Prerequisite: Econ. 2 or consent of instructor.**

153 THE ECONOMICS OF CONSUMPTION. (2) II Sullivan
The place of consumption in economic theory with special emphasis upon its relation to the phases of the business cycle, including the institutional background of our consumer habits; sources of information on consumption; and government regulation of consumer standards.

157 GOVERNMENT FINANCE ADMINISTRATION. (3) II Martin
Government budget, accounting, debt, purchasing, treasury, revenue, and auditing administration is examined; illustrations are drawn from federal, state, and local experience. Each student makes a special report on finance-management study or experience. **Not open, without instructor's permission, to undergraduates other than commerce, economics, and political science seniors.**

202a-f SEMINAR. (1 ea.) I, II Carpenter
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.

203 HISTORY OF ECONOMIC THOUGHT. (3) I Hargreaves
A survey of the history of economic thought from the ancient period to about the end of the classical school. **Prerequisite: Econ. 1.**

204 SURVEY OF ECONOMIC THEORY SINCE THE AUSTRIAN SCHOOL. (3) II Hargreaves
This course is virtually a continuation of course 203.

206a MUNICIPAL FINANCE. (2) I Martin
City and county budget and related problems are studied in reports and seminar.

206b MUNICIPAL FINANCE. (2) II Martin
City and county debt, purchasing, treasury, and revenue problems are studied in reports and seminar.

207a, b PROBLEMS IN PUBLIC FINANCE. (2, 2) I, II Martin
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.

209 HISTORY AND THEORY OF MONEY AND PRICES. (3) II Carpenter
The evolution of money, the rise of banking processes and the causes of fluctuations in the general price level.

210 RESEARCH STATISTICS. (2) I Connor
The place of statistics in research method, the theory of statistical averages, the application of advanced statistical methods to economic data, the statistical meaning of economic concepts and the testing of economic theory. **Prerequisite: An elementary course in statistics.**

211 ADVANCED MONEY AND BANKING. (3) II Carpenter
A theoretical study of contemporary money and banking institutions with emphasis on central bank functions.

212a-f RESEARCH PROBLEMS IN ECONOMICS. (1) I, II Staff
Students confer individually with the instructor.

COMMERCE

6 SECRETARIAL ACCOUNTING. (2) II Thomas
A study of accounting systems for the professions, small businesses, and institutions in which the secretary ordinarily keeps the records. **Prerequisite: Com. 7b.**

7a, b PRINCIPLES OF ACCOUNTING. (4, 4) I, II Ellis and others
Instruction in the science and adaptation of the accounts of going concerns, together with sufficient practice to acquire proficiency. Recitation, two hours; laboratory, four hours a week.

9 BUSINESS ORGANIZATION. (3) I, II Pickett and others
A course designed to introduce students to the field of business. The relation of the business unit to the economic system; the internal organization of business firms of different types and in varied industries; description of the major functions of departments of a business unit; governmental regulation of monopoly and other undesirable commercial practices.

10 PRINCIPLES OF MARKETING. (3) I, II DeVoe and McIntyre
A functional study of the market organization. Considerable time is given to the discussion of retail types such as general store, chain store, department store, and mail order house. Special attention is devoted to market finance, market risk, market news, competition and prices, market price, price maintenance, unfair competition, and the cost of marketing. **Prerequisite: Econ. 1.**

11 SALESMANSHIP. (2) I, II McIntyre

Among the problems considered are the formulation of selling policies, the actual selling process, the creation of effective demand, sales campaigns, selecting and training salesmen, and kindred subjects. **Prerepuisite: Econ. 1 and Com. 10.**

13a SECRETARIAL PRACTICE, SHORTHAND. (3) I, II Humphreys and Thomas

The theory of Gregg shorthand with sufficient practice in writing to develop skill and speed in writing. Secretarial duties and traits are given some consideration. Personal use as well as vocational values are emphasized. Credit for this course will not be given until 13b is completed. **Prerequisite or concurrent: English 1a.**

13b SECRETARIAL PRACTICE, SHORTHAND. (3) I, II, S Humphreys and Thomas

A continuation of Gregg shorthand with sufficient practice to develop a speed of from 90-100 words a minute in dictation. **Prerequisite: Com. 13a or its equivalent.**

14a ADVANCED SECRETARIAL PRACTICE. (3) I, II Humphreys and Thomas

This course combines shorthand and typewriting in the transcription of shorthand notes and the development of office proficiency. Emphasis is placed on accuracy and speed in transcribing. Three recitations a week. **Prerequisite: Com. 13a, 13b, 17a, 17b, or their equivalent.**

14b ADVANCED SECRETARIAL PRACTICE. (3) I, II Humphreys and Thomas

A continuation of Commerce 14a with special emphasis on secretarial duties and traits. A speed of 125 words a minute in dictation and 40 words a minute in transcription is required. Three recitations a week. **Prerequisite: Com. 14a or its equivalent.**

17a SECRETARIAL PRACTICE, TYPEWRITING. (2) I, II Humphreys and Thomas

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. **Prerequisite or concurrent: English 1a.**

17b SECRETARIAL PRACTICE, TYPEWRITING. (2) I, II Humphreys and Thomas

A continuation of Commerce 17a with emphasis on the development of speed and accuracy sufficient for vocational use. A speed of 60 words a minute is required. **Prerequisite: 17a.**

18 FILING. (1) I Speck

The general principles, procedures, and systems of filing including sufficient practice with laboratory sets to develop facility and skill. Emphasis will be placed upon filing in business and government offices with a view to preparing file clerks for such offices.

19 OFFICE APPLIANCES. (1) II Speck

The use of dictating, duplicating, and addressing machines, and similar appliances. Sufficient practice will be given to develop skill in the operation and care of such equipment. **Prerequisite: Com. 17a.**

20 PRINCIPLES OF ADVERTISING. (3) I, II McIntyre
An introductory study of the function of advertising in its relation to the broad field of marketing. Emphasis is placed upon the scope and organization of advertising and its economic implications. Advertising media are briefly surveyed and various testing devices used in advertising are examined. **Prerequisite: Com. 10.**

101 SECRETARIAL OFFICE PRACTICE. (1) I, II Thomas
This course is designed to provide laboratory and office experience for senior secretarial students. A minimum of 40 hours of office experience under supervision is required. **Prerequisite: Com. 14a, b.**

106a INTERMEDIATE ACCOUNTING. (3) I Cojeen and Grady
Principles of financial statement, arrangement, and content. Corporation accounting. Accounting for consignment and installment sales. **Prerequisite: Com. 7a and 7b.**

106b INTERMEDIATE ACCOUNTING. (3) II Cojeen and Grady
Accounting for partnerships, ventures, agencies, and branches. Accounting features of insolvent concerns and of consolidations and mergers. Estate accounting. **Prerequisite: Com. 7a and 7b.**

108 ACCOUNTING THEORY. (2) I Haun
The function of accounting, asset valuation, recognition of revenue and expenses, and classification of equities, will be studied with a view to presenting a coordinated body of accounting theory. **Prerequisite: Com. 106b.**

109a, b BUSINESS LAW. (3, 3) I, II Haun and Lewis
A survey of the principles of contracts, sales, bills and notes, and that portion of the law of torts applicable to business practices. **Prerequisite: 2 years of Commerce Curriculum.**

113 AUDITING. (3) II Beals
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. **Prerequisite: Com. 7a and 7b.**

117 CORPORATION FINANCE. (3) I, II Pickett
Stocks and bonds, sound fiscal principles concerning the issue of securities, the management of the corporate income, the disbursement of dividends, the creation of sinking funds, and reorganization procedure. **Prerequisite: Com. 1, Com. 7a, and 7b.**

118 COST ACCOUNTING. (3) II Beals
The place of cost accounting in the general field of accounting, special records and cost statistics, and application to particular business. **Prerequisite: Com. 7a and 7b.**

119 RETAIL MERCHANDISING. (3) II McIntyre and DeVoe
Selecting a business location, internal layout, departmentalization, merchandizing control, store policies toward the public, training and management of personnel, and related subjects. **Prerequisite: Com. 1 and Com. 10.**

129 CREDIT AND STATEMENT ANALYSIS. (2) I Haun and Beals
The theory underlying credit-granting, credit administration, and analysis and interpretation of financial statements. **Prerequisite: Com. 7a.**

131 INVESTMENTS. (3) II Pickett
The general field of investments. Emphasis is placed upon problems which face the investor rather than the seller of securities. Analysis of corporation statements for investment purposes, the security market, market influences on security prices, effect of interest changes on security prices, analysis of specific types of investments, and the development of investment programs. **Prerequisite: Econ. 105 and Com. 117.**

132a, b C. P. A. PROBLEMS. (3, 3) I, II Haun and Beals
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. **Prerequisite: Com. 106a and 106b.**

133 INCOME TAX PROCEDURE. (3) II Haun
The preparation of income tax returns for individuals and corporations of all classes and a practical application of principles of accounting. **Prerequisite: Com. 106a and 106b.**

135 ADVANCED MARKETING. (3) II DeVoe
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. **Prerequisite: Com. 10.**

136 SALES MANAGEMENT. (3) I McIntyre
The case method is used, supplemented with outside reading and written reports. **Prerequisite: Com. 11 or the consent of the instructor.**

137 PROBLEMS IN MANAGEMENT. (3) I, II Carter and Haynes
Emphasis is placed upon factory management, but an attempt is made to coordinate managerial aspects of business in its entirety. Approximately half of the semester is devoted to the consideration and criticism of business reports dealing with various managerial problems and prepared by members of the class. **Open only to seniors of the College of Commerce and to graduate students who have had the necessary prerequisite training.**

140 ADVERTISING CAMPAIGNS. (2) I McIntyre
The procedure necessary for developing an advertising campaign, a study of successful advertising campaigns as used by leading business houses throughout the country, and the planning and execution of an advertising campaign in conjunction with some local business house. The advertising campaign worked out by the student will be checked and tested for its effectiveness. **Prerequisite: Com. 20, or the consent of the instructor.**

143 LIFE INSURANCE. (3) I Hargreaves
Economics of life insurance, organization and control, special forms of life insurance, and fundamental principles of rate-making. **Prerequisite: Econ. 1.**

144 PROPERTY AND CASUALTY INSURANCE. (3) II Pickett
Public control, nature of contracts, analysis of reserve functions, and rate-making processes. **Prerequisite: Com. 1.**

145 OFFICE MANAGEMENT. (3) II Speck
Planning and scheduling of work; employment procedures; supervision of employees, retraining, promotion, and equipment.

149 MARKET RESEARCH. (3) II DeVoe
Training in the application of scientific method to research in fields of marketing. A major marketing investigation will be conducted by the class. **Prerequisite: Com. 10 and a course in statistics.**

150 BUSINESS STATISTICS. (2) II Connor and Massie
Advanced statistical techniques with special application in economics and business, a survey of the work of government and private research organizations, a study of general research methods, indicating the importance of each type, and training in the application of statistical and other techniques to business data. **Prerequisite: An elementary course in statistics.**

151 SECRETARIAL STATISTICS. (3) I, II Connor and Massie
To be taken by students pursuing the Secretarial-Training curriculum. The rules of accuracy in computation, tabulation of data, graphing of business data, organization charts, statistical maps, the operation of calculators and other machines used in statistical work, and the sources of statistical materials of interest to business. **Prerequisite: Com. 17a.**

154 URBAN REAL ESTATE. (3) II Pickett
Urban land economics, the growth and planning of urban communities, survey of the real estate business and institutions, essentials of real estate law and contracts, the financing of real estate transactions, the problem of property valuation and appraisal, the management of real estate properties, the problem of ownership versus rental, and the problem of real estate securities as investments. Governmental activities. **Prerequisite: Com. 117.**

155 INDUSTRIAL RELATIONS. (3) II Carter
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, established policies, practices, and procedures under the law; union-management cooperation, building morale, and the public service.

156 BUSINESS REPORTS. (2) II Speck
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.

159 GOVERNMENTAL ACCOUNTING. (2) II Beals
The requirements of adequate accounting systems for various governmental units, including the recording of usual transactions and the form and content of reports. **Prerequisite: Com. 7b.**

Courses in Mathematics of Finance, Psychology of Advertising, Industrial Psychology, and Business English are offered by departments of the College of Arts and Sciences.

COLLEGE OF PHARMACY

CHEMISTRY

Ewen Gillis, James W. Miles, and C. D. Summerford.

23a PRINCIPLES OF PHYSICS. (3) I Summerford
A lecture-demonstration course involving the basic principles of physies. Designed to prepare the student for an understanding of the application of such principles to pharmaceutical and chemical operations. Lecture and demonstration, three hours.

23b PRINCIPLES OF PHYSICS. (3) II Summerford
A continuation of course 23a. Lecture and demonstration, three hours.

31a ORGANIC PHARMACEUTICAL CHEMISTRY. (5) I Miles
A comprehensive course in the preparation, properties and reactions of the various classes of aliphatic and aromatic compounds and the effect of structure on physical and chemical properties. Official products are emphasized in their proper sequence as the course progresses. Lecture, three hours; laboratory, six hours. **Prerequisite: Chemistry 1a, 1b, or equivalent.**

31b ORGANIC PHARMACEUTICAL CHEMISTRY. (5) II Miles
A continuation of Chemistry 31a. Lecture, three hours; laboratory, six hours.

33 QUANTITATIVE PHARMACEUTICAL ANALYSIS. (5) I, II Miles
This course includes a study of the fundamental theories and methods of analytical chemistry as applied to gravimetric and volumetric analysis. Emphasis is placed on pharmaceutical application. Lecture, one hour; recitation, one hour; laboratory, six hours.

***101a ADVANCED ORGANIC PHARMACEUTICAL CHEMISTRY. (3) I** Gillis
A study of the classification, source, properties, synthesis and uses of organic medicinal chemicals used as therapeutic agents. Lecture, one hour; laboratory, four hours.

***101b ADVANCED ORGANIC PHARMACEUTICAL CHEMISTRY. (3) II** Gillis
A continuation of Chemistry 101a. Lecture, one hour; laboratory, four hours.

102 BIOCHEMISTRY. (4) I, II Gillis
An introductory course in biochemistry, including the study of protein, fat, and carbohydrate metabolism, and the vitamins, hormones, and substances essential to metabolic processes. Special reference is made to those compounds used in pharmacy. Lecture, one hour; recitation, one hour; laboratory, four hours.

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* May be elected only by permission of the instructor and with the consent of the Dean. Hours to be arranged.

103a ADVANCED QUANTITATIVE PHARMACEUTICAL CHEMISTRY. (4) I Gillis
The application of oxidation-reduction principles, physico-chemical methods, and special methods applicable to pharmaceutical analysis. Lecture, one hour; laboratory, six hours.

103b ADVANCED QUANTITATIVE PHARMACEUTICAL CHEMISTRY. (4) II Gillis
A continuation of Chem. 103a. The chemistry and assay of special methods, involving volatile oils, alkaloids, etc. Analysis is made of representative pharmaceutical products. Lecture, one hour; laboratory, six hours.

PHARMACY

Abraham Edward Slesser, John Lewis Fleming, Jesse Y. Hubbard, Mattys Jongeward, and Charles T. Lesshafft, Jr.

21 THEORETICAL PHARMACY. (4) I Lesshafft
A study of the Pharmacopoeias, National Formularies, and other references used in pharmacy. Included are studies in the systems of weights and measures and the operations and processes used in pharmacy. Lecture, three hours; laboratory, three hours.

22 PRACTICAL PHARMACY. (4) II Lesshafft
A study of the preparation, purification, and storage of substances used in pharmacy. Lecture three hours; laboratory, three hours.

23a PHARMACEUTICAL PREPARATIONS. (5) I Jongeward
A study of the classes of the U.S.P. and N.F. preparations. Techniques and skills are developed in small scale production of typical examples of each class of the official preparations. A critical study is made of each official preparation and the variation in its manufacture. Lecture, two hours; laboratory, six hours.

23b PHARMACEUTICAL PREPARATIONS. (5) II Jongeward
A continuation of Pharmacy 23a. Included is work in cosmetics. Lecture, two hours; laboratory, six hours.

25 PHARMACEUTICAL ECONOMICS. (3) I Hubbard
Distribution of profits in merchandising of drug products; group of drug products sold through the drug trade; distributing and purchasing channels; free goods and business discount; purchase and selling price problems; advantages to be derived from name, container, and label of products; promotion of sales; full-line and short-line wholesalers; problems and policies of joint buying by retailers; economic problems of wholesaler; types of retail distributors; chain store operation advantages, disadvantages, methods and policies; classification of privately owned pharmacies; pharmacy salesmanship; study of customers; meeting objections; competition of retail pharmacy with other retail outlets. Lecture, three hours.

26 PHARMACEUTICAL CALCULATIONS. (3) I, II Staff
A review of the systems of weights and measures, work in specific gravity and specific volume, proportion, percentage, and other common problems encountered in pharmacy. Lecture, two hours; recitation, one hour.

31a DRUG STORE MANAGEMENT. (2) I Fleming
A course in the principles of drug store accounting with practice in selected problems. Lecture, one hour; recitation, one hour.

31b DRUG STORE MANAGEMENT. (2) II Fleming
A continuation of 31a including advertising, display, buying, selling, overhead, profits, inventory, stock control, and taxation. Lecture, one hour; recitation, one hour.

111a DISPENSING PHARMACY. (5) I Slesser
The receiving, compounding, filling, pricing, and dispensing of prescriptions. Selected to acquaint the student with all compounding problems he may encounter in a prescription drug store. Lecture, one hour; recitation, one hour; laboratory, six hours.

111b DISPENSING PHARMACY. (5) II Slesser
A continuation of Pharmacy 111a. Included is a study of Veterinary pharmacy and insecticides. Lecture, one hour; recitation, one hour; laboratory, six hours.

122 U.S.P. AND N.F. DRUGS. (3) I Lesshafft
A study of the official drugs and preparations with special attention to chemical drugs. Emphasis is given to sources, synonyms, proprietaries of like composition, dose and common compounding incompatibilities. Lecture, two hours; recitation, one hour.

123 NEW AND MODERN PHARMACY. (3) II Lesshafft
A comprehensive comparative study of the newer products used in pharmacy. Their uses, chemistry, action, and preparations are considered. Lecture, two hours; recitation, one hour.

