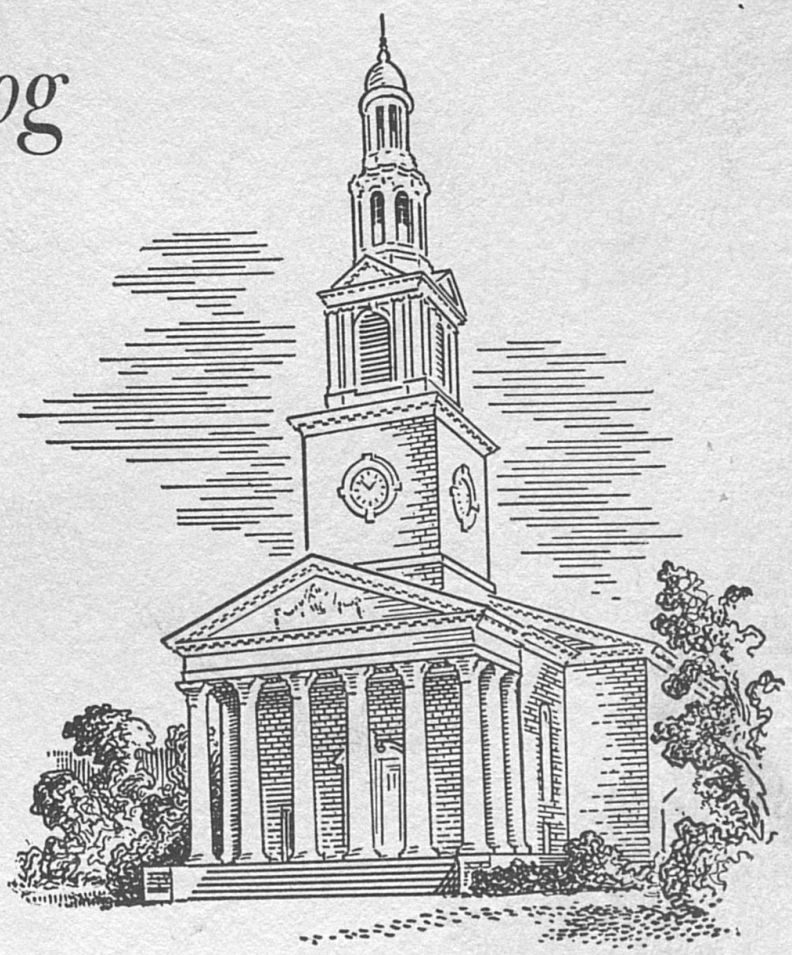
BULLETIN OF THE

UNIVERSITY OF KENTUCKY

General Catalog

1953-54



ANNOUNCEMENTS 1954-55

VOLUME 46 MAY, 1954 NUMBER 5

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Wendell P. Butler, Superintendent of Public Instruction
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BULLETIN OF THE

University of Kentucky

LEXINGTON, KY.

1953-54 General Catalog

Announcements 1954-55

A bulletin published monthly, January to September inclusive, by the University of Kentucky, Lexington. Entered as Second-Class Matter at the Post Office, Lexington, Ky., under the Act of August 24, 1912.

Vol. 46 May, 1954 No. 5

ADMINISTRATIVE ORGANIZATION

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Lawrence Sidney Thompson, M.A., Ph.D., Director of Libraries

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THE COLLEGES

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

Frank James Welch, M.A., Ph.D., Dean of the College of Agriculture and Home Economics; Director of the Experiment Station; Director of Agricultural Extension

**Levi Jackson Horlacher, M.S., Associate Dean, College of Agriculture and Home Economics

Dewey George Steele, M.A., Ph.D., Acting Associate Dean, College of Agriculture and Home Economics, 1953-54

Daniel Voiers Terrell, C.E., Dean of the College of Engineering

Elvis Jacob Stahr, Jr., M.A., A.B. in Jur., B.C.L., Dean of the College of Law

Frank Graves Dickey, M.A., Ed.D., Dean of the College of Education

Carsie Hammonds, M.A. in Ed., Ph.D., Acting Dean of the College of Education, 1952-53

Cecil Clayton Carpenter, M.S., Ph.D., Dean of the College of Commerce

Earl Platt Slone, Ph.G., M.A., Dean of the College of Pharmacy

Herman Everette Spivey, M.A., Ph.D., Dean of the Graduate School

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* Resigned, December 31, 1953

** On leave 1953-54

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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 offices from which publications may be received are listed below.

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

SPECIAL INFORMATION

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 the University of Kentucky, Lexington, Kentucky, is the post office address.

The general policies of the University	President of the University
General information, all admissions, and transcripts of credits	University Registrar
Living accommodations, student help, social affairs	Dean of Students (Men) or Dean of Women
A particular college and its program	Dean of the College
Graduate work	Dean of the Graduate School
Summer Session	University Registrar or Coordinator of the Summer Session
Class extension and correspondence study	Director of University Extension
Agricultural extension	Director of Agricultural Extension
Facilities for veterans	University Personnel Office or University Registrar
General information about the University	Director of Public Relations

CALENDAR

1954

July

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UNIVERSITY CALENDAR FOR YEAR 1954-55

First Semester

1954

Sept. 12-18	Sunday through Saturday — Orientation Week for all new students.
Sept. 12	Sunday, 4:00 to 6:00 p.m. — President's reception for new students.
Sept. 13	Monday, 7:45 a.m. through Thursday, 12:00 Noon — Classification tests, physical examinations, advising and classification of all new students
Sept. 16-18	Thursday, 1:30 p.m. through Saturday, 11:00 a.m. — Classification of all advanced standing students and registration of all students, including new freshmen, according to an alphabetical schedule.
Sept. 20	Monday — Class work begins.
Sept. 25	Saturday — Last date one may enter an organized class for the first semester.
Oct. 9	Saturday — Last date one may enter an organized class for for ID cards.
Oct. 15, 16	Friday and Saturday — Period for filing applications for degrees.
Oct. 25	Monday — Last date one may drop a course without a grade.
Nov. 25-29	Thursday, 8:00 a.m. to Monday, 8:00 a.m. — Thanksgiving holidays.
Dec. 18	Saturday noon — Christmas holidays begin.

1955

Jan. 3	Monday, 8:00 a.m. — Christmas holidays end.
Jan. 24-28	Monday through Friday — Final examinations.
Jan. 28	Friday, 6:00 p.m. — End of first semester.

Second Semester

Feb. 5	Saturday, 7:45 a.m. — Classification tests and physical examinations for all new students.
Feb. 7-8	Monday, 8:00 a.m. through Tuesday, 4:00 p.m. — Registration and classification of all students according to an alphabetical schedule.

Feb. 9	Wednesday – Class work begins.
Feb. 15	Tuesday – Last date one may enter an organized class for the second semester.
March 4, 5	Friday and Saturday – Period for filing applications for degrees.
March 14	Monday – Last date one may drop a course without a grade.
April 8-12	Friday, 8:00 a.m. to Tuesday, 8:00 a.m. – Easter holidays.
May 29	Sunday – Baccalaureate services.
May 31-June 4	Tuesday through Saturday – Final examinations.
June 3	Friday – Eighty-eighth Annual Commencement.
June 4	Saturday – End of second semester.
June 7-11	Tuesday through Saturday – 4-H Club Week.

Summer Session 1955

June 13	Monday, 7:45 a.m. – Classification tests and physical examinations for all new students.
June 14	Tuesday, 8:00 a.m. to 4:30 p.m. – Registration and classification of all students according to an alphabetical schedule.
June 15	Wednesday – Class work begins.
June 21	Tuesday – Last date one may enter an organized class for the Summer Session.
June 25	Saturday – Last date one may drop a course without a grade.
June 28, 29	Tuesday and Wednesday – Period for filing applications for degrees.
July 4	Monday – Independence Day holiday.
August 5	Friday – Summer Session Commencement.
August 6	Saturday Noon – End of Summer Session.
Sept. 12	Monday – Opening of Fall Semester of 1955-56.

Addenda

Important changes were made in the University marking system, probation procedure and requirements for graduation after this bulletin was printed. The new marking system and probation procedure will be in effect for all students with the beginning of the fall semester of the 1954-55 academic year. The new regulations concerning graduation requirements will affect all students entering the University at the beginning of the fall semester of the 1954-55 academic year or at any time thereafter. These addenda have been prepared in order that the student might be fully aware of these changes. The following paragraphs should be substituted at the places indicated.

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Paragraph 1—

Probation. With the exception of the Colleges of Law and Pharmacy any full-time student who fails either to pass nine semester hours of work during a regular semester (or five semester hours during a summer term) or fails to attain the following designated standing shall be placed upon probation by the college in which the student is enrolled.

Freshman—average of 1.4 quality points
Sophomore—average of 1.6 quality points
Juniors and Seniors—average of 1.8 quality points

Probation shall continue until the student attains the scholastic standing specified for his classification in the University. Any student failing to meet the minimum standards specified for two consecutive semesters or terms shall be dropped from the University. The above regulations, with the exception of the minimum number of semester hours required, shall apply to part-time students. Each college shall submit to the Office of the Registrar a complete list of students placed upon probation or dropped from the University, within two weeks after the dean of the college receives the grade reports from the Registrar at the close of each semester or term.

The dean of a college may recommend to the Scholarship and Attendance Committee that any student enrolled in his college be removed from probation and the committee shall review the case and take appropriate action.

The dean of a college may recommend to the committee that a student who has been dropped from any college be readmitted to the University either with or without probation; however, such student shall enroll in the college making the recommendation for readmission.

The committee shall review the case and take appropriate action. Any student dropped a second time shall not be readmitted to the University.

Paragraph 2—

The above rules shall apply to part-time students with the exception that the minimum number of semester hours a part-time student is required to pass shall be half his scheduled load.

(over)

Page 32

Paragraph 6—

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

A – Exceptionally high quality, valued at 4 points for each credit.
B – Good, valued at 3 points for each credit.
C – Fair, valued at 2 points for each credit.
D – Barely satisfactory, valued at 1 point for each credit.
E – Failure, valued at 0 credits and 0 points.
I – Incomplete.
X – Absent from examination.
WP – Withdrew, passing.
WF – Withdrew, failing.
S – Satisfactory work in progress (graduate independent work courses only).

Page 33

Paragraph 4—

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 256 points and a standing of 2.0. An average mark of B would give the student 384 points and 128 credit hours, and a standing of 3.0. "Standing" is understood to be the ratio of the number of points gained to the number of credits attempted.

Paragraph 6—

In computing standings for all university purposes a WF shall be treated as an E and a WP shall be ignored. An I or X shall be counted as an E for purposes of computing graduation standing, but shall not be counted in computing probation standing until the final grade is entered.

An I, X or E grade will not be counted in computing standing for graduation if the student has repeated the course and made a passing grade.

Paragraph 10—

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 twice that number of quality points—that is, a standing of 2.0—computed on all courses in which he registered at the University. The term "Undergraduate Colleges" shall not include the College of Law. To be eligible for graduation from the College of Law the student must have completed the requirements of the curriculum in which enrolled as approved by the University Faculty and in addition to gaining the minimum number of credits, he must have at least twice that number of quality points, acquired in courses approved by the Law Faculty as counted toward the degree for which he is a candidate.

Throughout the University catalog one point (1.0) shall be added where a point standing requirement is indicated.

REGISTRATION SCHEDULES FOR 1954-55

First Semester

September 13-16 — Monday, 7:45 a.m. through Thursday, 12:00 Noon — Classification tests, physical examinations, and advising of all new students, and classification of new Freshmen.

September 16-18 — Thursday, 1:30 p.m. through Saturday. 11:00 a.m. — Classification of all advanced standing students and registration of all students, including new Freshmen, according to the alphabetical schedule below:

Thursday Afternoon

1:30 to 2:20 — A through Broo

2:30 to 3:20 — Bros through Cran

3:30 to 4:00 — Miscellaneous A through Cran

Friday Forenoon

8:00 to 8:50 — Crao through Fli

9:00 to 9:50 — Flo through Haw

10:00 to 10:50 — Hax through Kei

11:00 to 11:50 — Kej through Max

Friday Afternoon

1:30 to 2:20 — May through Pes

2:30 to 3:20 — Pet through Say

3:30 to 4:00 — Miscellaneous A through Say

Saturday Forenoon

8:00 to 8:50 — Sc through Tol

9:00 to 9:50 — Tom through Z

10:00 to 10:50 — Miscellaneous A through Z

Note: — Veterans should pick up their certification cards during the period immediately preceding their registration period.

September 20 — Monday — Class work begins.

September 25 — Saturday — Last date one may enter an organized class for the First Semester.

Second Semester

February 5 — Saturday, 7:45 a.m. — Classification tests and physical examinations for all new students.

February 7, 8 — Monday, 8:00 a.m. through Tuesday, 4:00 p.m. — Registration and classification of all students according to the alphabetical schedule below:

Monday Forenoon	Monday Afternoon
8:00 to 8:50 — U through Z	1:30 to 2:20 — M
9:00 to 9:50 — Sim through T	2:30 to 3:20 — I through L
10:00 to 10:50 — R through Sil	3:30 to 4:00 — Miscellaneous I through Z
11:00 to 11:50 — N through Q	

Tuesday Forenoon	Tuesday Afternoon
8:00 to 8:50 — H	1:30 to 2:20 — A through Bro
9:00 to 9:50 — Fli through G	2:30 to 3:30 — Miscellaneous A through Z
10:00 to 10:50 — Cro through Fle	
11:00 to 11:50 — Bru through Cri	

February 9 — Wednesday — Class work begins.

February 15 — Tuesday — Last date one may enter an organized class for the Second Semester.

Summer Session 1955

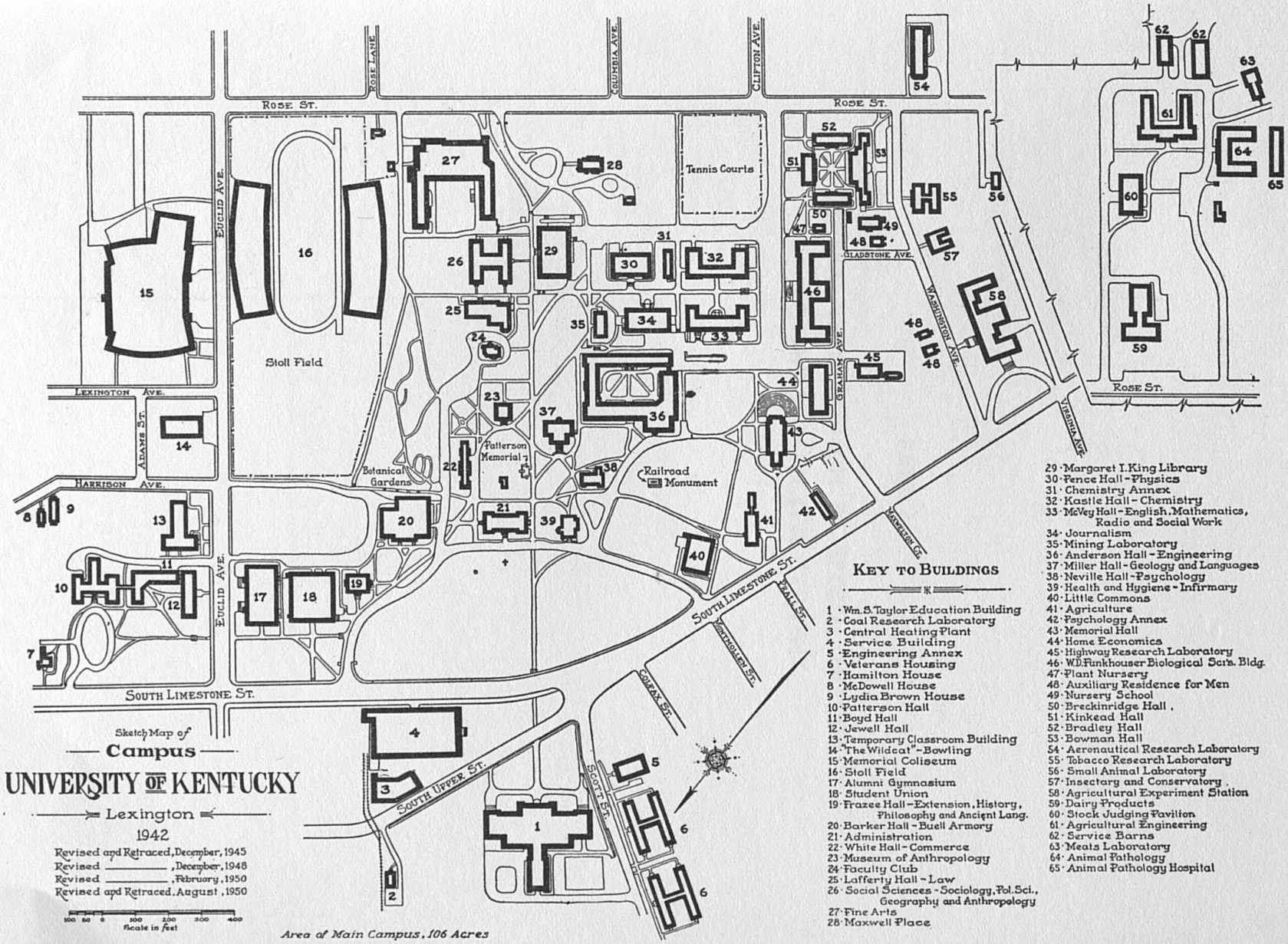
June 13 — Monday, 7:45 a.m. — Classification tests and physical examinations for all new students.

June 14 — Tuesday, 8:00 a.m. to 4:00 p.m. — Registration and classification of all students according to the following alphabetical schedule:

Tuesday Forenoon	Tuesday Afternoon
8:00 to 8:50 — Ke through Ni	1:30 to 2:20 — Clo through Ge
9:00 to 9:50 — No through Si	2:30 to 3:20 — Gh through Ka
10:00 to 10:50 — Sj through Z	3:30 to 4:00 — Miscellaneous A through Z
11:00 to 11:50 — A through Cli	

June 15 — Wednesday, 7:00 a.m. — Class work begins.

June 21 — Tuesday — Last date one may enter an organized class for the Summer Session, with the exception of those entering for short courses starting later than June 14.



Sketch Map of
Campus
UNIVERSITY OF KENTUCKY
Lexington
1942

Revised and Retraced, December, 1945
Revised _____, December, 1948
Revised _____, February, 1950
Revised and Retraced, August, 1950

100 50 0 100 200 300 400
Scale in feet

Area of Main Campus, 106 Acres

KEY TO BUILDINGS

1 · Wm. S. Taylor Education Building
2 · Coal Research Laboratory
3 · Central Heating Plant
4 · Service Building
5 · Engineering Annex
6 · Veterans Housing
7 · Hamilton House
8 · McDowell House
9 · Lydia Brown House
10 · Patterson Hall
11 · Boyd Hall
12 · Jewell Hall
13 · Temporary Classroom Building
14 · "The Wildcat" - Bowling
15 · Memorial Coliseum
16 · Stoll Field
17 · Alumni Gymnasium
18 · Student Union
19 · Frazee Hall - Extension, History, Philosophy and Ancient Lang.
20 · Barker Hall - Buell Armory
21 · Administration
22 · White Hall - Commerce
23 · Museum of Anthropology
24 · Faculty Club
25 · Lafferty Hall - Law
26 · Social Sciences - Sociology, Pol. Sci., Geography and Anthropology
27 · Fine Arts
28 · Maxwell Place
29 · Margaret I. King Library
30 · Fence Hall - Physics
31 · Chemistry Annex
32 · Kastle Hall - Chemistry
33 · McVey Hall - English, Mathematics, Radio and Social Work
34 · Journalism
35 · Mining Laboratory
36 · Anderson Hall - Engineering
37 · Miller Hall - Geology and Languages
38 · Neville Hall - Psychology
39 · Health and Hygiene - Infirmary
40 · Little Commons
41 · Agriculture
42 · Psychology Annex
43 · Memorial Hall
44 · Home Economics
45 · Highway Research Laboratory
46 · W. D. Funkhouser Biological Sci's. Bldg.
47 · Plant Nursery
48 · Auxiliary Residence for Men
49 · Nursery School
50 · Breckinridge Hall,
51 · Kinkead Hall
52 · Bradley Hall
53 · Bowman Hall
54 · Aeronautical Research Laboratory
55 · Tobacco Research Laboratory
56 · Small Animal Laboratory
57 · Insectary and Conservatory
58 · Agricultural Experiment Station
59 · Dairy Products
60 · Stock Judging Pavilion
61 · Agricultural Engineering
62 · Service Barns
63 · Meats Laboratory
64 · Animal Pathology
65 · Animal Pathology Hospital

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 over 100,000 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. 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 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 University Placement Bureau, the Radio Studios, the Department of University Extension, the Department of Public Relations, the Engineering Experiment Station, the Child Guidance Service, the Industrial Psychological Service, the Social Research Consultation Service, and the Bureau of Community Service.

The University of Kentucky 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 Collegi-

ate Schools of Business, the American Association of Schools and Departments of Journalism, the American Library Association, the Association of Research Libraries, the National Association of Schools of Music, the Engineers' Council for Professional Development, the American Chemical Society, the American Association of Colleges of Pharmacy, the American Council on Pharmaceutical Education, the American Association of Colleges for Teacher Education, and the National University Extension Association. The University's Department of Social Work is a constituent member of the Council on Social Work 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 University 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 had 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. Credit earned in an accredited junior college is limited to a maximum of 32 credits per year.

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.

College of Engineering. In addition to meeting the general requirements for admission to the University, the applicant for admission to the freshman class of the College of Engineering shall include in high school credits one unit of plane geometry and one and one-half units of algebra. It is recommended that the student offer one-half unit in solid geometry; otherwise this subject will be added to the requirements of the freshman year.

Students whose scores on the University classification tests are in the lower one-fourth or those lacking in the requirements for algebra may enter the College of Engineering. The schedules of such students will be adjusted in accordance with their placement tests as directed by a special orientation committee of the College of Engineering and the Personnel Office.

College of Law. An applicant for admission to the College of Law must be at least eighteen years of age and have had the standard high school course that will satisfy the general requirements for admission to the University. In addition, three years of college credit (90 semester hours, at least 6 of which must be in English and not more than 9 of which may be in nontheory courses) constitute the normal admission requirement. However, admission with only 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 nontheory courses) may be granted if the applicant contemplates four years of law work. Any applicant who seeks to enter must communicate well in advance with the Registrar's Office in order that the Registrar may determine the law program best suited to the individual's credentials. 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, other than as set forth above, prospective law students are advised in their own interest to plan their pre-law work so as to qualify for some academic degree in addition to the professional degree of Bachelor of Laws. Thus, they should read the requirements of the combined Arts-Law curriculum on page 55, and the combined Commerce-Law curriculum on page 141, as well as the description of these programs on page 119. Attention is also invited to the possibility of qualifying for the degree of Bachelor of Science in Law, the program for which is described on page 116.

College of Education. Admission to this college is governed by the general admission requirements of the University outlined on the preceding pages. 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. Requirements for admission to the College of Commerce as a freshman, or with advanced standing, or as a special student, are the same as those outlined in the *General Catalog* of the University. Students whose scores rank in the lower fourth on the University classification tests will be advised by a special committee of the College of Commerce and the Personnel Office.

College of Pharmacy. Admission to the pre-pharmacy requirements of this college is governed by the general admission requirements of the University outlined on the preceding pages. See p. 16.

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. (See Bulletin of The Graduate School.)

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 county. The table on page 22 gives the schedule of regular fees per semester and for the Summer Session. Checks are acceptable 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 Community Concert-Lecture programs, use of the Library and Student Union building, a discount on admissions to the Guignol Theatre, and a subscription to "The Kentucky Kernel," the student newspaper. The University reserves the right to change the amount of any fee at any time.*

IDENTIFICATION CARDS

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

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 parent 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 by his mere presence at the University of Kentucky or any other college or university. 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. An alien who has filed a "Declaration of Intent" to become a citizen may be classified under the foregoing provisions.

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	$ 65.00	$ 65.00
Military Deposit		25.00
Room and Board in Residence Halls	220.00	
Room in Residence Halls		69.00
Books and Supplies	40.00	40.00
Miscellaneous fees and deposits	30.00	30.00
Totals	$355.00	$229.00

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 amount there should be added an item of perhaps $100.00 for incidental expenses. The student who does not live in Kentucky should be prepared to pay an additional fee of $60.00.

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. This is in addition to the deposit of $50.00 referred to on p. 159. These fees will cover the items listed above, with the exception of *The Kentuckian,* and in addition the candidate will be presented with the hood. Graduation fees are payable not later than the fourth day preceding the commencement.

Late Registrations. Students entering the University after the regular registration periods will be charged an additional fee of $3.00 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:

Applied Music:*

$25.00 per semester for one half-hour lesson per week
50.00 per semester for two half-hour lessons per week
6.00 per semester for rental of a practice room for Voice, or in any instrument
3.00 per semester for rental of University owned instruments for Music 46
6.00 per semester for rental of University owned instruments for private practice for participation in the Symphony Orchestra or bands.
5.50 per semester for each half-hour lesson per week for each student in Applied Music who is not regularly enrolled in the University. This is in addition to the usual charge for individual lessons.

Architectural Engineering:

$5.00 per semester for Architectural Engineering 4a, 4b, 6a, or 6b

Chemistry:

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

Engineering Activities:

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

Engineering Co-operative Fee:

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

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

Geology:

$50.00 per course for summer field work in Geology 23a, 23b, and 118a-d
3.50 per course for field work in Geology 10a, 14a-d, and 107a-f
2.00 for field work in Geology 10b
.50 per course for field work in Geology 50a, 50b, 3, and 12a

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
3.00 per semester for P. E. 21, 22, 52, 53, 154, or 155

Psychology:

$120.00 per semester and $60 per summer session for Psychology 431, in addition to the regular incidental fees.

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* For applied music fees in the Summer Session, see Bulletin of the Summer Session.

SCHEDULE OF REGISTRATION AND INCIDENTAL FEES

FOR ONE SEMESTER

Classification	Kentucky Students	Out-of-State Students
Full-time Students:	$65.00	$125.00
All Colleges except Law		
College of Law	68.00	131.00
Part-time Students	Per Semester Hour	Per Semester Hour
All Undergraduate Colleges except Law	5.50	10.50
College of Law	8.50	16.50
Graduate School	7.50	14.00

FOR THE SUMMER SESSION

Full-Time Students	32.50	62.50
All Colleges except Law		
College of Law	34.00	65.50
Part-time Students	Per Semester Hour	Per Semester Hour
All Undergraduate Colleges except Law	5.50	10.50
College of Law	8.50	16.50
Graduate School	7.50	14.00

Deposit for Military Uniform

Each student taking military science or air science makes a deposit of $25.00. 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 $5.50 per semester hour; undergraduate extension classes, $5.50 per semester hour for Kentucky students and $10.50 per semester hour for out-of-state students. Graduate extension classes are $7.50 per semester hour for Kentucky students and $14.00 per semester hour for out-of-state students.