125a PHARMACEUTICAL JURISPRUDENCE. (3) I Hubbard
Business law of contracts, agency, sales, partnerships, corporations, business papers and securities, real estate, bailment, torts, insurance, patents, trade marks and trade names, federal and state food and drug acts, federal and state statutes relating to practice of pharmacy and sale of drugs, court decisions relative to pharmacy, limitations of actions, taxes and licenses, federal and state narcotic laws, federal and state liquor laws, city ordinances, postal regulations, inter and intra state commerce. Lecture, three hours.

125b PHARMACEUTICAL JURISPRUDENCE. (3) II Hubbard
A continuation of 125a. Lecture, three hours.

MATERIA MEDICA

Earl P. Slone, Evelyn Reep Brake, Harold Clifford Morris, and Charles Tucker.

11a ANATOMY AND PHYSIOLOGY. (3) I Tucker and Brake
Lectures and demonstrations designed to correlate the structure of the human body with the functions of the organs. Studies are made of the skeleton, the muscles, the nerve system, the circulatory system and the organs of digestion and elimination, showing how these operate in equilibrium in a state of health. This provides a proper introduction for a study of the action of drugs in disease, presented in the course. Lectures and demonstrations, three hours. **Prerequisite: Zoology 25, or equivalent.**

11b ANATOMY AND PHYSIOLOGY. (3) II Tucker and Brake
A continuation of 11a. Lectures and demonstrations, three hours.

27a PHARMACOGNOSY. (3) I Slone
A consideration of drugs of vegetable and animal origin covering the history, source, cultivation, collection, preparation, distribution, commerce, identification, composition, purity, and preservation. Macroscopic and microscopic studies are made concurrently. Official and important unofficial drugs are studied. Newer drugs and synthetics related to natural products are included. Lecture, one hour; recitation, one hour. **Prerequisite: Bot. 1a, b or equivalent, and Chem. 31a, b.**

27b PHARMACOGNOSY. (3) II Slone
A continuation of 27a. Lecture, one hour; recitation, one hour; laboratory, two hours.

131a BACTERIOLOGY AND SANITATION. (3) I Brake
Designed to make the pharmacist a force in the field of public health. Lectures in general bacteriology and immunology are followed by instruction and field trips in problems of food and water supply, and of sewage disposal. In the laboratory, the preparation of culture media, cultivation and staining reactions, and principles of sterilization, are followed by pharmaceutical applications. Lecture, one hour; laboratory, three hours.

131b BACTERIOLOGY AND SANITATION. (3) II Brake
A continuation of 131a. Lecture, one hour; laboratory, three hours.

133a HYGIENE AND PUBLIC HEALTH. (1) I Tucker
A study of various public health agencies and their functions, and the relationship of the pharmacist to them, and to the public. Lecture, one hour.

133b HYGIENE AND PUBLIC HEALTH. (1) II Tucker
A continuation of 133a. Special consideration is given diseases and conditions constituting major health problems. Lecture, one hour.

138a PHARMACOLOGY AND TOXICOLOGY. (5) I Morris
A presentation of the pharmacodynamic actions, modes of administration, and toxic manifestations of drugs, and the relationship of the pharmacodynamic actions of drugs to their therapeutic use. Lectures are given considering drugs acting upon the cardiovascular system, nervous system, etc., and consideration is also given chemotherapeutic agents, i.e., antibiotics, sulfonamides, antimalarials, amebicides, etc. Demonstrations and laboratory work are designed to aid in the elucidation of various manifestations of the action of drugs on the animal organism. This course is intended to equip the pharmacist with the necessary knowledge of the actions of drugs to dispense them intelligently and discuss the relative merits, deficiencies, and pharmacodynamic properties of remedial agents. Lecture, three hours; recitation, one hour; laboratory, two hours.

138b PHARMACOLOGY. (5) II Morris
A continuation of 138a. Emergency treatment in cases of poisoning and mechanical injury and standard first aid methods are demonstrated. Action of poisonous and habit forming drugs are studied, with remedial measures to be applied. Lecture, three hours; recitation, one hour; laboratory, two hours.

PART IV

SPECIAL SERVICES OF THE UNIVERSITY

SPECIAL SERVICES OF THE UNIVERSITY

While the major function of the University is that of instruction, it renders important service to the state in other ways. Through the efforts of individual members of the staff and by means of special agencies and publications it makes important contributions in research, experimentation, and public service. The divisions, the publications, and the institutes or meetings through which such work is carried on are described in the following paragraphs.

AGRICULTURAL EXPERIMENT STATION

The Kentucky Agricultural Experiment Station, an institution for investigation and research, established September 25, 1885, functions in accordance with an act of Congress approved March 2, 1887, entitled, "An Act to establish Agricultural Experiment Stations, in connection with the Agricultural Colleges established in the several states under the provisions of an act approved July 2, 1862, and under the acts supplementary thereto," and an act of the Legislature of the State of Kentucky, approved February 20, 1888, accepting these provisions.

Through carefully planned experiments, the Experiment Station investigates problems of basic and applied science as affecting agriculture and interprets the results in terms of the needs of the state. The main station farm of 600 acres is located at Lexington. Two substations, one of 15,000 acres at Quicksand and the other of more than 600 acres at Princeton, greatly facilitate investigations dealing with regional problems.

The Experiment Station publishes bulletins and circulars giving the results of its research.

AGRICULTURAL EXTENSION DIVISION

The Division of Agricultural Extension carries the teachings of the College of Agriculture and Home Economics, and the U. S. Department of Agriculture to rural folk in every county in Kentucky. Field agents representing all departments, county farm agents, and county home agents cooperate in building a program of work for the state and for each county.

The Extension Division publishes circulars written in popular form for use by farm people in improving methods and practices in the home and on the farm.

Farm and Home Week is held during the last week in January. The purpose of this meeting is to bring together representative

men and women from all sections of the state to discuss problems of the farm and the home, with the view of developing more profitable farming and more satisfying home life.

The 4-H Club Week program is held annually early in June. At that time county champion demonstration teams and champions in the various projects compete for state championships. Nearly a thousand boys and girls from all over the state are in attendance for the entire week.

Short courses in many fields of interest to farmers and homemakers are held from time to time to meet the needs of special groups.

BUREAU OF AUDIO-VISUAL MATERIALS

The University maintains, in the Department of University Extension, a library of teaching films and other visual materials which is available to schools, churches, clubs, and colleges in the State for a nominal rental. The Bureau is prepared to give assistance in audio-visual aids problems through consultations, conferences, short courses, or other informal means.

BUREAU OF BUSINESS RESEARCH

The Bureau of Business Research was established to provide facilities for the investigation of problems in the fields of economics and business. The research done by the Bureau is supplementary to that done individually by the Faculty of the College of Commerce. The Bureau does considerable work for civic organizations and private business groups, but its main activities have been concerned with the business problems of federal, state, and local governments. For example, it has done service and research work for such Kentucky agencies as the Legislative Council, Departments of Finance and Revenue, and city and county governments, as well as for departments of the federal government.

BUREAU OF CLUB AND COMMUNITY SERVICE

This Bureau is one of the divisions of the Department of University Extension. It was organized for the purpose of giving service to the citizens of this Commonwealth, and serves such groups as American Association of University Women; Kentucky Federation of Women's Clubs; Council of Parents and Teachers; Garden Clubs; League of Women Voters; Business and Professional Women's Groups; Men's Luncheon Clubs; Council of Church Women; and independent groups. It assists with program planning; maintains package library materials, and books from the shelves of the University Library for loan; conducts forums, institutes, for organizations or agencies requesting same, either on the Lexington campus or at points throughout the state; has available numerous club studies for discussion groups on questions of International

Affairs, Kentucky Government, Community Planning, Modern Art, Nutrition, Recreation, and Neighbors to the South. It is also pleased to make available to civic groups the services of members of its faculty and staff as lecturers and leaders of discussion groups.

BUREAU OF COMMUNITY SERVICE

The Bureau of Community Service is a part of the Social Research Consultation Service of the Sociology Department. It sponsors a program of research and education to promote and understanding of the nature of community-life to assist those working for community improvement; maintains an inventory of social and demographic data pertaining to individual Kentucky communities; acts as a clearing house for information pertaining to community development and the experiences of other communities in this regard; advises and cooperates with local, county and private agencies in order to facilitate community programs; cooperates with public, private and University departments and agencies in the collecting of information important to local community projects.

BUREAU OF GOVERNMENT RESEARCH

This Bureau is the research division of the Department of Political Science. It conducts research and investigations in the problems of state and local government and renders such consultative services to the agencies and officials of the various units of government in Kentucky as it may be called upon to give. It also assists civic groups such as the Committee for Kentucky and the Kentucky Welfare Association by making desired studies and in a consultative capacity.

BUREAU OF SCHOOL SERVICE

This Bureau functions as the research division of the College of Education in conducting original investigations and in rendering special services to the schools in the solution of their problems. The latter function includes advisory service of all sorts, ranging from casual consultation on minor problems up to and including complete and comprehensive survey programs. Advisory service is being rendered along the lines of financial reorganization, building programs, and problems of a similar nature. The scope of the work of the Bureau of School Service embraces the entire field of education, from the elementary school through the college and university.

The Bulletin of the Bureau of School Service is a quarterly publication in which are reported the results of the studies carried on in the Bureau.

BUREAU OF SOURCE MATERIALS IN HIGHER EDUCATION

The purpose of the Bureau is to provide a research laboratory for graduate students in the field of higher education by acquiring and preserving source material in this field, and by locating and listing the material available elsewhere.

Emphasis is placed on source material pertaining to the following:

1. Institutions of higher learning in Kentucky: History of each and its contribution to the state through faculty, alumni, and former students, as shown by catalogs and other official publications; minutes of the faculty, minutes of the board of trustees, pictures, newspaper accounts, etc. Institutions include the colleges under denominational, municipal, or private control, as well as the state supported institutions. Special emphasis is put on the University of Kentucky.
2. Secondary Education in Kentucky: Early academies—land-grant, private, and church controlled—as well as present day institutions.
3. Trends in Education: Shown by catalogs of colleges throughout the United States, and by textbooks in the elementary and secondary fields.
4. Special Collections: Books about Kentucky, books by and about Kentuckians, and rare publications.

Special Assignment

War Memorial Survey: Securing the names of all Kentuckians killed in the armed forces of the United States during World War II. These names, arranged by counties, are to be inscribed in permanent form in the Memorial Coliseum.

CHILD GUIDANCE SERVICE

The Child Guidance Service offered at the University, through the cooperation of the Lexington Community Chest, provides expert psychological diagnoses and recommendations regarding personality difficulties and mental development for children or others brought to it by the schools, welfare organizations, juvenile court, and parents. In this it cooperates with the medical clinics. It also provides clinical training for graduate students.

DEPARTMENT OF PUBLIC RELATIONS

The Department of Public Relations has the twofold function of informing residents of Kentucky and elsewhere of the manifold activities of the University of Kentucky, and of endeavoring to encourage people to take advantage of the many services the institution offers. Public relations activities are carried out by means of newspapers, magazines, special publications, radio broadcasts,

exhibits, films, school contacts, and personal appearance of University speakers and musical groups. All general and sports publicity of the University is handled by the Department of Public Relations. The office also has general supervision over all publications of the University that are classified as announcements, bulletins, or other public relations materials.

TEACHER PLACEMENT BUREAU

The Teacher Placement Bureau serves school officials in Kentucky and other states by assisting them to secure well-qualified teachers. The Bureau serves students and alumni by assisting them to secure positions. It furnishes to prospective employers information concerning applicants. Students who are now enrolled in any College in the University and those persons who have formerly attended this institution are eligible for registration. This service is without charge. The Bureau is located in Room 115 of the Education Building.

EDUCATIONAL CONFERENCE

Annually there is held on the campus of the University of Kentucky a joint meeting of the Educational Conference and the Kentucky Association of Colleges and Secondary Schools. At this meeting teachers and administrators from elementary and secondary schools and from colleges and universities of the state come together to study current educational problems. Outstanding authorities are brought to these conferences to work with the people in Kentucky in an effort to arrive at better understanding of the problems under consideration and to aid in planning for their solution.

ENGINEERING EXPERIMENT STATION

The objectives of the Engineering Experiment Station are to initiate, organize, and supervise engineering research of special interest to Kentucky and to the Nation; to advise with state and federal authorities on problems proposed for investigation; to aid and consult industry with its research problems; to serve as an agency for developing and coordinating industrial and scientific research; and to collaborate with other agencies engaged in engineering research in order to achieve coordination and prevent duplication of effort.

The departments of research include Civil, Highway, Metallurgical, Mechanical, Electrical, Communications, Mining, Prospecting, and Aircraft Engines.

The Engineering Experiment Station publishes bulletins and circulars on subjects of general and scientific interest.

THE KENTUCKY ENGINEER

The Kentucky Engineer, founded in 1939, is published quarterly in November, February, May, and August by students and faculty of the College of Engineering. In general the articles are written by students, faculty, and alumni. It is also the official publication of the Kentucky Society of Professional Engineers. Special consideration is given to important engineering projects within the State of Kentucky, to the activities of the College of Engineering, to reporting research projects, and to other matters of general interest to the engineering profession.

FAMILY LIFE INSTITUTE

The third annual Family Life Institute will be held on the campus July 19, 20, 21, 1949. "New Horizons in Family Living," will be the theme of the 1949 conference. Outstanding authorities in the field will appear on the conference program. The purpose of the Institute is to try to find solutions to the various problems involved in family living, and to give to the citizens of this Commonwealth an opportunity to discuss said problems with eminent leaders in the field. It is felt that through this type of conference real progress can be made in the analysis and understanding of family relationships. The Institute on Family Life illustrates combined action by staff members in four colleges and at least eight departments of the University, each specifically interested in some aspects of family living. The institute is a demonstration of co-operation among the numerous units of a large institution, and the logical next step is co-operation for education in family living among the several state-wide and local groups, organizations, and agencies which should be deeply concerned with the family.

INDUSTRIAL PSYCHOLOGICAL SERVICE

The Department of Psychology makes available to industries, business establishments, and offices, both private and public, industrial psychological service including various forms of industrial testing, personnel surveys, selection devices, and advice on miscellaneous personnel problems. It constitutes a significant opportunity for students interested in industrial personnel work to obtain practical experience and to conduct research in this field.

LAW JOURNAL

The Kentucky Law Journal is published quarterly in November, January, March, and May by students and faculty of the College of Law. Each issue contains: (a) leading articles; (b) notes and case comments by students; and (c) book reviews.

The most important purpose of the publication is to train Law students in legal research and writing. The recent cases dis-

cussed are mainly from Kentucky. The leading articles are written by legal scholars and practicing lawyers in the various fields of the Law and are intended to be of benefit to practitioners.

PUBLIC SERVICE INSTITUTES

The University promotes, organizes, and administers short institutes or study courses for various groups of public officials. From time to time such institutes have been held for peace officers, firemen, welfare workers, finance officers, bankers, legislators, etc.

SCHOOL ACTIVITIES PROGRAM

The Department of University Extension sponsors the Kentucky High School Speech League, the Kentucky High School Music Festivals, and the Kentucky High School Art Exhibit. The music and speech events are held in April and May and are preceded by district or regional meetings.

UNIVERSITY OF KENTUCKY PRESS

The University of Kentucky Press is maintained by the University for the purpose of publishing the results of study and research which, in the opinion of the committee in charge of the management of the Press, would be worth the making of a book.

The Press publishes from two to four volumes annually. The direction of the Press is under a committee appointed by the President of the University, an editor, and a manager of sales.

The Press is maintained by a grant from the Haggin Fund, an appropriation from the general fund of the University, and the money obtained from the sale of books.

The Chairman of the Committee is Frank L. McVey; the editor, E. Merton England; and the manager of sales, Louis Clifton, Director of University Extension, University of Kentucky, Lexington, Kentucky.

THE UNIVERSITY LIBRARIES

The University of Kentucky Libraries make available to the citizens of the state and region outstanding research collections in the various fields emphasized by the university's programs of study and research. These materials are available on loan to readers who live outside of Lexington. In addition a competent staff of reference librarians is maintained to answer bibliographical and informational queries. Citizens who need the assistance of the library staff in any problem should write to the Reference Librarian, University of Kentucky Library, Lexington 1, Kentucky.

PART V.

THE ACADEMIC AND ADMINISTRATIVE STAFF OF THE UNIVERSITY

THE ACADEMIC AND ADMINISTRATIVE STAFF

Acton, Charles F., A.B., Research Assistant, College of Commerce
Adams, Estelle, M.A., Second Grade, University School
*Adams, Eugene, M.M, Instructor in Music
Adams, Harold P., M.A., Instructor, Division of Administration, College of Education
Adams, Leslie Keene, LL.B., Supervisor of Electrical Engineering Laboratories
Adams, Perry Ronald, M.A., Instructor in Applied Music (Woodwinds); Part-time Instructor, University School
Adams, Staley Fields, B.S. in C.E., Assistant Professor of Applied Mechanics
Albro, Clarence Hal, Jr., M.A., Instructor in Romance Languages
Allen, Harry Raymond, M.A., Chief Chemist in Charge Fertilizer Analysis, Agricultural Experiment Station
Allen, Richard Sweetnam, M.S., Professor of Anatomy and Physiology, Head of the Department of Anatomy and Physiology
*Allen, Samuel Judson, B.S., Instructor in Physics
Allen, William Ray, M.A., Ph.D., Professor of Zoology; Curator of Zoological Museum; Head of the Department of Zoology
Allison, Nathan Breckinridge, M.A., Ph.D., Associate Professor of Electrical Engineering
Amyx, Clifford, M.A., Assistant Professor of Art
*Anderson, C. Arnold, M.A., Ph.D., Professor of Sociology
Anderson, Charles Herbert, Professor of Engineering Design, Emeritus
Anderson, Grace, M.A., English, University School
Anderson, Josiah E., Assistant Inspector, Feed and Fertilizer, Agricultural Experiment Station
Anderson, Mary Littell, A.B., Seed Analyst, Department of Entomology and Botany, Experiment Station
Anderson, Walter Sewell, M.A., Professor of Genetics, Emeritus
Archdeacon, James William, M.S., Ph.D., Associate Professor of Anatomy and Physiology
*Armstrong, Watson, M.A., Associate Professor of Agricultural Education
Armstrong, William Davis, B.S., Horticulturist, Agricultural Experiment Station
*Ashby, Frank G., B.S., Captain, Infantry, U. S. Army, Assistant Professor of Military Science and Tactics
Ashurst, Kean, B.S., Part-time Instructor, University School
Atkins, Delbert Ferrell, M.S., Instructor in Mathematics

* See appended list of changes of status, p. 428.

Austin, Calvin Murray, A.B., Assistant Chemist, Department of Agronomy, Agricultural Experiment Station
Averitt, Ruth, M.S. in Ed., Home Economics, Lafayette School
Averitt, Saxe Dabney, M.S., Chemist Emeritus, Agricultural Experiment Station
Babcock, Lawrence B., B.S., Lieutenant Colonel, U. S. Army, Assistant Professor of Military Science and Tactics
Bach, Hager W., M.A., Instructor in Political Science
Back, Kenneth C., A.B., Research Assistant, College of Commerce
Back, William B., M.S. in Agr., Assistant in Farm Management, Agricultural Experiment Station
Baker, John A., M.A., Part-time Instructor in Psychology
Baker, Merl, M.S., Assistant Professor of Mechanical Engineering
*Baker, Robert Fulton, M.S. in C.E., Part-time Assistant Professor of Civil Engineering
Baker, Walter Maurice, M.A., Associate Professor of Education; Head of the Department of Distributive Education
Ball, William B., A.B., In Charge of Service Office, Agricultural Experiment Station
Barber, Harold, Head Herdsman, Agricultural Experiment Station
Barber, William Jackson, M.S. in M.E., Assistant Professor of Applied Mechanics
Barkenbus, Charles, Ph.D., Professor of Organic Chemistry
Barkley, Marie Rodes, M.A., Associate Professor of Home Economics
Barkman, John Orville, B.S. in Agr., Associate Professor of Dairy Manufactures; Field Agent in Dairy Manufactures, Agricultural Extension Division
Barnett, Brinkley, B.M.E., Associate Professor of Electrical Engineering
Barnhart, Charles E., M.S., Instructor in Animal Husbandry, Assistant in Animal Husbandry, Agricultural Experiment Station
Barnhart, C. Raymond, M.A., Assistant Professor of Art
Barrett, Olive, B.S., Fifth Grade, University School
Barron, Robert, B.S. in Ed., M.A., Instructor in English
Baskett, Virginia Stuart, M.A., Instructor in Mathematics
Bastin, Garland, B.S. in Agr., Superintendent of Experiment Station Dairy, Agricultural Experiment Station
Bauder, Ward W., M.S., Ph.D., Assistant Professor of Rural Sociology; Assistant Rural Sociologist, Agricultural Experiment Station
Baugh, Lucy Gaines, B.S., Seed Analyst, Department of Entomology and Botany, Agricultural Experiment Station
Baulch, Walter Monroe, B.S., M.E., Instructor in Physics, Northern Kentucky Extension Center

* See appended list of changes of status, p. 428.

Beals, Wendell Everett, M.B.A., C.P.A., Assistant Professor of Accounting

*Bean, Frank Dawson, A.B., Research Assistant

*Beard, Catherine, A.B., Instructor in English

Beck, Earl R., M.A., Ph.D., Visiting Assistant Professor of History, Summer Session 1948

Beebe, Morris Wilson, M.S., Part-time Associate Professor of Metallurgical Engineering

*Beers, Howard Wayland, M.S., Ph.D., Professor of Rural Sociology, Head of the Department of Rural Sociology

*Bell, Clarence S., B.S. in Agr., Field Agent in Dairying, Agricultural Extension Division

Bell, Thomas, B.S., Part-time Instructor, University School

Bentley, Leora, B.S., Instructor in Home Economics

Bergamo, Ralph, M.A., Instructor in English

Best, Harry, LL.B., M.A., Ph.D., LL.D., Professor of Sociology

Bigge, Adolph Edmund, M.A., Ph.D., Professor of German, Head of the Department of German Language and Literature

Bills, Robert E., M.A., Ed.D., Assistant Professor of Psychology

Binkley, Harold, B.S. in Agr., Agriculture, Lafayette High School

Binkley, Wendell Chester, M.S. in Agr., Field Agent in Cooperative Marketing, Agricultural Extension Division

*Bishop, Charles E., B.S. in Agr., Assistant in Farm Management, Agricultural Experiment Station

*Bisset, Eugenia, M.A., Part-time Instructor in Romance Languages

Black, Ben Wather, M.A., Instructor in English

Black, Percy, M.S., Instructor in Sociology

Blanchet, Rose Marie, B.S., Assistant Chemist, Feed and Fertilizer, Agricultural Experiment Station

Blue, James L., Jr., B.S in Agr., Field Agent in Cream Grading, Agricultural Extension Division

Blythe, David Knox, C.E., Assistant Professor of Civil Engineering

Blyton, Gifford, M.A., Ph.D., Associate Professor of Speech, Department of English

Bondurant, John Harvey, M.S., Ph.D., Economist in Farm Economics, Agricultural Experiment Station

Boone, Anna Bruce, M.A., Fourth Grade, University School

Bortner, Charles Eugene, M.S. in Agr., Associate Agronomist, Agricultural Experiment Station

Bostick, Lew, B.S. in Com., Assistant Professor in the Department of Athletics, Assistant Football Coach

Boughton, Bessie M., A.B., B.S., Cataloging Assistant, University Library

Bower, William Clayton, M.A., LL.D., D.D., Part-time Professor of Sociology

* See appended list of changes of status, p. 428.

Boyd, Joseph Aubrey, B.S. in E.E., Assistant Professor of Electrical Engineering

Boyd, Paul Prentice, M.A., Ph.D., LL.D., Professor of Mathematics; Special Assignment, Dean Emeritus, College of Arts and Sciences

Boyden, Ruth, M.A., Assistant in Home Economics, Agricultural Experiment Station

Bradford, Lawrence Allen, M.S. in Ed., Professor of Farm Management

*Brady, George Keyports, M.A., Ph.D., Professor of English

Brake, Evelyn Reep, M.A., Assistant Professor of Bacteriology, College of Pharmacy

*Brauer, Alfred Charles, M.A., Ph.D., Professor of Zoology

Bridgman, Helen Romaine, M.A., Community Analyst, Bureau of Community Service, Department of Sociology

Briggs, Wallace Earl, M.A., Assistant Professor of English; Director of Guignol Theatre

Brook, William Varina, B.S., Instructor in Physical Education

Brooke, Albert B., Jr., A.B., Part-time Instructor in Journalism, Second Semester, 1948-49

Brown, Aubrey J., M.S., Ph.D., Professor of Marketing, Head of the Department of Markets and Rural Finance

Brown, James Stephen, M.A., Assistant in Rural Sociology, Agricultural Experiment Station

Brown, Joe Beckham, B.S. in Agr., Inspector, Creamery License Section, Agricultural Experiment Station

Brown, Linwood Arnold, Pharm.D., Ph.G., Head, Public Service Laboratories, Agricultural Experiment Station

Brown, Marion Clay, M.A., Assistant Professor of Mathematics

Brown, Ross, M.S., D.V.M., Assistant Professor of Veterinary Science, Assistant Veterinarian, Agricultural Experiment Station

Brown, William Randall, M.A., Ph.D., Associate Professor of Geology

Bruce, Clemont H., B.S., Part-time Instructor in Geology

Bruner, Dorsey William, D.V.M., Ph.D., Bacteriologist, Department of Animal Pathology, Agricultural Experiment Station

Bryant, Paul William, A.B., Head Football Coach; Lecturer, Department of Physical Education, 1948-49.

Bryant, Thomas Ripley, M.S. in Agr., Professor of Agricultural Extension; Assistant Director of Agricultural Extension Division

Buchanan, Mary Routh, M.A., B.S. in Lib. Sci., Director of Summer Workshop, Department of Library Science, Summer Session 1948

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* See appended list of changes of status, p. 428.

Buckner, Garrett Davis, Ph.D., Chemist in Charge of Animal Nutrition Section, Agricultural Experiment Station

Buckner, Robert C., M.S. in Agr., Assistant Agronomist, Agricultural Experiment Station

Bull, Jacqueline Page, A.B., Head of Archives Department, University Library

Bureau, Ernest Adolphe, Ph.B., B.S., E.E., Professor of Electrical Engineering, Head of the Department of Electrical Engineering

Byers, George Boyd, M.S. in Agr., Ph.D., Associate Economist in Farm Economics, Agricultural Experiment Station

Caldwell, Lowry McReynolds, B.S. in Agr., Assistant Superintendent, Western Kentucky Experiment Sub-station

Callihan, Anne Worthington, A.B., Assistant Professor of Art

Calvin, James Sutherland, Ph.D., Associate Professor of Psychology, Acting Head of the Department of Psychology for 1949-50

Cantrell, David M., Sergeant First Class, U. S. Army, Instructor in Military Science

*Capurso, Alexander Alexis, M.A., Ph.D., Professor of Music, Head of the Department of Music

Card, Dana George, M.S., Ph.D., Professor of Agricultural Economics; Associate Economist in Agricultural Prices, Agricultural Experiment Station

Carpenter, Cecil C., M.S., Ph.D., Professor of Economics; Dean of the College of Commerce

Carr, Martha G., M.A., Ed.D., Associate Professor of Physical Education

Carr, Wilbert L., A.M., LL.D., Visiting Professor of Ancient Languages, Summer Session 1948

Carrel, William Joseph, C.E., Professor of Structural Engineering, Emeritus

Carter, Carroll Sparks, E.M., Professor of Mining Engineering

Carter, Floyd Marion, B.S., Part-time Instructor in Physics

Carter, Lucian Hugh, M.A., Ph.D., Professor of Economics

Carter, Willis Merle, M.S. in M.E., Professor of Machine Design

Cass, Norma Beatrice, B.S., M.A. in L.S., Reference Librarian, University Library.

Caton, Stanley, B.S. in Agr., Field Agent in Poultry Husbandry, Agricultural Extension Division

Cavagnol, J. Charles, M.S., Ph.D., Assistant Professor of Chemistry

Chamberlain, Leo Martin, M.A., Ph.D., Professor of Education, Vice-President of The University

Chambers, Alvin Lee., C.E., Associate Professor of Testing Materials

Chambers, John Sharpe, M.S., M.D., Professor of Hygiene and Public Health, Head of the Department of Hygiene and Public Health; Director of University Health Service

Cheek, Frank Jacobs, Jr., A.B., C.E., M.S., Professor of Sanitary Engineering

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* See appended list of changes of status, p. 428

Cherry, Ralph Walter, M.A., Ed.D., Professor of Education; Chairman of the Division of Administration
Church, Elsie T., M.A., Instructor in Mathematics
Clark, Carl McKinley, M.S., Assistant Professor of Markets and Rural Finance; Associate Economist in Agricultural Marketing, Agricultural Experiment Station
*Clark, Louise Swinford, M.A., Kindergarten, University School
Clark, Harold B., A.B., Instructor in Agricultural Marketing; Assistant Economist in Agricultural Marketing, Agricultural Experiment Station
Clark, Thomas D., M.A., Ph.D., Distinguished Professor of History, Head of the Department of History
*Clay, Maurice A., M.A., Instructor in Physical Education
Clifton, Carl, M.S. in Agr., Field Agent in Dairying, Agricultural Extension Division
Clifton, Louis, M.A., Director of University Extension; Professor in University Extension; Professor of Education
Cochran, Lewis Wellington, M.S., Assistant Professor of Physics
Cohen, Marvin Stanley, B.S., Instructor in Physics
Cojeen, Robert H., M.B.A., Associate Professor of Accounting
*Combs, Anna McGlothen, A.B., Editorial Assistant, Agricultural Experiment Station
Cone, Carl B., M.A., Ph.D., Associate Professor of History
Conner, William Stokes, M.A., Associate Professor of Economics
*Conroy, Katherine, M.A., Sixth Grade, University School
Cooke, Arthur Louis, M.A., Ph.D., Associate Professor of English
Cooper, Lake Cornett, M.A., Instructor in Mathematics
Cooper, Thomas Poe, B.S. in Agr., D.Sc., LL.D., Dean, College of Agriculture and Home Economics; Director of Experiment Station; Director of Agricultural Extension Division
Cotterill, Ruth Ann, B.S. in H.E., Assistant Instructor in Home Economics
Cox, Virginia Boyd, A.B., Study Hall Supervisor, University School
Crawley, Clyde Brooks, M.S., Ph.D., Professor of Physics
Criswell, James E., M.S. in Agr., Assistant in Farm Management, Agricultural Experiment Station
Croft, Lysle Warrick, M.A., Ph.D., Part-time Associate Professor of Psychology; Director of University Personnel Office
Crouse, Charles Stevens, E.M., Professor of Metallurgical Engineering, Head of the Department of Mining and Metallurgical Engineering
Crowdus, Paul, A.B. in Jour., News Editor, Department of Public Relations
Crumpton, Charles R., B.S. in Chem. Engr., M.S., Assistant Professor of Industrial Education

* See appended list of changes of status, p. 428.

Cullis, Lela W., Instructor in Applied Music (Organ and Piano)
Culp, Maurice S., M.A., LL.B., S.J.D., Professor of Law
Culton, Thomas Grover, M.S. in Agr., Ph.D., Assistant in Poultry Husbandry, Agricultural Experiment Station
*Cunagin, David H., M.A., Graduate Assistant, Bureau of School Service
Cundiff, Charlotte Baugh, Seed Analyst, Department of Entomology and Botany, Agricultural Experiment Station
Curnutt, Vivian Lee, M.A., Field Agent in Home Economics, Agricultural Extension Division
Curry, Gordon Laten, Phar.D., R.Ph., Dean Emeritus, College of Pharmacy; Director of Research
Curtsinger, Thomas A., B.S. in Agr., Field Agent in Cream Grading, Agricultural Extension Division
Cutler, John Levi, M.A., Ph.D., Assistant Professor of English
Daly, Douglas Lowell, M.A., Instructor in Mathematics
Daniel, Eddie F., M.S. in Agr., Field Agent in Farm Management, Agricultural Extension Division
Dantzler, Lehre Livingston, M.A., Litt.D., Professor of Philology, Department of English, Special Assignment
Davenport, O. Malcolm, M.S., Associate Professor of Forestry; In Charge of Section of Forestry
Dawson, Lyle R., B.Ed., M.S., Ph.D., Professor of Physical Chemistry, Head of the Department of Chemistry
Day, Ollie E., Technical Sergeant, U. S. Air Force, Instructor in Military Science
DeBoer, Jesse, M.A., Ph.D., Associate Professor of Philosophy
Dean, Encil, B.S. in Agr., Seed Inspector, Department of Entomology and Botany, Agricultural Experiment Station
*Deily, Robert Howard, M.A., M.S. in L.S., Ph.D., Professor of Library Science, Head of the Department of Library Science
DeVoe, Merrill, M.B.A., Ph.D., Associate Professor of Marketing
Diachun, Stephen, M.S., Ph.D., Assistant Professor of Plant Pathology; Associate Plant Pathologist, Department of Agronomy
*Dickerson, Z. S., M.A., Graduate Assistant, Department of Business Education
Dickey, Frank G., M.A., Ed.D., Associate Professor of Education, Assistant to the Dean; Chairman of the Division of School Services
Didlake, Mary LeGrand, M.S., Associate Entomologist and Botanist, Emeritus, Agricultural Experiment Station
Dilly, Mary E., Registrar Emeritus, College of Pharmacy
Dimmick, Graham B., M.A., Ph.D., Professor of Psychology
Dimock, William Wallace, D.V.M., Professor of Veterinary Science; Veterinarian, Agricultural Experiment Station

* See appended list of changes of status, p. 428.

*Doering, Charles E., Staff Sergeant, U. S. Army, Signal Corps, Instructor in Military Science and Tactics
Doll, Elvis Roger, M.A., D.V.M., Veterinarian, Department of Animal Pathology, Agricultural Experiment Station
Donovan, Herman Lee, M.A., Ph.D., LL.D., President of the University
Downing, Harold Hardesty, B.C.E., M.S., Ph.D., Professor of Mathematics and Astronomy; Head of the Department of Mathematics and Astronomy
Drennen, Charles, Technical Sergeant, U. S. Air Force, Instructor in Military Science
Duff, Mike, B.S. in Agr., Assistant Field Agent in Poultry Improvement, Agricultural Extension Division
Duncan, May Kenney, M.A., Professor of Elementary Education, Head of the Department of Elementary Education
Duncan, Robert Carlisle, Jr., B.S. in Met.E., Instructor in Metallurgical Engineering
Durr, J. C., Master Sergeant, U. S. Army Signal Corps, Instructor in Military Science
Dutt, Ray H., M.S., Ph.D., Assistant in Animal Husbandry, Agricultural Experiment Station
Dyer, Theodore K., B.Ch.E., M.S., Instructor in Mathematics
*Eaton, William Clement, M.A., Ph.D., Professor of History
Edelmann, Alexander T., M.A., Ph.D., Associate Professor of Political Science
Edney, James Marion, M.S., Instructor in Zoology
Edwards, Ogden Frazelle, M.S., Ph.D., Associate Professor of Bacteriology
*Edwards, Philip Rarick, Ph.D., Bacteriologist, Department of Animal Pathology, Agricultural Experiment Station
Eilertsen, Betty J., M.A., Ph.D., Assistant Professor of Romance Languages
Elliott, Norris Raymond, B.S. in Hort., Professor of Landscape Architecture and Floriculture; Field Agent in Horticulture, Agricultural Extension Division
*Elliott, William Richard, M.S., Instructor in Physics
Ellis, Herman A., M.A., Assistant Professor of Economics
*Ellison, Robert D., Captain, U. S. Army, Assistant Professor of Military Science and Tactics
Elliston, Pauline, Assistant in Service Office, Agricultural Experiment Station
Elsey, Edward Everett, M.E., Associate Professor of Engineering Research
Emmert, Emory Myers, M.S., Ph.D., Professor of Horticulture; Assistant in Horticulture, Agricultural Experiment Station
England, James Merton, M.A., Ph.D., Associate Professor of History

* See appended list of changes of status, p. 428.