Fees for Auditors

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

Withdrawal and 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 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 in the Registrar's Office. 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 $440 a year. Rooms in the men's residence halls range in price from $51.00 to $69.00 a semester and board may be obtained in the University cafeteria for approximately $14.00 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. For law and engineering students fees are slightly more than the amounts shown, and the cost of books and supplies may be greater than the estimates.

	Kentucky Students	Out of State Students
Fee	$130.00	$250.00
Board and Room	440.00	440.00
Laundry and Cleaning	40.00	40.00
Books and Supplies	80.00	80.00
Miscellaneous Fees and Deposits	60.00	60.00
Incidentals	100.00	100.00
Totals	$850.00	$970.00

RESIDENCE HALLS FOR WOMEN

The University of Kentucky maintains three large residence halls for women which house approximately 640 students. Four small residence units are maintained for 75 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 freshmen 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 kept on file while students are in residence, and is refunded at termination of residence, unless forfeited because of unauthorized withdrawal or failure to cancel room reservation within specified time. Charges for damages to room or loss of key are deducted from the deposit before refund is made. *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 women in the residence halls are served in the joint dining rooms of Jewell and Boyd Halls, 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 $440 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 and one semi-cooperative house accommodating approximately 55 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 permanent residence halls for men. Also, as part of its emergency housing program, the University has erected officer-type barracks designed to house approximately 350 single men.

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 it is necessary to secure an application blank from the Office of the Dean of Students and return it to that office with a deposit of $10.00. This application does not automatically reserve any rooms. The deposit will be returned if notice of cancellation is given ten days before the opening of the semester.

Any student desiring living accommodations in a private home in the city should come to the Office of the Dean of Students if assistance is needed.

Rentals per semester for rooms in the men's halls range from $51.00 to $69.00, depending upon the type of accommodations. 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.

MARRIED STUDENTS' HOUSING

The University has two housing projects, known as Cooperstown and Shawneetown, which accommodate 498 married veteran students and their families.

To apply for a housing unit in either project, communicate with the Office of the Dean of Students for general information and an application blank. It is necessary to send a deposit of $10.00 together with the filled-out application. The deposit is refundable upon request at any time.

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 Women, and the Dean of Students 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. 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 University Registrar's office.

SPECIAL SERVICES FOR THE STUDENT

The Dean of Students and the Dean of Women

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

University Counseling and Testing Services

The University Personnel Office is under the supervision of a Director of Personnel and carries on its functions through a staff trained in psychological counseling and testing.

Counseling and Testing. The University Personnel Office offers counseling based on scientific procedures in three main areas: Academic 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 aptitude, interest, and personality may be recommended by trained staff counselors 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 and testing services can make an appointment with the Director of Personnel in the University Personnel Office, Room 204, Administration Building.*

Academic Probation. Students placed on academic probation by the University Registrar, the Deans of the College 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, Testing Division, 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 1953-54, the tests given were as follows: the Kentucky Classification Battery (consisting of General Ability, English, and Mathematics tests) and the Diagnostic Reading Test. These tests are used primarily as an aid in determining the student's eligibility for enrollment in certain colleges and courses, and as a source of data for academic and vocational counseling.

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

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 (the Kentucky Classification Battery), a reading test, 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. At this meeting, the Deans and the Heads of other University administrative departments are introduced to the new students by the Vice President. The undergraduate colleges conduct meetings where the Deans and other college officers have an opportunity to meet their new students and interpret the academic program. The Dean of Women and the Dean of Students conduct conferences where information is presented on the extra-curricular activities of the University. The Director of Personnel conducts meetings for interpreting to the new students the results of the placement tests. Inquiries about Orientation Week should be addressed to the University Personnel Office, Room 204, Administration Building.

Veterans. The University Personnel Office is the University Center for veterans. Veterans who are receiving benefits through the Veterans' Administration must be cleared officially through the office. See "The University and the Veteran" below.

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 University Registrar. Initial correspondence with respect to entering the University should be similarly addressed, as should requests for catalogs and bulletins.

Where the Veterans Should Report. The veteran should report to the University 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 re-enter the University of Kentucky. Here the applicant will be given information about applying for federal benefits, and general guidance with respect to vocational opportunities, courses of study, etc. From this office he will be referred for further assistance to other persons as the individual case requires. Generally speaking, the division of functions will be as follows:

University Personnel Office: Veterans certification; academic, vocational, and personal counseling.

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

Dean of Students or Dean of Women: Room and board, student organizations, and personal counseling.

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 programs. All transcripts should be sent to the University 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, A Certificate for Education and Training, Public Law 550, 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 he decides to enter the University of Kentucky.

5. Sufficient funds to provide subsistence for two months.

Applications For Benefits Under Public Laws 16, 346 and 550. Under Public Law 16, provision has been made for vocational education or training to overcome handicaps suffered as a result of service-connected disabilities. In order to qualify for such rehabilitation aid, the veteran must have sustained an injury or other disability which will qualify him for a pension or disability compensation. A veteran who is interested in applying for educational benefits under Public Law 16 should seek information from the nearest offiice of the Veterans' Administration prior to the date for enrollment at the University.

A veteran who plans to enter the University under the provisions of Public Law 346 (WW II GI BILL) should bring with him a Certificate of Eligibility and Entitlement. The Certificate of Eligibility and Entitlement is the only authority for the University to register the veteran under Public Law 346.

In the absence of a Certificate of Eligibility and Entitlement, the veteran will be expected to make satisfactory arrangements with the University Comptroller regarding payment of all charges.

Public Law 550 (Korean GI BILL) provides educational benefits for honorably discharged veterans who have served a minimum of 90 days in the armed forces after June 27, 1950.

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

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. (Students in the College of Pharmacy, see College Bulletin for information on probation.)

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 the dean of the student's college. A committee composed of this dean and the Head of the Department of English shall have power to require additional work in composition without credit. This remedial work shall begin not later than the following semester and shall continue until the committee is satisfied with the student's proficiency. When a student is required to do this additional work, the committee will report this requirement to the University Registrar, who will indicate the fact on the student's record.

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 examina-

tion is approved by the University 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 (including correspondence courses), 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.

Under certain conditions, up to six of the credits and nine weeks of the residence required for any master's degree may be satisfied by extension courses given in person by University of Kentucky instructors. (Students who registered before February, 1952, may count up to one-third of the requirements). No graduate credit is given for courses taken by correspondence.

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 condtions 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 work may be taken at the Northern Kentucky Extension Center, Covington, Kentucky, for residence credit under the following conditions:

A maximum of sixty-four semester hours taken at the Center, or in combination with extension work, may be applied toward an undergraduate degree, provided not more than thirty-two of the sixty-four semester hours may be in extension work.

Students who transfer to the 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 semester hours on the Lexington campus.

Graduate work may be taken at the Northern Kentucky Extension Center to apply toward a graduate degree under the following conditions:

A maximum of six of the credits and nine weeks of the residence required for a master's degree may be taken at the Center, or by a combination with other University extension work. (Correspondence courses are excluded.)

Any student, graduate or undergraduate, planning to transfer credit earned at the Northern Extension Center to other institutions should inquire as to the applicability of such credit toward degrees which those institutions award.

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.
S – Satisfactory work in progress (Graduate independent work courses only).

A grade of E means that normally the work must be taken over in class to be credited. Exceptions to this rule may be made, on showing of undue hardship, but only to the extent of permitting the work to be taken over by correspondence, and only with the permission of the dean of the college in which the student is enrolled. It will be made sparingly, it being the policy not to allow credit toward a degree for correspondence work in courses in which the student has received a grade of E and which he can repeat or could have repeated in class while in residence.

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 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 explains the University's program.

Transcript of Record. A student who, for any reason, withdraws from the University in good standing is entitled to a transcript of his record. The first copy is issued without charge and additional copies are furnished at a charge of one dollar each. Transcripts may not be issued for anyone who has failed to meet all financial obligations to the University. Transcripts are sent to other institutions, agencies, or persons, only at the written or personal request of the student concerned.

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 University 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 presented for the degree must be completed in residence at the University. With respect to graduation requirements for veterans, 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 (including correspondence courses), 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 147.

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

Concert-Lecture Series. These programs are arranged through the cooperation of the University with the Central Kentucky Community Concert Association and the Lexington Public Forum and are open to all students who have paid the full-time fees. The program for 1953-54 includes:

September 29 — Guard Republican Band of Paris
October 27 — Trygvie Lie
November 4 — DePaur Infantry Chorus
November 11 — World Defense Council
November 13 — Fred Waring and his Pennsylvanians
November 17 — St. Paul's Cathedral Choir
December 15 — Town Meeting of the Air
January 5 — St. Louis Symphony Ochestra with Gorodnitski, Pianist, as soloist
January 14 — Eddie Gilmore
February 16 — Lily Pons, Soprano
February 23 — Whittemore and Lowe, Duo-Pianists
March 30 — New York Philharmonic Orchestra

Musicales. Sunday afternoon musical programs are arranged for the enjoyment of the students, faculty, and friends of the University. There is no admission charge. The program for 1953-54 follows:

Arnold Blackburn, Organist
Nathaniel Patch, Pianist
Virginia Lutz, Soprano; Forrest Conway, Pianist
University String Quartet; Aimo Kiviniemi, Tenor; Janice Stille
University Orchestra
Andre Marchal, Organist
University Choristers
University Chorus and Orchestra, Handel's "Messiah"
Phi Beta, Phi Mu Alpha
James King, Baritone; Aimo Kiviniemi, Tenor
Gordon Kinney, Cellist; Kenneth Wright, Violinist
Women's Glee Club; Men's Glee Club
University Band
University Choristers
University Chorus and University Orchestra
University Band
University Band
Baccalaureate
Commencement

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 fra-

ternities. 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 station (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 student-led organizations, each with a full-time director. 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, Inter-faith Council, the Newman Club, the Hillel Foundation, the active student denominational groups, Sunday School classes for students in the respective churches, and weekly religious discussion groups.

The Phalanx Fraternity, and the *Dutch Lunch Club* are other student groups meeting regularly under the auspices of the YMCA and YWCA.

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 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.

Intramural Sports. The Department of Physical Education conducts an extensive system of Intramurals for all men and women students. The men's program includes such sports as touch football, basketball, track, volleyball,

softball, tennis, golf, wrestling, fencing, handball, badminton, swimming, and cross country. The woman's program, set up by the Women's Athletic Association, offers such activities as hockey, basketball, volleyball, softball, swimming, tennis, archery, golf, badminton, fencing, and camping trips. The intramural program affords an excellent opportunity for young men and women to experience the fun of friendly competition and to enjoy the pleasures of healthful social situations. Such clubs as the U. K. Troupers (show group), Tau Sigma (modern dance club), and Blue Marlins (swim club) are sponsored by the Department for students who wish to participate in clubs that present performances for various school, university and civic groups. These clubs are organized and conducted by the student members and are open to beginners as well as accomplished performers.

Student Publications. The students of the University of Kentucky, through the School 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. Of the seventy law reviews published by the nation's law schools, the *Kentucky Law Journal* is the tenth oldest. Publication has been continuous since 1912. Four issues are published annually by the College of Law. The *Journal* is edited by a Student Editorial Board under the supervision of a Faculty Editor.

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)
Phi Upsilon Omicron (Home Economics)
Pi Mu Epsilon (Mathematics)
Rho Chi (Pharmacy)
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 (Pharmacy)
Chi Delta Phi (Literary—women)
Eta Kappa Nu (Electrical Engineering)
Gamma Theta Upsilon (Geography)
Phi Alpha Theta (History)
Phi Epsilon Phi (Botany)
Pi Sigma Alpha (Political Science)
Pi Tau Sigma (Mechanical Engineering)
Theta Sigma Phi (Journalism)

Professional Societies

Alpha Chi Sigma (Chemistry)
Arnold Society of Air Cadets
Beta Alpha Psi (Accounting)
Block and Bridle (Animal Husbandry)
Delta Sigma Pi (Commerce)
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)
Psychology Club
Scabbard and Blade (Military)
Sigma Gamma Epsilon (Geology)

Clubs and Societies

Agronomy Club
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
Bacteriological Society
Baptist Student Union
Blue Marlin Swimming Club
Campus League of Women Voters
Canterbury Club
College Chamber of Commerce
Cosmopolitan Club
Dairy Club
Delta Pi Epsilon (Business Education)
Dutch Lunch Club
Eta Sigma Phi (Ancient Languages)
Future Teachers of America
German Club
Henry Watterson Press Club
Hillel Foundation
Home Economics Club
Hort Club
Institute of Radio Engineers, Inc.
International Relations Club
Newman Club
Patterson Literary Society
Phalanx Fraternity
Philosophy Club
Physical Education Majors Club
Pitkin Club
Poultry Club
Pryor Premedical Society
Psychology Club
Social Work Club
Sociology Club
Southeastern Conference Society of the Spiked Shoe
Tau Kappa Alpha (Forensic)
Tau Sigma (Dance)
University of Kentucky Affiliate of the Louisville Chapter of the American Society for Metals
University of Kentucky Amateur Radio Club
University 4-H Club
University of Kentucky Political Science Club
University Weightlifting Club
University of Kentucky Young Republican Club
Wesley Foundation
White Mathematics Club
Young Democratic Club
Zoology Club

Administration and Service Organizations

Agricultural Council
Alpha Phi Omega (Boy Scouts)
Committee of 240
Guignol
House Presidents' 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 Athletic Association
Women's Glee Club
Women's Panhellenic Association
Young Men's Christian Association
Young Women's Christian Association

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 groups both in Kentucky and in larger cities throughout the country in order that alumni may come in contact with each other, the organizing of alumni groups in Kentucky and elsewhere and disseminating information about the University to its membership.

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 1953-54 are as follows: President, R. R. Dawson 'Ex; Vice President, T. H. Hardwick '29; Executive Secretary, Helen G. King '25; and Treasurer, Bernie A. Shively, '36.

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, the sub-experiment station of 600 acres at Princeton, the College of Pharmacy in Louisville, and the Northern Kentucky Extension Center, in Covington. Major 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 badly needed additional space. 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 Comptroller, the Dean of Students, the Dean of Women, the University 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 aircraft engine testing. The laboratory is operated by the College of Engineering.

Agriculture Building. The offices of the Associate 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, Agricultural 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. (Scoville Hall) In the Agricultural Experiment Station are located the offices of the Dean of the College of Agri-

culture and Home Economics and Director of Agricultural Extension, and those of associate directors. The building also houses the offices, laboratories, and research facilities for agronomy, chemistry, entomology and botany, agricultural economics, rural sociology, fertilizer, feed, and seed control, and agricultural extension. The public service laboratories are also located in the Experiment Station.

Alumni Gymnasium. This building, located at the corner of Limestone Street and Euclid Avenue, houses the offices of the Men's Department of Physical Education, the main playing floor, a corrective gymnasium, classrooms, and lockers and showers. The majority of physical education activities and intramurals for men are held in this building.

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.

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

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, classrooms, and storerooms of the Military and Air Science Departments, the rifle range, the women's gymnasium, and the Division 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 six 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 Edward J. Wilford 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.

Thomas Poe Cooper 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.

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.

Engineering Annex. This building is located on Scott Street adjacent to the Scott Street Barracks and is used by the Engineering College for additional drafting rooms and laboratories.

Euclid Avenue Classroom Building. This building houses the United States Geological Survey offices and drafting rooms, the office of the Department of Air Science of the Reserve Officers Training Corps, and classroom facilities for the Department of Physical Education and the College of Commerce.

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

Fine Arts Building. This building houses the departments of Art, Music, Dramatics, and Speech. A feature of the building is the air-conditioned Guignol Theatre seating approximately 425 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 Anatomy and Physiology, Bacteriology, Botany, and Zoology. The Biological Sciences Library is also located here.

Enoch Grehan Journalism Building. This building houses the School of Journalism, the Kernel Press, The Kentucky Kernel, the Kentuckian, the central office of the Kentucky Press Association, and complete photographic facilities.

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.

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 is the central library. This building is of Georgian Colonial architecture and makes available 700 seats in various reading rooms, stacks, and special rooms. It also houses the Department of Library Science and the Bureau of Source Materials in Higher Education. The University Libraries, which comprise the central library and all departmental, divisional, and collegiate collections, located in other buildings on the campus, contain over 600,000 volumes. These libraries receive regularly more than 3,000 titles of periodicals and are a depository for U. S. Government publications.

Kinkead Hall. This is one of four 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 offices and classrooms of the departments of English, Mathematics, Radio Arts, and Social Work, the Campus Bookstore, the University Post Office, the offices of the University Press, the Kentucky Municipal League, and the broadcasting studios of Station WBKY.

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

Memorial Coliseum. The Coliseum was erected by the State of Kentucky as a memorial to the Kentucky men and women who died in World War II in the service of their country. This building provides facilities for Physical Education, including the swimming pool, complete housing for the Department of Athletics, and will seat from 12,000 to 15,000 for basketball games, concerts, and lectures. Other facilities include an electronic organ, a sound reinforcement system, and dressing rooms for visiting artists and visiting teams.

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 and Modern Foreign Languages have office, classroom, and laboratory space in this building. It also houses the Geology Library and the Stenographic Bureau.

Mineral Industries Building. This building houses the offices of the State Department of Mines and Minerals and the offices of the Kentucky Geological Survey.

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 Metallurgical and Mining Engineering.

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.

Psychology Annex Building. This building is located at 620 South Limestone and is used by the Psychology Department for offices, classrooms, and the speech correction clinic.

Service Building. This building houses all offices and shops of the Division of Maintenance and Operations, the central store room of the University, and shipping and receiving facilities. The third floor of this building is used as a Library Annex and temporary museum.

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 Pavilion. 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.

W. S. Taylor 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, and classrooms for college courses in education.

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

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

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

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 several barracks, designed to house about 380 single students.

Buildings Under Construction. Recently constructed and occupied this year are six small dormitories housing 48 men each, to be used by fraternity and other groups. These dormitories are located at the intersection of Woodland and Hilltop Avenues. Under construction is a large residence hall for men with a central dining room which will accommodate 1,200 students from the men's dormitory area. This building will house 366 men and is expected to be ready for use in September, 1955. Work is underway also on a residence hall which will house 312 girls, and it is hoped that this building will be ready for occupancy by the opening of the 1955-56 school year.

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, with the exception of the College of Pharmacy, a 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 Music
Bachelor of Science
Bachelor of Science in Industrial Chemistry
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 Science in 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 Library 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
Electrical Engineer
Mechanical Engineer
Metallurgical Engineer
Mining Engineer
Master of Arts in Education
Master of Science in Education
Master of Business Administration
Master of Music
Doctor of Education
Doctor of Engineering
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-seven departments as follows: Anatomy and Physiology; Ancient Languages and Literatures (Hebrew, Greek, Latin); Anthropology; Art; Bacteriology; Botany; Chemistry; Economics; English, Speech, and Dramatic Arts; Geography; Geology; History; Hygiene and Public Health; Library Science; Mathematics and Astronomy; Modern Foreign Languages and Literatures (French, German, Italian, Russian, Spanish); Music; Nursing; Philosophy; Physical Education; Physics; Political Science; Psychology; Radio Arts; Social Work; Sociology; and Zoology. Also, a student may have a topical major, a major in another college, and a major in the School of Journalism.

College of Agriculture and Home Economics. Students in agriculture may select any one of the following curricula: general agriculture, agricultural economics, agronomy, 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 the School of 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 curriculum in civil engineering, a civil engineering 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 six-year program leading to the degree of Bachelor of Laws or he may complete a six-year program leading (1) to the degrees of Bachelor of Science in Com-

merce and Bachelor of Laws, or (2) to the degrees of Bachelor of Arts and Bachelor of Laws, or (3) to the degrees of Bachelor of Science in Law and Bachelor of Laws.

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

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

College of Pharmacy. In the College of Pharmacy a 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 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, and in the combined fields of Sociology and Rural Sociology. Minor work may be carried in any department offering graduate courses. The Doctor of Education and Doctor of Engineering degrees are also offered.

DEGREES 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 skilled in the solution of problems, and that he may develop habits of self-reliance, initiative, judgment, and those inner resources that lead to self-mastery and happiness.

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

Organization. The College of Arts and Sciences embraces twenty-nine departments and one school: Air Science and Tactics; Anatomy and Physiology; Ancient Languages and Literatures; Anthropology; Art; Bacteriology; Botany; Chemistry; Economics; English, Speech and Dramatic Arts; Geography; Geology; History; Hygiene and Public Health; Library Science; Mathematics and Astronomy; Military Science and Tactics; Modern Foreign Languages and Literature; Music; Nursing; Philosophy; Physical Education; Physics; Political Science; Psychology; Radio Arts; Social Work; Sociology; Zoology; and the School of Journalism. These 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 condtions, 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 co-operation of the parents the college attempts to fulfill this need.

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

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

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

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

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

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

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 Music, and Bachelor of Science in Medical Technology. In all cases the student is responsible for the meeting of the requirements for graduation.

THE DEGREE OF BACHELOR OF ARTS

For the degree of Bachelor of Arts the student is required to gain a total of 128 credits (exclusive of the required physical education) and 128 points; that is, a standing of 1.0. With the required physical education, a student is required to complete 130 credits and 130 points. In the departments of Anatomy and Physiology, Ancient Languages, Anthropology, Art, Botany, Economics, Geology, Journalism, Modern Foreign Languages, Music, Philosophy, Physical Education, Physics, Psychology, Radio Arts, Social Work, Sociology

and Zoology, he must pass a final comprehensive examination on his major subject. The Political Science department requires a senior thesis. A Topical Major is required to write a comprehensive paper in the senior year.

THE DEGREE OF BACHELOR OF SCIENCE

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

The detailed conditions are as follows:

THE LOWER DIVISION

General Requirements

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

Foreign Languages, a basic achievement examination or the second year of a foreign language, with at least a C grade for each semester. (French, German, Greek, Hebrew, Italian, Latin, Russian, Spanish.)

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

Physical Education, freshman year, 2 credits.

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

Group Requirements

Humanities, sophomore year, 6 credits.

Social Studies, freshman or sophomore year, 6 credits.
(Anthropology, 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, Bacteriology, Botany, Anatomy and Physiology, Psychology, Zoology.)

Ways in Which the Group Requirements May Be Satisfied

1. *The Humanities.* All lower division students will be required to complete a series of three introductory courses in the Humanities (for a total of six credits) to be chosen in any combination of three from the following courses, except that one, and only one, shall be either Humanities 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 any two of the following courses, to satisfy the group requirement in the social studies: History 5a, b, History of the U. S.; 4a, b, Modern Europe; Political Science 51, American Government; Anthropology 3a, Sociology 3a, b, or Geography 3a, b, Societies Around the World.
3. *The Biological Sciences.** Any two of the following courses will satisfy the biological science requirement: Anatomy and Physiology 2 or 10; Anthropology 1; Bacteriology 2a, b, 52; Botany 1, 2, 25; Psychology 1; Zoology 1.

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

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, c, d, 20a, b (with 50a, b), 3, 14a, b, c, d (with 3), 30a b, 53; Mathematics 5, 17, 18, 19; Physics 1a, b, 3a, b, 51a, b (51a is prerequisite for 51b).

Freshman Core Curriculum

	Credits
General Hygiene	1
Military or Air Science (men)	4
Physical Education	2
English	1
Social Studies	6
Physical or Biological Sciences	6
Foreign Languages or free electives	6

Total number of credits required in Lower Division: 66

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.

THE 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:

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

1. Literature, Philosophy, and the Arts

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

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

Topically Related Fields

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

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

To pursue a topical major the student must have earned a minimum academic standing of 1.5 during the freshman and sophomore years and must have the approval of the committee on topical majors which will require, as a rule, completion of the lower division group requirements as a prerequisite. The writing of a comprehensive paper is required in the senior year.

Tutorial Work and Comprehensive Examinations

Students majoring in the departments of Anatomy and Physiology, Ancient Languages, Anthropology, Art, Botany, Economics, Geology, Journalism, Modern Foreign Languages, Music, Philosophy, Physical Education, Physics, Psychology, Radio Arts, 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 comprehensive examination are automatically candidates for department honors.

Independent Work Courses

A junior or senior, if his particular excellence in the department warrants it, may, with the approval of his major professor and dean, register for an independent work course in his major subject. 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 both semesters of 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. In the College of Arts and Sciences the last 15 credits must be completed while registered in the college.

Extension and Special Examination

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

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

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

1. He must gain at least 98 credits in Arts and Sciences subjects, with a standing of 1.0 or more, before transferring to the professional school. For Arts-Law or Arts-Engineering he should have 100 credits, with a standing of 1.3 on all work attempted, before transferring to either Law College or Engineering College.

2. He must have met the specified requirements of the College of Arts and Sciences (except hygiene, in Arts-Medicine) and have gained at least 20

credits in his field of concentration before transferring to the professional school.

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

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

5. He must in his professional courses secure sufficient credits to bring his total in the Arts and the professional work up to 128 credits, 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.

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 Analysis
(c) Quantitative Analysis
(d) Organic Chemistry
Electives sufficient for Junior classification

The student may pursue a combination Arts-Medicine curriculum, spending three years at the University before transferring to medical school and obtaining the A.B. or B.S. degree after the first year's work in medical school. (See page 55 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.

Recommendation for Prospective Medical Students

1. Consider the study of medicine only if you have a serious desire to do so, and if you are capable of demonstrating this by successfully and satisfac-

torily 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	Crs.	Second Semester	Crs.
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. or Air Science—First Year	2	Mil. or Air Science—First Year	2
Phy. Ed.	1	Phys. Ed.	1

SOPHOMORE YEAR

First Semester	Crs.	Second Semester	Crs.
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	5	‡Chem. 30b—Organic Chem.	5
†Chem. 22—Anal. Chem	5	Physics 1b—General Physics	5
Humanities	2	Mil. or Air Science—Second Yr.	2
Physics 1a—General Physics	5	Humanities	4
Mil. or Air Science—Second Yr.	2		

Upper Division

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

PRE-DENTAL CURRICULUM

Students who wish to take up the study of dentistry are advised to follow the two year's Pre-Medical curriculum which more than meets the pre-dental requirements specified by the Dental Education Council of America. With the

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* 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 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 basic achievement examination in a foreign language, or make at least a C grade on both semesters of a second year language.

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

† Choice depending on length of preparatory course desired.