Erikson, Statie Estelle, Ph.D., Professor of Home Economics; Head of the Department of Home Economics

Essene, Frank J., Ph.D., Associate Professor of Anthropology

Estes, Reedus Ray, M.S., Ph.D., Assistant Professor of Chemistry

Estill, Milford D., A.B., Research Assistant, College of Commerce

Evins, Mary, A.B., Research Assistant, College of Commerce

Evans, Alvin E., M.A., Ph.D., J.D., Professor and Dean Emeritus, College of Law, Special Assignment

Fallis, Robert White, Assistant Bacteriologist, Public Service Laboratories, Agricultural Experiment Station

Farquhar, Edward Franklin, M.A., Professor of Literature, Department of English

Farris, Elgan Brooks, C.E., Chief Engineer, Department of Maintenance and Operations

Farris, Hansford White, M.S., M.A., Assistant Professor of Electrical Engineering

Farris, J. D., M.A., M.D., Professor of Hygiene and Public Health; University Physician, Health Service

Faust, George P., M.A., Ph.D., Associate Professor of English, Director of Freshman English

Fergus, Ernest Newton, M.S., Ph.D., Professor of Farm Crops; Agronomist in charge of Pastures and Forage Crops, Agricultural Experiment Station

Field, Thomas Parry, M.A., Ph.D., Assistant Professor of Geography

*Fields, Raymond I., M.A., Instructor in Mathematics

*Finnie, Thomas C., B.S. in C.E., Instructor in Mathematics

Fischer, Lydia Roberts, M.A., Instructor in Mathematics

Fish, Ernest Ellsworth, M.S., Field Agent in 4-H Club Work, Agricultural Extension Division

Fitz, Dord E., M.A., Assistant Professor of Art

*Flanary, Harold Graham, A.B., Instructor in Physics

Fleming, John Lewis, B.S. in Com., Bursar-Recorder, College of Pharmacy; Lecturer in Pharmaceutical Administration

Forbes, Richard Mather, M.S., Ph.D., Associate Professor of Animal Husbandry; Associate in Animal Husbandry, Agricultural Experiment Station

Ford, Elizabeth E., Technician in Animal Husbandry

Ford, Robert H., B.S. in Agr., In charge of Radio, Agricultural Extension Division

Foster, A. E., M.A., Instructor in Mathematics

Foster, James Douglas, M.S. in Agr., Inspector in Charge of Creamery License Section, Agricultural Experiment Station

Foster, John W., B.S., Field Agent in Dairying, Agricultural Extension Division

*Fowler, Frank Charles, M.A., Ph.D., Associate Professor of English; Director of Guignol Theatre

* See appended list of changes of status, p. 428.

Freeman, Joe Frank, M.S. in Agr., Associate Agronomist; Superintendent of Experiment Station Farm

*Freeman, Louise Barton, M.S., Ph.D., Assistant Professor of Geology

Freeman, Theodore R., M.S., Ph.D., Associate in Dairy Manufacturing, Agricultural Experiment Station

*French, Nancy C., M.S., Instructor in Physical Education

Gail, Irving A., A.B., M.D., Diplomate, American Board of Psychiatry; Visiting Lecturer in Social Work

Gaither, Lee, M.A., Research Assistant, Bureau of School Service

Gard, Oliver William, B.S. in M.E., Instructor in Mechanical Engineering

Gardner, John Samuel, M.A., Field Agent in Horticulture, Agricultural Extension Division

Garrigus, Wesley Patterson, M.S., Ph.D., Professor of Animal Husbandry; Chairman, Animal Industry Group

Garside, Matthew Stanley, B.S., Field Agent in 4-H Club Work, Agricultural Extension Division

Gault, Lelah Vaughn, B.S. in H.E., Assistant Chemist, Department of Feed and Fertilizer, Agricultural Experiment Station

Gentry, Dorothy, B.S. in H.E., Field Agent in 4-H Club Work, Agricultural Extension Division

Gerhard, George Richard, Met.E., M.S., Associate Professor of Metallurgical Engineering

Gibson, Harry Best, B.S. in Agr., Field Agent in 4-H Club Work, Agricultural Extension Division

Gifford, Chloe, M.A., Assistant in University Extension

Gilb, Stella Spicer, B.P.E., M.A., Hygiene and Physical Education, University School

Gillett, Leone, B.S. in H.E., Assistant State Leader of Home Demonstration Agents, Agricultural Extension Division.

Gilliam, Will D., Jr., M.A., Ph.D., Assistant Professor of History

Gillis, Ewen, M.S., Ph.D., R.Ph., Professor of Chemistry, College of Pharmacy

Gillis, Ezra L, A.B., Director, Bureau of Source Materials in Higher Education

Gilmore, Frances Ward, M.A., Instructor in English

Ginger, Lyman Vernon, M.A., Director, University School; Chairman of the Division of Instruction and Placement

Ginocchio, Oleva Louise, Administrative Assistant, Agricultural Experiment Station

Given, John Higson, A.B., Field Director, Bureau of Community Service; Part-time Instructor in Sociology

Glenn, Donald W., A.B., Major, Infantry, U. S. Army, Assistant Professor of Military Science and Tactics

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* See appended list of changes of status, p. 428

Godbey, Gordon C., A.B., Assistant in University Extension
Godfrey, Robert G., M.A., Instructor in English
Goldstone, Richard H., M.A., Instructor in English
Gooch, Ernest D., M.S. in Agr., Assistant Economist in Agricultural Marketing, Agricultural Experiment Station
Good, Edwin Stanton, M.S., Professor of Animal Husbandry, Emeritus
Graddy, Ivan Clay, M.S. in Agr., Assistant State Agent, County Agent Work, Agricultural Extension Division
Grady, Russell Shelby, M.S. C.P.A., Associate Professor of Accounting
Graham, James Hiram, C.E., Dean of the College of Engineering, Emeritus
Green, Anne Guerrant, M.A., Instructor in Art
*Griffith, Robert Bell, M.S. in Agr., Assistant in Tobacco Research, Department of Agronomy, Agricultural Experiment Station
Griffith, Richard R., A.B., Instructor in English, Northern Kentucky Extension Center
Griffith, Richard, M.A., Part-time Instructor in Psychology
Gulley, Margaret, B.S. in H.E., Field Agent in 4-H Club Work, Agricultural Extension Division
Guthrie, A. B., Jr., A.B., Visiting Lecturer in English
Guyn, Anne Young, A.B., Circulation Assistant, University Library
Haag, William George, Jr., M.S., Ph.D., Associate Professor of Anthropology; Curator of Museum of Anthropology
Haak, Pearl Jones, B.S. in H.E., Field Agent in Foods, Agricultural Extension Division
Hackensmith, Charles William, M.A., Ph.D., Professor of Physical Education
Hagman, Ida Catherine, M.A., Field Agent in Home Economics, Agricultural Extension Division
Haines, Ruth, M.A., Instructor in Public School Art and Elementary Education
Hall, Wayne C., M.S., Ph.D., Assistant Professor of Botany
*Hamilton, Daniel K., M.S., Instructor in Geology
Hamilton, William Brooks, M.S., Ph.D., Associate Professor of Hygiene and Public Health, Bacteriologist for University Health Service
*Hammonds, Carsie, M.A. in Ed., Ph.D., Professor of Agricultural Education; Chairman of the Division of Vocational Education and Head of the Department of Agricultural Education
Hanau, Richard, M.S., Ph.D., Associate Professor of Physics
*Hankins, Thomas L., M.S., Associate Professor of Education; Head of the Department of Industrial Education
*Hanna, Paul M., B.S. in Agr., Field Agent in Dairying, Agricultural Extension Division

* See appended list of changes of status, p. 428.

Hanson, Mary Elizabeth, A.B., B.S. in L.S., Head, Serials Department, University Library

Hansen, Merle F., M.A., Ph.D., Associate Parisitologist, Department of Animal Pathology, Agricultural Experiment Station

Hardin, Mary Muedeking, Ph.D., Assistant Professor of Bacteriology

Hardy, Emmett Layton, A.B., Part-time Instructor in Geography

Hargreaves, Herbert Walter, M.A., Ph.D., Professor of Economics

Harned, Jessie Hewitt, A.B., Seed Analyst, Department of Entomology and Botany, Agricultural Experiment Station

Harris, Charles Edgar, B.S. in Agr., Field Agent in Poultry Husbandry, Agricultural Extension Division

Harris, Leila Gott, M.A., Instructor in English

Harris, William Edward, M.A., Part-time Instructor in Psychology

Harrison, John Scovill, B.S. in Agr., Assistant Agronomist Department of Agronomy, Agricultural Experiment Station

Harrison, Lura Claude, A.B., M.T. (A.S.C.P.), Part-time Instructor in Bacteriology

Hartford, Ellis Ford, M.A., Ed.D., Professor of Education; Chairman of the Division of Foundations of Education

Harvard, Gertrude J., A.B., Head Resident of Boyd Hall

*Haselden, Jane, M.A., Ph.D., Part-time Assistant Professor of Romance Languages; Assistant Dean of Women

*Hatch, David Lincoln, M.A., Assistant Professor of Sociology

Hatch, Maurice A., M.A., Ph.D., Assistant Professor of English

Haun, Robert Dee, M.A., J.D., C.P.A., Professor of Accounting

Hawkins, Robert Dawson, M.E., M.S., Professor of Applied Mechanics and Head of the Department of General Engineering

Haynes, William Warren, M.B.A., Assistant Professor of Economics

Hegeman, Daniel VanBrunt, Ph.D., Professor of German Language and Literature

*Hegland, Leonard, M.A., Instructor in English

Heinz, Wilbur August, M.S.P.H., Associate Professor of Hygiene and Public Health

Helton, Stella Elizabeth, M.S., Assistant Professor of Home Economics

Henderson, Robert W., M.A., Part-time Instructor in Psychology; Assistant Director of Personnel Office for Testing

Henning, Alda, B.S., Assistant State Leader of Home Demonstration Agents, Agricultural Extension Division

Henry, Amanda Harms, B.S., Assistant in Animal Nutrition, Agricultural Experiment Station

Henson, Lawrence, M.S. in Agr., Associate Agronomist in Forage Crop Investigations, Agricultural Experiment Station

*Hermann, George J., B.S., Assistant Bacteriologist, Department of Animal Pathology, Agricultural Experiment Station

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* See appended list of changes of status, p. 428

Hernandez, J. Eduardo, M.A., Ph.D., Associate Professor of Romance Languages

*Hilliard, Pauline, M.A., Editorial Associate, Bureau of School Service

*Hillis, Charity Ruth, M.A., Research Assistant, Bureau of School Service

Hoffman, Clinton Kelly, C.E., Associate Professor of Engineering Drawing

Holcombe, Burris N., Master Sergeant, U. S. Army Air Force, Instructor, Air ROTC, in Military Science and Tactics

Holmes, Elwyn S., B.S. in Agr. Engr., Extension Agricultural Engineer, Agricultural Extension Division

Holmes, Sarah Bennett, M.A., Part-time Associate Professor of Sociology; Dean of Women

*Hoover, John L., M.A., Ph.D., Professor of Commerce and Education; Head of Department of Business Education (College of Education)

Hopkins, James Franklin, M.A., Ph.D., Assistant Professor of History

Hopper, Ray, B.S. in Agr., Field Agent in Animal Husbandry, Agricultural Extension Division

Horine, John Sherman, M.E., Professor of Engineering Drawing and Coordinator for Engineering Freshmen

Horlacher, Levi Jackson, M.S., Professor of Animal Husbandry; Assistant Dean in Resident Teaching, College of Agriculture and Home Economics

Hornbeck, Benn Lee, B.S. in For., Forester in Farm Economics, Robinson Experiment Sub-station

Hornowski, Edward B., M.A., Ed.D., Assistant Professor of Violin-Theory, Department of Music

Horsfield, Margaret Bennett, M.A., Diplome d'Etudes Francaises de l'Universite de Montpelier, Assistant Professor of Romance Languages

Hotchkiss, Margaret, Ph.D., Professor of Bacteriology

Houston, Forrest G., M.A., Ph.D., Assistant Chemist, Department of Agronomy, Agricultural Experiment Station

Howard, Noel Judson, B.S. in Agr., Inspector, Department of Feed and Fertilizer, Agricultural Experiment Station

Hubbard, Jesse Y., Ph.G., LL.B., R.Ph., Lecturer in Pharmaceutical Jurisprudence, College of Pharmacy

Hulette, Neville, Inspector, Department of Feed and Fertilizer, Agricultural Experiment Station

Hull, Floyd Edgar, D.V.M., Professor of Veterinary Science; Head of the Department of Animal Pathology

Humphrey, James Ellison, B.S. in Agr., Field Agent in Poultry Husbandry, Agricultural Extension Division

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* See appended list of changes of status, p. 428

Humphreys, Herbert H., M.A., Ph.D., Associate Professor of Psychology
Humphreys, Margaret Bell, M.A., Assistant Professor of Commerce
Humphries, James Charles, M.S., Ph.D., Associate Professor of Bacteriology
Hunt, Russell Aubrey, M.S. in Agr., Field Agent in Tobacco, Agricultural Extension Division
Hutchcraft, Helen, A.B., Part-time Instructor, University School
*Hutson, Emma Sue, A.B., Instructor in English
*Hutter, Harry K., M.A., Assistant Professor of Geography
Imlay, Florence, M.A., Field Agent in Home Economics, Agricultural Extension Division
Insko, Wyatt Marion, Jr., M.S. in Agr., Professor of Poultry Husbandry, In Charge of Poultry Section
Irvine, Jessie, M.A., Part-time Instructor in Psychology
Irvine, Kate Tipton, B.S. in L.S., M.A., Head of Circulation Department, University Library
Jackson, Maurice, A.B., Coach, University School
Jackson, William Edward, Jr., B.S. in For., F.Engr., Field Agent in Forestry, Agricultural Extension Division
Jacobsen, Lynn, M.S., Instructor in Geology
*Jasper, Gwendolyn, M.A., Instructor in English
*Jasper, Samuel J., M.A., Instructor in Mathematics
Jennings, Walter Wilson, M.A., Ph.D., Professor of Economics
Jewett, Howard Herman, M.A., Associate Entomologist, Agricultural Experiment Station
Johnson, Bernard Mason, A.B., Instructor in Physical Education
*Johnson, Edward Marshall, Ph.D., Plant Pathologist, Department of Agronomy, Agricultural Experiment Station
Johnson, Ernst Vern, M.F.A., Part-time Associate Professor of Architectural Engineering
Johnson, Forrest Dwight, B.S. in Agr., Instructor in Animal Husbandry; Assistant in Animal Husbandry
Johnson, Glenn L., M.A., Associate Professor of Farm Economics; Associate Economist in Farm Economics, Agricultural Experiment Station
Johnson, James Richard, B.M.E., Professor of Applied Mechanics, Emeritus
Johnson, Orinne, B.S. in H.E., Assistant in Information, Agricultural Extension Division
Johnson, Ray Smith, Maintenance Supervisor, Mechanical Engineering Laboratory
Johnstone, William Clarkson, B.S. in Agr., Field Agent in Agronomy, Agricultural Extension Division
Jones, Carl Wilfred, B.S., Field Agent in 4-H Club Work, Agricultural Extension Division

* See appended list of changes of status, p. 428.

Jones, Charles Dingee, M.S. in M.E., Instructor in Mechanical Engineering

Jones, Daniel J., M.S., State Geologist, Kentucky Geological Survey, Department of Geology

*Jones, Howard B., A.B., Research Assistant, Division of Foundations of Education

*Jones, John C., Technical Sergeant, U. S. Army, Instructor in Military Science

Jones, Roger Walter, Superintendent, Robinson Experiment Substation

Jones, Sadocie Connellee, M.S., Field Agent in Agronomy, Agricultural Extension

Jones, Theodore Tolman, M.A., Ph.D., Professor of Ancient Languages; Dean of Men Emeritus; Special Assignment

Jongeward, Mattys, Ph.G., M.S., R.Ph., Associate Professor of Pharmacy; Director of Pharmaceutical Laboratories, College of Pharmacy

Josephson, Leonard Melvin, Ph.D., Associate Agronomist, Agricultural Experiment Station

Kammerer, Gladys Marie, M.A., Ph.D., Associate Professor of Political Science

Karraker, Perry Elmer, M.A., Professor of Soils; Agronomist in Soil Technology, Agricultural Experiment Station

Karsner, Milo Gist, A.B. in Ed., M.S., Assistant Professor of Physical Education

Katterjohn, Catherine Lynn, A.B., B.S. in L.S., Serials Cataloger, University Library

Kauffman, Earl, Jr., M.A., Associate Professor of Physical Education

*Kaufman, Harold F., Ph.D., Assistant Professor of Rural Sociology; Assistant Rural Sociologist, Agricultural Experiment Station

Kaufman, Ruth C., B.S., Assistant Analyst, Department of Agronomy, Agricultural Experiment Station

Kelley, Annelle, A.B., Sixth Grade, University School

*Kelley, David Otis, M.A., Professor of Library Science; Head of the Department of Library Science

Kelley, George W., B.S., Assistant Parisitologist, Department of Animal Pathology, Agricultural Experiment Station

Kelley, James Byron, B.S. in A.E., B.S. in M.E., Professor of Agricultural Engineering; Agricultural Engineer, Agricultural Experiment Station

*Kelly, Mary Frances, A.B., Instructor in Geology, Curator of Paleontology

Kelley, Miriam J., B.S., Field Agent in Extension Marketing, Agricultural Extension Division

Kemper, Durbin Collins, M.A., Science, University High School

* See appended list of changes of status, p. 428

Kendall, Thomas Alexander, M.E., Research Analyst in Department of Mining and Metallurgical Engineering

Kennard, Clifford deBock, Pattern Maker and Foundry Technician

Kennedy, Catherine Latimer, M.A., Instructor in Sociology

Kenney, Ralph, B.S. in Agr., Field Agent in Agronomy, Agricultural Extension Division

Kilpatrick, Elmer James, M.S. in Agr., Assistant State Agent, County Agent Work, Agricultural Extension Division

King, Helen Galvin, A.B., Executive Secretary, Alumni Association

King, Margaret Isadora, A.B., B.S., University Librarian

Kinker, Elmer O., Master Sergeant, U. S. Army, Instructor in Military Science

Kinkaid, Alice, B.S., Assistant Bacteriologist, Department of Animal Pathology, Agricultural Experiment Station

Kinney, Edmund J., B.S. in Agr., Professor of Farm Crops; Head of the Department of Agronomy, Agricultural Experiment Station

Kinney, Gordon J., M.M., Assistant Professor of Music

Kirwan, Albert Dennis, M.A., LL.B., Ph.D., Part-time Associate Professor of History; Dean of Men

Kiser, Edgar L., A.B., Major, U. S. Army Air Force, Assistant Professor of Military Science and Tactics for Air R.O.T.C.