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

two years' curriculum, entrance may be gained to all Class A dental schools with the exception of a very few which require three years of preparatory work. For combined Arts-Dentistry degree, see p. 57.

PRE-MINISTERIAL AND PRE-RELIGIOUS EDUCATION

Students planning to enter the ministry or the field of religious education should consult the adviser to pre-ministerial students, who will plan with them their schedule for the first year and help them in the choice of their major department after the first year.

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

PRE-LAW COURSES

Three years of college credit (exclusive of certain specified courses) with a minimum standing of 1.3 on all work attempted normally will be required for admission to the College of Law. Students expecting to enter the College of Law later are advised to lay special emphasis on English, history, economics, political science, and psychology and should read carefully page 119.

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
Math. 5—College Algebra	5	Bot. 1—General Botany	4
Mil. or Air Science	2	Math. 18—Plane Trigonometry or	3
Physical Education	1	Zoology 1—Prin. of Animal Biol.	4
Physics 51a—Intro. to Phys.	3	Mil or Air Science	2
		Physical Education	1
		Physics 51b—Intro. to Phys.	3

ARTS-FORESTRY DEGREE

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

A student electing to pursue this curriculum spends the first three years in residence at the University of Kentucky. Here he obtains a sound educa-

tion in the humanities and other liberal arts in addition to the sciences basic to forestry. Such an education does more than prepare a student for his later professional training; it offers him an opportunity to develop friendships with students in many fields, expand his interests, broaden his perspective, and fully develop his potentialities.

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

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

THE PREPARATION OF TEACHERS

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

AIR SCIENCE AND TACTICS

The Air Force Reserve Officers Training Corps

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

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

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

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

The primary purpose of all training is the development of character, leadership, and good citizenship; character through high standards of honor and integrity, leadership through the acquisition and use of knowledge, good

citizenship through the idea of service as the real measurement of accomplishment and success.

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

Uniform Equipment. Government uniforms and equipment are furnished the University for issue to students in the basic course without cost to the individual. Each student is required to make a deposit of $25.00 with the Comptroller of the University to cover the cost of any lost or damaged articles. If nothing is lost or damaged, the entire sum is refunded to the student when he completes the course or leaves school.

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

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

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

The successful completion of the basic course, Air Science or Military Science, is a prerequisite for graduation in every course in the University.

Advanced Course. The elective advanced course of two years, including one summer camp, is offered to students who have successfully completed the basic course, and who have been recommended by the President of the University and the Professor of Air Science and Tactics for further training. Recommendations for this course will be limited to those students who have manifested special interest and demonstrated ability during the basic course, and who desire to pursue the course to completion, with a view to qualifying for a commission in the Air Force Reserve.

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

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.

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

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

Recommended Courses for Majors in Anatomy and Physiology

JUNIOR YEAR

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

SENIOR YEAR

First Semester	Crs.	Second Semester	Crs.
Anat. & Phys. 116a—Seminar (Tutorial)	1	Anat. & Phys. 116b—Seminar (Tutorial)	1
Anat. & Phys. 107—Comparative Neuro-Physiology	4	Anat. & Phys. 108—Circulation, Respiration, and Metabolism	3
Chem. 140a—Physical Chem.	3	Chem. 140b—Physical Chem.	3
English 3a—Survey of Eng. Lit.	3	English 3b—Survey of Eng. Lit.	3
Electives in lang., social studies, or botany	6	Elective (Cont. elective subj.)	6

ANCIENT LANGUAGES AND LITERATURES

The courses and curricula in Ancient Languages and Literatures are concerned with the Classical and Semitic fields (Greek, Latin, and Hebrew) and are planned to meet the needs of the following:

1. Students who are going to teach Classical languages or Hebrew or who are going to do graduate work or research in Classical languages, Semitic languages, ancient history, archaeology, medieval studies, or linguistics.

2. Students who wish to take the M.A. in one of the following fields: Latin, Greek, Classical languages and civilization, ancient languages and civilization, and the teaching of Classical languages.

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

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

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

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

7. Students who intend to enter the ministry and wish to take an undergraduate major in the area of Latin, Greek, Hebrew, or ancient civilization, or wish merely to learn to read the Greek New Testament or the Hebrew Old Testament.

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

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

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

The emphasis in this department will be threefold:

1. On interpreting Classical and Hebraic culture in its relation to Western Civilization.

2. On learning to read Greek, Latin, and Hebrew.

3. On developing a background for Classical or Hebraic 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 Hebrew and Hebraic civilization, or on a combination of these. To this end, five majors are offered: Latin, Greek, Classical Civilization, Hebrew and Hebraic Civilization, and Ancient Languages and Civilization.

ANTHROPOLOGY

Anthropology is the study of man in all his aspects, past and present. It must concern itself with anything that concerns man, and thus it synthesizes the materials of a large number of separate studies and disciplines in both the social and biological sciences. Basically, anthropology is divided into (1) Physical Anthropology, which deals with man's origin, evolution, and growth, the relationships of races, and man's physical response to the environment; and (2) Cultural Anthropology, which includes prehistory (or archaeology), and ethnology (or social anthropology), the study of the culture of various social groups. Attention has been directed chiefly toward "primitive" peoples, in the attempt to learn how such aspects of man's behavior as religion, language, social controls, and economic activities have developed and interacted on each other. But "civilized" groups, as well, are studied with the broad viewpoint and emphasis on understanding the total scope of man's life.

While many of the Department's advanced courses are planned for students interested in professional training, the introductory courses and Anthropology 180 should be of much wider interest. They survey the entire field, and show the relations between all the facets of human activity, throughout man's long occupation of the earth. These courses emphasize the essential unity of mankind and furnish a basis for further work in many different fields of the social and biological sciences. In addition, properly qualified students in other departments will find the advanced courses sufficiently broad in scope to be of value to them.

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

ART

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

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

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

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

2. *The Art-Education Major* has been developed in cooperation with the College of Education. Since this major program is constructed to meet requirements of teacher certification, the number of required studio and history courses in art is reduced by half in order to allow for courses in education, including student teaching. Students graduating with a major in art-education are fully qualified to teach art in the elementary schools. Teaching in the secondary schools usually calls for work beyond the A.B. degree, and the present tendency is to require the M.A. degree, which, again includes studies in both art and education.

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

BACTERIOLOGY

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. In addition, the department offers the M.S. degree in the various fields of bacteriology, and the Ph.D. degree in the fields of morphology and physiology of microorganisms, immunology and serology, and public health bacteriology.

The Degree of B.S. in Medical Technology

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

FRESHMAN YEAR

First Semester	Crs.	Second Semester	Crs.
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	1	Physical Education	1
**Military or Air Science	(2)	**Military or Air Science	(2)
	17		17

SOPHOMORE YEAR

First Semester	Crs.	Second Semester	Crs.
Zoology 7b	4	Chemistry 22	5
Physics 1a	5	Physics 1b	5
Bacteriology 56	4	Bacteriology 57	4
Humanities	4	Humanities	2
**Military or Air Science	(2)	**Military or Air Science	(2)
	17		16

JUNIOR YEAR

First Semester	Crs.	Second Semester	Crs.
Zoology 101a	4	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
	19		18

SENIOR YEAR

First Semester	Crs.	Second Semester	Crs.
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 136 exclusive of Military Science and Physical Education credits.

** 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 premedical requirements of most medical schools. The advanced courses lead to an undergraduate major in botany with emphasis upon morphology, classification, physiology, and cytogenetics and should be of interest to students of applied botanical sciences.

CHEMISTRY

The Department of Chemistry offers training leading to the Bachelor of Science degree with a major in chemistry and the Bachelor of Arts degree with a major in chemistry. It offers also a prescribed curriculum which leads to the degree of Bachelor of Science in Industrial Chemistry.

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

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

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 curriculum 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 1.0 or higher in all chemistry courses.

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

FRESHMAN YEAR

First Semester	Crs.	Second Semester	Crs.
Military or Air Sceince (Men)	2	Military or Air Science (Men)	2
English 1a	3	English 1b	3
Mathematics 17 (College Algebra)	3	Mathematics 19 (Analytic Geom.)	3
Mathematics 18 (Trigonometry)	3	Phys. Ed.	1
Chemistry 1a (General Chemistry)	5	Eng. 6 (Pub. Spkg.)	3
Hygiene 1	1	Chemistry 1b (General Chemistry)	5
Phys. Ed.	1	*Elective, Social Studies	3
	16-18		18-20

*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.

SOPHOMORE YEAR

First Semester	Crs.	Second Semester	Crs.
Military or Air Science (Men)	2	Military or Air Science	2
Chemistry 25a (Anat. Chem.)	5	Chemistry 25b (Anal. Chem.)	5
Mathematics 20a (Diff. Calculus)	4	Mathematics 20b (Int. Calculus)	4
Physics 3a	6	Physics 3b	6
Humanities—Elec.	2	Engineering Drawing 2	1
	17-19		16-18

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 21a	3	Mathematics 105 (Differential Equations)	3
Economics 51	3	*Electives, Humanities	2
Elective (Social Studies)	3	German 21b	3
	19		18

SENIOR YEAR

First Semester	Crs.	Second Semester	Crs.
Chemistry 110a (Advanced Inorganic)	2	Chemistry 110b (Advanced Inorganic)	2
Chemistry 164a (Ind. Chem. Prin.)	2	Chemistry 160b (Ind. Chem. Proc. & Stoich.)	2
Chemistry 133 (Qualitative Organic Anal.)	3	Chemistry 164b (Ind. Chem. Prin.)	2
Chemistry 160a (Ind. Chem. Proc. & Stoich.)	2	Chemistry 141 (Chemical Thermodynamics)	3
Chemistry 181 (Chemical Literature)	1	†Chemistry 188b (Seminar)	1
†Chemistry 188a (Seminar)	0	‡Biological Science	3
‡Biological Science	3	German 24b	3
*Elective (Humanities)	2		
German 24a	3		
	18		16

Total number of semester hours required for a degree { Exclusive of Mil. Sci.) and Physical Education credits 136

ECONOMICS

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

The student wishing to continue with post-graduate study in economics will be guided by an adviser in the economics department of the College of Commerce.

ENGLISH, SPEECH, AND DRAMATIC ARTS

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

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

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

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 112—Economic Geology	4
Geology 118a—Field Work in Regional Geology (Summer)	8

SENIOR YEAR

Geology 101a, b—Paleontology	6
Geology 129—Elem. Petrology	3
Geology 130—Elementary Structural Geology	3
Geology 107c, d—Adv. Field Geology	4
Geology 127—Petroleum Geology	2
Geology 126a, b—Seminar	2

ALLIED SCIENCES, ETC.

Chemistry—General, Qualitative, ** and Quantitative
Physics—General**
Zoology—General Zoology**
Mathematics—College Algebra, Trigonometry, Analytics**, and Calculus
Engineering—Mechanical Drawing** and Plane Surveying**

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, add calculus and substitute Physics 3a, b, for a second year of Chemistry. For combination engineering and geology, consult Mr. Stokley.

HISTORY

The Department of History has two fundamental functions in a liberal arts curriculum. First, it seeks to give a maximum number of students an understanding of the background of civilization. History is a significant gateway to the world's great collections of literature embodying the story of man's striving, hopes, and accomplishments. It is basic to many of the fields of the Arts and Sciences, and to an intelligent understanding of the complexities of civilization. The second function of the Department of History is that of offering a sound and comprehensive advanced and graduate program whereby students may acquire better familiarity with the broad movements in history, an intense knowledge of given fields, and specific knowledge of historical criticism and techniques.

For a Department of History to render effective service to its students, it must be composed of scholarly men who have had original experience in research, writing, and interpretation of source materials. Since this department offers work leading to two advanced degrees, it tries to live up to these objectives.

History offers students an excellent foundation for many special courses in the university curriculum, its cultural possibilities are unlimited, and it provides excellent training for specialists in the fields of journalism, library work, public service, literature, law, and the radio. In his own right the historian has an unlimited field for teaching, research, and writing.

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* A sophomore may enter Geol. 30a, b without taking 50a, b.
** Required work in other sciences indicated by asterisks.

HYGIENE AND PUBLIC HEALTH

The lower division courses are designed to meet the general requirements in health and also to fulfill the requirements in health for teacher certification in elementary and secondary schools. The courses at the upper division level lead to a major in Hygiene and Public Health. There are opportunities in the field of Public Health for those interested in sanitary work, education, field positions in voluntary and official health agencies, etc.

JOURNALISM

See School of Journalism, p. 84.

LIBRARY SCIENCE

The University provides professional education for librarianship through the Department of Library Science of the College of Arts and Sciences. This Department is accredited by the American Library Association, the only training agency so accredited in Kentucky. The Department also is accredited by the Southern Association of Colleges and Secondary Schools.

An acute nation-wide shortage of librarians, estimated at 18,000 by the American Library Association, provides unusual opportunities for qualified men and women entering the profession. Recognizing its responsibility for preparing librarians for various levels of service in schools, colleges, universities, and public libraries, the Department offers training on both an undergraduate and a graduate level.

The *undergraduate curriculum*, leading to a bachelor's degree, may be taken during the junior and senior years. Intended primarily for the education of school librarians, this program gives the training required for certification by the Kentucky State Board of Education and also meets the standards established for school librarians by the Southern Association of Colleges and Secondary Schools. Students working toward the A.B. in Education may enroll for certain courses. The undergraduate curriculum includes nine hours of basic foundation for graduate work and gives students majoring in other fields opportunities to take related courses in Library Science.

The *graduate curriculum* is designed for majors in Library Science and leads to a master's degree. It is open to non-majors on the approval of the Head of the Department. Students in the College of Education who are working toward the M.A. in Education may elect courses in Library Science to fulfill the Southern Association requirements for teacher-librarians. Students in subject fields may elect certain courses in Library Science to qualify for positions in special libraries. In general, the graduate courses are designed to train for the more responsible positions in librarianship. Those interested should consult with the Department for guidance in the selection of courses.

Requirements for the Masters Degree

Prerequisites: A bachelor's degree from an approved college or university; an undergraduate scholastic record that is above average, together with evidence of ability to perform graduate work satisfactorily; and completion of a preliminary core of nine semester hours in Library Science.

Undergraduate preparation should include academic rather than professional courses. Languages are considered basic for those interested in college

or university library work. The preliminary core of nine semester hours in Library Science is satisfied at the University by courses 133a, 145, and either 110 or 121. Subject to the recommendation of the Head of the Department, these nine units may be taken during the first semester of the graduate program; comparable work taken elsewhere may reduce this requirement.

The Master of Arts degree requires: Satisfactory completion of twenty-four semester hours of graduate work in Library Science, fulfillment of the residence requirement of 36 weeks; fulfillment of the requirement of a reading knowledge of one modern foreign language; preparation of a thesis; and passing a final oral examination in which the student is asked to defend his thesis and also is examined on any subject matter related to his field. The M.S. degree substitutes six semester hours for the thesis and a minimum of six semester hours with a minimum grade of C for the requirement of a reading knowledge of one modern foreign language.

The residence requirement may be fulfilled by any combination of semesters or summer sessions which totals the required number of weeks. Subject to the recommendation of the Head of the Department, candidates who have had previous training in Library Science may take up to one-third of their graduate work in courses in other departments. Such courses must be related closely to the student's field of specialization.

Professional Curriculum in Library Science

UNDERGRADUATE COURSES

Course No.	Title	Crs.
101a-d	Independent Work	1-4
110	The Library in the School	3
121	Introduction to Library Work	3
127a, b	Books and Related Materials for Children and Young People	6
129	Cataloging and Classification	3
133a, b	Reference and Bibliography	6
139	Library Practice	3
145	Organization of Library Materials	3
152	Book Selection	3
186	Visual Teaching	3
187	Nonbook Materials	3

GRADUATE COURSES

Course No.	Title	Crs.
212	The Public Library	2
214	The College and University Library	2
227	Problems in Reading for Children and Young People	2
229	Advanced Cataloging and Classification	3
232	Library Work with Children	3
233	Subject Bibliography	3
235	Government Publications	2
242	History of Books	2
250	Adult Reading Guidance	3
252	Advanced Book Selection	3
254	Seminar	2

MATHEMATICS AND ASTRONOMY

The Department of Mathematics and Astronomy serves a three-fold purpose.

First: It provides courses in furtherance of the aim that a student, aside from his specialized interests, acquire some understanding of the elements of mathematics and the role it plays in society if his education is to be truly liberal.

Second: It provides courses to fit the specialized needs of students in other departments and colleges. To this end it offers courses to prepare the student for his work in agriculture, bacteriology, chemistry, economics, engineering, geology, philosophy, and physics.

Third: It provides courses for those who wish to specialize in mathematics. Courses are offered in algebra, analysis, geometry, statistics and applied mathematics, and topology. The prospective secondary school teacher will find courses suitable to his needs on both the undergraduate and graduate level, while a variety of courses on all levels, leading to the Ph.D. degree, are offered for the research specialist and/or college teacher.

The Mathematics library is one of the best in the South. It contains several thousand volumes as well as complete sets of most of the important mathematical periodicals.

Two non-mathematical courses in Introductory Astronomy are offered. Other courses of a mathematical and practical nature are offered from time to time. The University has a small observatory with an eight-inch refracting telescope and other instruments. Occasional meetings are held at the observatory to give the student an opportunity to view the more interesting celestial objects. A portion of the departmental library consists of astronomical books, journals, and bulletins.

MILITARY SCIENCE AND TACTICS

The Reserve Officers Training Corps

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

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

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

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

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

Discipline of Body and Mind. The following characteristics of an officer and a gentleman will be insisted upon: Neatness in dress, the cultivation of the manners and habits of a gentleman, a dignified and military bearing, devotion to duty and consideration of others; the cultivation in the student body of esprit de corps, obedience to orders, acceptance of responsibility, and avoidance of excuses.

Uniform Equipment. Government uniforms and equipment are furnished the University for issue to students without cost to the individual. Each student is required to make a deposit of $25.00 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.

Subsistence. Advanced course ROTC enrollees receive an allowance of 90 cents per day for subsistence in lieu of rations.

Basic Course. The military department offers a two years' basic course in military science and tactics. The basic course is required of all male freshmen and sophomores who are citizens of the United States, and who conform to the physical requirements as prescribed by the Department of Defense for units of the Reserve Officers' Training Corps. Veterans with over ninety days' active military service are excused from the basic course, which fulfills the university requirement for graduation. This does not, however, qualify the student for the advanced course.

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

Advanced Course. The advanced course of two years, including one summer camp, is offered to students who have successfully completed the basic course, and who have been recommended by the President of the University and the Professor of Military Science and Tactics for further training. Recommendations for this course will be limited to those students who have manifested special interest and demonstrated ability during the basic course, and who meet other standards, with a view to qualifying for a commission in the United States Army Reserve. An advanced course student, who makes and maintains a minimum graduation point standing of 1.5 and meets other standards, may be designated a Distinguished Military Student which makes him eligible to apply for a commission in the Regular Army. A Distinguished Military Student may be designated a Distinguished Military Graduate upon his being awarded a baccalaureate degree, provided he continues to meet the required standards.

MODERN FOREIGN LANGUAGES AND LITERATURES

The Department of Modern Foreign Languages and Literatures embraces the five major European languages: French, German, Spanish, Italian, and Russian. Undergraduate students are offered the choice of three specialized curricula leading to the A.B. degree with a major in either French, German, or Spanish. On the graduate level, the Department offers advanced work in the literature and philology of each of these three languages, leading at present to the Master of Arts degree.

As a branch of the liberal arts curriculum, one of the fundamental aims of language study must be to broaden and deepen our acquaintance with the

world about us by presenting new aspects of its culture and a more intimate knowledge of its peoples through the medium of foreign languages and literatures. In addition, however, the Department provides language training facilities for those interested in entering the diplomatic and various other Government services where knowledge of foreign languages is required; it offers specialized preparation to prospective high school and college language teachers; it furnishes graduate and science students with the training necessary to use foreign language books and periodicals for reference and research.

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.

A student who desires to major in music may work toward the Bachelor of Music degree or the Bachelor of Arts degree. Any student in the University who has the necessary prerequisites may, and is encouraged to, elect courses and join performing organizations in the department. There are courses with no prerequisites.

The sequence of courses for the Bachelor of Music degree represents an intensive study of music designed for those who plan to be professional musicians or school music teachers. It presumes a reasonable degree of musical knowledge and proficiency on the pre-college level.

The Bachelor of Arts degree with a major in music is designed as a cultural degree with a music emphasis for those who do not intend to be professional musicians or to teach school music.

The Department of Music is a member of the National Association of Schools of Music.

Departmental Facilities

The University provides one of the most modern and adequately equipped Fine Arts buildings in the South. The music facilities include well lighted, sound proofed, air conditioned classrooms, rehearsal halls, teaching studios, listening cubicles, a departmental library, and 44 practice rooms including 4 two-manual practice pipe organs. In the building there are two auditoriums seating approximately 500 and 120. Radio, recording, and broadcasting facilities are available for instructional purposes and performances.

Scholarships

The department offers a limited number of tuition scholarships. Application for these scholarships should be made to the Head of the Department of Music.

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 furnishes music for the ROTC spring parades. *The concert band* presents concerts on the campus, in the community, and for radio programs.

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. The choristers is a select group of mixed voices which performs standard choir literature. Each year they present several performances including a traditional program of Christmas music.

University Chorus. This organization is open to all university men and women. The Chorus presents at least one major composition for chorus and orchestra each year.

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 University Chorus in the spring performance of a cantata, oratorio or some other major choral work. Admission to the orchestra is arranged by consultation with the director.

Participation in Musical Organizations

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

Special Fees

Special fees for applied music lessons, practice rooms, and instrument rental are listed on page 21.

Curriculum Leading to the Degree of Bachelor of Music

The following sequences are offered:

PUBLIC SCHOOL MUSIC

Instrumental Supervision

FRESHMAN	1st Sem. Crs.	2d Sem. Crs.
Applied Major a, b	2	2
[3]Music C15a, b (Piano)	1	1
Music 11a, b (Theory I)	2	2
Class Instrument	1	1
English 1a, b	3	3
Performing Organization	1	1
Foreign Language	3	3
Social Studies	3	3
[1]Military or Air Science	(2)	(2)
Physical Education	1	1
[2]Recital Attendance	—	—
	17-19	17-19

SOPHOMORE	1st Sem. Crs.	2d Sem. Crs.
Applied Major c, d	2	2
Music C15c, d (Piano)	1	1
[6]Music 51a, b (Theory II)	2	2
Music 52a, b (Theory II)	2	2
Class Instrument	1	1
Performing Organization	1	1
Humanities	2	4
Biol. and Psychology	3	4
Hygiene	2	—
Military or Air Science	(2)	(2)
[2]Recital Attendance	—	—
	16-18	17-19

JUNIOR	1st Sem. Crs.	2d Sem. Crs.
Applied Major e, f	2	2
Music 53a, b (Theory III)	2	2
Class Instrument	1	1
Music 116a, b (Conducting)	2	2
Music 47a, b (Methods)	3	3
Music 13a (Form & Analysis)	2	—
Physical Science	3	3
Performing Organization	1	1
Education 148	3	—
Education C44	—	3
Recital Attendance	—	—
	19	17

SENIOR	1st Sem. Crs.	2d Sem. Crs.
Applied Major g, h	2	2
Class Instrument	1	1
Class Instrument	1	1
Music 19a, b (History)	3	3
Music 117a,b (Orchestration)	2	2
Music 118 (March. Band Tech.)	—	2
Performing Organization	1	1
Education 177a, b (Pr. Tch.)	4	4
Education 105	3	—
Recital Attendance	—	—
	17	16

TOTAL CREDITS—134, exclusive of physical education credits.

For all footnotes see p. 77

Vocal Supervision

FRESHMAN

	1st Sem. Crs.	2d Sem. Crs.
[4]Appl. Major 17a, b or 15a, b	2	2
[4]Appl. Minor C17a, b or C15a, b	1	1
Music 11a, b (Theory I)	2	2
Performing Organization	1	1
English 1a, b	3	3
Psychology 1 and Biol. Sci.	4	3
Foreign Language	3	3
[1]Military or Air Science	(2)	(2)
Physical Education	1	1
[2]Recital Attendance	—	—
	17-19	16-18

SOPHOMORE

	1st Sem. Crs.	2d Sem. Crs.
Appl. Major 17c, d or 15c, d	2	2
Appl. Minor C17c, d or C15c, d	1	1
[6]Music 51a, b (Theory II)	2	2
Music 52a, b (Theory II)	2	2
Performing Organization	1	1
Humanities	2	2
Social Sciences	3	3
Physical Sciences	3	3
Military or Air Sciences	(2)	(2)
Recital Attendance	—	—
	16-18	16-18

JUNIOR

	1st Sem. Crs.	2d Sem. Crs.
Appl. Major 17e, f or 15e, f	2	2
Appl. Minor C17e, f or C15e, f	1	1
Music 53a, b (Theory III)	2	2
Music 44a, b (Methods)	4	4
Music 115a,b (Choral Cond.)	2	2
Performing Organization	1	1
Education 148	3	—
Education C44	—	3
Humanities	2	—
Hygiene 9	—	2
	17	17

SENIOR

	1st Sem. Crs.	2d Sem. Crs.
Appl. Major 17g, h or 15g, h	2	2
Appl. Minor C17g, h or C15g, h	1	1
Music 19a, b (History)	3	3
Music 102a, b (Vocal Ped.)	2	2
Music 13a, b (Form&Anal.)	2	2
Performing Organization	1	1
Music 145 (Supervision)	—	2
Education 177a, b (Pr.Tch.)	4	4
Education 105	3	—
Recital Attendance	—	—
	18	17

TOTAL CREDITS—132, exclusive of physical education credits.

APPLIED MUSIC

Voice

FRESHMAN

	1st Sem. Crs.	2d Sem. Crs.
Music C17a, b (Voice)	3	3
Music C15a, b (Piano)	1	1
Performing Organization	1	1
Music 11a, b (Theory I)	2	2
English 1a, b	3	3
Foreign Language	3	3
Biological Science	3	3
[1]Military or Air Science	(2)	(2)
Physical Education	1	1
[2]Recital Attendance	—	—
	17-19	17-19

SOPHOMORE

	1st Sem. Crs.	2d Sem. Crs.
Music C17a, d (Voice)	3	3
Music C15c, d (Piano)	1	1
[6]Music 51a, b (Theory II)	2	2
Music 52a, b (Theory II)	2	2
Performing Organization	1	1
Humanities	2	2
Foreign Language	3	3
Physical Science	3	3
Military or Air Science	(2)	(2)
Recital Attendance	—	—
	17-19	17-19

JUNIOR

	1st Sem. Crs.	2d Sem. Crs.
Music 17e, f, g, h (Voice)	4	4
Music 53a, b (Theory III)	2	2
Music 115a, b (Conducting)	2	2
Humanities	2	—
Hygiene 9	—	2
Performing Organization	1	1
Foreign Language	3	3
[5]Social Science	3	3
Recital Attendance	—	—
	17	17

SENIOR

	1st Sem. Crs.	2d Sem. Crs.
Music 17i, j, k, l (Voice)	4	4
Music 19a, b (History)	3	3
Music 107a, b (Vocal Lit.)	2	2
Music 102a, b (Vocal Pedagogy)	2	2
Music 13a, b (Form & Analysis)	2	2
Music 113a, b or 119a, b (Counterpoint or Composition)	2	2
Performing Organization	1	1
Recital Attendance	—	—
	16	16

TOTAL CREDITS—132, exclusive of physical education credits.