Kiviniemi, Aimo, B.S. in Mus.Ed., Instructor in Applied Music (Voice)

*Klass, Selma Werlin, B.S. in P.E., Part-time Instructor in Physical Education

Knight, Grant Cochran, M.A., Distinguished Professor of English

Knight, Richard Bennett, B.S. in E.E., M.S. in M.E., Associate Professor of Heating and Ventilating

Koppius, Otto Townsend, Ph.D., Professor of Physics

Kraehe, Enno Edward, M.A., Ph.D., Assistant Professor of History

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

Lacy, Edith, M.S., Field Agent in 4-H Club Work, Agricultural Extension Division

Lafferty, Frances M., M.A., Assistant State Leader of Home Demonstration Agents, Agricultural Extension Division

Lampert, Carl Albert, B.M., Professor of Music, Special Assignment Decd.

*Lancaster, Harry Current, M.A., Instructor in Physical Education, Assistant Basketball Coach

Lange, Karl Otto, D.Eng., Assistant Professor of Physics

Latzke, Verna, M.S., Field Agent in Home Economics, Agricultural Extension Division

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* See appended list of changes of status, p. 428.

Lawrence, Chester, Assistant Inspector, Creamery License Section, Agricultural Experiment Station
Leader, Gordon R., Ph.D., Assistant Professor of Chemistry
Leggett, James Llewellyn, Jr., M.S. in C.E., Assistant Professor of Civil Engineering
Leonard, Lyle B., B.S. in Agr., Field Agent in Soil Conservation, Agricultural Extension Division
*Lerner, Gerald P., B.S., Lt. Colonel, U. S. Army, Assistant Professor of Military Science and Tactics
Leser, Tadeusz, M.E., Ph.D., Assistant Professor of Mathematics
Lesshafft, Charles Thomas, Jr., B.S., R.Ph., Instructor in Pharmacy
*Letton, George C., B.S. in Agr., Inspector, Department of Feed and Fertilizer, Agricultural Experiment Station
Lewis, Chester Arthur, B.J., Editor, Agricultural Extension Division
*Lewis, Chester R., B.S., Instructor in Anatomy and Physiology
Lewis, Homer C., M.B.A., LL.B., Associate Professor of Commerce
Lewis, James O., B.S., Part-time Instructor in Geology
Lewis, Lovaine Carol, M.A., Part-time Instructor in Physical Education
Lewis, Mildred Sinclair, B.S. in Music, M.A., Associate Professor of Music
Lickert, Raymond Henry, B.S. in Agr., Assistant State Agent, County Agent Work, Agricultural Extension Division
*Light, James, M.A., Instructor in English
Ligon, Moses Edward, M.A., LL.D., Professor of Education Emeritus; Director of Placement Bureau
Link, Harold Forest, M.S. in Agr., Assistant State Agent, County Agent Work, Agricultural Extension Division
Link, Leo A., B.S. in Agr., Assistant in Agronomy, Department of Agronomy, Agricultural Experiment Station
Linville, Dorothy C., A.B., Admissions Officer
Logan, Lulie Elizabeth, A.B., Assistant State Leader of Home Demonstration Agents, Agricultural Extension Division
Long, Maurice W., M.S. in E.E., Part-time Instructor in Electrical Engineering
Long, Norman O., Ph.D., Associate Professor of Inorganic Chemistry
Lovelady, Venice, B.S. in H.E., Field Agent in Home Economics, Agricultural Extension Division
Lowry, Samuel Jechonias, B.S. in Agr., Superintendent Western Kentucky Experiment Sub-station
*Ludwick, Thomas Murrell, M.S., Ph.D., Assistant in Dairying, Agricultural Experiment Station
Lunde, Ragnhild, A.B., Part-time Instructor, University School
*Lunde, Robert Gerhard, M.A., Associate Professor of History

* See appended list of changes of status, p. 428.

McAteer, Robert H., B.S., Lt. Colonel, Signal Corps, U. S. Army, Assistant Professor of Military Science and Tactics

McCauley, J. Ardery, B.S., M.A. in Ed., Assistant Professor of Journalism

McCloy, Shelby Thomas, M.A., Ph.D., Professor of History

McComas, Paul S., M.S., Ph.D., Associate Professor of Farm Economics; Associate Economist in Farm Economics, Agricultural Experiment Station

McCubbin, William Edward, M.A. in Ed., Assistant Professor of Physical Education; Director of Intramural Sports

McDaniel, Alice Marrs, A.B. in Ed., Seed Analyst, Department of Entomology and Botany, Agricultural Experiment Station

McEwen, Alfred B., M.S., LL.B., Professor of Law

McFarlan, Arthur Crane, Ph.D., Profesor of Geology, Head of the Department of Geology; Director of Kentucky Geological Survey

McFarland, Frank T., M.S., Ph.D., Research Professor of Botany

McGuire, Henry Sanders, Jr., B.S. in Med. Tech., Assistant Bacteriologist, Public Service Laboratories, Agricultural Experiment Station

McHargue, James Spencer, M.S., Ph.D., D.Sc., Research Chemist, Emeritus

McInteer, Berthus Boston, M.S., Ph.D., Associate Professor of Botany

McIntyre, Robson Duncan, M.S. in Commerce, Professor of Marketing

McKenney, Garnett Jennings, B.S. in Agr., Field Agent in 4-H Club Work, Agricultural Extension Division

McKitrick, John Leslie, B.S. in Agr., Field Agent in Agricultural Engineering and Soil Management, Agricultural Extension Division

McLaughlin, Marguerite, A.B., Assistant Professor of Journalism

*McMillian, Nathaniel Bowles, M.A., Part-time Instructor in Education

McMurtry, David C., M.A., Business Education, University School

McQuown, O. Ruth, A.B., Research Associate, Bureau of Government Research, Department of Political Science

McVey, Frank LeRond, Ph.D., LL.D., L.H.D., President Emeritus; Professor of Agricultural Economics

Mackenzie, Gabriel T., M.S., Colonel, U. S. Army, Professor of Military Science and Tactics, Head of the Department of Military Science and Tactics

MacLaury, Donald Wayne, M.S., Assistant in Poultry Husbandry, Agricultural Experiment Station

Magill, Wilbur William, B.S. in Agr., Field Agent in Horticulture, Agricultural Extension Division

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* See appended list of changes of status, p. 428

Mahan, Charles Alfred, M.S. in Agr., State Agent, County Agent Work, Agricultural Extension Division
Maney, Charles Thomas, Jr., B.S. in E.E., Instructor in Electrical Engineering
Mangelsen, Fritz, Superintendent of Machine Shop
Martin, C. Perry, M.S., Instructor in Mathematics, University of Kentucky Northern Center
Martin, Dorothy T., M.A., Instructor in Commerce
Martin, James Henderson, Ph.G., Assistant Chemist Emeritus; Public Service Laboratories, Agricultural Experiment Station
Martin, James Walter, M.A., Professor of Economics; Director of Bureau of Business Research
Martin, Laura Katherine, M.A., Associate Professor of Library Science
Martin, Leslie Leon, M.S., Assistant Director of Personnel for Counseling
*Martin, Mildred, B.S., Instructor in Mathematics
Masten, John T., M.S., Ph.D., Associate Professor of Economics
Massie, Joe Logan, M.A., Assistant Professor of Economics
Mathews, Robert, Chief Inspector and Assistant Administrator, Department of Feed and Fertilizer, Agricultural Experiment Station
Matthews, John Watson, M.S., Field Agent in Poultry Improvement, Agricultural Extension Division
Matthews, William L., Jr., A.B., LL.M., Professor of Law
Maxwell, Elmer Stephens, M.D., Part-time Professor of Clinical Pathology; Department of Bacteriology
Maxwell, Robert S., M.A., Assistant Professor of History, University of Kentucky Northern Center
Meader, Arthur Lloyd, A.B., Assistant Chemist, Public Service Laboratories, Agricultural Experiment Station
Meadow, Jacob R., M.A., Ph.D., Professor of Industrial Chemistry; Director of Freshman Instruction
*Meadows, Azel B., A.B., Instructor in Physics, College of Pharmacy
Meece, Leonard E., M.A., Ph.D., Professor of Education
*Meers, Joseph Tinsley, M.S., Instructor in Physics
Mellenbruch, Parl L., M.A., Ph.D., Associate Professor of Psychology
Melzer, John Henry, M.A., Ph.D., Assistant Professor of Philosophy
Meyer, Andre Johannes, Director of Aeronautical Research Laboratory
Meyers, Ernest, M.A., Instructor in Psychology
Midkiff, Valva C., B.S., Assistant Chemist, Department of Feed and Fertilizer, Agricultural Experiment Station
Miles, James William, M.S., Associate Professor of Chemistry, College of Pharmacy

* See appended list of changes of status, p. 428

Milison, Robert, M.A., Ph.D., Visiting Lecturer, Department of Psychology, Summer 1948
Miller, Harold Franklin, B.S. in Agr., Assistant Agronomist, Agricultural Experiment Station
Miller, Richard Clarence, M.S. in Agr., Field Agent in Animal Husbandry, Agricultural Extension Division
Mills, Robert, M.A., Research Assistant, Bureau of School Service
Milton, Mary Page, A.B., University Recorder
Mitchell, John Richard, A.B., Assistant Professor of Chemistry
Mitts, Mary Lois, M.S., Assistant in Home Economics, Agricultural Extension Division
Mock, Clifton O'Neal, M.E., Associate Professor of Engineering Drawing
*Molloy, Jeanette Elliot Robinson, M.A., Research Assistant, Sloan Foundation
*Monical, Thelma, M.S. in Ed., Home Economics, Lafayette School
Monroe, Zelma, A.B., B.S., Assistant State Leader of Home Demonstration Agents, Agricultural Extension Division
Montgomery, Ford, B.M., Instructor in Applied Music (Piano)
Moore, William M., M.A., Ph.D., Associate Professor of Journalism
Moores, Maple, Assistant Registrar
Moran, Alice Barbara, B.S., Associate Bacteriologist, Department of Animal Pathology, Agricultural Experiment Station
Moreland, Roy, A.B., LL.B., J.D., S.J.D., Professor of Law
Morgan, Robert, M.M., Instructor in Applied Music (Piano)
Morris, Harold Clifford, M.S., M.B., R.Ph., Associate Professor of Pharmacology
*Morris, Thomas Buie, M.S., Assistant Field Agent in Poultry Improvement, Agricultural Extension Division
Morrison, Henry Bartlett, M.S., Ph.D., Professor of Dairying; Associate in Dairying, Agricultural Experiment Station; Acting in Charge of Dairy Section
Morrow, Glenn D., M.A., Research Associate, College of Commerce
Morton, Margaret, Seed Analyst, Department of Entomology and Botany, Agricultural Experiment Station
Morton, Paul, Special Lecturer, Department of Political Science
Morton, Stanley S., M.A., Instructor in English
Mory, Samuel Albert, Jr., C.E., Professor of Structural Engineering
Muller, William Adam, M.A., Instructor in Zoology
Mumford, Mary, M.S., Assistant Professor of Home Economics
Murray, Frank, A.B., LL.B., S.J.D., Professor of Law
Murray, Marjorie, M.A., Instructor in Physical Education
Musselman, Vernon A., Ed.M., Ed.D., Professor of Education, Head of the Department of Business Education
Myers, Georgia, M.A., Part-time Instructor in English
Myers, Robert, M.A., Part-time Instructor, University School
Neel, Charles O., B.S., Agriculture, Nicholasville High School

* See appended list of changes of status, p. 428.

Neel, Joe Kendall, M.S., Ph.D., Assistant Professor of Zoology
Nelson, Hubert Edward, A.B., LL.M., Professor of Law
Nelson, Ralph A., County Assistant in Forestry, Agricultural Extension Division
Nelson, Vincent Edward, Ph.D., Professor of Geology
*Nesius, Ernest Joseph, M.S. in Agr., Assistant Economist in Farm Economics; Agricultural Experiment Station
Neubauer, Emma, M.A., Seventh Grade, University School
Newbury, Edward, M.A., Assistant Professor of Psychology
Nicholls, William Durrett, M.S. in Agr., Ph.D., Professor of Farm Management; Head of the Department of Farm Economics
Niederhoffer, Robert, M.A., Instructor in English
Nierenberg, Arthur A., A.B., B.S. in E.E., Instructor in Electrical Engineering
*Niess, Robert Judson, Ph.D., Professor of Romance Languages
Noble, Earl T., B.S. in E.E., Assistant Professor of Electrical Engineering
Noe, James Thomas Cotton, M.A., Litt.D., Professor of Education, Emeritus
*Nolan, Bess G., A.B., Seed Analyst, Department of Entomology and Botany, Agricultural Experiment Station
Nollau, Louis Edward, M.E., Professor of Engineering Drawing
Norment, Elizabeth Gay, M.A., Instructor in English
Oberst, Paul, A.B., LL.M., Professor of Law
*Odor, Anna Frances, M.A., Ph.D., Assistant Professor of German Language and Literature
Olds, Durward, D.V.M., Assistant in Dairying, Agricultural Experiment Station
Olney, Albert Jackson, M.H., M.S., Professor of Horticulture, Head of Department of Horticulture
Orr, David H., A.B., Psychometrist, University School
Orrell, Frank Lewis, Jr., M.S. in Met. Engr., Assistant Professor of Metallurgical Engineering
*Palmer, Harry Meade, A.B., Research Assistant, College of Commerce
Papatsos, Cleo, B.S. in Physical Education
Pardue, Louis Arthur, M.S., Ph.D., Distinguished Professor of Physics; Dean of the Graduate School
Parker, Ethel Lee, M.A., Ph.D., Professor of Home Economics Education, Head of the Department of Home Economics Education
Parker, Joseph P., A.B., Major, Infantry, U. S. Army, Assistant Professor of Military Science and Tactics
*Parmeter, Guy N., M.A., Instructor in Geography
Patterson, George Clinton, M.A., Part-time Instructor in Physics

* See appended list of changes of status, p. 428.

*Patterson, Mary Jerry, M.A., Editorial Associate, Bureau of School Service
Pattie, Frank A., M.A., Ph.D., Professor of Psychology
Pauls, Franklin Benjamin, M.S., Instructor in Physics
Peak, Bart Nixon, A.B., LL.B., Executive Secretary, University Young Men's Christian Association
Pearce, Walter H., M.A., Instructor in English
*Peck, Anna Browning, M.A., Social Sciences, University School
Pence, Sallie Elizabeth, M.A., Ph.D., Associate Professor of Mathematics
Penrod, Estel Burdell, M.S., M.M.E., Professor of Mechanical Engineering, Head of the Department of Mechanical Engineering
Peter, Alfred Meredith, M.S., D.Sc., Professor of Soil Technology, Emeritus
Peterson, Frank D., A.B., University Comptroller
Phillippe, Paul Merwin, M.S., Ph.D., Associate Professor of Farm Crops
Phillips, Carroll Davidson, M.S., Ph.D., Associate Economist in Agricultural Marketing, Agricultural Experiment Station
Pickett, Ralph R., M.A., Ph.D., Professor of Economics
Pinnell, Ruth, M.M., Instructor in Music (Voice)
*Pinney, Oliver H., M.D., Associate Professor of Hygiene and Public Health
Pinney, Paul M., B.S. in Com., Assistant in Service Office, Agricultural Experiment Station
Plummer, Leonard Niel, M.A., Ph.D., Professor of Journalism, Head of the Department of Journalism
Poole, James L., Jr., A.B., Assistant in Visual Aids, Agricultural Experiment Station
Porter, Leon, A.B., Mathematics, University School
Portmann, Victor Rowe, B.J., Assistant Professor of Journalism
Poundstone, Albert Bruce, M.S. in Agr., Head of the Department of Feed and Fertilizer, Agricultural Experiment Station
*Povlovich, Charles A., M.A., Instructor in Political Science
Price, Hugh Bruce, M.A., Ph.D., Professor of Agricultural Economics; Economist in Markets and Rural Finance, Agricultural Experiment Station
Price, Walter Allen, M.S., Professor of Entomology; Head of the Department of Entomology and Botany, Agricultural Experiment Station
Prickett, Kellam, M.A., Part-time Instructor, University School
Prindl, Frank Joseph, M.M., Assistant Professor of Music (Band Instruments); Director of University Band
Pryor, Joseph William, M.D., Professor of Anatomy and Physiology, Special Assignment

* See appended list of changes of status, p. 428

Pullen, James F., 1st Lt., U. S. Air Force, Assistant Professor of Military Science and Tactics
Pulliam, Francis M., M.A., Ph.D., Assistant Professor of Mathematics
Raber, Edward B., Master Sergeant, Infantry, U. S. Army, Instructor in Military Science and Tactics
Rainwater, Frank, M.A., Instructor in English
Raley, F. Porter, A.B., Research Assistant, College of Commerce
Ramsey, Ralph J., M.A., Field Agent in Rural Sociology, Agricultural Extension Division
Randall, Frank Hall, A.B., LL.B., S.J.D., Professor of Law, Emeritus
Rankin, Annie Laurie, A.B., Kindergarten, University School
Rannells, Edward Warder, M.A., Professor of Art, Head of the Department of Art
Reading, Carolyn, A.B., B.S., Head, Acquisition Department, University Library
Reed, Helen M., A.B., Psychology and Guidance, University School
Reed, Scott, LL.B., Instructor in Law
Reeves, John Estill, M.A., Assistant Professor of Political Science
Reid, David Alexander, M.S., Associate Agronomist, Agricultural Experiment Station
Rhoades, Winfred Carl, M.S., Assistant Entomologist, Agricultural Experiment Station
Richeson, King, A.B., Part-time Instructor, University School
Rider, Robert P., B.S., County Forestry Assistant, Agricultural Extension Division
Riggs, Charles Lathan, M.A., Instructor in Mathematics
*Riley, Herbert Parkes, M.A., Ph.D., Professor of Botany; Head of the Department of Botany
Ripy, Sara Louise, A.B., Instructor in Mathematics
Ritcher, Paul Osborn, M.S., Ph.D., Entomologist, Agricultural Experiment Station
Ritchie, Rufus Haynes, B.S. in E.E., Instructor in Physics
Roberts, A. Dudley, M.A., Ph.D., Part-time Lecturer in Psychology
Roberts, George, M.S., Professor of Agronomy, Emeritus
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*Roberts, William Lewis, M.A., J.D., S.J.D., Professor of Law, Emeritus
*Robinson, Harold C. S., M.A., Research Assistant, University School
*Robinson, John Earl, M.S., Driver Training, University School
*Robinson, Lolo Lemme, A.B., Part-time Assistant Professor of Radio Arts
Rohde, Florence Virginia, M.M., M.A., Instructor in Mathematics

* See appended list of changes of status, p. 428.