For all footnotes see p. 77

Piano

FRESHMAN

	1st Sem. Crs.	2d Sem. Crs.
Music 15a, b, c, d (Piano)	4	4
Music 11a, b (Theory I)	2	2
Performing Organization	1	1
English 1a, b	3	3
Foreign Language	3	3
Biological Science	3	3
[1]Military or Air Science	(2)	(2)
Physical Education	1	1
[2]Recital Attendance	—	—
	17-19	17-19

SOPHOMORE

	1st Sem. Crs.	2d Sem. Crs.
Music 15e, f, g, h (Piano)	4	4
[6]Music 51a, b (Theory II)	2	2
Music 52a, b (Theory II)	2	2
Performing Organization	1	1
Humanities	2	2
Physical Science	3	3
Social Science	3	3
Military or Air Science	(2)	(2)
Recital Attendance	—	—
	17-19	17-19

JUNIOR

	1st Sem. Crs.	2d Sem. Crs.
Music 15i, j, k, l (Piano)	4	4
Music 53a, b (Theory III)	2	2
Music 13a, b (Form & Analysis)	2	2
Music 115a, b or 116a, b (Choral or Instrumental Cond.)	2	2
Music 19a, b (History)	3	3
Music 106a, b (Piano Lit.)	2	2
Humanities	2	—
Hygiene 9	—	2
Performing Organization	1	1
	18	18

SENIOR

	1st Sem. Crs.	2d Sem. Crs.
Music 15m, n, p, q (Piano)	4	4
Music 113a, b (Counterpoint)	2	2
Music 119a, b (Composition)	2	2
Music 117a, b (Orchestration)	2	2
Music 50a, b (Sightreading & Accompanying)	1	1
Music 103a, b (Piano Pedagogy)	1	1
Performing Organization	1	1
Elective	2	2
Senior Recital	—	—
Recital Attendance	—	—
	15	15

TOTAL CREDITS—132, exclusive of physical education credits.

Organ

FRESHMAN

	1st Sem. Crs.	2d Sem. Crs.
Music C18a, b (Organ)	3	3
Music C15a, b (Piano)	1	1
Music 11a, b (Theory I)	2	2
Performing Organization	1	1
English 1a, b	3	3
Foreign Language	3	3
Biological Science	3	3
[1]Military or Air Science	(2)	(2)
Physical Education	—	1
[2]Recital Attendance	—	—
	16-18	17-19

SOPHOMORE

	1st Sem. Crs.	2d Sem. Crs.
Music C18c, d (Organ)	3	3
Music C15c, d (Piano)	1	1
Performing Organization	1	1
[6]Music 51a, b (Theory II)	2	2
Music 52a, b (Theory II)	2	2
Humanities E (Music)	—	2
Humanities	2	2
Hygiene 9	2	—
Physical Science	3	3
Military or Air Science	(2)	(2)
Recital Attendance	—	—
	16-18	16-18

JUNIOR

	1st Sem. Crs.	2d Sem. Crs.
Music 18e, f, g, h (Organ)	4	4
Music 53a, b (Theory III)	2	2
Music 19a, b (History)	3	3
Music 13a, b (Form & Analysis)	2	2
Music 115a, b or 116a, b (Choral or Instrumental Cond.)	2	2
Performing Organization	1	1
[5]Social Science	3	3
Recital Attendance	—	—
	17	17

SENIOR

	1st Sem. Crs.	2d Sem. Crs.
Music 18i, j, k, l (Organ)	4	4
Music 113a, b (Counterpoint)	2	2
Music 117a, b (Orchestration)	2	2
Music 119a, b (Composition)	2	2
Music 108a, b (Organ Lit.)	2	2
Performing Organization	1	1
Elective	4	4
Senior Recital	—	—
Recital Attendance	—	—
	17	17

TOTAL CREDITS—132, exclusive of physical education credits.

For all footnotes see p. 77

Orchestral Instrument

FRESHMAN

	1st Sem. Crs.	2d Sem. Crs.
Applied Major a, b	3	3
Music C15 a, b or Sec. Appl.	1	1
Music 11a, b (Theory I)	2	2
Performing Organization	1	1
English 1a, b	3	3
Biological Science	3	3
Foreign Language	3	3
[1]Military or Air Science	(2)	(2)
Physical Education	1	1
[2]Recital Attendance	—	—
	17-19	17-19

SOPHOMORE

	1st Sem. Crs.	2d Sem. Crs.
Applied Major c, d	3	3
Music C15c, d or Sec. Appl.	1	1
[6]Music 51a, b (Theory II)	2	2
Music 52a, b (Theory II)	2	2
Humanities E (Music)	—	2
Humanities	2	2
Performing Organization	1	1
Hygiene 9	2	—
Physical Science	3	3
Military or Air Science	(2)	(2)
Recital Attendance	—	—
	16-18	16-18

JUNIOR

	1st Sem. Crs.	2d Sem. Crs.
Applied Major e, f, g, h	4	4
Secondary Applied Music	1	1
Music 53a, b (Theory III)	2	2
Music 19a, b (History)	3	3
Music 116a, b (Conducting)	2	2
Music 13a, b (Form & Analysis)	2	2
[5]Social Science	3	3
Performing Organization	1	1
Recital Attendance	—	—
	18	18

SENIOR

	1st Sem. Crs.	2d Sem. Crs.
Applied Major a, j, k, l	4	4
Music 113a, b (Counterpoint)	2	2
Music 117a, b (Orchestration)	2	2
Music 119a, b (Composition)	2	2
Music 47a, b (Methods)	3	3
Performing Organization	1	1
Elective	2	2
Senior Recital	—	—
Recital Attendance	—	—
	16	16

TOTAL CREDITS—132, exclusive of physical education credits.

Bachelor of Arts Degree with a Major in Music

This curriculum, leading to a Bachelor of Arts degree with a major in music, is intended to provide the student with a general cultural background with emphasis on music.

Music Requirements for a Major in Music

Requirements in the Field of Concentration: Forty credits of advanced work in the field of Literature, Philosophy, and the Arts during the junior and senior years, including the major work.

Music Prerequisites: Junior standing and the following lower division courses in music:

Humanities E, Music: The Renaissance to the Present
Theory 11a, b; 51a, b; 52a, b; 53a, b
Applied Music — 8 to 12 semester hours

Upper Division Music Requirements: A minimum of 30 semester hours of advanced work in music in accordance with the student's particular interest and as directed by the Music Department.

Notes

1. Required of all able-bodied male freshmen and sophomores who are citizens of the United States.
2. All students are required during each semester of residence to attend a certain percentage of the departmental recitals as directed and posted each semester by the department.

3. If the applied major is piano, class instruments will be substituted for Music 15a, b (Piano) as directed.
4. Voice majors will take a piano minor; piano majors will take a voice minor.
5. Must satisfy lower division requirement.
6. Must be taken concurrently with 52a, b.

NURSING

A Department of Nursing was organized February, 1953, to offer advanced courses in the field of nursing for graduate nurses who wish to qualify for (1) teaching positions in schools of nursing, or (2) ward supervisors, or (3) directors of nursing services.

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 Nursing.

PHILOSOPHY

Philosophy is today, as it has been in the past, a pursuit of an understanding of the most basic traits of the universe and of man and his activities. While each of the special sciences examines a limited sphere, philosophy strives for inclusive vision. Also it seeks clear definition of the fundamental meanings that underlie the various fields of human knowledge and practice. Hence it is the apex of the pyramid of science. Standards present in man's knowing and acting are studied in logic, theory of knowledge, and ethics. Historical courses survey the development of the most general thought patterns of successive epochs. Such systematic courses as metaphysics and philosophy of religion discuss ideas bearing on the nature and organization of the universe.

All the courses offered by the Philosophy Department are designed to provide training which will constitute significant components of a liberal education. The special services of the Department may be listed as follows: (1) Several of its courses provide such training in the broadest ideas and values of civilization as will be useful for students working for a career in education, engineering, commerce, law, agriculture, medicine, and nursing. (2) The Department plans courses with a view to reinforcing and complementing various Arts and Sciences curricula, such as those in the humanities and the social studies, although it offers courses of value to students in the physical and biological sciences as well. In pre-professional programs leading toward medicine and the ministry there are courses that are virtually indispensable. Such courses as logic and ethics, which develop skill in reasoning and a more thorough understanding of the principles of moral conduct, are of special value in all curricula. (3) Finally, it provides a program of study for students who wish to major in philosophy itself, whether these students do or do not plan to pursue philosophy beyond the A.B. degree. The Department offers training as far as the M.A. degree and plans its graduate program with a view to preparing the student for effective study elsewhere toward the Ph.D. degree and a career of teaching philosophy.

PHYSICAL EDUCATION

Required 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 who have had three or more months of military service; students who have successfully completed two semesters of physical education at another College or University, and students who have entered the University with a junior standing or above), are assigned to required physical education classes in accordance with their health status. Individuals with physical handicaps are assigned to "Adapted Physical Education" P.E. 1-1). All others are assigned to any of the physical education courses, P.E. 1-6.

Physical Education courses offer one credit hour, and are organized in such a manner as to teach two activities each semester. Students (except those exempt) are required to successfully compete two semesters of physical education, and are required to become proficient in one group activity, one individual activity and one acquatic activity. The choice of the fourth activity is optional; however, students may not repeat one of the activities already taken. After students have completed their physical education requirements they are encouraged to enroll in additional service classes for credit or as auditors.

The required, or service, physical education program consists of specific courses of instruction for men and women students which are designed to:

1. Teach students activities which may serve as a recreational pursuit during leisure time.

2. Provide the students with a means of regulated and supervised physical exercise.

3. Develop a sane and intelligent attitude toward the need for and benefits of well-regulated physical activity.

A standard uniform is required of all students. The cost of this ranges from $5.00 to $12.00. A locker fee of $2.00 per semester is charged each student which includes towel service, soap, locker rental, and the privilege of using the equipment and facilities of the Department of Physical Education during non-class periods. The swimming fee is $3.00 per semester and includes locker rental.

Intramurals

A second phase of the Department's program is its intramural sports for men and women students and the Women's Athletic Association for women students. Through the intramural and W.A.A. programs and such organizations as the U.K. Troupers, Tau Sigma (Modern Dance), and Blue Marlin (Swim Club) numerous activities are sponsored which provide opportunity for all students to participate in competitive sports and recreational activities.

Professional Physical Education

The majority of students selecting Physical Education as a major do so because they expect to enter this field as teachers or as coaches . Since our students come from widely different backgrounds inside the state and from outside of Kentucky an effort is made to gear the program to their individual needs, backgrounds, and future requirements. To this end opportunities for varying extents of concentration in the major field and in minor fields within limitations of University and College policy are offered for the guidance of

and selection by the student. Requirements in the fields of English, the Basic Sciences, Social Studies, Nutrition, Psychology and (for the teacher) in Education are outlined to accompany work in the major field. The student may receive the degree through the College of Arts and Sciences or through the College of Education.

Topical Fields

Topical fields are offered in Recreation and Dance. A student enrolling in one of the fields will have an individual curriculum prescribed to prepare him for his life's work.

PHYSICS

The objectives of the Department of Physics are:

1. To provide instruction to the end that a student, regardless of his special interests, may acquire a general understanding and appreciation of physics.
2. To provide a complete undergraduate curriculum with sufficient elasticity so that a graduate with a major in physics may teach in secondary schools, go on to greater specialization in physics; or use his major as a strong foundation for vocations.
3. To provide graduate instruction and modern facilities for research in physics leading to advanced degrees.

Suggested Outline of a Curriculum in the Physical Sciences with Physics as a Major:

FRESHMAN YEAR

First Semester	Crs.	Second Semester	Crs.
Military or Air Science 1st yr.	2	Military or Air Science 1st yr.	2
Physical Education	1	Physical Education	1
English 1a	3	English 1b	3
Math. 17 (Coll. Alg.)	3	Math. 19 (Analytic Geom.)	3
Math. 18 (Trigonometry)	3	Engineering Problems 2	1
Chemistry 1a (General)	5	Chemistry 1b (General)	5
		Hygiene	1
	17		16

SOPHOMORE YEAR

First Semester	Crs.	Second Semester	Crs.
Military or Air Science 2d yr.	2	Military or Air Science 2d yr.	2
Math. 20a (Diff. Calc.)	4	Math. 20b (Int. Calc.)	4
Physics 3a (General)	6	Physics 3b (General)	6
Biological Sciences	3	Biological Sciences	3
†Foreign Languages	3	†Foreign Languages	3
	18		18

JUNIOR YEAR

First Semester	Crs.	Second Semester	Crs.
Physics 104 (Theor. Mech.)	4	Physics 111 (Elec. & Mag.)	3
Physics 108 (Light)	3	Physics 138 (Exp. Optics)	2
Math. 105a (Diff. Eq.)	3	Math. 105b (Diff. Eq.)	3
Chemistry 22 (Anal. Chem.)	5	Math. 25 (Interm. Calc.)	3
Social Studies	3	Social Studies	3
		Humanities	4
	18		18

SENIOR YEAR

First Semester	Crs.	Second Semester	Crs.
Physics 123a (Heat & Thermo)	3	Physics 123a (Heat & Thermo)	3
Physics 155a (Atomic)	3	Physics 155b (Neucleonics)	3
Physics 131 (Exp. Elec.)	2	Math. 106b (Adv. Calc.)	3
Math. 106a (Adv. Calc.)	3	Field or Free Electives	10
Humanities	2		
Field or Free Electives	6		
	19		19

† The foreign language requirement is not complete until the basic achievement examination has been passed, or the second year of a language with a C grade or better for each semester.

POLITICAL SCIENCE

The courses and facilities of the Department of Political Science are designed to serve a number of purposes. Among these purposes are: (1) To provide orientation and training in the problems of citizenship for undergraduate students. (2) Provide further special background for students majoring in journalism or preparing for admission to professional courses such as law. (3) To train social science teachers for the primary and secondary schools. (4) To provide special training for students preparing for governmental or quasi-governmental work conducted by non-governmental agencies. (5) To provide research training in the problems of government. (6) To give graduate training in Political Science and related fields in preparation for college and university teaching.

Police Administration

Police Administration has become an important governmental function, State, local, and national agencies now require a large number of recruits each year. To prepare students for this field the University now offers a course of study in Police Administration.

Public Service Courses

Government service is offering an ever widening field of opportunity for the college trained man and woman. The last years have seen a tremendous increase in the number of civil employees. The complexity of our public problems and the rising demand for an efficient public service have led to the demand for people qualified and trained for government positions.

Students interested in entering the Federal Civil Service through the usual channel of the 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.

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 master's degree and the Ph.D. degree in the fields of general, clinical, or counseling psychology. In cooperation with the Veterans Administration, the Department offers a four-year course of training in clinical psychology leading to the Ph.D. degree. Students in this program alternate between full time academic assignments and assignments to internship training in a Veterans Hospital. Veterans Administration Technical Bulletin 10A-146 describes this training program. Various other means of securing practical training in clinical psychology are afforded by other hospitals and clinics in the locality.

The Department operates a speech correction clinic. Corrective therapy is provided for stutterers, for cases of retarded speech development, and for other speech defective persons, and training is offered in the techniques of speech correction.

RADIO ARTS

The Department of Radio Arts provides active on-the-air experience as well as a rounded educational curriculum for the student who aspires to a position in the radio-television profession. Courses and actual experience also are available for students majoring in other fields who want to learn something about broadcasting . . . and practically every field of endeavor today utilizes this medium in one way or another. Finally, provision is made for contributing to the knowledge of the student seeking a balanced liberal education.

The radio facilities, located on the top floor of McVey Hall, are among the most extensive of college operations in the country. They include five broadcasting studios with control rooms, record library, reference library, staff room, sound effects room, master control, transmitter room, and a full complement of professional broadcasting equipment. Students broadcast over the facilities of the University's own FM station, WBKY, which is operated by the Radio Arts Department and covers a listening area of 40 miles around Lexington. In addition, many programs produced by students of the department go out over regular commercial stations throughout the state. The Department is presently engaged also in producing television programs featuring all student talent for television stations in nearby areas.

Television training, both classroom and on-the-air, is an integral part of the curriculum. Each summer a selected group of Radio Arts majors are permitted to enroll in a ten-weeks internship in television at WHAS-TV, Louisville, for which credit is given under Radio 106b.. Training in this special television course includes work in film editing, script-writing, and floor-directing.

Motion picture equipment, with a complete movie sound system, has been added to the Radio Arts Department's facilities. The use of this equipment in a new course, Cinematography 111, provides the student with experience similar to that of persons working in the film department of television stations. The course stresses news coverage and the technique of producing sound motion pictures. In addition, this equipment is being utilized in the production of movie and television films, some exploring broad cultural areas and others reflecting University life and work.

Courses for Majoring in Radio Arts

Open to Freshmen

	Crs.
Radio Arts 1a, 1b—Radio Today	6

Open to Sophomores

Radio Arts 2a—Radio Announcing	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 103—Radio and Television Advertising	2
Radio Arts 106a—Radio Production	2
Radio Arts 106b—Radio Production	2
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 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 the Division of Schools and Departments of the national Council on Social Work Education. Its curriculum, based upon the national standards in the field, leads to a degree of Bachelor of Arts with a major in Social Work. Students, upon its completion, are encouraged to continue their technical preparation in graduate professional schools of social work. However, our graduates are currently holding responsible positions in the public social services, group work 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, SW 24, 122, and 130a are especially recommended for all students interested in social welfare.

SOCIOLOGY

The Sociology Department conducts a program of training and research, complementary to that of other social sciences, focused upon the central problems of group organization, social action, and public policy. Basic courses in the fundamentals of social behavior are supplemented by specialized courses in research and analysis. Internships in important public agencies provide additional research experience and a chance to apply sociological principles under supervision.

In the Sociology Department the Bureau of Community Service makes the tools and skills of social science available to Kentucky communities and organizations. Training in Sociology leads to scientific research, Social Science Analyst positions with the Federal or State governments, and positions in human relations with private agencies. Since every effort is made to guide students toward a broad training in the field of the social sciences, an undergraduate major in sociology proves valuable for those entering such professional fields as family relations, industrial relations, law, social service, and the like.

ZOOLOGY

Courses given in this Department are designed to offer the general student opportunity to obtain a cultural background in this field of biology and to give the student interested in this field as a livelihood the proper basic principles and training.

Students interested in careers in medicine, medical technology, wild life management, conservation, governmental work, research, teaching at the elementary, high school, and college level, as well as in many other areas, will find Zoology courses which offer them the necessary training.

Courses are offered which lead to a major in Zoology with emphasis in such sub-divisions of Zoology as ecology, evolution, genetics, parasitology, embryology and vertebrate Zoology. The proper combination of these courses enables a student to obtain the A.B. or B.S. degree with Zoology as a major. The department also offers the M.S. degree in various fields of Zoology.

The teaching and research staff of the Department of Zoology is at the service of those students interested in careers in Zoology and urges that such students confer early with the department head or another staff member in regard to training and opportunities for such careers.

SCHOOL OF JOURNALISM

The School of Journalism is one of the 39 members of The Association of Accredited Schools and Departments of Journalism. Since 1931 the school has been accredited and has been a member of the Association which is composed of the leading schools of journalism in the United States.

General reference materials, representative daily newspapers, and recognized trade journals of the publishing industry are available in the school. In the general library are hundreds of volumes dealing with all phases of the communications industry.

A daily 10-hour teletype service of the Associated Press supplies latest news dispatches for students and provides laboratory materials for news editing and radio news writing. The school, which supervises student publication activities, has standard equipment to print a modern community newspaper and to provide high-grade commercial job printing for the campus. In the extensive plant is a type laboratory for instruction in typography, make-up, 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 school), and The KHSPA News (bulletin of the Kentucky High School Press Association), present opportunities for student practice in the publication field.

Upper division students are active in the free lance field, making sales to a wide variety of publications throughout the nation.

The Degree of A.B. in Journalism

The professional curriculum leading to the degree of Bachelor of Arts in Journalism is divided into four sequences to facilitate specialization by the student in the junior and senior years. These sequences are: The General Editorial, The Community-Publishing, Advertising, and Radio-Journalism. 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.

Pre-Journalism Requirements: Satisfaction of lower division requirements of the College of Arts and Sciences, and 6 to 8 hours in journalism courses.

General Editorial Sequence

JUNIOR YEAR		SENIOR YEAR	
Courses	Crs.	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, exclusive of physical education credits.

Community-Publishing Sequence

JUNIOR YEAR		SENIOR YEAR	
Courses	Crs.	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		
	34		32

Minimum required for the degree, 134 credit hours, exclusive of physical education credits.

Advertising Sequence

JUNIOR YEAR		SENIOR YEAR	
Courses	Crs.	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	3
		*Commerce electives	6
		*General electives	6
	34		32

Minimum required for the degree, 134 credit hours, exclusive of physical education credits.

Radio-Journalism Sequence

JUNIOR YEAR		SENIOR YEAR	
Courses	Crs.	Courses	Crs.
Journalism 100a, 100b	6	Journalism 114	3
Journalism 101	3	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-Arast electives	6
		*General electives	9
	33		34

Minimum required for the degree, 134 credit hours, exclusive of physical education credits.

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* Women and others not required to take military science must complete 8 additional electives hours during the freshman and sophomore years.

Electives taken in freshman and sophomore years cannot be used to satisfy electives required in the junior and senior years.

All electives in junior and senior years must be in courses not open to freshmen.

DEGREES AND CURRICULA IN THE COLLEGE OF AGRICULTURE AND HOME ECONOMICS

Frank James Welch, M.A., Ph.D., Dean
Levi Jackson Horlacher, M.S., Associate 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 became the Department of Home Economics in the College of Agriculture. In 1941 the name of the College of Agriculture was changed to the College of Agriculture and Home Economics. In 1953 the Department of Home Economics was changed to School of Home Economics. The first class in agriculture was graduated in 1898 and the first class in home economics was graduated in 1913.

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 field of opportunity is as wide as the relation of agriculture and home economics to industry, commerce, and finance. In all these areas 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 to the College by their discoveries and investigations, others through books that they have written, and still others by their work on state and national problems of many kinds. The privilege of associating with and studying under men and women who know how to teach and who have the ability to contribute to the solution of current

problems in agriculture and home economics is an important point to consider in the selection of a college.

Buildings and Equipment. Adequate, modern buildings and equipment are essential for good instruction in agriculture and home economics. In addition to the general University buildings the College of Agriculture and Home Economics has several buildings devoted specifically to the work of the various departments. The Agriculture Building houses the office of the dean, the department of horticulture with its student laboratories, the section of forestry, classrooms for agricultural economics and rural sociology, and laboratories for the use of students in crops, soils, and agricultural entomology. The Thomas Poe Cooper Dairy Products 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. Several classes in agricultural economics meet in this building. The Tobacco Laboratory is well equipped for the study of plant diseases. In the Edward James Wilford 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 several members of the teaching staff are located there.

The Home Economics Building is modern and equipped with classroom and laboratory fixtures of the latest design. In addition to offices and classrooms the building contains laboratories for foods, clothing, nutrition, dietetics, experimental cookery, costume design, and interior decoration. Two home management houses and a child-care center are located near the Home Economics Building. The University cafeterias are used as laboratories for students in institution economics.

On the farm are a modern dairy center, a service center, and barns for all kinds of livestock. Representatives of several of the more important types and breeds are kept for instructional purposes. These include Shorthorn, Hereford, Aberdeen Angus, Jersey, and Holstein cattle; Southdown and Hampshire sheep; Duroc Jersey and Hampshire hogs; mules; farm horses; and several varieties of poultry. Near Lexington are many large livestock and horse farms and the owners very generously permit the use of their animals for instruction.

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.

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.

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 Inspection, Agricultural Journalism, Agricultural Science, Agronomy, Animal Industry, General Agriculture, Agricultural Economics, Rural Sociology, and Vocational Agriculture.

The Curriculum in Agronomy is designed to meet the needs of students preparing for college teaching and research in soils and crops.

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 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.

Faculty advisers are appointed by the Dean and the Department Heads to help students with 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, except those transferring from Eastern Kentucky State College, are required to take in the University a minimum of 68 credits, including 43 in agriculture. The College of Agriculture and Home Economics and Eastern Kentucky State College now have in operation a cooperative plan which recognizes courses in agriculture taught at Eastern as carrying course and residence credit toward the degree, Bachelor of Science in Agriculture, awarded by the University of Kentucky. Acceptance of transfer credit for courses in agriculture is limited to courses numbered 1 to 99 in the University of Kentucky catalog and all prerequisites required by the University must have been satisfied.

Certain courses are required of all students in the various curricula; others are elective. 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. 21—Farm Dairying or	3
*A. I. 1—Farm Livestock Prod. or	3	*A. I. 41—Farm Poultry Prod.	
*A. I. 21—Farm Dairying		Eng. 1b—English Composition	3
Bot. I—General Botany	4	Hort. 1—Genl. Horticulture	3
**Eng. 1a—English Composition	3	Geol. 3—Elem. Geology	3
Military or Air Science 1st yr.	2	***Math. 1—Basic Mathematics	3
Physical Education	1	Military or Air Science—1st yr.	2
	16	Physical Education	1
			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.

*** Students ranking in the top 15 per cent on the Kentucky classification test in mathematics are not required to take a course in mathematics

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
*Chem. 4a—Genl. Chemistry	4	*Chem. 4b—Genl. Chemistry	4
Agr. Econ. 1—Agric. Econ.	3	Econ. 51—Prin. of Econ.	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.	4
Military or Air Science—2d yr.	2	Military or Air Science—2d yr.	2
Zool. 1—Prin. of An. Biol.	4		
	19		16

* Students desiring to study advanced chemistry should take Chemistry 1a and 1b.

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Bact. 52—Prin. of Bacteriology	4	Group A. Electives	6
Agr. Econ. 110—Farm Management	3	Electives	11
Agr. Econ. 100—Agr. Marketing	3		
Group A Electives	3		
Electives	4		
	17		17

SENIOR YEAR

Electives ..... 33 credits
Total required for graduation ..... 136 credits

* The Group A electives, from which 9 hours must be selected, shall be selected from one or more of the following four general fields of generically related subject matter: Literature, Philosophy, the Arts, and Social Studies. These fields include Ancient Languages. Anthropology, Archaeology, Art, Economics, English, Geography, History, Journalism, Law, Library Science, Music, Philosophy, Political Science, Psychology, Radio Arts, Modern Foreign Languages, Social Work, and Sociology.

The Group A electives are subject to the approval of the adviser and dean.

Summary of the General Curriculum

	Crs.
Required courses in agriculture	34
Required courses, non-agriculture	45
Group A electives	9
Electives in agriculture	26
Free electives	22
	136

Brief descriptions of the options follow:

Agricultural Economics. Courses in this option deal with the economics of production; farm management and the factors underlying profitable farming; land economics, land values, and land appraisal; agricultural markets, prices, cooperation, and finance; and the relation of agriculture to government.

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, 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 Inspection. Students interested in regulatory work as a career may select courses which will prepare them for such positions as inspectors of feeds, fertilizers, seed and nursery stock, and as laboratory analysts. Courses suggested include crops, soils, horticulture, botany, chemistry, animal nutrition, plant pathology and agricultural entomology.

Agricultural Journalism. Excellent opportunities exist for service in Agriculture in the expanding field of the press and radio. Students interested in Agricultural Journalism as a career should enroll in the general curriculum in Agriculture, and should elect approximately 30 credits in journalism, radio arts, and speech. Courses suggested are: Principles of News Writing, News Reporting, Copyreading and Editing, Community Journalism, Newspaper Advertising and Promotion, Public Relations, Feature Writing Radio News Scripts, Radio Today, and Essentials of Speech.

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		SECOND SEMESTER	
Course	Crs.	Course	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
Mil. or Air Science—1st yr.	2	Hort. 1—Genl. Horticulture	3
Physical Education	1	Mil. or Air Science—1st yr.	2
		Physical Education	1
	20		20

* Chem. 4a, 4b and 1b may be taken in place of Chem. 1a and 1b, but only 10 credits will be allowed toward graduation.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	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
Mil. or Air Science—2d yr.	2	Agr. Econ. 1—Agr. Econ.	3
		Fm. Eng. 1—Mech. of Farmstead	3
		Mil. or Air Science—2d yr.	2
	18		20

*Geol. 3 may be taken in place of Geol. 30a, but Geol. 30a is preferable.

JUNIOR AND SENIOR YEARS

Course	Crs.	Course	Crs.
A. I. 81—Prin. Animal Nutr.	4	Electives	51
Agr. Econ. 130—Agri. Statistics	3	All electives subject to approval	
Econ. 51—Prin. of Econ.	3	of major advisor.	

(Nine hours must be in Group A.)
Total requirements for graduation .....136 credits

General Agriculture. This option is for students who want a general program 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.

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 Kentucky 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		SECOND SEMESTER	
Course	Crs.	Course	Crs.
*Agr. Econ. 1—Agr. Econ.	3	*Agr. Econ. 1—Agr. Econ.	3
Bot. 25—Plant Biology	3	Chem. 4a—General Chemistry	4
Eng. 1a—English Composition	3	Agron. 1—Elem. Farm Crops	3
Econ. 3—Econ. Hist. of U. S.	3	Geog. 10—Econ. Geography	3
Math. 17—College Algebra	3	Eng. 1b—English Composition	3
Mil. or Air Science—1st yr.	2	Mil. or Air Science—1st yr.	2
Physical Education	1	Physical Education	1
	16 or 18		17 or 19

* May be taken either semester.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 1—Farm Livestock Prod.	3	Com. 7a—Prin. of Accounting	4
Econ. 51—Prin. of Economics	3	A. I. 61—Genetics	3
Zool. 1—Prin. of Animal Biol.	4	A. I. 81—Prin. of Animal Nutr.	4
Chem. 4b—General Chemistry	4	R. S. 10—Introd. to Rural Soc.	3
Eng. 30—Business English	2	Agron. 10—Soils	3
Mil. or Air Science—2d yr.	2	Mil. or Air Sci.—2nd yr.	2
	18		19

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Econ. 110—Farm Management	3	Agr. Econ. 115—Farm Accounting	2
Agr. Econ. 100—Agr. Marketing	3	or	
Agr. Econ. 150—Agr. Prices	3	Com. 7b—Prin. of Accounting	4
Agr. Econ. 130—Agr. Statistics	3	Agr. Econ. 140—Agr. Policy	3
Com. 109a—Business Law	3	Agr. Econ. 145—Land Economics	3
Electives	2	Bact. 52—Prin. of Bacteriology	4
		Electives	4
	17		15 or 17

SENIOR YEAR

	Crs.
Electives in agriculture	12
Electives in Group A	12
Electives	8

Summary of the Agricultural Economics Curriculum

Required courses in agriculture	42 or 40
Required courses in other colleges	56 or 60
Electives in agriculture (54 credits required)	12 or 14
Electives in Group A	12
Electives	14 or 10
Total	136

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

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 1—Farm Livestock Prod. or A. I. 21—Farm Dairying	3	A. I. 41—Farm Poultry Prod.	3
Eng. 1a—English Composition	3	Agron. 1—Elem. Farm Crops	3
Math. 1—Basic Mathematics	3	Eng. 1b—English Composition	3
Chem. 1a—Genl. Chemistry	5	Zool. 1—Prin. of Animal Biology	4
or		Chem. 1b—Genl. Chemistry	5
Chem. 4a—Genl. Chemistry	4	or	
Mil. or Air Science—1st yr.	2	Chem. 4b—Genl. Chemistry	4
Physical Education	1	Mil. or Air Science—1st yr.	2
	16 or 17	Physical Education	1
			20 or 21

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 1—Farm Livestock Prod. or A. I. 21—Farm Dairying	3	Agron. 10—Soils	3
Bot. 1—Genl. Botany	4	Econ. 51—Prin. of Econ.	3
Agr. Econ. 1—Agr. Econ.	3	A. I. 81—Prin. Animal Nutr.	4
Chem. 37—Organic Chemistry	4	Bact. 52—Prin. of Bacteriology	4
A. I. 61—Genetics	3	Fm. Eng. 1—Mech. of Farmstead	3
Mil. or Air Science—2d yr.	2	Mil. or Air Science—2d yr.	2
	19		19

JUNIOR AND SENIOR YEARS

*An. Path. 51, Animal Hygiene	3
Agr. Econ. 110—Farm Management	3
Agr. Econ. 100—Agricultural Marketing	3
Eng. or Journ.	3
A. L. 2, 22, 23, or 44, Judging	2 or 3
Electives in Group A	6
Minimum option requirements (Courses in either Animal Husbandry, Dairy, or Poultry, not open to freshmen)	14
Additional courses in Agriculture (total of 60 required)	6 to 13
Electives	14
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.

* Not required in the Dairy Manufacturing option.

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

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Bot. 1—General Botany	4	Bot. 2—General Botany	3
Eng. 3—English Composition	3	Hort. 1—Genl. Horticulture	3
Math. 1—Basic Mathematics	3	Eng. 1b—English Composition	3
Mil. or Air Science—1st yr.	2	Chem. 4a—Genl. Chemistry	4
Zool. 1—Prin. of Animal Biology	4	Agr. Ent. 1—Agr. Entomology	3
Physical Education	1	Mil. or Air Science—1st yr.	2
		Physical Education	1
	17		19

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Econ. 1—Agr. Econ	3	Econ. 51—Prin. of Econ.	3
Chem. 4b—Genl. Chemistry	4	Chem. 37—Organic Chemistry	4
Agron. 1—Elem. Farm Crops	3	Agron. 10—Soils	3
Bact. 52—Prin. of Bacteriology	4	Agron. 11—Soils Laboratory	2
Geol. 3—Elem. Geology	3	Mil. or Air Science—2d yr.	2
Mil. or Air Science—2d yr.	2	Electives	4
	19		18

JUNIOR AND SENIOR YEARS

	Crs.
Agron. 141—Plant Pathology	3
Hort. 102—Prin. of Spray Prac.	2
Agr. Econ. 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 advisor)	20
Free Electives	18
Total	136

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

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Art 61—Drawing	2	Art Elective	3
Bot. 1—Genl. Botany	4	Bot. 2—Genl. Botany	3
Eng. 1a—English Composition	3	Eng. 1b—Eng. Composition	3
Agr. Ent. 1—Agricul. Entomology	3	Math. 1—Basic Mathematics	3
Engr. Dr. 2—Mech. Drawing	1	Hort. 1—Genl. Hort.	3
Mil. or Air Science—1st yr.	2	Mil. or Air Science—1st yr.	2
Physical Education	1	Physical Education	1
	16		18

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Econ. 1—Agr. Econ	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	Econ. 51—Prin. of Econ.	3
Mil. or Air Science—2d yr.	2	Hort. 22—Floriculture	2
Electives	2	Mil. or Air Science—2d yr.	2
	17		16

JUNIOR AND SENIOR YEARS

	Crs.
Hort. 102—Prin. of Spray Prac.	2
Agron. 141—Plant Pathology	3
Agron. 111—Soil Conservation	3
Agr. Ent. 103—Economic Entomology	3
Hort. 120—Landscape Gardening	3
Hort. 121—Adv. Landscape	3
Hort. 122—Floriculture	2
Hort. 123—Plant Propagation	3
Hort. 123a-c—Special Problems	9
Hort. 125—Plants and Planting Material	2
Electives in Agriculture	7
Electives	29
Total	136

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

Minimum standards for institutions training or preparing to train teachers of vocational agriculture have been approved by the Association of Land Grant Colleges and Universities. Areas included are: The curriculum; number of professors; educational qualifications of the faculty; teaching assignments; research programs; and facilities, including farms, livestock, libraries, and well-equipped laboratories in all agriculture and science departments. The University of Kentucky meets the standards in agriculture, in education, and in arts and sciences.

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

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Econ. 110—Farm Management	3	Bact. 52—Prin. of Bacteriology	4
Agr. Econ. 100—Agri. Marketing	3	Group A electives	6
Group A electives	3	Fm. Eng. 4—Farm Shop	3
Fm. Eng. 3—Farm Structural Eng.	3	Electives	4
Electives	5		
	17		17

SENIOR YEAR

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

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

* A student may qualify to teach vocational agriculture by taking the curriculum of Animal Industry or the curriculum in Horticulture, with the slight adaptation suggested by his advisor. The same education courses will be required as above.

The 60 semester credits in agriculture should be approximately as follows: Crops, 9; soils, 6; horticulture, 6; animal industry, 21; agricultural entomology, 4; farm shop, 6; agricultural economics, 3; farm management, 3; marketing, 3.

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

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

	Crs.
Required courses in agriculture	34
Electives in agriculture (including Farm Engineering 3 and 4)	26
Group A electives	9
Required courses in other subjects (not education)	45
Education	*21
Other credits	1
	136

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

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.

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
English 1a—English Composition	3	Eng. 1b—English Composition	3
Math. 17—College Algebra	3	Math. 18—Plane Trigonometry	3
Mil. or Air Science—1st yr.	2	Mil. or Air Science—1st yr.	2
Physical Education	1	Physical Education	1
	18		17

SOPHOMORE YEAR

Course	Crs.	Course	Crs.
Chem. 37—Organic Chemistry	4	Agr. Ent. 1—Agri. Entomology	3
For. 10—Elements of Forest Mensuration	3	Agron. 10—Soils	3
En. Dr. 1a—Elem. Engr. Draw.	2	Agron. 11—Soils Laboratory	2
For. 1—Elements of Forestry	3	C. E. 12—Plane Surveying	3
Geol. 3—Elem. Geology	3	Eng. 6—Essentials of Speech	3
Phys. 51a—Intro. to Physics	3	For. 20—Seeding and Planting	3
Mil. or Air Science—2d yr.	2	Mil. or Air Science—2d yr.	2
	20		19

Pre-Theological Major for the Rural Ministry. Many leaders in the work of the rural town and country ministry are today suggesting that some of the men who plan to enter this field of service should consider attending a college of agriculture in which a strong curriculum in rural social science is available, as an undergraduate preparation for seminary training. A student planning to enter a theological seminary and enrolling in a regular curriculum of the College of Agriculture and Home Economics may select from the general University offering a suitable group of courses in philosophy, English literature, and ancient languages. The student planning to elect this major is advised to acquaint himself with the specific requirements of the theological seminary of his choice.

Pre-Veterinary. Students planning to become veterinarians may enter the College of Agriculture and Home Economics and take the two-year program required for admission to the study of veterinary medicine. Kentucky is a participating member in the Southern Regional Plan for the education of veterinarians and arrangements have been made by the State for the Alabama Polytechnic Institute at Auburn to accept ten students from Kentucky each year. The State pays $1,000 per student per year through the Southern Regional Education Board to the institution. Applicants must have a grade point average of at least 1.25 and must be bona fide residents of Kentucky. If admitted, Kentucky students have the same status as Alabama students. They do not pay out-of-state tuition. Inquiries should be addressed to the Com-

mittee on Regional Veterinary Training, Dr. F. E. Hull, Chairman, University of Kentucky, Lexington.

Students who do not enter the Alabama Veterinary School after the completion of the two-year pre-veterinary program may continue in the University for the third year of study and may then be accepted by the Alabama School. Such students will be awarded the degree Bachelor of Science in Agriculture after one year of study in Alabama if they complete the prescribed 30 semester credits required in the first year of the veterinary curriculum with a standing of 1 according to the University of Kentucky grade-point system.

Pre-Veterinary Curriculum Leading to the Degree, Bachelor of Science in Agriculture

FIRST YEAR

First Semester	Crs.	Second Semester	Crs.
Zool. 1—Prin. of Animal Biol.	4	Agr. Ent. 1—Agri. Entomology	3
*Math. 5 or 17—College Algebra	5 or 3	A. I. 41—Farm Poultry	3
*Chem. 1a—Genl. Chemistry	5	Math. 18—Plane Trigonometry	3
**Eng. 1a—Eng. Composition	3	Chem. 1b—Genl. Chemistry	5
Mil. or Air Science—1st yr.	2	Eng. 1b—Eng. Composition	3
Physical Education	1	Mil. or Air Science—1st yr.	2
		Physical Education	1
	20 or 18		20

SECOND YEAR

First Semester	Crs.	Second Semester	Crs.
Phys. 51a—Intro. to Physics	3	Phys. 51b—Intro. to Physics	3
Chem. 30a—Organic Chemistry	5	Chem. 30b—Organic Chemistry	5
A. I. 1—Farm Livestock Prod.	3	Bot. 1—Genl. Botany	4
A. I. 81—Prin. of Animal Nutr.	4	Mil. or Air Science—2d yr.	2
Hist. 5a—History of U. S.	3	***A. L. 31—Medical Terminology	3
Mil. or Air Science—2d yr.	2		
	20		17

* Students ranking in the lowest group on the University Mathematics and Chemistry classification tests will be required to pass Mathematics 1 with a grade of C before scheduling algebra and chemistry.

** Students ranking in the lowest group on the University English classification test may be required to earn a passing grade in English D, without credit, before scheduling English 1a.

*** Requirement may be satisfied by either one semester of Medical Terminology or two semesters of Modern Foreign Language.

THIRD YEAR

First Semester	Crs.	Second Semester	Crs.
Agr. Econ. 1—Agr. Econ.	3	A. I. 21—Farm Dairying	3
Agron. 1—Elem. Farm Crops	3	A. I. 61—Genetics	3
Agron. 10—Soils	3	Econ. 51—Prin. of Econ.	3
Fm. Eng. 1—Mech. of Farmstead	3	Agr. Econ. 100—Agri. Mktg.	3
Bact. 52—Prin. of Bacteriology	4	Humanities D or E	2
Humanities A, B or C	2	Electives	3
	18		17

FOURTH YEAR

(At Alabama Polytechnic Institute—Standing of 1 Required)

	Crs.
VM 101, 102, 103—Anatomy	10
VM 104, 105, 106—Histology and Embryology	10
VM 107, 108, 109—Physiology	10
	30
Minimum credits for degree	136

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 the departments of agricultural economics and rural sociology.

Short Courses

Short courses, conferences, and workshops, ranging in duration from one day to one week, are held for those interested in various phases of agriculture.

Farm and Home Convention

The annual Farm and Home Convention is held on the campus of the University of Kentucky during the last week in January. Thousands of farm men and women from all over the state find these programs interesting and inspirational and of great value to them in planning and carrying on their work. A special bulletin giving the program is issued in December.

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 Director of the School of Home Economics to assist students with their academic problems. These include choice of a curriculum, selection of elective courses, preparation of class schedules, and problems of employment. The normal academic load is 17 credits 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 rules of the University Faculty.

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

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Art 30—Intro. to Art	2	Eng. 1b—English Composition	3
*Eng. 1a—English Composition	3	H. E. 6—Foods	3
H. E. 5—Foods	4	H. E. 52—Intro. to Child Devl.	4
H. E. 51—Health of the Family	3	H. E. 26—Clothing Selection and Costume Design	3
**Psy. 1a—Intro. to Psy.	3	†R. S. 10—Rural Sociology	3
H. E. 25—Textiles	2	Physical Education	1
Physical Education	1		
	18		17

* 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 with a grade of C before taking chemistry and should postpone either psychology or sociology so they can take mathematics in the first year.

† Soc. 3a, Anth. 3a, or Geog. 3a may be substituted for R. S. 10.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
*Chem. 4a—Genl. Chemistry	4	*Chem. 4b—Genl. Chemistry	4
A. & P. 5—Physiology	3	H. E. 11—Foods and Nutrition	3
Econ. 51—Prin. of Econ.	3	H. E. 61—Housing	4
Hum. D—Art	2	Journalism or Speech	3
Electives	5	Electives	3
	17		17

* Students planning to elect curricula which require advanced courses in chemistry should take Chemistry 1a and 1b.

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	4
	67
Total required for graduation	136

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.
Required courses (see general curriculum)	82
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. 152—Child Care and Development	3
H. E. 153—Tech. of Guidance for Pre-School Child	4
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—Food for Children	3
H. E. 159a-c—Special Problems	6
Major electives in supporting fields	24
Select, with the advice of the adviser, at least 24 credits of the following:	
Education	
Sociology	
Psychology	
Library Science	
Free Electives	12
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.
Required courses (see general curriculum)	82
Major electives in home economics	18
Select with 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—Costume Design	3
*H. E. 127—Adv. Clothing	3
H. E. 130a or b—Int. Decoration Projects	2
*H. E. 134—Economics of Clothing	2
H. E. 135—Decorative Textiles	2
H. E. 137—Tailoring	2
H. E. 139—Adv. Interior Decoration	2
H. E. 155—The Child and His Clothing	3
H. E. 128a-c—Special Problems	6
H. E. 136a-c—Special Problems	6
Major electives in supporting fields	24
Select, with the advice of the major adviser, at least 24 credits from this group:	
Education, Art, Journalism, Radio, History, Commerce.	
Free electives	12
Total	136

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

	Crs.
Required courses (see general curriculum)	82
Electives in home economics	18
Select, with 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. 105a-c—Experimental Cookery	3
H. E. 114—Food Preservation	3
H. E. 127—Adv. Clothing	3

H. E. 130a or b—Interior Decoration Projects	2
H. E. 137—Tailoring	2
H. E. 152—Child Care and Development	3
H. E. 175—Rural Community Analysis	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	12
Total	136

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

	Crs.
Required courses (see general curriculum)	82
Major electives in Home Economics	18
Select with the advice of the major adviser at least 18 credits from this group:	
H. E. 41—Institution Marketing	3
H. E. 42—Institution Foods	4
H. E. 103—Community Nutr.	3
H. E. 105a—Experimental Cookery	3
H. E. 106a-d—Field Work in Nutrition	4
H. E. 107—Workshop in Nutrition	2
H. E. 111—Adv. Nutrition	6
H. E. 112—Nutrition in Disease	4
H. E. 114—Food Preservation	3
Major electives in supporting fieldds	24
H. E. 140—The School Lunch	3
H. E. 141—Institution Org. and Mgt.	3
H. E. 142a—Inst. Administration	2
H. E. 143—Institution Equip.	3
H. E. 149a-c—Special Problems	6
Select with the advice of the major adviser at least 24 credits from the following: Chemistry, Biology, Psychology, Education	
Free Electives	12
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		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Chem. 4a—Genl. Chemistry	4	Chem. 4b—Gen. Chemistry	4
A. & P. 5—Physiology	3	H. E. 11—Foods and Nutrition	3
Econ. 51—Prin. of Econ.	3	H. E. 61—Housing	4
H. E. 27—Clothing Construction	4	Journalism or Speech	3
Phys. 51a—Introd. to Physics	3	Electives	3
	17		17

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
H. E. 102—Dietetics	3	Ed. 160—Tech. Teach. H. Ec.	3
H. E. 28—Clothing & Pat. Des.	3	H. E. 162a—Home Management Lect.	2
H. E. 129—Interior Decoration	3	Bact. 52—Prin. of Bact.	4
H. E. 161—Consumer Problems	3	Electives in history, government, language, mathematics, or music	3
Electives in history, government, language, mathematics, or music	3	Electives	5
Electives	2		
	17		17

SENIOR YEAR

*H. E. 130a or b—Interior Decoration Projects	2
*H. E. 162b—Home Management Laboratory	3
Ed. 101—School Organization	3
*Ed. 162—Student Teaching in H. E.	9
*Ed. 165—Adult Ed. in H. E.	3
H. E. 154—Family Living	4
H. E. 140—School Lunch	3
Electives	6
Total	136

* Should be scheduled the same semester; either semester in senior year.

Graduate Work

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

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 fields 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 shall include in high school credits one unit of plane geometry and one and one-half units of algebra. It is recommended that the student offer one-half unit in solid geometry, otherwise this subject will be added to the requirements of the freshman year.

Students whose scores on the University classification tests are in the lower one-fourth, or those lacking in the requirements for mathematics, may enter the College of Engineering. The schedules of such students will be adjusted in accordance with their placement tests as directed by a special orientation committee of the College of Engineering and the Personnel Office.

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 Electronics and Communication Engineering

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

Bachelor of Science in Mechanical Engineering

Option 1—Air Conditioning

Option 2—Aeronautical Engineering

Option 3—Industrial 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.

Co-operative Plan in Engineering. In addition to the regular four year course in Engineering, the co-operative plan is offered to those students in Engineering who have satisfactorily completed the freshman year in the College of Engineering or to those who present the equivalent as transfer students.

Students who can meet the requirements and so desire, may register, pay a suitable fee and enter the program. They will be permitted to alternate on the semester basis between school and work. The summers will be used to the best advantage of the student for either school or work. The student must maintain a satisfactory standing to be continued in the program.

Those completing the Co-operative Plan will receive the bachelor's degree and will also gain valuable experience. The time required will depend upon the extent of the work program.

The University does not guarantee employment to co-operative students; however, facilities are provided for locating suitable jobs. All jobs must be approved by the co-ordinator of the Co-operative Program. The students will submit to the co-ordinator a written report at the end of each work period.

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
Doctor of Engineering (Physical Metallurgy)

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—Intro. 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	Engr. Draw. 1b—Descriptive Geometry	2
Engr. Draw. 1a—Elementary Engineering Drawing	2	*Non-technical Elective	3
Military or Air Science	2	Military or Air Science	3
Physical Education	1	Physical Education	1
	18		19

Note.—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 Bachelor of Science in Civil Engineering

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. Engr. 12—Plane Surveying	3	Applied Mech. 3—Statics	3
Civ. Engr. 18—Mapping and Topographic Drawing	2	Civ. Engr. 16a—Route Surveying	3
*Political Science 51a—American Government	3	*English 30—Business English	2
Military or Air Science	2	Military or Air Science	2
	20		20

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

OPTION ONE

General Civil Engineering

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Applied Mech. 100—Strength of Materials	4	Applied Mech. 4—Dynamics	2
Civ. Engr. 81—Testing Materials	1	Civ. Engr. 171b—Theory of Structures	3
Civ. Engr. 171a—Theory of Structures	3	Civ. Engr. 107—Soil Mech.	3
Civ. Engr. 174—Graphic Solutions	2	Mech. Engr. 134—Elements of Engineering Thermodynamics	3
Geology 12a—Elementary Geology for Engineers	3	Geology 12b—Elementary Geology for Engineers	3
Civ. Engr. 49—Railroad Const. and Maintenance	2	Civ. Engr. 173a—Steel Structures	3
Elec. Engr. 101—Fundamentals of Electrical Machinery	3	°Commerce 7a—Principles of Accounting	4
°Econ. 51—Principles of Economics	3		
	21		21

SUMMER TERM

Surveying Camp—6 weeks

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

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Civ. Engr. 110a—Reinforced Concrete	4	Civ. Engr. 110b—Reinforced Concrete	3
Civ. Engr. 114—Advanced Surveying	3	Civ. Engr. 23—Seminar	1
Civ. Engr. 130a—Highway Engr.	3	Civ. Engr. 173b—Steel Structures	2
Arch. Engr. 7a—Building Const.	3	Civ. Engr. 151—Water Supply and Waterworks	2
Civ. Engr. 120—Hydraulics	2	Civ. Engr. 152—Sewers and Sewage Disposal	2
Civ. Engr. 123—Hydraulics Laboratory	1	Civ. Engr. 159—Design and Operation of Waterworks and Sewers	2
°Non-Technical Elective	3	Civ. Engr. 130b—Highway Engineering	3
		Engr. Adm. 102—Engineering Administration	3
	19		18

OPTION TWO

Architectural Engineering

For Freshman Year see page 105

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. Engr. 12—Plane Surveying	3	Applied Mech. 3—Statics	3
Art 61—Elementary Drawing	2	Art 62—Basic Design	3
°Political Science 51a—American Government	3	Arch. Engr. 1—Architectural Rendering	2
Military or Air Science	2	Military or Air Science	2
	20		20

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

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Applied Mech. 100—Strength of Materials	4	Civ. Engr. 171b—Theory of Structures	3
Arch. Engr. 8—Theory of Architecture	2	Civ. Engr. 173a—Steel Structures	3
Civ. Engr. 171a—Theory of Structures	3	Civ. Engr. 16a—Route Surveying	3
Civ. Engr. 174—Graphic Solutions	2	Arch. Engr. 4b—Architectural Design	3
Arch. Engr. 4a—Architectural Design	3	Arch. Engr. 7b—Building Construction	3
Arch. Engr. 7a—Building Construction	3	Art 145b—History of Architecture	2
Art 145a—History of Architecture	2	Elec. Engr. 101—Fundamentals of Electrical Machinery	3
*English 30—Business English	2	Civ. Engr. 81—Testing Materials	1
	21		21

SUMMER TERM

Surveying Camp—6 weeks

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

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

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Civ. Engr. 110a—Reinforced Concrete	4	Civ. Engr. 110b—Reinforced Concrete	3
Arch. Engr. 6a—Advanced Architectural Design	4	Arch. Engr. 6b—Advanced Architectural Design	4
Mech. Engr. 141a—Mechanical and Electrical Equipment for Bldgs.	3	Mech. Engr. 141b—Mechanical and Electrical Equipment for Bldgs.	3
Fire Prot. and Safety Engr. 101a—Fire Protection Engr.	2	*Econ. 51—Principles of Econ.	3
*Civ. Engr. 120—Hydraulics	2	Civ. Engr. 23—Seminar	1
*Civ. Engr. 123—Hydraulics Lab.	1	Civ. Engr. 173b—Steel Structures	2
*Non-technical Elective	3	Engr. Adm. 102—Engineering Administration	3
	19		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 p. 105

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
Elec. Engr. 11—Electrical Laboratory	1	Applied Mech. 3—Statics	3
Elec. Engr. 21R—Principles of Electrical Engineering	3	Elec. Engr. 114R—Alternating Current Circuits	3
Elec. Engr. 21L—Principles of Elec. Engr. Laboratory	1	Elec. Engr. 114L—Alternating Current Circuits Laboratory	1
Met. Engr. 26—Engineering Metallurgy	3	Military or Air Science	2
Military or Air Science	2		
	20		19

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Elec. Engr. 115R—Direct Current Machinery	2	Elec. Engr. 116R—Alternating Current Machinery	3
Elec. Engr. 115L—Direct Current Machinery Laboratory	1	Elec. Engr. 116L—Alternating Current Machinery Laboratory	1
Mech. Engr. 134—Elements of Engineering Thermodynamics	3	Elec. Engr. 120—Electrical Circuit Analysis	3
Elec. Engr. 161R—Vacuum Tube Electronics	3	Applied Mech. 100—Strength of Materials	4
Elec. Engr. 161L—Vacuum Tube Electronics Laboratory	1	Elec. Engr. 18—Graphical Representations	2
Civ. Engr. 12—Plane Surveying	3	*Physics 111—Electricity and Magnetism	3
Mech. Engr. 15a—Manufacturing Processes	2	†Technical Elective	3
Math. 35—Differential Equations	2		
*English 6—Essentials of Speech	3		
Lib. Eci. 25—Use of the Library	1		
	21		19

† Mech. Engr. 108—Internal Combustion Engines 3

† Mech. Engr. 109—Refrigeration 3

† Mech. Engr. 116—Elementary Heating, Ventilating and Air Conditioning.... 3

Or other non-Electrical Engineering technical electives approved by Head of the Department.