Romanowitz, Harry Alex, E.E., M.S., Ph.D., Professor of Electrical Engineering

Rose, Donald Clayton, M.A., Instructor in Mathematics

Roser, Margaret, A.B., Librarian, University School

Rowland, Russell, B.S. in Agr., Assistant in Agronomy, Agricultural Experiment Station

Royster, Wimberly C., M.A., Instructor in Mathematics

Rucker, Alice Kennedy, B.Ph., M.A. in Soc. Adm., Assistant Professor of Social Work

Rudd, Robert W., M.S., Assistant Economist in Agricultural Marketing, Agricultural Experiment Station

Ruggles, Willard E., M.A., Instructor in Sociology

Rupp, Adolph Fred, M.A., Head Basketball Coach; Lecturer, Department of Physical Education, 1948–49

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*Ryland, Hobart, M.A., Docteur de l'Universite', Professor of Romance Languages, Head of the Department of Romance Languages

*St. Clair, Doralee, Assistant Chemist, Feed and Fertilizer Department, Agricultural Experiment Station

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Sawin, Lewis, M.A., Instructor in Radio Arts; Program Supervisor, Radio Studios

Scharfschwerdt, Ida Mary, M. S., Instructor in Bacteriology

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* See appended list of changes of status, p. 428

Seeds, Frances, M.S., Associate Professor of Home Economics
*Segerquist, Arvid W., Master Sergeant, U. S. Army, Instructor in Military Science and Tactics (Air ROTC)
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* See appended list of changes of status, p. 428

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Soper, Frances Poe, B.S. in H.E., Field Agent in Home Economics, Agricultural Extension Division
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* See appended list of changes of status, p. 428.

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* See appended list of changes of status, p. 428

Thaxton, Robert, M.S. in Agr., Assistant Agronomist, Agricultural Experiment Station
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*Turner, Earl K., Research Assistant, Bureau of Business Research
Turner, Mildred S., A.B., Head Resident of Patterson Hall
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* See appended list of changes of status, p. 428

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Warnick, Betty Jane, A.B., Instructor in English

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*Watters, James I., Ph.D., Associate Professor of Chemistry

Wear, Pat W., M.A., Research Assistant, Bureau of School Service

Weaver, Ralph Holder, M.S., Ph.D., Professor of Bacteriology

Webb, Louise Gray, Librarian Emeritus, College of Engineering

Webb, William Snyder, M.S., D.Sc., Professor of Physics, Head of the Department of Physics; Professor of Anthropology, Head of the Department of Anthropology

*Weeks, Daniel Edgar, A.B., Th.B., Instructor in History

Weeks, Martin Edward, Ph.D., Agronomist, Agricultural Experiment Station

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Weldon, Myrtle, M.A., State Leader of Home Demonstration Agents, Agricultural Extension Division

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* See appended list of changes of status, p. 428.

*Wesley, William Clarence, M.A., Ph.D., Associate Professor of Education; Director, University of Kentucky Northern Extension Center, Covington, Kentucky

West, Mary Lucille, M.A., Languages, University School

Wetzel, Harold E., M.A., Professor of Social Work, Head of the Department of Social Work

Wheeler, Boyd Edgar, B.S. in Agr., Field Agent in 4-H Club Work, Agricultural Extension Division

Wheeler, Ruric E., A.B., Instructor in Mathematics

Whitaker, Paul Knowlton, M.A., Ph.D., Professor of German

*White, Alice, M.A., Instructor in English

White, Helen McMichael, B.S., Assistant State Leader of Home Demonstration Agents, Agricultural Extension Division

White, J. B., M.A., Instructor in Romance Languages, University of Kentucky Northern Extension Center

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*Wiedo, Laura Withers, Technician in Animal Husbandry, Agricultural Experiment Station

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Wilford, Edward James, M.S. in Agr., Professor of Animal Husbandry; in charge of Meats Laboratory; Assistant in Animal Husbandry, Agricultural Experiment Station

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Wilmore, Helen, M.S. in H.E., Assistant Professor of Home Economics

Wilson, Goldie M., A.B., Part-time Instructor in Commerce

* See appended list of changes of status, p. 428

Wilson, Margaret Ann, A.B., Secretary of the Young Women's Christian Association

Wilson, William Clark, B.S. in Agr., Assistant State Agent, County Agent Work, Agricultural Extension Division

Wofford, Azile May, M.S., Associate Professor of Library Science

Wood, E. Boyne, B.B., Assistant Geologist, Kentucky Geological Survey, Department of Geology

Wood, Lynne K., M.S., Ph.D., Spectographer and Research Chemist, In Charge of Section of Minor Elements Research, Agricultural Experiment Station

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*Wooldridge, Hilda Capablanca, A.B., Instructor in Romance Languages

*Wooldridge, Mary Carolyn, M.S., Assistant Professor of Home Economics

Woolf, James Dudley, A.B., Instructor in English

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Young, Harry Maxie, M.S. in Agr., Field Agent in Farm Management, Agricultural Extension Division

*Young, Henry Clayton, B.S. in C.E., B.S. in Arch., Part-time Instructor in Architectural Engineering

*Young, Jean Linden, B.S. of B.F., Part-time Instructor in Architectural Engineering

*Zemp, Gertrude M., Manager of Residence Halls for Women

* See appended list of changes of status, p. 428.

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* See appended list of changes of status, p. 428

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* See appended list of changes of status, p. 428.

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* See appended list of changes of status, p. 428.

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*Lillian W. Wesley, Clerk-Stenographer

Engineering Experiment Station

Daniel Voiers Terrell, C.E., Dean and Director
Ernest Adolphe Bureau, B.S., Ph.B., E.E., Head of the Department of Electrical Engineering
Charles Stevens Crouse, E.M., Head of the Department of Mining and Metallurgical Engineering

* See appended list of changes of status, p. 428.

Edward Everett Elsey, M.E., Associate Professor of Engineering Research, Editor and Secretary of the Engineering Experiment Station
Lowell Edward Gregg, M.S.E., Associate Director, State Highway Research Laboratory
Andre Johannes Meyer, Director of Aeronautical Research Laboratory
Estel Burdell Penrod, B.S. in M.E., M.S., M.M.E., Head of the Department of Mechanical Engineering
Robert Ezekiel Shaver, C.E., Head of the Department of Civil Engineering
Sarah S. Tinsley, Clerk-Stenographer
Harry Comer Wolf, Consulting Engineer

Clerks, Engineers, Supervisors, Laboratory Technicians and Mechanics

Glenn T. Abbott
*Robert F. Baker
Robert G. Beavers
Paul E. Brawner
Carey Burns
Smith T. Collier
Douglas Winn Cox
Vivien C. Currens
Robert S. Dean
William A. Egalite
John L. Elmore
Harold W. Estill
*Joseph A. Eyl
Jean C. Farney
Dudley B. Harp
James H. Havens
*George R. Hayden
McClellan J. Heath
E. E. Kayse
Frances Keesee
Violet King
Margery B. McCabe
*Edna W. Murphy
Edna L. Overstreet
Zack Pulliam, Jr.
Mary P. Russell
*Paul Henry Schwartz
*Patsy H. Terrell
Francis Joseph Trapp
George E. Umstead, Jr.
Edwin C. Wade
George W. Whitlow
Henry Wilder
*Robert Witt, Jr.
Jesse Wyatt
James L. Young

COLLEGE OF LAW

Elvis J. Stahr, Jr., A.B. in Jur., M.A., B.C.L., Dean
Margaret Dorothy Salmon, B.S. in Com., LL.B., Librarian
Mary Dunne, A.B., Secretary
*Charlotte Briggs Haggin, Secretary to the Faculty

COLLEGE OF EDUCATION

William Septimus Taylor, M.S., Ph.D., LL.D., Dean
Frank G. Dickey, M.A., Ed.D., Assistant to the Dean
Anne Lewis Wilson, B.S. in Com., Secretary

* See appended list of changes of status, p. 428.

Ollie Mae Roberson, Assistant Secretary
Cassie Pace Bobbitt, Secretary, Division of Educational Administration
*Jacqueline Johnson Boswell, A.B., Secretary, Home Economics Education
Geneva Campbell, Secretary, Agricultural Education
*Lois Allen Duncan, A.B. in Ed., Secretary, Agricultural Education
Lola Fish, Secretary, Industrial Education
Marguerite Griffith, A.B. in Ed., Secretary, Bureau of School Service
*Betty J. Haynes, Secretary, Industrial Education
Ruthe Maxedon Henderson, A.B., Secretary, Bureau of School Service
Virginia Hubbard, Secretary, Home Economics Education
Katherine Hammack Kemper, A.B., Secretary, Placement Bureau
*Josephine G. King, Part-time Secretary, Business Education
Sara Frances Lamb, Part-time Secretary, Elementary Education
*Mildred Lowry, B.S. in Com., Secretary, Division of Foundations of Education
Clara Mae Marcum, Secretary, Division of Foundations of Education
Floye Perkins, A.B., Secretary, University School
Hugh Gibson Phillips, Part-time Secretary, Business Education
Harryette Rupard, Part-time Secretary, Bureau of School Service
*Billy Whitlow Smith, A.B., Secretary, Division of Foundations of Education
*June Staker, Part-time Secretary, Bureau of School Service
*Louise Stout, A.B. in Ed., Secretary, University School
Marye Walker, Secretary, Agricultural Education
Alma N. Wathen, Assistant Secretary, University School

COLLEGE OF COMMERCE

Cecil C. Carpenter, M.S., Ph.D., Dean
Jane Earle Middelton, A.B., Secretary
*Lucy B. Lindner, Assistant Secretary
*Josephine Gee King, Secretarial Assistant
*Harriet Meadors, Assistant Secretary
*Ann Phillips Clements, B.S., Secretary of the Bureau of Business Research
*Toba Mlavsky Reitman, Secretary, Bureau of Business Research

COLLEGE OF PHARMACY

Earl Platt Slone, Ph.G., B.S., R.Ph., Dean
John Lewis Fleming, B.S. in Com., Bursar-Recorder
Anne Elizabeth Garrison, A.B. in Ed., Secretary
*Mary Stapp Dunaway, Secretary

* See appended list of changes of status, p. 428.

THE GRADUATE SCHOOL

Louis Arthur Pardue, M.S., Ph.D., Dean
Queenie Morrow Grable, M.A., Secretary

DEPARTMENT OF UNIVERSITY EXTENSION

Louis Clifton, M.A., Director
*Thomas L. Hankins, M.S., Director of Northern Extension Center
*William Clarence Wesley, M.A., Ph.D., Director of Northern Extension Center
Chloe Gifford, M.A., Assistant in University Extension
Gordon C. Godbey, M.A., Assistant in University Extension
Maude Ward Lafferty, Secretary Emeritus, Women's Club Service
Ruby Evans Hart, M.A., Assistant in University Extension
Marie Abbott, Film Technician
John Dicker, Projectionist
*Jemima C. Harris, Film Technician
Almira Parks Lewis, B.S., Secretary
Bethel Chase Lipps, Secretary
Wilma Doris McClure, Secretary
Anna Jane McDonald, Secretary
Jay Martin, Secretary
*Harriet W. Meadors, Secretary
*Mildred R. Morrissey, Secretary
Phoebe Marie Waters, A.B., Bookkeeper

OFFICE OF THE DEAN OF MEN

Albert Dennis Kirwan, Ph.D., Dean of Men
Mary Hanifan Mitchell, A.B., Secretary
Elizabeth Bucher Peed, A.B., Secretary

Residence Halls for Men

Bennett H. Wall, M.A., Ph.D., Director of Men's Residence Halls
Murray A. Freeman, Supervisor of Veterans' Barracks
*Wilfred I. Kelly, B.S., Supervisor of Veterans' Barracks
J. W. Ratliff, Proctor, Bradley Hall
Ellis G. Williams, M.A., Proctor, Breckenridge Hall
Elizabeth H. Kirwan, Social Director
Maie Johnson Wall, A.B., Hostess

Fraternity Housemothers

Sarah McLean, Alpha Gamma Rho House
Emma Davis, Alpha Sigma Pi House
Stella Deschler, Alpha Tau Omega House
Mollie E. Botts, Delta Chi House
Ethel B. Fish, Delta Tau Delta House

* See appended list of changes of status, p. 428.

Linda Wilkerson, Kappa Alpha House
Havrena Carpenter, Kappa Sigma House
Loretta Douglas, Lambda Chi Alpha House
Lilly May Prior Hancock, Phi Delta Theta House
Irene M. Stahl, Phi Kappa Tau House
Ellen Wycoff, Phi Sigma Kappa House
Elizabeth S. Luxon, Sigma Alpha Epsilon House
Clara D. Lynn, Sigma Chi House
Lucille W. Stout, Sigma Nu House
Effie W. Sweatt, Sigma Phi Epsilon House
Winifred Wright, Pi Kappa Alpha House
Lyda Wood, Triangle House
Julia Boggs, Zeta Beta Tau House

OFFICE OF THE DEAN OF WOMEN

Sarah Bennett Holmes, M.A., Dean of Women
Jane Haselden, Ph.D., Assistant Dean of Women
Charlie I. Briggs, Assistant to the Dean of Women
*Jewell W. Sloan, B.S., Assistant to the Dean of Women
Celia Conley Moore, A.B., Secretary
*Irene Haynie Russell, A.B., Secretary
Margaret Bruce Cruise, A.B., Social Director
*Dorothy Hillenmeyer Evans, A.B., Social Director

Residence Halls for Women

Margaret V. Storey, M.A., Director of Residence Halls for Women, Head Resident for Jewell Hall
Gertrude J. Harvard, A.B., Head Resident for Boyd Hall
Mildred Turner, A.B., Head Resident for Patterson Hall
*Gertrude M. Zemp, Manager
Frances K. Kendall, B.S., Assistant Dietitian
Hettie B. Schad, Secretary-Bookkeeper
Dorothy Davis Flesche, A.B., Head Resident for Sayre Hall
Louella Harrison, B.S., Dietitian for Sayre Hall
Gertrude M. Trapp, Postmistress-Receptionist, Patterson Hall
Catherine A. Spaulding, Head Resident for Lydia Brown House
Lillian Caldwell, Head Resident for McDowell House
Julia Williams, A.B., Head Resident for the Barracks

House Directors for Sorority and Cooperative Houses

Zoa H. Hale, Alpha Delta Pi House
Mary S. Moss, Alpha Gamma Delta House
Jennie W. Hughes, Alpha Xi Delta House
Carrie V. Masengill, Chi Omega House
Lucille Phillips, Delta Delta Delta House
Frances Pennington, Delta Zeta House

* See appended list of changes of status, p. 428.

Bennie G. Williams, Kappa Alpha Theta House
Ada Louise Adams, Kappa Delta House
Lucille Newman, Kappa Kappa Gamma House
Mable Riedell, Zeta Tau Alpha House
Betty Henry, Hamilton House

OFFICE OF THE REGISTRAR

*Maurice F. Seay, M.A., Ph.D., LL.D., Registrar
*Lee Sprowles, M.A., Ed.D., Registrar
Maple Moores, Assistant Registrar
Dorothy Linville, A.B., Admissions Officer
Mary Page Milton, A.B., Recorder
Burma W. Caldwell, A.B., Graduate Assistant
Sadie Cooper, Recording Clerk
Edwina Crawford, Stenographer
Mary Queen Cunningham, Stenographer
Helene K. Davis, A.B., Assistant Admissions Officer
*Anne Elizabeth Garrison, A.B. in Ed., Secretary
Allene Harrod, Secretary
Mildred Oliver Haynes, Transcript Clerk
Mary Campbell Humphress, Stenographer, half-time
Esther Denton McChesney, Recording Clerk
Lucille Hope Newton, A.B., Assistant Recorder
*Betty Virginia Pearson, Recording Clerk
Geraldine Poor, Clerk
*Betty Rue Lawrence Shepherd, Recording Clerk
*Martha Virginia Short, B.S. in Com., Clerk
Evelyn Merrell Talbott, A.B., Recording Clerk
Sarah A. Utterback, M.A., Assistant Admissions Officer
*Marilyn Wheeler, Stenographer
*Jane Williamson, Clerk-Stenographer

UNIVERSITY LIBRARIES

Lawrence Sidney Thompson, A.B.L.S., Ph.D., Director of Libraries
Margaret Isadore King, A.B., B.S., University Librarian
Ruth K. Allender, A.B., Gift and Exchange Assistant, Acquisition Department
Dorothy B. Bach, A.B., Part-time Clerk-Typist, Catalog Department
Dorothy Bartsch, Clerk-Typist, Acquisition Department
Judith Tannenbaum Berkowitz, M.A., Assistant, Serials Department
Elizabeth Dowell Booth, A.B., Assistant, Acquisition Department
Bessie Mary Boughton, A.B., B.S. in L.S., Cataloger
Marjorie Maye Britton, A.B., Assistant, Circulation Department
Amelia King Buckley, A.B., Part-time Assistant, Acquisition Department

* See appended list of changes of status, p. 428.