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

OPTION ONE

Electronics and Communication Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Elec. Engr. 151a—Seminar	1	Elec. Engr. 151b—Seminar	1
Elec. Engr. 107R—Electrical Controls	2	Elec. Engr. 108R—Industrial Electronics	2
Elec. Engr. 107L—Electrical Controls Laboratory	1	Elec. Engr. 108L—Industrial Electronics Laboratory	1
Elec. Engr. 135R—Networks and Lines	3	*Engr. Adm. 102—Engineering Administration	3
Elec. Engr. 135L—Networks and Lines Laboratory	1	English 30—Business English	2
Applied Mech. 4—Dynamics	2	Elec. Engr. 164R—Radio and Television Circuits	3
Elec. Engr. 162R—Radio Circuits	3	Elec. Engr. 164L—Radio and Television Circuits Laboratory	1
Elec. Engr. 162L—Radio Circuits Laboratory	1	Elec. Engr. 165—Fields and Waves	2
*Geography 10—Economic Geography Survey	3	Technical Elective	2
*Pol. Sci. 51—American Government	3	*Economics 51—Principles of Economics	3
	20		20

OPTION TWO

Electric Power Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Elec. Engr. 151a—Seminar	1	Elec. Engr. 151b—Seminar	1
Elec. Engr. 107R—Electrical Controls	2	Elec. Engr. 108R—Industrial Electronics	2
Elec. Engr. 107L—Electrical Controls Laboratory	1	Elec. Engr. 108L—Industrial Electronics Laboratory	1
Elec. Engr. 135R—Networks and Lines	3	Engr. Adm. 102—Engineering Administration	3
Elec. Engr. 135L—Networks and Lines Laboratory	1	English 30—Business English	2
Applied Mech. 4—Dynamics	2	**Elec. Engr. Electives	6
**Elec. Engr. Electives	4	Technical Electives	2
*Geograhy 10—Economic Geography Survey	3	*Economics 51—Principles of Economics	3
*Pol. Sci. 51—American Government	3		
	20		20
**Elect. Engr. Electives:			
Elec. Engr. 111—Advanced Electrical Laboratory	1	Elec. Engr. 124—Electrical Design	2
Elec. Engr. 117—Advanced A.C. Machinery	3	Elec. Engr. 136R—Illumination Engineering	2
Elec. Engr. 118—Electrical Power Plant Equipment	3	Elec. Engr. 136L—Illumination Engineering Laboratory	1
Elce. Engr. 123—Electrical Equipment Problems	2	Elec. Engr. 137—Electric Power Transmission and Distribution	3
		Elec. Engr. 172R—Automatic Control Systems	3
		Elec. Engr. 172L—Automatic Control Systems Laboratory	1

* 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 Mechanical Engineering

For first two semesters see p. 105

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
Engr. Draw. 18—Advanced Engineering Drawing	2	Met. Engr. 37—Adaptive Metallurgy for Engineers	4
Mech. Engr. 15a—Manufacturing Processes	2	Mech. Engr. 15b—Manufacturing Processes	2
Engr. Draw. 12—Graphical Computations	2	Applied Mech. 3—Statics	3
*Psychology 1—Introduction to Psychology	4	Military or Air Science	2
Military or Air Science	2		
	22		21

OPTION ONE

Air Conditioning

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Applied Mech. 2—Mechanisms	3	Civ. Engr. 12—Plane Surveying	3
Applied Mech. 7—Dynamics	3	Economics 51—Principles of Economics	3
Applied Mech. 100—Strength of Materials	4	Elec. Engr. 105b—Electrical Engineering Circuits and Machinery	4
Civ. Engr. 81—Testing Materials	1	Mech. Engr. 100a—Machine Design	3
Elec. Engr. 105a—Electrical Engineering Circuits and Machinery	4	Mech. Engr. 104b—Engineering Thermodynamics	3
Math. 25—Differential Equations	2	Mech. Engr. 107—Fluid Mechanics	3
Mech. Engr. 104a—Engineering Thermodynamics	3	Mech. Engr. 112—Mechanical Laboratory	2
	20		21

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Arch. Engr. C7a—Building Construction	2	Applied Mech. 107—Mechanical Vibrations	4
Mech. Engr. 100b—Machine Design	3	Engr. Adm. 102—Engineering Administration	3
Mech. Engr. 109—Refrigeration	3	Mech. Engr. 105—Power Plant Engineering	3
Mech. Engr. 113a—Mechanical Laboratory	2	Mech. Engr. 108—Internal Combustion Engines	3
Mech. Engr. 114a—Air Conditioning, Heating and Ventilating	3	Mech. Engr. 113b—Mechanical Laboratory	2
Mech. Engr. 122a—Seminar	1	Mech. Engr. 114b—Air Conditioning, Heating and Ventilating Design	3
Mech. Engr. 129—Elements of Heat Transfer	4	Mech. Engr. 122b—Seminar	1
*Sociology 25—Collective Behavior	3	Mech. Engr. 136—Internal Combustion Engine Laboratory	1
	21		20

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

OPTION TWO

Aeronautical Engineering

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Applied Mech. 2—Mechanisms	3	Civ. Engr. 12—Plane Surveying	3
Applied Mech. 7—Dynamics	3	Econ. 51—Principles of Economics	3
Applied Mech. 100—Strength of Materials	4	Elec. Engr. 105b—Electrical Engineering Circuits and Machinery	4
Civ. Engr. 81—Testing Materials	1	Mech. Engr. 104b—Engineering Thermodynamics	3
Elec. Engr. 105a—Electrical Engineering Circuits and Machinery	4	Mech. Eng. 107—Fluid Mechanics	3
Math. 35—Differential Equations	2	Mech. Eng. 112—Mechanical Laboratory	2
Mech. Engr. 104a—Engineering Thermodynamics	3	Mech. Eng. 100a—Machine Design	3
	20		21

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Mech. Engr. 100b—Machine Design	3	Applied Mech. 107—Mechanical Vibrations	4
Mech. Eng. 113a—Mechanical Laboratory	2	Engr. Adm. 102—Engineering Administration	3
Mech. Engr. 122a—Seminar	1	Mech. Engr. 108—Internal Combustion Engines	3
Mech. Engr. 129—Elements of Heat Transfer	4	Mech. Engr. 113b—Mechanical Laboratory	2
Mech. Engr. 130—Applied Aerodynamics	3	Mech. Engr. 122b—Seminar	1
Mech. Engr. 131a—Airplane Design	3	Mech. Engr. 131b—Airplane Design	3
*Sociology 25—Collective Behavior	3	Mech. Engr. 135—Experimental Aerodynamics	3
		Mech. Eng. 136—Internal Combustion Engine Laboratory	1
	19		20

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

OPTION THREE

Industrial Engineering

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Applied Mech. 2—Mechanisms	3	Civ. Engr. 12—Plane Surveying	3
Applied Mech. 7—Dynamics	3	Econ. 51—Principles of Economics	3
Applied Mech. 100—Strength of Materials	4	Elec. Engr. 105b—Electrical Engineering Circuits and Machinery	4
Civ. Eng. 81—Testing Materials	1	Mech. Engr. 100a—Machine Design	3
Elec. Engr. 105a—Electrical Engineering Circuits and Machinery	4	Mech. Engr. 104b—Engineering Thermodynamics	3
Mech. Engr. 104a—Engineering Thermodynamics	3	Mech. Engr. 107—Fluid Mechanics	3
Mech. Engr. 137—Motion and Time Study	3	Mech. Engr. 112—Mechanical Laboratory	2
	21		21

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Mech. Engr. 100b—Machine Design	3	Applied Mech. 107—Mechanical Vibrations	4
Mech. Engr. 113a—Mechanical Laboratory	2	Engr. Adm. 102—Engineering Administration	3
Mech. Engr. 122a—Seminar	1	Mech. Engr. 108—Internal Combustion Engines	3
Mech. Engr. 129—Elements of Heat Transfer	4	Mech. Engr. 113b—Mechanical Laboratory	2
Mech. Engr. 138—Production Engineering	3	Mech. Engr. 122b—Seminar	1
Math. 35—Differentiol Equations	2	Mech. Engr. 133—Tool Design	3
*Sociology 25—Collective Behavior	3	Mech. Engr. 136—Internal Combustion Engine Laboratory	1
Psychology 128—Psychology of Industrial Personnel Procedures or Commerce 137—Industrial Management	3	Mech. Engr. 139—Plant Layout	3
	21		20

* 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 Metallurgical Engineering

For first two semesters see p. 105

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 3a—Class Society	0	Assem. 3b—Class Society	0
Math. 20a—Differential Calculus	4	Chem. 22—Analytical Chemistry	5
Physics 3a—General College Physics	6	Math. 20b—Integral Calculus	4
Met. Engr. 29—Metallurgy of the Ferrous Metals	3	Physics 3b—General College Physics	6
Econ. 51—Principles of Economics	3	Met. Engr. 128—Metallurgy of Non-Ferrous Metals	3
Military or Air Science	2	Military or Air Science	2
	18		20

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 4a—Class Society	0	Assem. 4b—Class Society	0
Chem. 147a—Physical Chemistry for Engineers	4	Chem. 147b—Physical Chemistry for Engineers	4
Physics 123a—Heat and Thermodynamics	3	Physics 123b—Heat and Thermodynamics	3
Elec. Engr. 101—Fundamentals of Electrical Machinery	3	Elec. Engr. 102—Electrical Machinery	2
Met. Engr. 140—The Science of Metals	3	Met. Engr. 142—Ferrous Metallography and Heat Treatment	3
*M.F.L. 21a—Elementary German	3	Met. Engr. 166—Minerals Beneficiation	5
Met. Engr. 144—Non-Ferrous Metallography and Heat Treatment	3	Met. Engr. 167—Minerals Beneficiation Laboratory	1
		*M.F.L. 21b—Simple Reading and Pronunciation	3
	19		21

SUMMER TERM

(To be taken between Junior and Senior Years)

Met. Eng. 60—Metallurgical Laboratory and Shop Practice	6
	6

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
Physics 155a—Fundamental Atomic and Nuclear Physics	3	Met. Engr. 121—Fuel and Metallurgical Laboratory	2
Met. Engr. 132—Metallurgical Calculations	5	Met. Engr. 143b—Physics of Metals	3
Met. Engr. 143a—Physics of Metals	3	Met. Engr. 175b—Seminar	1
Met. Engr. 175a—Seminar	1	*M.F.L. 24b—Readings in Chemical German	3
*M.F.L. 24a—Readings in Chemical German	3	*Commerce 100b—Business Law	3
*Commerce 109a—Business Law	3	Elective	3
	21		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 Mining Engineering

For first two semesters see p. 105

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 3a—Class Society	0	Assem. 3b—Class Society	0
Math. 20a—Differential Calculus	4	Chem. 22—Analytical Chemistry	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
Min. Engr. 126a—Elements of Mine Surveying	2	Geology 12b—Elementary Geology for Engineers	3
English 30—Business English	2	Military or Air Science	2
Lib. Sci. 25—Use of Library	1		
Military or Air Science	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
Min. Engr. 126b—Elements of Mining	3	Met. Engr. 27—General Elementary Metallurgy	3
Elec. Engr. 101—Fundamentals of Electrical Machinery	3	Met. Engr. 121—Fuel and Metallurgical Laboratory	2
Econ. 51—Principles of Economics	3	Met. Engr. 166—Minerals Beneficiation	5
Geol. 123a—Mineralogy	3	Met. Engr. 167—Minerals Beneficiation Laboratory	1
English 6—Essentials of Speech	3	Elec. Engr. 102—Electrical Machinery	2
Geog. 10—Economic Geography Survey	3	Elec. Engr. 103—Electrical Laboratory for Mining Engineers	1
		Geology 123b—Mineralogy	3
	21		21

SUMMER TERM

Surveying Camp—6 weeks

Civ. Eng. 15—General Surveying	3
Civ. Eng. 16b—Route Surveying	3
Min. Eng. 131—Mine Surveying Practice	1
	7

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Assem. 5a—Class Society	0	Assem. 5b—Class Society	0
Civ. Engr. 171a—Theory of Structures	3	Civ. Engr. 81—Testing Materials	1
Civ. Engr. 174—Graphic Solutions	2	Civ. Engr. 120—Hydraulics	2
Min. Engr. 130—Mine Administration	3	Civ. Engr. 123—Hydraulics Laboratory	1
Min. Engr. 134—Mining Methods	3	Mech. Engr. 100a—Machine Design	3
Min. Engr. 137—Mine Plant and Machinery	3	or	
Min. Engr. 138—Mine Plant Design	2	Mech. Engr. 134 Elements of Engineering Thermodynamics	
Min. Engr. 175a—Seminar	1	Min. Engr. 175b—Seminar	1
*Com. 109a—Business Law	3	Min. Engr. 132—Mine Rescue Training and First Aid	0
		Min. Engr. 135—Coal Mining	2
		Min. Engr. 136—Mine Ventilation	2
		Min. Engr. 139—Valuation of Mineral Properties	2
		*Com. 109b—Business Law	3
		*Econ. 102—Labor Problems	3
	20		20

* 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 Jacob Stahr, Jr., A.B., B.A. in Jur., M.A., B.C.L., Dean

INTRODUCTORY STATEMENT

The College of Law was organized in 1908 and the first class graduated in June, 1910. It was the first law school in the State to become fully accredited. It has long been accredited by all agencies which establish standards for law schools, including the Court of Appeals of Kentucky, the Association of American Law Schools, the American Bar Association, the Regents of the University of the State of New York, and the Courts and Bar Examiners of all forty-eight states. The College is coeducational.

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, torts, equity, trusts, commercial law, constitutional law, taxation, labor law, criminal law and procedure, and administrative law. Nearly 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 successful experience in both the practice and the teaching of law.

The Library. The Law Library is one of the finest in the South, containing some thirty-nine thousand carefully selected volumes. It includes all the published reports of the courts of last resort and the major side bar reports of every state in the Union, and also the reports of the District of Columbia, Hawaii 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 Public Utilities Commission, the U. S. Tax Court, 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 Puerto Rican Reports; the Canal Zone Reports; the English Reports; the Canadian Reports; the Irish Reports; the Australian Reports; the New Zealand Reports; the South African 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 five 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, the Supreme Court Digest, the Federal Digest, and the Kentucky Digest, the English and Empire Digest, and Shepard's Citations. The Library receives regularly some one hundred-sixty legal periodicals, sixteen of which are from foreign countries, and has in excess of 3,000 bound volumes of legal periodicals. It also subscribes to U. S.

Law Week and to loose-leaf "services" on taxation, labor law, wills, estates and trusts, and corporations.

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 Law Building. The College of Law is housed in Lafferty Hall, one of the newer law school buildings in the nation. It is named for the first Dean of the College. The building is modern in architecture, being constructed on modified classical lines. It contains offices, classrooms, a court room, the entire Law Library, a large, air-conditioned 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.

ADMISSION OF 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, a sufficient number of college credits to qualify for either the three-year law program or the four-year law program. Both programs lead to the degree of Bachelor of Laws and are described below. For admssion to the three-year law program, the applicant must have completed at least 90 semester hours of acceptable pre-law college work, this being the standard equivalent of three years of college credit. For admission to the four-year law program, the applicant must have completed at least 60 semester hours of acceptable pre-law college work, this being the standard equivalent of two years of college credit. In either case, 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. 18.

An applicant who already has an A.B. or B.S. degree may be accepted with less than the 1.3 standing. Beginning law students are accepted only for the first semester of the academic year, except that degree-holders may be admitted the second semester, as may applicants who have completed the pre-law portion of a "combined curriculum" (see below), and others if they have a pre-law standing of at least 1.5. Prospective law students should write the Dean requesting a copy of the College of Law bulletin.

Pre-Law Work. In order to meet the requirements for entrance, no special course is prescribed except six semester hours in English. See statement, p. 18. The credits obtained must be completed in residence and may be taken at the University of Kentucky or at any standard university or college. Not more than ten per cent of the pre-law work necessary for admission may be in non-theory courses. Students who expect to study law are advised to lay special emphasis on courses in English and accounting. The study of logic and 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.

Transfers from other Law Schools. The College of Law bulletin contains detailed requirements affecting persons desirous of transferring to the College of Law from other law schools. A copy may be obtained by sending a postcard to the Dean.

THE DEGREE OF BACHELOR OF LAWS

Three-Year Law Program. Students admitted to the three-year law program will be eligible for the degree of Bachelor of Laws (LL.B.) upon completion of a minimum of three academic years (six semesters) of residence, and 82 semester hours of courses, in the College of Law, with an academic standing of 1.0 or better.

Four-Year Law Program. Students admitted to the four-year law program will be eligible for the LL.B. degree upon completion of a minimum of four academic years (eight semesters) of residence in the College of Law and 107 semester hours of courses in law or approved by the Law Faculty, with an academic standing of 1.0 or better.

THE DEGREE OF BACHELOR OF SCIENCE IN LAW

The nonprofessional degree of Bachelor of Science in Law (B.S.L.) is authorized, in addition to the professional degree of LL.B., for award to qualified students in the College of Law who are pursuing the four-year curriculum in Law, thus making it possible for such students to obtain two degrees by the end of their law school course.

In outline, the requirements for the B.S.L. degree are two years of pre-law college-level work, plus three years of law school work. The pre-law portion, of 64 semester hours, must include the lower division requirements of the College of Arts and Sciences (see p. 51) or the requirements of the first two years of the combined Commerce-Law curriculum (see p. 141), or the equivalent (except for Military Science and Physical Education) in the case of transfer students. Deficiences in the pre-law portion may be satisfied after admission to law school, but not in class during one of the six semesters otherwise required for the degree after such admission. The Law portion consists of three years of resident study in a member school of the Association of American Law Schools, at least four semesters of which, including the last two, must be spent at the College of Law; a minimum of 67 semester hours in Law courses, and a minimum of 15 semester hours in non-Law courses approved by the Law Faculty.

An academic standing of at least 1.3 on the pre-law portion and 1.0 on the Law portion is required.

Holders of the B.S.L. degree from the University of Kentucky will of course be eligible to qualify for the professional LL.B. degree after one additional year in the College of Law.

SUMMER SESSION

A 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. No beginning students are accepted for the summer session.

ORDER OF THE COIF

Out of the 167 law schools in the nation, 38 have been granted chapters by the Order of the Coif. There has been a chapter at Kentucky since 1931. A chapter is granted upon 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. Membership in the Order is extended to students achieving outstanding success in legal scholarship.

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 Journal appears on all lists of outstanding legal periodicals. It is the tenth oldest of the seventy law reviews published by various American law schools.

LAW CLUBS

Four Law Clubs are operated by the students, with the advice and assistance of the Faculty and other members of the bar, for the purpose of affording training and experience in competitive oral argument and brief-writing. The Clubs are named for Kentuckians (Brandeis, Reed, Rutledge, Vinson), who are or have been members of the United States Supreme Court. The students engage in annual series of legal arguments before practicing lawyrs and argument before the Court of Appeals of Kentucky. They then participate in the National Moot Court Competition sponsored by the Association of the Bar of the City of New York.

Two of the leading national legal professional fraternities, Phi Delta Phi and Phi Alpha Delta, have active chapters at the Law School. Among their activities is the sponsorship of a Legal Forum or "Law Day" each spring.

All students in the College of Law belong to the Student Bar Association, affiliated with the American Law Student Association, which is sponsored by the American Bar Association.

PRACTICE COURT

The College, more than thirty-five years ago, became the first law school in the country to make a Practice Court an integral part of the curriculum. Law students act as judges, counsel, witnesses, and jurors, and realistic trials are conducted weekly in the large court room in the Law Building. The trials are open to the student body. All trials are recorded on wire so that critiques may be conducted by the professor with the student lawyers.

SCHOLARSHIPS

A cash scholarship in the amount of $300 is awarded annually to a beginning or advanced Law student on the basis of character, academic record, and need. The scholarship is donated by an anonymous attorney. Applications should be submitted not later than the month of June. Forms may be obtained by writing the Dean of the College of Law.

A number of positions as Law Library assistants are available for second

and third year students having high scholastic standing. $100 to $150 per year can be earned in these positions through part-time work in the Law Library.

PRIZES

Each year three prizes, of $100, $50 and $25, respectively, are awarded to those seniors in the College of Law who submit the best entries in the annual Will-Drafting Contest sponsored by the Security Trust Company of Lexington in cooperation with the College of Law.

Each year two prizes of $150 and $50, respectively, are offered to those seniors in the College of Law who submit the best essays on some phase of Copyright law. The prizes are donated by the American Society of Composers, Authors, and Publishers.

Each year hundreds of dollars' worth of law books are available for award to students in the College of Law for outstanding work in a variety of phases of legal study and training. Last year more than thirty students participated in these awards.

COURSES OFFERED IN THE COLLEGE OF LAW

FIRST YEAR SUBJECTS

Property I
Pleading I
Contracts I
Torts I
Criminal Law
Legal Bibliography
Domestic Relations
Property II
Pleadings II
Contracts II
Torts II
Criminal Procedure
Legal Method

SECOND YEAR SUBJECTS

Property III
Constitutional Law
Equity I
Trial Procedure
Negotiable Instruments
Agency and Partnership
Equity II
Evidence
Wills and the Administration of Estates

THIRD AND FOURTH YEAR SUBJECTS

Corporations
Practice Court
Income Taxation
Trusts
Legal Research and Writing
Labor Law
Corporation Finance Law
The Legal Profession
Property IV
Conflict of Laws
Sales
Kentucky Practice

ELECTIVE COURSES OPEN TO SECOND, THIRD, AND FOURTH YEAR STUDENTS

Insurance
Restitution
Public Utilities
Oil and Gas
Damages
Administrative Law
Federal Jurisdiction and Procedure
Trade Regulation
Creditors' Rights
Legislation
Law Journal Note Editing
Local Government Law
Estate, Inheritance and Gift Taxation
Suretyship
Mortgages
International Legislation

COMBINED CURRICULA LEADING TO THE DEGREES OF A.B. (ARTS AND SCIENCES) OR B.S. IN COMMERCE AND OF LL.B.

Inasmuch as the requirements of the College of Law call for a total of at least six 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 if he enters with three years' pre-law 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. (Arts and Sciences) 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. It should be noted, however, that entrance into law school with only 90 semester hours will not satisfy requirements for the A.B. or B.S. degree under this program, inasmuch as slightly more than 90 hours are required by the College of Arts and Sciences or the College of Commerce, as the case may be, in satisfaction of their degree requirements. College of Arts and Sciences degree requirements are described on page 51 and College of Commerce requirements are described on page 136.

Detailed information as to the first three years of the combined program may be obtained from the Dean of the College of Arts and Sciences or the Dean of the College of Commerce.

DEGREES AND CURRICULA IN THE COLLEGE OF EDUCATION

Frank Graves Dickey, M.A., Ed.D., Dean

INTRODUCTORY STATEMENT

The College of Education was established by the University to provide for the education of teachers, administrators, and other school personnel. The curricula of the College give students an opportunity to equip themselves for the kind of educational work in which they are interested.

Students in elementary education have observation and student teaching in the University Elementary School and in the schools of nearby communities. Students in 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 various county boards of education, students preparing to teach agriculture and home economics have an opportunity to observe and do their student teaching in the high schools near Lexington which offer vocational agriculture and vocational home economics. Students in both agriculture and home economics teach under skilled supervisors in their respective fields.

The University offers a fifth year of teacher education through internships in public school systems in or near Lexington. These internships are open to graduate students who have strong scholarship records and who have had successful student teaching experience.

ADMISSION REQUIREMENTS

Requirements for admission to the College of Education, as a freshman, or with advanced standing, or as a special student, are the same as those outlined on the preceding pages for admission to the University. A student transferring to the College of Education from another college on the campus or from another institution must have a standing of 1.0 or above. In order to be eligible to enroll in any education course the student must have a standing of 1.0 or above.

STUDENT TEACHING

A student is not permitted to enroll for student teaching unless he is classified as a senior or graduate student, has spent at least one semester in residence on the campus, has completed at least 18 semester hours in the field in which the student teaching is to be done, has completed 8 semester hours in education, and satisfies the following requirements:

1. A standing of 1.0 in the major, minor, or area of concentration in which the student teaching is to be done.
2. A standing of 1.0 in professional courses.

3. An over-all standing of 1.0 for the entire college period.
4. A letter from one of his major professors must be presented. This letter should include not only a statement as to academic proficiency but should also include a statement as to fitness for teaching and general personality.
5. The student teacher shall not be permitted to take more than fifteen or sixteen semester hours of work the semester student teaching is done. If, in case of real need, it seems that a student should take more than this amount, a faculty committee from the College of Education shall approve the request.
6. At least three-fourths of the work in the major subject must be chosen from the suggested courses which appear on pages 124, 125, and 126 of this bulletin.

Application for student teaching should be made at least a semester prior to enrolling in the course and the student must present evidence of having had a thorough physical examination by University physicians before he may enroll for student teaching.

Student teaching during the summer session is open only to students who have had previous teaching experience in the public schools.

Transient students and graduate students in agricultural education may take student teaching without having done a semester in residence on the campus. These students must have an over-all standing of 1.5 for the entire college period, but may not have had other courses in education. They take 18 semester hours of work the semester student teaching is done — in agricultural education, which includes student teaching.

In order to take student teaching in home economics, a student must have completed 3 hours in technique of teaching home economics.

CERTIFICATION

The University of Kentucky offers curricula for all certificates issued by the State Department of Education on the basis of four years of college education. Upon graduation from the College of Education the student is eligible for either the Provisional High School Certificate or the four-year Provisional Elementary Certificate. In order to obtain the certificate desired, the student must make application to the State Department of Education. Application blanks may be obtained from the Dean's Office. Students desiring to teach agriculture or home economics should enroll in the College of Agriculture and Home Economics and pursue curricula leading to these certificates.

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 occupation. The University of Kentucky has been designated as the state institution responsible for this service.

GRADUATION REQUIREMENTS

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

In order to graduate from the College of Education, the student must complete 128 semester hours (exclusive of the required physical education) with a standing of 1.0. He must also satisfy the University's requirement in physical education and military science before he may be graduated.

The student may pursue his work on either the elementary or secondary level. The requirements for both are given below:

ELEMENTARY CURRICULUM

1. General Requirements		Crs.
English 1a, b	English Composition	6
English 3a, b	Survey of English Literature	6
English	Elective	3
History 5a, b	History of the United States	6
History 4b	Modern Europe Since the French Revolution	3
History 40	History of Kentucky	3
Geography 2	Regional Geography of the World	3
Geography 3a	Societies Around the World	3
Sociology 40	The Community	3
Psychology 1	Introduction to Psychology	4
Psychology 7	Child Psychology	3
Humanities E	Music: The Renaissance to the Present	2
Music 4a, b	Public School Music	4
Art 10a, b	Public School Art	4
Hygiene 9	Fundamentals of Health	2
Home Ec. 101	Principles of Nutrition	3
P. E. 60	Physical Education in the Elementary School	3
Sciences	(May be selected from Anatomy & Physiology, Anthropology I, II, II, Astronomy, Botany, Chemistry, Geology, Physics, Zoology)	12
P. E.	Service Courses	2
2. Electives		23

3. Professional Requirements

Educ. 44	Child Development and the Curriculum	6
Educ. 20	Arts and Crafts in the Elementary School	2
Educ. 42	Teaching Arithmetic in the Elementary School	3
Educ. 172	The Teaching of Reading	3
Educ. 173	Children's Literature	3
Educ. 196	Science in the Elementary School	3
Educ. 133	Student Teaching in the Elementary School	12

SECONDARY CURRICULUM

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 totals 48 semester hours (54 semester hours when English is included as a major). The majors, minors, and areas of concentration recognized by the State Department of Education for certification as well as the general requirements and professional preparation required follow:

Teaching Majors, Minors, and Areas of Concentration

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

A minor shall consist of 18 credits.

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

Subject fields in which majors may be chosen:

Art
Biological Sciences
Chemistry
Commerce
Economics and Sociology
French
Geography and Geology
German
History
History and Political Science
Health
Latin
Library Science
Mathematics
Music
Physical Education
Physics
Political Science
Spanish
Speech and Dramatics (30 hrs.)
English (30 hrs.)

Subject fields in which minors may be chosen:

Art
Biological Sciences
Chemistry
Commerce
Dramatics
Economics
Economics and Sociology
English
French
Geography
Geography and Geology
Geology
German
Health
History
History and Political Science
Journalism
Latin
Library Science
Mathematics
Music
Physical Education
Physics
Political Science
Psychology, Counseling, and Guidance
Sociology
Spanish
Speech

Subject fields in which areas of cencentration may be chosen:

Art
Business Education
English
Languages
Health, Physical Education, and Recreation
Social Sciences
Music
Sciences

General Requirements	Crs.
English, including composition, literature, and speech	12
Health, Physical Education, and Safety	4
Psychology	6
Group Requirements (see explanation below)	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 fields 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 (Music, Art, and Humanities D and E)

Foreign Languages (French, German, Italian, Latin, Russian, Spanish)

Mathematics (all mathematics courses except astronomy)

Philosophy and Psychology (all courses taught in the Departments of Philosophy and Psychology)

Sciences (Anatomy & Physiology, Anthropology I, II, III, Astronomy, Botany, Chemistry, Geology, Physics, Zoology)

Social Sciences (Anthropology (except I, II, III), Economics, Geography, History, Political Science, Sociology)

Vocational Subjects (Agriculture, Commerce, Engineering, Home Economics, Journalism, Law, Library Science, Radio Arts)

Professional Preparation

For Subject Matter Majors	Crs.	For Business Education Majors	Crs.	For Art, Music, and P. E. Majors	Crs.
Educ. 35	2	Educ. 148	3	Educ. 148	3
Educ. 148	3	Educ. 104	3	Educ. C44	3
Educ. C147	3	Educ. 158a	3	**P. E. 60	3
*Educ. 105	3	Educ. 158b	3	Educ. C147	3
*St. Tchg.	9	*Educ. 105	3	*Educ. 105	3
		*Educ. 193	9	*St. Tchg.	8

* In each type of major the two single-starred courses must be taken at the same time.
** Physical education majors take P. E. 60 instead of Ed. C44.

There are many combinations of majors and minors that may be selected by majors in secondary education. It is, therefore, difficult to set up a definite pattern of courses for all students. Below are given certain suggested patterns of courses to be followed by students. These are not rigid requirements but may be varied to fit the particular case. *It is recommended that students electing majors and minors in the areas represented below select at least three-fourths of their work from these suggested courses.*

		Crs.
Art		
Art 10a, b	Public School Art	4
Art 35	Ancient Art	2
Art 36	Medieval Art	2
Art 61	Elementary Drawing	2
Art 62	Basic Design	3
Art 65a	Painting	3
Art 65b	Painting	3
or		
Art 64a	Intermediate Design	3
Art 140	Renaissance Art	3
Art 142	Modern Art	3
Art 143	Contemporary Art	3
Art 155	Art in Elementary Schools	2
Art 157	Art in Secondary Schools	3
Art 160a	Seminar in Art	1
Biological Sciences		
Botany 1	General Botany	4
Botany 2	Plant Kingdom	3
A. & P. 2	Elementary Anatomy and Physiology	3
Botany 19	Dendrology	2
Botany 15	Local Flora	3
Zoology 11	Nature Study	4
Zoology 108a, b	Principles of Zoology (Evolution & Heredity)	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
Econ. 51, 52	Principles of Economics	6
Com. 60	Principles of Marketing	3
Com. 19	Office Appliances and Procedures	3

Chemistry

Chemistry 1a, b	General Chemistry	10
Chemistry 22	Analytical Chemistry	5
Chemistry 30a, b	Organic Chemistry	10

Economics and Sociology

Econ. 51, 52	Principles of Economics	6
Econ. 2	Economic History of Europe	3
Econ. 3	Economic History of the United States	3
Sociology 106	Principles of Sociology	3
Sociology 2	Modern Social Problems	3
Sociology 3a, b	Societies Around the World	6
Sociology 109a, b	The Family	6
Sociology 40	The Community	3

English

English 1a, b	Composition	6
English 3a, b	Survey of English Literature	6
English 123a, b	American Literature	6
English 32	Voice Development	3
English 6	The Essentials of Speech	3
English 130a, b	Comparative Literature	6
English 116	Introduction to Literature	3
English 147	The Contemporary Drama	3
English 4	Age of Johnson	3
English 110b	Shakespeare: The Tragedies	3
English 137	Stage Production in School and Community	3
English 180	English Composition and Literature for Teachers	3

Geography and Geology

Geography 2	Regional Geography of the World	3
Geography 3a, b	Societies Around the World	6
Geography 10	Economic Geography Survey	3
Geography 22	Climatology	3
Geography 100	Regional Geography of Anglo-America	2
Geography 101	Geography of Kentucky	2
Geography 133a, b	Special Problems	2
Geology 50a, b	Outlines of Geology	6

History

History 4a, b	European History	6
History 5a, b	History of the United States	6
History 2a, b	History of the British People	6
History 40	History of Kentucky	3
History 147	Recent History of the United States	3

French

M.F.L. 1a, b	Elementary French	6
M.F.L. 2a, b	Intermediate French	6
M.F.L. 4a, b	French Novel and Drama	6
M.F.L. 5a, b	French Phoenetics	6
M.F.L. 104a, b	Advanced French Grammar	6

Latin

A.L. 1a	Beginning Latin	3
A.L. 1b	Elementary Latin Reading	3
A.L. 3	Cicero and Selections	3
A.L. 4	Vergil	3
A.L. 5	Latin Prose Selections	3
A.L. 6	Horace	3
A.L. 9a, b	Selections from Latin Literature	6
A.L. 17	Medieval Latin	3
A.L. 18	Plautus	3
A.L. 109a, b	Latin Literature	6
A.L. 114a, b	Latin Composition	2

Mathematics

Math. 1	Basic Mathematics	3
Math. 18	Plane Trigonometry	3
Math. 2	Solid Geometry	3
Math. 17	College Algebra	3
Math. 19	Plane Analytic Geometry	3
Math. 20a	Differential Calculus	4
Math. 20b	Integral Calculus	4
Math. 15	Mathematics of Finance	3
Math. 4	Elementary Theory of Statistics	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	2
P.E. 45	Team Sports for Men	2
P.E. 48	Individual Sports for Men	2
P.E. 52	Advanced Swimming and Diving for Men	2
P.E. 56	Gymnastics for Men	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	2
P.E. 46	Fall Team Sports for Women	3
P.E. 47	Spring Team Sports for Women	3
P.E. 49	Individual Sports for Women	2
P.E. 53	Swimming and Diving for Women	2
P.E. 57	Gymnastics for Women	2
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	Comparative Government	3
Pol. Sci. 175	Contemporary American Political Thought	3

Spanish

M.F.L. 81a, b	Elementary Spanish	6
M.F.L. 82a, b	Intermediate Spanish	6
M.F.L. 84a, b	Spanish Novel and Drama	6
M.F.L. 85a, b	Spanish Conversation and Composition	6

Speech and Dramatics

English 6	Essentials of Speech	3
English 7	Advanced Public Speaking	3
English 11	Argumentation and Debate	3
English 146a	Discussion	3
English 159	Persuasion	3
English 164	Speech Composition	3
English 38	Oral Interpretation	3
English 157	The Teaching of Speech and Oral English	3
English 134	History of the Stage	3
English 160	Theory and Technique of Acting	3
English 161	Theory and Technique of Directing	3
English 163	Theory and Technique of Production	3
English 163	Scenic Design	3
English 172	Writing the One-Act Play	3
English 174	Writing the Full-Length Play	3
English 137	Stage Production in School and Community	3
English 32	Voice Development	3

CURRICULA FOR STANDARD SPECIAL EDUCATION CERTIFICATES

In keeping with the regulations set forth by the State Board of Education the University of Kentucky proposes to offer a curriculum leading to a Standard Special Education Certificate valid for four years. This certificate would be issued to persons who meet the requirements of the State Board of Education and file a transcript of standard college credits showing the completion of a baccalaureate degree, including a minimum of 45 hours in general education[1] and the courses selected from the professional education group of courses, and one of the other blocks of courses listed below.

A. Professional Education Courses:

The curriculum for all types of Special Education Certificates shall include a minimum of 12 semester hours selected from the following:

*(1) Child Growth and Development
Ed C44, Child Development and the Curriculum (3)
or
Ed 119, The Elementary School Pupil (2)

*(2) Educational Psychology
Ed 148, Educational Psychology (3)
or
**Ed 254, Problems in Educational Psychology (3)

(3) Mental Hygiene
Psych 124, Mental Hygiene (3)

(4) Principles and Fundamentals of Elementary or Secondary Education
Ed C147, The Secondary School Pupil (3)

(5) Tests and Measurements
Ed 122, Education Tests and Measurements (3)

*(6) A minimum of three semester hours of directed observation and teaching of one or more types of handicapped children.
(At the present time student teaching experiences can be provided only in the field of speech correction. Other student teaching requirements must be completed in institutions offering such courses.)

B. The curriculum for all types of Standard Special Education Certificates shall include a minimum of 18 semester hours chosen according to the area of specialization as follows:

(1) *Special Education Certificate for Supervisors* (applicants for this certificate must present evidence of two years of successful teaching experience in at least one area of special education).

*a. Psychology of Exceptional Children or Education of Exceptional Children
Ed 175g, Modern Educational Problems — Education of Handicapped Children (3)

b. Mental Deficiency
Psych 114, Abnormal Psychology (3)

[1] The 45 hours in general education should represent a balanced progam to include work from the fields of English, social sciences, fine arts, and other general education areas.

* Required courses ** Courses open only to graduate students

c. Psychology — Mental Testing
**Psych 225, Practice in Testing: Intelligence Tests (3)
or
Psych 150, Psychological Testing (3)

*d. Remedial Reading
Ed 111, The Teaching of Reading in the Junior and Senior High School (2)
or
Ed 141, Problems in Diagnostic and Remedial Reading (3)

*e. Speech Correction
Psych 130a, Speech Correction: A Survey (3)
or
Psych 130b, Speech Correction: An Introduction to Therapy (3)
or
Psych 131, Stuttering and Its Correction (3)

(2) *Certificate for Speech Correctionists*

*a. Psychology of Exceptional Children or Education of Exceptional Children
Ed 175g, Modern Educational Problems — Education of Handicapped Children (3)

*b. Clinical Practice in Speech Correction
Psych 130b, Speech Correction: An Introduction to Therapy (3)

*c. Speech Correction
Psych 130a, Speech Correction: A Survey (3)

*d. Speech Pathology
Psych 131, Stuttering and Its Correction (3)

e. Speech Correction
Psych 120a-d, Independent Work in Psychology (2 each)
**Psych 210a-h, Research in Psychology (3 each)
**Psych 315a, b, Practicum in Speech Therapy (3 each)
**Psych 203a-h, Problems in Psychology (2 each)

(3) *Certificate for Teaching the Physically Handicapped*

*a. Psychology of Exceptional Children or Education of Exceptional Children
Ed 175g, Modern Educational Problems — Education of Handicapped Children (3)

*b. Arts and Crafts for the Physically Handicapped
Ed 110, Advanced Arts and Crafts in the Elementary School (2)

c. Diagnostic and Remedial Instruction
Ed 111, The Teaching of Reading in the Junior and Senior High School (2)
or
Ed 141, Problems in Diagnostic and Remedial Reading (3)

*d. Problems and Methods of Teaching the Physically Handicapped
P.E. 174, Techniques of Rehabilitation (2)
P.E. 175, Field Work in Rehabilitation (3)
Ed 175f, Modern Educational Problems (Education of Physically Handicapped Children) (3)

* Required courses ** Courses open only to graduate students

e. Speech Correction
Psych 130a, Speech Correction: A Survey (3)

*f. Survey of Physical Defects
P.E. 172, Kinesiology (3)
P.E. 173, Remedial Physical Education (3)

(4) *Certificate for Teaching the Mentally Retarded*

*a. Psychology of Exceptional Children or Education of Exceptional Children
Ed 175g, Modern Educational Problems – Education of Handicapped Children (3)

*b. Arts and Crafts for the Mentally Retarded
Ed 110, Advanced Arts and Crafts in the Elementary School (2)

*c. Diagnostic and Remedial Instruction
Ed 111, The Teaching of Reading in the Junior and Senior High School (2)
or
Ed 141, Problems in Diagnostic and Remedial Reading (3)
or
Ed 175e, Modern Educational Problems (Education of Mentally Retarded Children) (3)

*d. Mental Testing
Ed 122, Educational Tests and Measurements (3)

*e. Psychology of the Abnormal
Psych 114, Abnormal Psychology (3)
Psych 124, Mental Hygiene (3)

Note: At the present time, a balanced program in the following areas (5, 6, and 7) cannot be offered. Completion of such areas will be possible only in other fully accredited institutions offering such work; however, courses listed below may be presented in partial fulfillment of the state requirements.

(5) *Certificate for Teaching the Deaf*

*a. Psychology of Exceptional Children or Education of Exceptional Children
Ed 175g, Modern Educational Problems – Education of Handicapped Children (3)

*b. Education of the Deaf
Ed 175j, Modern Educational Problems (Education of the Hard of Hearing) (3)

*c. Speech and Language Development
Psych 130a, Speech Correction: A Survey (3)
Psych 130b, Speech Correction: An Introduction to Therapy (3)

*d. Courses in psychology and education to be selected from the areas of specialization indicated in the requirements for Standard Special Education Certificate as approved by the State Board of Education. Such courses are to be approved by the Dean of the College of Education and the Director of the Division of Education for Handicapped.

* Required courses

(6) *Certificate for Teaching the Hard of Hearing*

*a. Psychology of Exceptional Children or Education of Exceptional Children
Ed 175g, Modern Educational Problems – Education of Handicapped Children (3)

*b. Speech Correction
Psych 130a, Speech Correction: A Survey (3)
Psych 130a, Speech Correction: An Introduction to Therapy (3)

*c. Education of the Hard of Hearing
Ed 175j, Modern Educational Problems (Education of the Hard of Hearing) (3)

*d. Courses in psychology and education to be selected from the areas of specialization indicated in the requirements for Standard Special Education Certificate as approved by the State Board of Education. Such courses are to be approved by the Dean of the College of Education ond the Director of the Division of Education for Handicapped.

(7) *Certificate for Teaching the Partially Seeing*

*a. Psychology of Exceptional Children or Education of Exceptional Children
Ed 175g, Modern Educational Problems – Education of Handicapped Children (3)

*b. Remedial Reading
Ed 111, The Teaching of Reading in the Junior and Senior High School (2)
or
Ed 141, Problems in Diagnostic and Remedial Reading (3)

*c. Arts and Crafts
Ed 110, Advanced Arts and Crafts in the Elementary School (2)

*d. Courses in psychology and education to be selected from the areas of specialization indicated in the requirements for Standard Special Education Certificate as approved by the State Board of Education. Such courses are to be approved by the Dean of the College of Education ond the Director of the Division of Education for Handicapped.

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* Required courses

RECAPITULATION

General Education English Social Sciences Sciences Fine Arts or Other Fields approved by the Dean of the College of Education	45 semester hours
Professional Education (see page 124)	12 semester hours
Special Education (see special certificate requirements)	18 semester hours

General Requirements for Graduation (physical education and health)		4 semester hours
Electives (it is strongly suggested that students select some of their courses from the following in order that they may have a fuller understanding of elementary education)		
Education (42, 172, 173, 196)	12 hours	
English	3 hours	
Social Sciences	6 hours	
Psychology	6 hours	
Fine Arts	4 hours	
Nutrition	3 hours	
Physical Education in Elementary School	3 hours	
General Electives	14 hours	51 semester hours
		130 semester hours

Graduate Programs Leading to the Master's Degree

Each student's graduate curriculum must be a well-rounded program of courses related to the student's major interest and approved by his adviser. In cases of deficient preparation the committee, with the approval of the Dean, determines prerequisite undergraduate courses to be taken.

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

Area	Persons
Elementary Teachers	Duncan, Ginger, Harris, and Moore
Secondary Teachers	
General	Ginger, Hartford, Adams, and Sorenson
Agriculture	Hammonds, Tabb, Wall, and Binkley
Art	Ginger, Haines, and Weismann
Business Education	Musselman, Thomas, and Humphreys
Home Economics	Parker and Sneed
Industrial Education	Baker and Youmans
Music	Ginger, Lewis, and Hornowski
Physical Education	Ginger, Seaton, Clay, and Carr
Elementary Principal	Harris, Eckel, Duncan, and Ginger
Secondary Principal	Hartford, Hopper, Meece, and Eckel
Supervisor	Hopper, Harris, Adams, and Meece
Attendance Officer	Hopper, Meece, and Eckel
Superintendent	Hopper, Meece, and Eckel

The candidate for the master's degree must complete the requirements for this degree under one of the two plans which follow. The second plan is permissible only with the approval of the Dean of the Graduate School, the Dean of the College of Education, and the student's adviser.

Plan I

1. A minimum of 24 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. No student may satisfy more than one-half of the residence requirements for advanced degrees by part-time work. This limitation does not apply to intensive courses.
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. Six semester hours and nine weeks of residence may be done in extension classes with the permission of the student's adviser and the Dean of the Graduate School.
9. Oral and written final examinations will be required of all candidates for the degree of Master of Arts in Education. These examinations are to be taken just prior to or during the session in which the degree is to be conferred.
10. All graduate students must meet the requirements for a teaching certificate in Kentucky as established by the State Department of Education of Kentucky. These requirements are outlined under the undergraduate program. If deficiencies are found, they should be overcome before proceeding with graduate work.

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. No student may satisfy more than one-half of the requirements for an advanced degree by part-time work. This limitation does not apply to intensive courses.
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. Six semester hours and nine weeks of residence may be done in extension classes with the permission of the student's adviser and the Dean of the Graduate School.
9. Oral and written final examinations will be required of all candidates for the degree of Master of Arts in Education. These examinations are to be taken just prior to or during the session in which the degree is to be conferred.

10. All graduate students must meet the requirements for a teaching certificate in Kentucky as established by the State Department of Education of Kentucky. These requirements are outlined under the undergraduate program. If deficiencies are found, they should be overcome before proceeding with graduate work.

Suggested Graduate Curricula*

		Crs.
For Superintendents		
Ed. 201	Foundations in Education	5
Ed. 202	Local School Administration	3
Ed. 203	Constitutional and Legal Basis of Public School Administration	3
Ed. 207	School Buildings and Equipment	3
Ed. 209a	Internship in Educational Administration	3
Ed. 212	The Elementary School	3
Ed. 214	The Secondary School	3
Ed. 225	Supervision of Instruction	3
Ed. 227	Principles of Curriculum Construction	3
Ed. 229	The Elementary Principal	3
Ed. 231	Business Administration and Finance of Public Education	3
Ed. 232	High School Administration	3
Ed. 255a	Guidance and Counseling in Today's Schools	3
For Principals		
Ed. 212	The Elementary School	3
Ed. 214	The Secondary School	3
Ed. 225	Supervision of Instruction	3
Ed. 227	Principles of Curriculum Construction	3
Ed. 229	The Elementary Principal	3
Ed. 232	High School Administration	3
Ed. 209a	Internship in Educational Administration	3
Ed. 255a	Guidance and Counseling in Today's Schools	3
Ed. 201	Foundations in Education	5
For Supervisors		
Ed. 201	Foundations in Education	5
Ed. 202	Local School Administration	3
Ed. 209a	Internship in Educational Administration	3
Ed. 212	The Elementary School	3
Ed. 214	The Secondary School	3
Ed. 225	Supervision of Instruction	3
Ed. 227	Principles of Curriculum Construction	3
Ed. 229	The Elementary Principal	3
Ed. 232	High School Administration	3
Ed. 255a	Guidance and Counseling in Today's Schools	3
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	3
Ed. 227	Principles of Curriculum Construction	3
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	3
Ed. 227	Principles of Curriculum Construction	3

*These curricula are merely suggested. The student should work out his graduate program with his adviser during his first semester or summer of work.

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	3
Ed. 254	Problems in Educational Psychology	3
Ed. 255a, b	Guidance and Counseling in Today's Schools	6

For Elementary Teachers Majoring in Education

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

For Music Majors

Ed. 201	Foundations in Education	5
Ed. 242	Administration and Supervision of Public School Music	3
Ed. 243	Advanced Methods and Materials in Music Education	2
Ed. 244	History and Philosophy of 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

Graduate Programs Leading to the Doctoral Degree

For information concerning the degree of Doctor of Philosophy with education as a major, or the degree of Doctor of Education, students should consult the Dean of the Graduate School and the Dean of the College of Education.

DEGREES AND CURRICULA IN THE COLLEGE OF COMMERCE

Cecil Clayton 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 and parts of other buildings on the Lexington campus.

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 fields of Commerce or Business Administration, provide an understanding of that segment of human behavior which is concerned with securing a living. Economic activity is not only a large proportion of all human activity but it is also basic in the sense that it must be adequate before artistic and other idealistic wants can be satisfied. An analysis of human wants, utilities of goods and services, costs and sacrifices of production, values and prices of commodities, and the distribution of wealth, necessarily constitutes an essential part of a liberal education.

In the second place the offerings in the two fields of Economics and Business Administration provide professional and vocational training for a great variety of positions in business and governmental bureaus. Students are afforded the opportunity of preparing themselves as professional economists or as specialists in taxation, industrial relations, finance, statistics, accounting, management, marketing, advertising, secretarial work, or as managers of their own businesses.

In the first two years of the several curricula setting forth the requirements for the degree of Bachelor of Science in Commerce, the student is called upon to take a number of basic liberal arts courses with a view to providing breadth of education and a foundation for the more specialized training that is allowed in the last two years.

A more definite understanding of the objectives of professional training will come from an examination of the various curricula and fields of special-

ization 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 (exclusive of the required Physical Education), except under the Industrial Administration Curriculum, which requires 140 (exclusive of the required Physical Education). With the required Physical Education the student is required to complete 130 credits and 142 credits respectively. The scholarship standing must be at least 1.0. All commerce students are urged to take some foreign language.

The courses listed in the General Business Curriculum constitute a core curriculum, because with minor exceptions, these courses are required in all curricula.