Jacqueline Page Bull, A.B., Ph.D., Head, Archives Department
Virginia Caldwell, A.B., Assistant, Acquisition Department
Norma Beatrice Cass, B.S., M.A. in L.S., Head, Reference Department
Dolores Cook, Clerk-Typist, Catalog Department
Marie Crawford, Clerk-Typist, Acquisition Department
Algernon Smith Dickson, B.S. in L.S., M.A., Assistant Cataloger
Frances Smith Dugan, A.B., B.S. in L.S., Associate Archivist
Hazel Herald Farris, Secretary to the Director
Marjorie Gaines Giles, Card Order Clerk, Catalog Assistant, Catalog Department
Martha Pilkerton Gordon, Assistant, Reference Department
Mary Elizabeth Hanson, A.B., B.S. in L.S., Head, Serials Department
Louise Lancaster Haynes, Assistant Librarian, Agricultural Experiment Station Library
Mary L. Hixson, A.B., Biological Sciences, Librarian
Ida May Hill, Clerk-Typist, Catalog Department
Margery P. Hornsby, B.L.E., A.B., Part-time Arrears Worker
Frances S. Huddleston, Part-time Clerk-Typist
Austell Beaton Hulett, B.S. in Com., Assistant, Acquisition Department (Accounts)
Kate Tipton Irvine, B.S. in L.S., M.A., Head, Circulation Department
Catherine Lynn Katterjohn, A.B., B.S. in L.S., Serials Cataloger
*Mary W. Lassiter, B.S., Assistant, Archives Department
Margaret Cobb Meadow, A.B., B.S. in L.S., Part-time Assistant Acquisition Department
Mary Amanda Nooe, A.B., Cataloger
Nancy Kathryn O'Hare, A.B., Assistant, Circulation Department
Maxine Lewis Perrine, A.B., B.S. in L.S., Assistant Serials Librarian
Mary Frances Pope, Librarian, College of Engineering Library
Carolyn Reading, A.B., B.S., Head, Acquisition Department
Carolyn Hayes Reed, B.S., Librarian, Geology Department Library
Margaret E. Roser, A.B., Librarian, University School Library.
Margaret Dorothy Salmon, B.S. in Com., LL.B., Librarian, College of Law
Mildred Erd Scott, A.B., B.S. in L.S., Assistant Reference Librarian
Emilia Varden Smith, A.B., Assistant Serials Cataloger
Grace L. Snodgrass, A.B., Librarian, Agricultural Experiment Station Library
Bess Stapleton, Mender, Catalog Department
Ellen Butler Stutsman, A.B., M.S., Head, Catalog Department
Artie Lee Taylor, Reserve Book Librarian

* See appended list of changes of status, p. 428.

Margaret Helmsing Tuttle, A.B., B.S. in L.S., Librarian in charge of Departmental Libraries
Mary Elizabeth Wallace, A.B., Librarian, College of Pharmacy
Lou Ada Wells, A.B., Assistant, Circulation Department

UNIVERSITY HEALTH SERVICE

John Sharpe Chambers, M.S., M.D., Director
Charles McChord, M.S., M.D., Physician
George Fergison Doyle, A.B., M.D., F.A.C.S., Physician
Jacob Duncan Farris, M.A., M.D., Physician
Logan Gragg, A.B., M.D., Physician
*Oliver H. Pinney, M.D., Associate Professor of Hygiene and Public Health
William Brooks Hamilton, M.S., Ph.D., Bacteriologist; Associate Professor of Hygiene and Public Health
Wilbur August Heinz, M.S. in P.H., Associate Professor of Hygiene and Public Health
Allen Edward Crowe, B.S. in Med. Tech., R.M.T., Technician
*Betty Smith Green, Reg. Med. Tech. (A.S.C.P.), Assistant Technician
Anna Lee Brown, B.S., Registered Nurse
Margaret Davis, Registered Nurse
Ann C. Hickey, Registered Nurse
Vivian Combs Morris, Clerk
Pauline Morton, Registered Nurse
Katherine W. Owens, Secretary
Juanita Peel Sizemore, Registered Nurse

PERSONNEL OFFICE

Lysle Warrick Croft, M.A., Ph.D., Director
Robert W. Henderson, M.A., Assistant Director for Testing
Leslie Leon Martin, M.S., Assistant Director for Counseling
*Emily W. Baker, M.A., Testing Assistant
John A. Baker, M.A., Testing Assistant
Eadward M. Brown, A.B., Counselor
*Margaret Bruce Cruise, A.B., Clerk
Dorothy Dean, A.B., Secretary
*John D. Freeman, A.B., Research Assistant
Charlotte R. Hobbs, Secretary
Anne A. Lewis, Receptionist
Jane Street Luttrell, A.B., Testing Assistant
Marjorie Orr, A.B., Clerk
Kathleen L. Poor, A.B., Clerk
Jean S. Tupman, Clerk
Anne Wells, Secretary

* See appended list of changes of status, p. 428.

DEPARTMENT OF PUBLIC RELATIONS

Raymond W. Wild, A.B., Ph.M., Director of Public Relations
Kenneth L. Kuhn, A.B., Sports Editor
Paul Crowdus, A.B., News Editor
*Betty Longsworth Kindred, Secretary
Marilyn Wheeler, Secretary

UNIVERSITY RADIO STATION

*Elmer Griffith Sulzer, M.S., Director
*H. Lewis Sawin, M.A., Program Supervisor
*Lolo Lemme Robinson, A.B., Program Supervisor, Acting Director, 1948–49
J. Ransford Davis, Engineering Supervisor
*Arnold H. Haun, B.S., Transmitter Engineer
Ruth Brophy, Secretary

UNIVERSITY Y. M. C. A.

Bart Nixon Peak, A.B., LL.B., Secretary
Martha Huber, Assistant Secretary

UNIVERSITY Y. W. C. A.

Margaret Ann Wilson, A.B., Secretary
*Carolyn Spicer King, A.B., Secretary

DEPARTMENT OF ATHLETICS

Bernie Armstead Shively, M.A., Director of Intercollegiate Athletics
Paul William Bryant, A.B., Head Football Coach
Adolph Fred Rupp, M.A., Head Basketball Coach
Ermal Glen Allen, B.S., Assistant Football Coach
Joseph Gwynne Atkinson, B.S., Assistant Football Coach
Harry Current Lancaster, M.A., Assistant Basketball Coach
Carney Graham Laslie, B.S., Assistant Football Coach
Frank O'Rear Moseley, B.S., Assistant Football Coach and Baseball Coach
Ted Osborne, M.A., Assistant Football Coach
Clarence Emory Underwood, A.B., Assistant Football Coach
Wilbert Eugene Burger, B.S., Trainer
Harvey Brown, Equipment Manager
Betty Jean Cordray, Bookkeeper
Harry G. Dickerson, A.B., Manager, Ticket Sales
Louise Loving Gilchrist, A.B., Secretary to the Athletic Director
Fern Elizabeth Jacobs, Secretary in Publicity and Basketball
Ellen Norma Minihan, A.B., Secretary to the Football Coach
Betty Jean Snedegar, Clerk-Typist
Mary Louise Monarch Topor, Account Clerk

* See appended list of changes of status, p. 428.

BUREAU OF SOURCE MATERIALS IN HIGHER EDUCATION

Ezra L Gillis, A.B., Director
Mary Hester Cooper, M.A., Assistant Director

ALUMNI ASSOCIATION

Helen G. King, A.B., Executive Secretary
Jane Williamson, Assistant Secretary
*Jeannette Graves, A.B., Assistant Secretary

OFFICE OF THE COMPTROLLER

Frank D. Peterson, A.B., Comptroller
David Howard Peak, L.L.B., M.A., Business Agent Emeritus
Ena Jones, Secretary
Helen Ruth Bromley, Clerk-Stenographer

Accounting Division

*Linn Hemingway McCain, Assistant Comptroller
Walter Evans Bromley, C.P.A., Accountant
Ed Gabbard, B.S., Special Assistant
Clay Maupin, Internal Auditor
Alfred Harden Ervin, B.S., Assistant Internal Auditor
Richard Lee Garr, Assistant Internal Auditor
Ruby Bartlett, B.S. in Com., Bookkeeper
LeGrand Briggs, M.A., Account Clerk
Barbara Criswell, Bookkeeping Machine Operator
Lillian Marie Donovan, A.B., Payroll Clerk
Ruth Earnest, Assistant Accountant
Virginia Baxter Earnest, Bookkeeper
Kate Kearns, Senior Account Clerk
Margaret Lewis, Cashier
Emma Grace Merrell, Payroll Clerk
Dorothy Garrison Morris, B.S., Machine Operator
Mary Louise Ransdell, Clerk
Anne Scott, Clerk-Typist
Nelson B. Turner, Senior Account Clerk
Camilla Weathers, B.S. in Com., Clerk-Stenographer

Purchasing and Stores Division

Ken Broomell, A.B., Supervisor
Martha Halley, A.B., Clerk
Enola Hauge, Ph.B., Clerk
Drusilla Jones, A.B., Clerk
Edith Miller, Clerk-Stenographer
Helen Lafferty Nisbet, Order Clerk
Minnie Pherigo, Order Clerk, Emeritus

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* See appended list of changes of status, p. 428.

H. Devaughn Pratt, A.B., Inventory Supervisor
Janet Stark, Clerk
Howard Murphy West, B.M.E., Specifications Writer
Arkley Wright, M.A., Storeroom Clerk

Division of Maintenance and Operation

Elgan B. Farris, C.E., Chief Engineer
John M. Howard, B.S. in M.E., Assistant Chief Engineer
Betty Atwell, Clerk
Watts Bean, Assistant Supervisor of Janitors
Joseph L. Boston, B.S. in E.E., Engineer-Inspector
Reva Chapman, Clerk-Typist
Sally Denny, Clerk-Stenographer
Claude Dickerson, Steamfitting and Plumbing Foreman
Mary Dougherty, B.S., Secretary
Fleming Butner Griffith, A.B., Accounts Clerk
Elizabeth Holsclaw, Clerk-Typist and Relief Telephone Operator
G. C. Jones, Carpenter Foreman
L. D. Kitchen, Electrician Foreman
Clyde Lilly, Chief Clerk
Jackie Lutes, Clerk
Glenmore Moberly, Garage Foreman
J. Y. Peck, Foreman Heating Plant
Laura Johnson Shade, Clerk-Typist
Bettie Swope, Chief Telephone Operator
Seth E. Taylor, Supervisor of Janitors
Lathon P. Thompson, B.S. in C.E., Engineer-Inspector
Joe Underwood, Grounds Foreman
Irene Wells, Telephone Operator
James Wood, Painter Foreman

Stenographic Bureau

Mary Johnston, Head
Katherine W. Shelburne, Stenographer
Beulah Fugitt, Mimeograph Operator

University Station

Carrie Bean, Superintendent
Eloise Gray Webb, Assistant Superintendent
Adrain Bradshaw, Clerk
Greeley Bradshaw, Mail-Carrier
Sallie Lindon, Clerk
*Bess Moore, Clerk
Helen Threlkeld, Clerk

* See appended list of changes of status, p. 428.

Kentucky Kernel

Niel Plummer, M.A., Ph.D., Director of Student Publications
William Donald Grote, A.B., Manager of Printing Plant, Assistant Director of Student Publications
Stella Mae Ison, A.B., Bookkeeper-Secretary

Student Union Building

Mackie Rasdall, M.A., Director
Margaret Bruce Cruise, A.B., Social Director
Margaret Crutcher, Hostess
Allie Frances Evans, Hostess and Clerk
Anne Jackson, Hostess
Delbert Levi McLaughlin, Bookkeeper

Student Union Cafeteria

Thelma Thompson, B.S. in H.E., Director
Anne Elliott, B.S., Assistant Director
Mamie Duke Elliott, Clerk-Bookkeeper
Violet Fredericks, B.S., Assistant Director
Elizabeth Gault, Assistant Director
Jean O'Neal, Storeroom Clerk
Laurence Roberts, Manager of Grill

Little Commons

Anna Louise File, B.S., Director
Vivian Hines Pence, B.S., Assistant Director
Irene Greene, Bookkeeper and Storeroom Clerk

Training School Cafeteria

Maurine Mauser, B.S. in H.E., Director

Campus Book Store

James E. Morris, A.B., Manager
Lloyd Q. Mautz, Assistant Manager
Bess Dudley Mayes, Secretary
Elizabeth Moores, Clerk

Veterans Housing Project

Stanley Atwood Boles, M.A., Manager
John Tyler Gess, B.S. in C.E., Project Engineer
Grace Yarutis, B.S. in Com., Bookkeeper
Wilfred I. Kelly, B.S., Supervisor of Barracks
Edna Robbins, Clerk

CHANGES IN STATUS AFFECTING MEMBERS OF THE UNIVERSITY STAFF
1948-49

Adams, Eugene, Appointed through 1947-48
Allen, Samuel Judson, Resigned July 1, 1948
Anderson, C. Arnold, On leave 1948-49
Anderson, Virginia Frances, Appointed through 1947-48
Armstrong, Watson, On leave 1948-49
Ashby, Frank G., Transferred January 11, 1949
Emily W. Baker, Resigned June 1, 1949
Baker, Robert Fulton, Resigned February 1, 1949
Bean, Frank Dawson, Resigned September 1, 1948
Beard, Catherine, Appointed through 1947-48
Beers, Howard W., On leave 1949-50
Bell, Clarence S., Resigned May 31, 1948
Bingham, Florence, Resigned February 1, 1949
Bishop, Charles E., On leave 1948-49
Bisset, Eugenia, Resigned July 1, 1948
Boswell, Jacqueline Johnson, Resigned April 21, 1948
Brady, George Keyports, On leave Fall Semester, 1948-49
Brauer, Alfred Charles, On leave July 19, 1948, to January 19, 1949
Capurso, Alexander Alexis, Resigned July 1, 1948
Caswall, Ethel V. T., Died May 22, 1949
Clark, Louise Swinford, Resigned September 1, 1948
Clay, Maurice A., Transferred from College of Education to Arts and Sciences
Clements, Ann Phillips, Appointed November, 1948
Combs, Anna McGlothen, Resigned August 31, 1948
Conroy, Katherine, On leave, 1948-49 and 1949-50
Cruise, Margaret Bruce, Transferred to Office of Dean of Women July 1, 1948
Cunagin, David H., Resigned March 1, 1948
Deily, Robert Howard, Resigned September 1, 1948
Dickerson, Z. S., Resigned September 1, 1948
Doering, Charles E., Transferred December 22, 1948
Doyle, Mary Elizabeth, Resigned February 1, 1949
Dunaway, Mary Stapp, Resigned July 15, 1949
Duncan, Lois Allen, Resigned February 1, 1948
Eaton, William Clement, On leave Spring Semester, 1948-49
Edwards, Philip Rarick, Resigned July 31, 1948
Elliott, William Richard, Resigned March 31, 1948
Ellison, Robert D., Transferred June, 1948
Evans, Dorothy Hillenmeyer, Resigned June 30, 1948
Eyl, Joseph A., Resigned July 10, 1948
Ferguson, Chester M., Transferred June, 1948
Fields, Raymond I., Resigned September 1, 1948
Finnie, Thomas C., Appointed through March 31, 1948
Flanary, Harold Graham, Appointed through 1947-48

Fowler, Frank Charles, Resigned July 1, 1948
Freeman, John D., Resigned February 15, 1949
Freeman, Louise Barton, Appointed through 1947-48
French, Nancy C., Appointed through 1947-48
Frye, Margaret Hinton, Resigned January 19, 1948
Gallagher, Martha Robards, Resigned November 7, 1948
Gallant, Constance W., Resigned August 1, 1948
Garr, Doris K., Resigned June 1, 1949
Garrison, Anne, Resigned February 10, 1949; Secretary College of Pharmacy, July 1, 1949
Glenn, Nancy M., Resigned May 31, 1949
Graves, Jeannette, Resigned September 15, 1948
Graves, Marie K., Resigned July 1, 1948
Gray, Bill L., Transferred January 3, 1949
Green, Betty Smith, Resigned May 23, 1949
Griffith, Robert Bell, On leave 1948-49
Haggin, Charlotte B., Resigned June 1, 1949
Hamilton, Daniel K., Appointed through 1947-48
Hammonds, Carsie, On leave 1948-49
Hankins, Thomas L., Director of Northern Extension Center July 1, 1949
Hanna, Paul M., Resigned May 15, 1948
Harris, Jemima C., Resigned October 10, 1947
Haselden, Jane, On leave Spring Semester, 1948-49
Hatch, David Lincoln, Resigned July 1, 1948
Haun, Arnold H., Resigned May 1, 1949
Hayden, George R., Resigned September 1, 1948
Hayes, Nancy Taylor, Resigned August 1, 1948
Haynes, Betty J., Resigned June 1, 1948
Hedges, Gloria H., Resigned July 1, 1948
Hegland, Leonard, Appointed through 1947-48
Henderson, Amelia N., Resigned January 1, 1949
Hermann, George J., Resigned June 30, 1948
Hilliard, Pauline, Resigned July 1, 1949
Hillis, Charity Ruth, Resigned July 1, 1948
Hobbs, Charlotte, Appointed through 1947-48
Hoover, John L., Resigned July 1, 1948
Hust, Kathleen H., Resigned August 10, 1948
Hutson, Emma Sue, Appointed through 1947-48
Hutter, Harry K., Appointed through 1947-48
Jasper, Gwendolyn, Appointed through 1947-48
Jasper, Samuel J., Resigned September 1, 1948
Johnson, Edward Marshall, On leave, 1948-49
Jones, Grace, Resigned March 1, 1948
Jones, Howard B., Resigned September 1, 1948
Jones, John C., Transferred September, 1948
Kaufman, Harold F., Resigned June 30, 1948
Keeney, Bruce N., Transferred January 7, 1949

Kelley, David O., Resigned June 5, 1949
Kelley, Ruth, Resigned June 18, 1948
Kelly, Mary Frances, Resigned February 1, 1949
Kelly, Wilfred I., Resigned May 14, 1949
Kindred, Betty L., Resigned May 3, 1949
King, Carolyn Spicer, Resigned January 1, 1949
King, Josephine G., Resigned 1948
Kirk, Betty C., Resigned October 22, 1948
Klass, Selma Werlin, Appointed through 1947-48
Lancaster, Harry Current, Resigned from Instructorship in Physical Education, June 1, 1948
Lassiter, Mary W., Resigned May 23, 1949
Lerner, Gerald P., Transferred August, 1948
Letton, George C., Resigned July 15, 1948
Lewis, Chester R., Appointed through 1947-48
Lieberman, Irving, Resigned January 1, 1948
Light, James, Appointed through 1947-48
Linder, Lucy B., Resigned August 15, 1948
Lowry, Mildred, Resigned September 1, 1948
Ludwick, Thomas Murrell, Resigned July 31, 1948
Lunde, Robert Gerhard, On leave 1948-49
McCain, Linn Hemingway, Died February 13, 1949
McDowell, Helen V., Resigned October 31, 1948
McGlothen, Ethel N., Resigned February 7, 1948
McMillian, Nathaniel Bowles, Transferred to College of Education, 1948-49
McMurtry, Clemons C., Resigned March 1, 1948
Mackay, Barbara D., Resigned October 10, 1948
Martin, Mildred, Appointed through 1947-48
Meadors, Harriet W., Transferred to College of Commerce, September 1, 1948
Meadows, Azel B., Resigned June 30, 1949
Meers, Joseph Tinsley, Resigned July 1, 1948
Molloy, Jeanette, Resigned July 1, 1949
Monical, Thelma, On leave 1948-49
Moore, Bess, Resigned March 24, 1949
Morris, Thomas Buie, Resigned September 30, 1948
Morrissey, Mildred R., Resigned November 13, 1947
Motsinger, Norma, Resigned December 29, 1948
Mulberry, John Horace, Appointed through 1947-48
Murphy, Edna W., Resigned April 1, 1948
Nesius, Ernest Joseph, On leave 1948-49
Niess, Robert Judson, Resigned July 1, 1948
Nolan, Bess G., Resigned July 31, 1948
Odor, Anna Frances, Resigned July 1, 1948
Palmer, Harry Meade, Resigned June, 1948
Parmeter, Guy N., Appointed through 1947-48
Patterson, Mary Jerry, Resigned April 1, 1948

Pearson, Betty Virginia, Resigned June 1, 1949
Peck, Anna Browning, On leave Fall semester, 1948-49
Pherigo, Fannie Belle, Resigned May 8, 1948
Pinney, Oliver H., On leave
Povlovich, Charles A., Resigned August 31, 1948
Quertermous, Frances Y., Resigned August 7, 1948
Reitman, Toba Mlavsky, Resigned June, 1948
Reyneirson, Lena, Resigned August 8, 1948
Riley, Herbert Parke, On leave 1948-49 and Summer Session 1949
Roberts, William Lewis, On leave 1948-49
Robinson, Harold C. S., Resigned September 1, 1948
Robinson, John Earl, Resigned September 1, 1948
Robinson, Lolo L., Transferred to Department of English, July 31, 1949
Russell, Irene Haynie, Resigned September 1, 1948
Ryland, Hobart, On leave 1948-49
St. Clair, Doralee, Resigned March 5, 1948
Saunier, Stephen Thaddeus, Died April 8, 1949
Savage, William Frederick, On leave 1948-49
Sawin, Lewis, Program Supervisor, Beginning July 1, 1949
Schwartz, Paul Henry, Resigned February 1, 1948
Seay, Maurice F., Registrar to June 30, 1949; Continues as Dean of the University
Segerquist, Arvid W., Transferred December, 1948
Shepherd, Betty Rue Lawrence, Resigned September 1, 1948
Shirley, Margaret, Resigned September 1, 1948
Short, Martha Virginia, Resigned August 8, 1949
Slade, Nancy Lee, Resigned December 6, 1948
Sloan, Jewell W., Resigned September 13, 1948
Smith, Bethania, Appointed through March, 1948
Smith, Billy Whitlow, Resigned May 1, 1948
Smith, Frances C., Resigned March 1, 1948
Smith, Lila Joyeaux, Resigned January 10, 1948
Smith, Raymond M., Transferred June, 1948
Southwood, Mildred Crawford, Resigned May 1, 1948
Spain, Charles R., Resigned July 15, 1949
Sprowles, Lee, Registrar beginning July 1, 1949; Assistant to Registrar, 1948-49
Staker, June, Resigned March 1, 1948
Stapleton, Boneva, Resigned February 29, 1948
Stephenson, Ann Louise, Resigned December 1, 1948
Stewart, Orville Watson, Resigned February 29, 1948
Stone, Robert L., Resigned September 1, 1948
Stooke, Nell J., Resigned February 21, 1948
Stout, Louise, Resigned March 8, 1948
Stout, William David, Appointed through 1947-48
Streeter, Robert Leroy, Jr., Resigned September 1, 1948
Sulzer, Elmer Griffith, On leave 1948-49

Tartar, Jerome, Transferred July, 1948
Terrell, Patsy H., Resigned August 31, 1948
Terrell, Willis Granville, Died January 13, 1949
Tiller, Garnet Louis, Resigned September 1, 1948
Toombs, Frances, Appointed through 1947-48
Trinkaus, Louis J., Resigned July 1, 1948
Trolinger, Nancy C., Resigned September 1, 1948
Turner, Earl K., Resigned August 31, 1947
Turner, Josephine, Resigned May 3, 1949
Tyler, Earl Thane, Appointed through 1947-48
Versaw, Mary H., Resigned February 4, 1949
Vest, Ruth, Resigned July 1, 1948
Walker, Charles R., Transferred July 1, 1948
Warnecke, Mabel L., Resigned
Warren, Eleanor, Resigned June 18, 1948
Watson, James Arthur, Jr., Resigned July 1, 1948
Watters, James I., Resigned August 31, 1948
Weeks, Daniel Edgar, Appointed for Winter and Spring Quarters, 1947-48
Wesley, Lillian W., Resigned March 13, 1948
Wesley, William Clarence, Resigned July 15, 1949
Wheeler, Marilyn, Transferred to Public Relations April 8, 1949
White, Alice, Appointed through 1947-48
Wiedo, Laura Withers, Resigned November 30, 1948
Williamson, Jane, Resigned October 1, 1948
Witt, Robert, Jr., Resigned February 10, 1948
Wofford, Azile, Acting Head of Department of Library Science, 1949-50
Wooldridge, Charles B., Resigned September 1, 1948
Wooldridge, Hilda Capablanca, Resigned September 1, 1948
Wooldridge, Mary Carolyn, On leave 1948-49
Wyatt, Charles Early, Military leave
Young, Henry Clayton, Resigned February 1, 1949
Young, Jean Linden, Resigned Februray 1, 1949
Zemp, Gertrude M., Resigned February 1, 1949

ADMINISTRATIVE COMMITTEES[1]

1948–49

1. **Commencement Exercises**—A. E. Bigge, Anne Callihan, Margaret B. Cruise, E. B. Farris, H. W. Farris, Jane Haselden, J. M. Howard, Helen King, A. D. Kirwan, Mildred Lewis, Colonel G. T. Mackenzie, Mary Page Milton, Maurice F. Seay, R. W. Wild.

2. **Foreign Students**—A. E. Bigge, Arthur L. Cooke, Jane Haselden, J. E. Hernandez, Chloe Gifford, A. D. Kirwan, Dorothy Linville, W. L. Matthews, Bart N. Peak, W. A. Price, Amry Vandenbosch.

3. **Founders Day**—Leo M. Chamberlain, Dana G. Card, E. B. Farris, E. L. Gillis, Jane Haselden, J. F. Hopkins, Helen King, Mildred Lewis, L. N. Plummer, J. E. Reeves, Lolo Robinson, Maurice F. Seay, W. S. Taylor, R. W. Wild.

4. **Freshman Week**—Lysle W. Croft, W. A. Heinz, Sarah B. Holmes, J. S. Horine, A. D. Kirwan, L. E. Meece, Maple Moores, Frank A. Pattie, Bart N. Peak, Maurice F. Seay, Lee Sprowles, D. G. Steele, W. A. Tolman.

5. **Haggin Fund Publications**—Frank L. McVey, Howard Beers, T. D. Clark, E. F. Farquhar, L. A. Pardue, Herbert Sorensen, Herman Spivey.

6. **Honors Day**—E. J. Stahr, Ralph Cherry, Clement Eaton, Herman Ellis, Sarah B. Holmes, L. J. Horlacher, A. D. Kirwan, Maple Moores, D. M. Seath, D. V. Terrell, R. H. Weaver, R. W. Wild.

7. **Insurance**—C. C. Carpenter, Charles Barkenbus, E. F. Hartford, J. B. Kelly, Paul Oberst, Frank D. Peterson, Ralph R. Pickett, H. A. Romanowitz, J. B. Shannon, Anne Wilson.

8. **Library**—J. W. Martin, T. D. Clark, C. S. Crouse, Alfred B. McEwen, H. B. Price, Herbert P. Riley, Maurice F. Seay, Herman Spivey, W. S. Taylor, Azile Wofford.

9. **Non-Resident Fees**—Maurice F. Seay, Frank Murray, Frank D. Peterson.

10. **Patents**—L. A. Pardue, E. N. Fergus, Carsie Hammonds, Shelby McCloy, J. W. Martin, Hubert E. Nelson, C. E. Snow, D. V. Terrell.

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[1] When not otherwise included, the Vice President of the University is ex-officio a member of each administrative committee. The first named member of each committee is the chairman.

11. **Personnel Office**—Lysle W. Croft, C. C. Carpenter, Thomas P. Cooper, Sarah B. Holmes, A. D. Kirwan, Maurice F. Seay, W. S. Taylor, D. V. Terrell, M. M. White.
12. **Schedule of Classes**—O. T. Koppius, Lyle R. Dawson, George P. Faust, R. D. Haun, L. J. Horlacher, Robert G. Lunde, Roy Moreland, Morris Scherago, Don C. Seaton, R. E. Shaver, C. R. Spain.
13. **Scholarships**—Leo M. Chamberlain, L. H. Carter, Lysle W. Croft, May K. Duncan, W. P. Garrigus, Chloe Gifford, Sarah B. Holmes, A. D. Kirwan, Frank Murray, D. V. Terrell, M. M. White.
14. **Scholarship and Attendance**—Maurice F. Seay, C. C. Carpenter, Lysle W. Croft, Jane Haselden, L. J. Horlacher, A. D. Kirwan, Irwin T. Sanders, E. J. Stahr, W. S. Taylor, D. V. Terrell, M. M. White.
15. **Social Program**—Sarah B. Holmes, Margaret B. Cruise, Carolyn King, A. D. Kirwan, Edward Newbury, Bart N. Peak, Mackie Rasdall, D. E. South, Margaret Storey, W. S. Ward.
16. **Student Loans**—C. C. Carpenter, H. H. Downing, Sarah B. Holmes, A. D. Kirwan.
17. **University Extension**—Maurice F. Seay, Aubrey J. Brown, W. W. Jennings, Gladys M. Kammerer, L. E. Meece, Frank Murray, J. R. Schwendeman, D. V. Terrell.
18. **Veterans' Housing**—A. D. Kirwan, S. A. Boles, Leo M. Chamberlain, Jesse DeBoer, Robert W. Henderson, Sarah B. Holmes, Frank D. Peterson, Bennett H. Wall, Harold E. Wetzel.

COMMITTEES OF THE UNIVERSITY FACULTY

1848-1949

1. **Elections**—Herbert P. Riley, L. H. Carter, C. B. Crawley, G. R. Gerhard, L. E. Meece, L. H. Townsend.
2. **Planning and Policy**—J. S. Horine, Leo M. Chamberlain, H. H. Downing, Carsie Hammonds, Roy Moreland, H. B. Morrison, Frank D. Peterson, Morris Scherago.
3. **Rules**—D. V. Hegeman, George K. Brady, Alfred C. Brauer, Leo M. Chamberlain, John Kuiper, E. B. Penrod, Maurice F. Seay.
4. **Student Organizations**—A. D. Kirwan, Jane Haselden, Robert G. Lunde, R. D. McIntyre, Frances Seeds, D. G. Steele.

PART VI
STATISTICAL SUMMARY

Table 1. University Enrollment by Sex and by Colleges and Classes for the Year Ending June 30, 1949 Including the Summer Term of 1948

(All duplicates excluded)

Classification	Arts and Sciences		Agriculture and Home Economics		Engineering		Law		Education		Commerce		Pharmacy		Graduate		Totals		Grand Totals
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	
Graduates	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1,107	514	1,107	514	1,621
Seniors	410	265	261	70	445	—	122	2	95	158	434	42	59	8	—	—	1,826	545	2,371
Juniors	472	185	199	56	445	1	56	4	73	114	341	35	100	3	—	—	1,686	398	2,084
Sophomores	414	200	170	55	396	1	114	3	26	46	151	24	58	3	—	—	1,329	332	1,661
Freshmen	723	347	178	55	218	3	—	—	15	27	157	49	—	—	—	—	1,291	481	1,772
Specials	43	59	58	3	6	—	—	—	90	35	21	21	—	—	—	—	218	118	336
Auditors	14	34	5	1	—	—	5	—	2	6	9	5	—	—	9	7	44	53	97
Transients	22	81	13	4	—	—	1	—	32	10	5	—	—	—	—	—	73	95	168
Totals	2,098	1,171	884	244	1,510	5	298	9	333	396	1,118	176	217	14	1,116	521	7,574	2,536	10,110

This table includes 223 students who were enrolled in the Northern Extension Center in Covington, and did not attend on the campus at any term during the year. There were eleven students who were enrolled both places.

Table 2. University Enrollment for the First and Second Semesters of 1948-49 by Sex and by Colleges and Classes

(All duplicates excluded)

Classification	Arts and Sciences		Agriculture and Home Economics		Engineering		Law		Education		Commerce		Pharmacy		Graduate		Totals		Grand Totals
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	
Graduates	—	—	—	—	—	—	—	—	—	—	—	—	—	—	670	256	670	256	926
Seniors	364	196	222	58	414	—	98	1	76	109	386	37	59	8	—	—	1,619	409	2,028
Juniors	460	167	182	52	442	1	54	4	68	102	337	34	100	3	—	—	1,643	363	2,006
Sophomores	391	192	163	55	388	1	110	3	21	41	147	22	58	3	—	—	1,278	317	1,595
Freshmen	710	344	175	55	215	3	—	—	14	24	154	47	—	—	—	—	1,268	473	1,741
Specials	38	45	37	—	5	—	—	—	5	14	21	21	—	—	—	—	106	80	186
Auditors	13	31	3	1	—	—	1	—	—	1	5	5	—	—	4	4	26	42	68
Transients	4	66	11	—	—	—	—	—	24	6	1	—	—	—	—	—	40	72	112
Totals	1,980	1,041	793	221	1,464	5	263	8	208	297	1,051	166	217	14	674	260	6,650	2,012	8,662

This table includes 227 of the students enrolled in the Northern Extension Center.

Table 3. University Enrollment for the First Semester of 1948-49 by Sex and by Colleges and Classes

Classification	Arts and Sciences		Agriculture and Home Economics		Engineering		Law		Education		Commerce		Pharmacy		Graduate		Totals		Grand Totals
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	
Graduates	—	—	—	—	—	—	—	—	—	—	—	—	—	—	493	183	493	183	676
Seniors	287	174	162	51	286	—	74	1	50	77	290	34	59	8	—	—	1,208	345	1,553
Juniors	435	175	182	46	463	1	63	3	56	90	317	30	100	3	—	—	1,616	348	1,964
Sophomores	425	195	170	55	465	1	103	3	25	34	187	20	58	3	—	—	1,433	311	1,744
Freshmen	734	339	175	56	223	2	—	—	16	23	136	47	—	—	—	—	1,284	467	1,751
Specials	28	28	33	—	4	—	—	—	4	5	11	15	—	—	—	—	80	48	128
Auditors	8	17	3	1	—	—	1	—	—	1	—	—	—	—	5	1	17	20	37
Transients	—	61	3	—	—	—	—	—	11	1	—	—	—	—	—	—	14	62	76
Totals	1,917	989	728	209	1,441	4	241	7	162	231	941	146	217	14	498	184	6,145	1,784	7,929

There were 175 of these enrolled in the Northern Extension Center.

Table 4. University Enrollment for the Second Semester of 1948-49 by Sex and by Colleges and Classes

Classification	Arts and Sciences		Agriculture and Home Economics		Engineering		Law		Education		Commerce		Pharmacy		Graduate		Totals		Grand Totals
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	
Graduates	—	—	—	—	—	—	—	—	—	—	—	—	—	—	531	176	531	176	707
Seniors	325	167	196	50	350	—	81	1	67	161	309	24	58	7	—	—	1,386	350	1,736
Juniors	418	148	170	48	429	1	49	4	66	87	307	31	89	3	—	—	1,528	322	1,850
Sophomores	334	159	151	51	339	1	96	3	18	39	125	19	52	2	—	—	1,115	274	1,389
Freshmen	561	280	149	52	185	3	—	—	13	22	124	30	—	—	—	—	1,032	387	1,419
Specials	23	29	12	—	4	—	—	—	1	12	18	15	—	—	—	—	58	56	114
Auditors	11	18	3	—	—	—	1	—	—	—	6	5	—	—	6	6	27	29	56
Transients	4	48	8	—	—	—	—	—	15	6	1	—	—	—	—	—	28	54	82
Totals	1,676	849	689	201	1,307	5	227	8	180	267	890	124	199	12	537	182	5,705	1,648	7,353

This table includes 160 students enrolled at the Northern Extension Center.

Table 5. University Enrollment for the Summer Term of 1948 by Sex and by Colleges and Classes

Classification	Arts and Sciences		Agriculture and Home Economics		Engineering		Law		Education		Commerce		Pharmacy		Graduate		Totals		Grand Totals
	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	M	W	
Graduates	—	—	—	—	—	—	—	—	—	—	—	—	—	—	696	329	696	329	1,025
Seniors	163	114	139	28	149	—	63	1	50	65	166	12	—	—	—	—	730	220	950
Juniors	198	72	126	13	291	—	55	—	29	32	156	5	—	—	—	—	855	122	977
Sophomores	145	39	48	11	229	—	33	1	16	12	60	2	—	—	—	—	531	65	596
Freshmen	93	22	28	4	32	1	—	—	6	3	23	5	—	—	—	—	182	35	27
Specials	14	16	22	3	3	—	—	—	89	18	2	—	—	—	—	—	130	37	167
Auditors	1	4	2	—	—	—	7	—	1	5	4	—	—	—	11	4	26	13	39
Transients	23	21	2	4	—	—	1	—	8	4	4	—	—	—	—	—	38	29	67
Totals	637	288	367	63	704	1	159	2	199	139	415	24	—	—	707	333	3,188	850	4,038

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