GENERAL-BUSINESS CURRICULUM

The aim of this curriculum is (1) to provide some breadth of education and the functional knowledges necessary to deal with specialized business courses (2) to assure an understanding of the fundamental subject matter of economics and business administration, and (3) to provide a liberal amount of elective work so as to enable the student (a) to pursue a specialized business program, (b) to elect courses from several fields of business, or (c) to pursue courses in fields other than economics and commerce. The electives should be taken in accordance with a definite plan, and students should, therefore, seek advice of faculty members in formulating a satisfactory program.

FRESHMAN AND SOPHOMORE YEARS

	Sem. Hrs.	
English 1a and 1b, English Composition	6	
Economics 2, Economic History of Europe or		
Economics 3, Economic History of the U. S.	3	
Mathematics 17, College Algebra	3	
Commerce 7a and 7b, Principles of Accounting	8	
History, American or European	3	
Mathematics 15, Mathematics of Finance	3	
Political Science	3	
Philosophy, Psychology, Sociology	6	
Natural Science	6	
Economics 51 and 52, Principles of Economics	6	
Commerce 60, Principles of Marketing	3	
English 30, Business English	2	
Military or Air Science (Men)	8	
Physical Education	2	
Electives (Women 12)	4	
Total		66

JUNIOR AND SENIOR YEARS

Economics 102, Labor Economics	3	
Economics 105, Money and Banking	3	
Economics 107, Statistical Method	3	
Commerce 117, Corporation Finance	3	
Commerce 109a, and 109b, Business Law	6	
Commerce 137, Industrial Management	3	
A course in Accounting	2 or 3	
Economics 104, Public Finance	3	
Economics 110, Business Cycles	3	
Electives including three courses in Economics or Commerce	35 or 34	
		64
Total		130

BANKING AND FINANCE CURRICULUM

This Curriculum provides an arrangement of courses useful to those who seek employment in financial institutions. It emphasizes the economics of finance rather than the routines and procedures. Management decisions in this area require a knowledge of the subject matter listed below.

FRESHMAN AND SOPHOMORE YEARS

	Crs.	
Courses as required in the General Business Curriculum except electives	62	
Commerce 96a and 96b, Intermediate Accounting	6	
		68

JUNIOR AND SENIOR YEARS

Economics 102, Labor Economics	3	
Economics 105, Money and Banking	3	
Economics 107, Statistical Method	3	
Commerce 117, Corporation Finance	3	
Commerce 109a and 109b, Business Law	6	
Commerce 137, Industrial Management	3	
Economics 104, Public Finance	3	
Economics 110, Business Cycles	3	
Commerce 131, Investments	3	
Commerce 143, Life Insurance, or		
Commerce 144, Property and Casualty Insurance	3	
Economics 154, Urban Real Estate	3	
Electives	26	62
Total		130

Suggested electives:
- Economics 103, Transportation (3)
- Markets and Rural Finance 120, Agricultural Finance (2)
- Economics 126, Economics of Public Utilities (3)
- Commerce 129, Credit and Statement Analysis (2)
- Commerce 133, Income Tax Procedure (3)
- Commerce 156, Business Reports (2)
- Economics 160, Business Combinations (2)

PERSONNEL MANAGEMENT CURRICULUM

An arrangement of courses to be taken by students wishing to enter the professional field of Personnel Management and Industrial Relations. This aspect of management requires an understanding of human values and personal objectives. The courses listed represent a minimum foundation for those wishing to qualify for the various personnel positions in industry and government. Typical positions in this field are: job wage analyst, interviewer, personnel director, industrial relations manager, job evaluator, wage and salary administrator.

FRESHMAN AND SOPHOMORE YEARS

	Crs.	
Courses as required in the General Business Curriculum		66

JUNIOR AND SENIOR YEARS

Economics 102, Labor Economics	3	
Economics 105, Money and Banking	3	
Economics 107, Statistical Method	3	
Commerce 117, Corporation Finance	3	
Commerce 109a and 109b, Business Law	6	
Commerce 137, Industrial Management	3	
Economics 166, Personnel Problems	2	
Economics 130, Labor Legislation	3	
Commerce 145, Office Management	3	
Economics 155, Industrial Relations	3	
Psychology 127, Introduction to Industrial Psychology	3	
Electives	29	64
Total		130

Suggested electives:

Economics 115, Value and Distribution (3)
Philosophy 51, Ethics (3)
Political Science 177b, Public Personnel Adm. (3)
Psychology 8, Individual Differences (3)
Psychology 104, Social Psychology (3)
Psychology 128, Psychology of Industrial Personnel Procedures (3)
Psychology 114, Abnormal Psychology (3)
Sociology 25, Collective Behavior (3)
Sociology 40, The Community (3)
Commerce 143, Life Insurance (3)

MARKETING, MERCHANDISING, ADVERTISING CURRICULUM

In addition to courses in these fields offered by the College of Commerce, courses offered by the Departments of Psychology, Journalism, Art, and Home Economics, are either required or suggested as electives. The student is required to select either the Marketing and Merchandising option or the Advertising option in the junior year.

FRESHMAN AND SOPHOMORE YEARS

Courses as required in the General Business Curriculum	66

JUNIOR AND SENIOR YEARS

	Crs.
Economics 102, Labor Economics	3
Economics 105, Money and Banking	3
Economics 107, Statistical Method	3
Commerce 117, Corporation Finance	3
Commerce 109a and 109b, Business Law	6
Commerce 137, Industrial Management	3

GENERAL REQUIREMENTS:

Commerce 62, Principles of Advertising	3
Commerce 63, Salesmanship	2
Commerce 119, Retail Merchandising	3
Commerce 149, Market Research	3

MARKETING AND MERCHANDISING *option*

Commerce 118, Cost Accounting	3	
Commerce 129, Credit and Statement Analysis	2	
Commerce 61, Marketing Management	3	
Commerce 136, Sales Management	3	
Electives	21	64
Total		130

Suggested electives:

Commerce 139, Industrial Purchasing (3)
Commerce 141, Industrial Marketing (3)
Economics 103, Transportation (3)
Economics 110, Business Cycles (3)
Home Economics 25, Textiles (2)

ADVERTISING *option*

Journalism 115, Advertising Typography & Layout	3	
Journalism 21, Etymology	3	
English 2a, Advanced Composition	3	
Art 29, Art in Advertising	2	
Commerce 140, Problems in Advertising	2	
Electives	19	64
Total		130

Suggested electives:

Journalism 114, Newspaper Advertising & Promotion (3)
Journalism 118, Public Relations
Commerce 61, Marketing Management (3)
Commerce 136, Sales Management (3)
Commerce 141, Industrial Marketing (3)

ACCOUNTING CURRICULUM

This Curriculum is intended to prepare students for either industrial or public accounting. Students wishing to take the C.P.A. examination should consult the various state laws in order to comply with experience and residence requirements.

FRESHMAN AND SOPHOMORE YEARS

	Crs.	
Courses as required in the General Business Curriculum except electives	62	
Commerce 96a and 96b, Intermediate Accounting	6	
		68

JUNIOR AND SENIOR YEARS

Economics 102, Labor Economics	3	
Economics 105, Money and Banking	3	
Economics 107, Statistical Method	3	
Commerce 117, Corporation Finance	3	
Commerce 109a and 109b, Business Law	6	
Commerce 137, Industrial Management	3	
Economics 104, Public Finance	3	
Commerce 113, Auditing	3	
Commerce 118, Cost Accounting	3	
Commerce 133, Income Tax Procedure	3	
Commerce 146, Special Accounting Problems	3	
Electives	26	62
Total		130

Suggested electives:

Commerce 108, Accounting Theory (2)
Commerce 128, Advanced Cost Accounting (3)
Commerce 129, Credit and Statement Analysis (2)
Commerce 132a and 132b, C.P.A. Problems (6)
Commerce 131, Investments (3)
Commerce 159, Governmental Accounting (2)
Commerce 144, Property & Casualty Insurance (3)
Commerce 156, Business Reports (2)
Economics 124, State and Local Taxation (3)

BUSINESS MANAGEMENT CURRICULUM

This Curriculum is designed to lay the groundwork for managerial positions in business. The required courses, therefore, emphasize small business problems 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 take the Industrial Administration Curriculum. It is assumed that academic training in management will be supplemented with practical training offered by the business concern.

FRESHMAN AND SOPHOMORE YEARS

	Crs.	
Courses as required in the General Business Curriculum		66

JUNIOR AND SENIOR YEARS

Economics 102, Labor Economics	3	
Economics 105, Money and Banking	3	
Economics 107, Statistical Method	3	
Commerce 117, Corporation Finance	3	
Commerce 109a and 109b, Business Law	6	
Commerce 137, Industrial Management	3	
Commerce 96a, Intermediate Accounting	3	
Commerce 118, Cost Accounting	3	
Commerce 138, Cases in Management	3	
Commerce 139, Industrial Purchasing	3	
Economics 155, Industrial Relations	3	
Psychology 127, Introduction to Industrial Psychology	3	
Electives	25	64
Total		130

Suggested electives:

Commerce 96b, Intermediate Accounting (3)
Economics 130, Labor Legislation (3)
Political Science 177a, Intro. to Public Adm. (3)

INDUSTRIAL ADMINISTRATION CURRICULUM

This Curriculum is designed to prepare students for positions in production management. The list of required courses recognizes the necessity of providing an understanding of the primary subject matter of business administration, the principles of management, and in addition the basic principles and characteristics of the materials with which industry deals. Hence the curriculum includes courses concerned with engineering and the physical sciences in addition to those required in the Business Management Curriculum.

FRESHMAN AND SOPHOMORE YEARS

	Crs.	
English 1a and 1b, English Composition	6	
Mathematics 17, College Algebra	3	
Economics 2, Econ. Hist. of Europe or Economics 3, Econ. Hist. of the U. S.	3	
Psychology 1, Introduction to Psychology	4	
Commerce 7a and 7b, Principles of Accounting	8	
Mathematics 18, Plane Trigonometry	3	
Mathematics 19, Plane Analytic Geometry	3	
Chemistry 1a and 1b, General Inorganic Chemistry	10	
Physics 1a and 1b, General Physics	10	
Engineering 1a, Engineering Drawing	2	
Economics 51 and 52, Principles of Economics	6	
Commerce 60, Principles of Marketing	3	
Military or Air Science	8	
Physical Education	2	71

JUNIOR AND SENIOR YEARS

	Crs.	
English 6, The Essentials of Speech	3	
English 30, Business English	2	
Political Science	3	
Economics 102, Labor Economics	3	
Economics 105, Money and Banking	3	
Economics 107, Statistical Method	3	
Commerce 109a and 109b, Business Law	6	
Commerce 117, Corporation Finance	3	
Commerce 118, Cost Accounting	3	
Commerce 137, Industrial Management	3	
Commerce 138, Cases in Management	3	
Commerce 139, Industrial Purchasing	3	
Commerce 141, Industrial Marketing	3	
Economics 155, Industrial Relations	3	
Electives in Economics or Commerce	6	
Electives in Physics, Geology, Chemistry, or theoretical courses in Engineering	21	71
Total		142

COMMERCE-LAW CURRICULUM

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 remaining 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.

FRESHMAN AND SOPHOMORE YEARS

	Crs.	
English 1a and 1b, English Composition	6	
History 4a, Modern Europe to the French Revolution	3	
History 4b, Modern Europe Since the French Revolution	3	
History 5a, History of U. S. Through 1865	3	
History 5b, History of U. S. Since 1865	3	
Philosophy 31, Elementary Logic	3	
Commerce 7a and 7b, Principles of Accounting	8	
Economics 51 and 52, Principles of Economics	6	
Military or Air Science (Men)	8	
Physical Education	2	
Commerce 96a and 96b, Intermediate Accounting	6	
Electives from the list below	18	69

JUNIOR YEAR

Commerce 117, Corporation Finance	3	
Economics 102, Labor Economics	3	
Economics 104, Public Finance	3	
Economics 105, Money and Banking	3	
History 131a, English Constitutional History to 1603	3	
History 131b, English Constitutional History since 1603	3	
Political Science 159a and 159b, American Constitutional Dev.	6	
Electives from the list below	9	33

SENIOR YEAR

First Year courses in College of Law		28
Total		130

Electives:

Commerce 60, Principles of Marketing (3)
English (6)
Mathematics 15, Mathematics of Finance (3)
Mathematics 17, College Algebra (3)
Philosophy 21, Introduction to Philosophy (3)
Philosophy 51, Ethics (3)

Political Science 51, American Government (3)
Political Science 80, State Government (3)
Political Science 172, Kentucky Government & Constit. (3)
Political Science 176, Legislation (3)
Psychology 1, Introduction to Psychology (4)
Sociology 103, Criminology (3)
Sociology 109a, The Family (3)

SECRETARIAL CURRICULUM

The Secretarial Curriculum is designed to prepare the student for various types of office positions including secretarial, stenographic, filing, general clerical, machine operation, typewriting, and office supervision. In addition to specialized training in office techniques and skills, it provides a liberal education which is desirable in the types of work enumerated above. The electives enable a student to pursue his special aptitudes and interests.

While the curriculum is designed primarily for the training of office workers, opportunity is provided also for the training of commerce teachers. Enough electives are available to include in the program education and other courses usually required for certification. It will be necessary, however, for the student to check certification requirements in the state in which he expects to teach. The Head of the Department of Business Education and the Dean of the College of Education will counsel with him on certification requirements in the various states. Attention is specifically called to a program for commerce teachers offered by the College of Education.

FRESHMAN AND SOPHOMORE YEARS

	Crs.	
English 1a and 1b, English Composition	6	
Economics 2, Economic History of Europe or Economics 3, Economic History of the United States	3	
Commerce 7a, Principles of Accounting	4	
Commerce 6, Secretarial Accounting	3	
English: Speech, Composition, or Literature	3	
Commerce 13a and 13b, Secretarial Practice, Shorthand	6	
Commerce 17a and 17b, Secretarial Practice, Typewriting	4	
American or European History	3	
Political Science	3	
Philosophy, Psychology, Sociology	6	
Commerce 14a and 14b, Advanced Secretarial Practice	6	
Economics 51 and 52, Principles of Economics	6	
English 30, Business English	2	
Military or Air Science (Men)	8	
Physical Education	2	
Electives (Women 9)	1	66

JUNIOR AND SENIOR YEARS

Natural Science or Mathematics	6	
Commerce 60, Principles of Marketing	3	
Commerce 63, Salesmanship	2	
Commerce 19, Office Appliances and Procedures	3	
Commerce 101a, Secretarial Job Training	1	
Commerce 145, Office Management	3	
Commerce 156, Business Reports	2	
Commerce 109a, Business Law	3	
Electives including one course in Commerce	41	64
Total		130

Suggested electives:

Commerce 7b, Principles of Accounting (4)
Mathematics 17, College Algebra (3)
Mathematics 15, Mathematics of Finance (3)
Commerce 62, Principles of Advertising (3)
Economics 105, Money and Banking (3)
Economics 107, Statistical Method (3)
Commerce 117, Corporation Finance (3)
Economics 104, Public Finance (3)

Commerce 137, Industrial Management (3)
Journalism 21, Etymology (3)
English 101, Current English Usage and Grammar (3)
Foreign Language (6)

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: 115, Value and Distribution Theory; 127, International Economics; 153, The Economics of Consumption; 165, Comparative Economic Systems.

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; Psychology 215, Psychometrics; and Markets and Rural Finance 230, Statistics for Agricultural Research, are available for those with special interests.

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. 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., M.A., 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.

It was organized as an outgrowth of the apprentice and preceptorial system and was operated as a non-profit organization from its inception.

On July 1, 1947, the College became one of the divisions of the University of Kentucky. It is located at First and Chestnut Streets, Louisville, Kentucky. The freshman year of the curriculum in Pharmacy, however, 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. Because of the limited capacity of the College, admission to the sophomore class is restricted to sixty students each year.

The College is accredited by the American Council on Pharmaceutical Education as a Class A college and was admitted to membership in the American Association of Colleges of Pharmacy in 1917.

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.

In recognition of the needs of industry for pharmacists trained in large scale manufacturing processes, a course in Manufacturing Pharmacy has been instituted. It is housed in a new laboratory at General Hospital under the direct supervision of a staff member of wide commercial and manufacturing experience.

Library – The student has the complete use of the University of Kentucky Library, fifth largest library in the south, plus the College library of 3,000 volumes and pharmaceutical journals.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Science in Pharmacy is offered on completion of a minimum of 133 credits exclusive of Military Science and Physical Education, with a standing of 1.0.

FRESHMAN YEAR
(Given at the Lexington Campus)

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Chem. 1a—General Chemistry	5	Chem. 1b—General Chemistry	5
Engl. 1a—English Composition	3	Engl. 1b—English Composition	3
Physics 51a—Intro. to Physics	3	Physics 51b—Intro. to Physics	3
Math. 5—College Algebra	5	Botany 1—General Botany	4
Military or Air Science	2	Math. 18—Trigonometry	3
Physical Education	1	or	
		Zoology 1—Prin. of Animal Biol.	4
		Military or Air Science	2
		Physical Education	1
	19		21 or 22

SOPHOMORE YEAR
(Given at the Louisville Campus)

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs
Chem. 31a—Organic Pharm. Chem.	5	Chem. 31b—Organic Pharm. Chem.	5
M.M. 31a—Microbiology	3	M.M. 31b—Microbiology	3
Phar. 21—Theoretical Pharmacy	4	Phar. 24a—Pharm. Preparations	4
Phar. 26—Pharm. Calculations	3	Chem. 32—Inorganic Pharm. Chem.	2
Phar. 31a—Drug Store Mgt.	2	Phar. 31b—Drug Store Mgt.	2
		Elective	2 or 3
	17		18 or 19

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Chem. 33—Quant. Pharm. Analysis	4	Chem. 102—Biochemistry	4
M.M. 11a—Physiol. & Pharmaco-dynamics	3	M.M. 11b—Physiol. & Pharmaco-dynamics	3
M.M. 27a—Pharmacognosy	3	M.M. 27b—Pharmacognosy	3
Phar. 24b—Pharm. Preparations	4	Phar. 27—Intro. Dispensing	4
Phar. 35a—Pharmacy Law	3	Phar. 35b—Pharmacy Law	3
	17		17

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Chem. 103a—Adv. Quant. Pharm. Chem.	3	Chem. 103b—Adv. Quant. Pharm. Chem.	3
M.M. 138a—Pharmacol and Toxicol	5	M.M. 138b—Pharmacol and Toxicol	5
Phar. 111a—Dispensing Pharmacy	4	Phar. 111b—Dispensing Pharmacy	4
Phar. 122—U.S.P. and N.F. Drugs	3	Phar. 123—Modern Drugs	3
	15		15

ELECTIVES:

Freshman:
- Math. 18, Plane Trigonometry (3)
- Zoology 1, Prin. of Animal Biology (4)

Sophomore, Junior, Senior:
- M.M. 33, Hygiene and Public Health (2)
- Phar. 25—Pharmaceutical Economics (2)
- Phar. 130—Manufacturing Pharmacy (3) (Juniors and Seniors only)

STATE BOARD EXAMINATIONS 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 must 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 equal 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 of leadership.

Rho Chi Honorary Pharmaceutical Society has established a chapter at this institution. This is an honor society.

DEGREES AND REQUIREMENTS IN THE GRADUATE SCHOOL

Herman Everette Spivey, M.A., Ph.D., Dean

INTRODUCTORY STATEMENT

Graduate work is offered in all colleges in the University. Approximately a thousand courses acceptable for graduate credit are listed in the catalog, under the various departments. Directors of graduate study in the various subjects are listed in this bulletin just before the list of courses.

The following advanced degrees are conferred by the University:

Master of Arts
Master of Science
Master of Science in Library Science
Master of Science in Public Health
Master of Science in Agriculture
Master of Science in 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
Master of Business Administration
Master of Music
Doctor of Education (Ed.D.)
Doctor of Engineering (Engr.D.)
Doctor of Philosophy

The degree of Doctor of Philosophy is offered with major work in the following fields: Agricultural Economics, Bacteriology, Chemistry, Economics, Education, English, History, Mathematics, Physics, Psychology, Political Science, 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 apply for admission to the Graduate School by submitting to the Registrar of the University two official transcripts of undergraduate courses and

a written application. Blanks for the latter may be obtained from the Registrar or from the office of the Graduate School.

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 js to be done. In brief it may be stated that a graduate student may begin a full program in the fields in which he has the equivalent of a balanced undergraduate major; in some cases the equivalent of an undergraduate minor is adequate.

Admission to the Graduate School by the Registrar entitles a student to take such courses as he or she desires, provided the necessary preparatory courses have been taken. *However, admission does not automatically make a student an applicant for a graduate degree.*

Application for Full Graduate Standing

Graduate students desiring to earn a graduate degree must be approved as degree-applicants by the departments in which they intend to major and by the Graduate School. This application should be made as soon as scores on the Graduate Record Examination are available and in any case prior to the beginning of the semester or term in which the degree is sought. The appropriate forms are available at the Graduate Office.

To be admitted as an applicant for a graduate degree a student must have met the following requirements: (1) an average of at least 1.5 (midway between B and C) on a scale of 3.0 on all previous college work; (2) a satisfactory grade (in the opinion of the department concerned)on three parts of the Graduate Record Examination (the Profile Tests, the Aptitude Test, and the Advanced Test, if there is one, suitable to the student's major); and (3) a B average or better on all the graduate work completed at the University of Kentucky. A student not having a 1.5 acerage on all previous college work may be admitted as an applicant for a degree provided: (1) his performance on the Graduate Record Examination, in the opinion of the major area and the Dean of the Graduate School, is sufficiently high; or (2) in the judgment of the major area and the Dean of the Graduate School, he has demonstrated his competence in graduate work. (The Graduate Record Examination may be taken either before admission or during the first semester after admission. It should be applied for at any Educational Testing Office at any university.)

Graduate work taken before students are admitted as "applicants for degrees" will be evaluated by the major area and the Graduate School at the time the degree-application is considered, and the remaining requirements for the degree will be indicated, insofar as is feasible.

Members of the faculty of the University of Kentucky having a rank higher than that of instructor may not be considered as candidates for advanced degrees from this institution.

Attendance in the Graduate School at the University of Kentucky is not a right. It is a privilege which the student concedes may be withdrawn by the University or any area of graduate study if it is deemed necessary by the Dean of the Graduate School in order to safeguard the University's ideals of scholarship and character.

Graduating Seniors as Part-Time Graduate Students

Seniors of the University of Kentucky lacking no more than six semester hours for graduation may register in the Graduate School with the consent of

their college deans and the Dean of the Graduate School. Approval of the appropriate director of graduate study is required if the students are to be applicants for degrees. The total load of such a student shall not exceed twelve credits. The graduate residence assigned shall be one and one-half weeks for each semester hour of graduate work beyond the six or less credits needed to complete undergraduate requirements. The incidental fee shall be that of a full-time student in the school in which more than half of the work is taken. In cases where the load is evenly divided between the schools, the larger fee, if any, shall be assessed. Requirements for the undergraduate degree must be completed during the semester in which the student is allowed to register for part-time graduate work.

GENERAL REQUIREMENTS FOR ALL ADVANCED DEGREES

Courses and Grades

All courses listed in the Graduate School Bulletin, except student teaching (both those numbered 100 to 199 and those numbered 200 and above) may be counted as credit toward a graduate degree provided they are approved as an appropriate part of the student's graduate program by his graduate adviser or committee. A course completed with a grade of D will not be given graduate credit. An overall average of B on graduate work must be attained before an advanced degree may be awarded. An "incomplete" (I) must be converted within one calendar year after the close of the term in which the I is assigned.

Registration and Classification

Before registering each semester a graduate student should confer with the director of graduate study in his major subject. If convenient, this conference should come in advance of the day of registration and classification; in any case it must come prior to the completion of classification and the beginning of classes. For all regular graduate students the Graduate Office will require for each registration the signature of the director of graduate study indicating approval of the proposed program.

Student Loads

The normal load of a graduate student during any semester is twelve semester hours if he is working for a master's degree under Plan A, or if he is working for a doctor's degree. In no case may this load for a semester exceed fifteen semester hours. In the summer session the normal load is six hours and the maximum nine. Graduate students serving in the University as assistants or part-time instructors should register for less than the normal load, as determined by their advisers. Persons holding full-time working or professional assignments, whether employed by the University or not, may not take for graduate credit toward a degree in any single semester or term more than 3 or 4 credits. Two short courses of 4 weeks or less may not be taken simultaneously.

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. 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.

Time Limit for Degrees

No course or residence credit is given for graduate study completed more than eight years prior to the date of the commencement at which the student expects to take his degree unless such credit or residence is specifically validated by the Graduate Council on written recommendation of the director of graduate study. No course or residence credit may be validated in this manner if completed more than twelve years prior to the commencement date.

Proficiency in English

No student shall be approved for a graduate degree until he has demonstrated his ability to write accurate and effective English. A decision on this matter shall be based on the student's rating on the Graduate Record or equivalent examination and such other evidence as the director of graduate study or special committee and Graduate Council shall deem necessary.

Graduation

Advanced degrees may be conferred at any commencement convocation but at no other time. *Attendance at the commencement at which the candidate is scheduled to receive a degree is required unless the candidate is excused in writing by the Dean of the Graduate School.* Appropriate academic costume must be worn. The graduation fee covers the cost of the diploma, the hood, and, in the case of the master's degree (with thesis), the binding of the thesis.

Students intending to graduate at a given commencement must make formal application (at the Registrar's Office) for the degree early in the semester or term of the commencement — in no case later than four weeks before graduation.

Fees

Registration fees per semester are $65.00 for residents of Kentucky; $125.00 for non-residents. Part-time graduate students who are legal residents of the state pay $7.50 per semester hour; non-residents pay $14.00 per semester hour. Students carrying full loads in the summer sessions pay one-half the regular semester fee. Those taking less than full loads pay the regular semester credit-hour fee.

Graduate students holding University fellowships and scholarships, graduate assistants, and instructors pay the fees assigned to Kentucky residents.

GENERAL REQUIREMENTS FOR ALL MASTERS DEGREES

(See also pages 151, 153, and 154.)

Transfer of Credits

With the approval of his graduate adviser, a student may transfer up to six credits (but no residence) toward the satisfaction of the minimum requirements for masters' degrees.

Extension

Under certain conditions, up to six of the credits and nine weeks of the residence required for any master's degree in course may be satisfied by extension courses given in person by University of Kentucky instructors. (Students who registered before Feb., 1952, may count up to one-third of the requirements.) No graduate credit is given for courses taken by correspondence.

M.A. or M.S. Degree

Whether a candidate selects a Master of Arts or Master of Science degree is left to the option of the candidate and his major department. In general it may be said that a candidate with major work in the natural sciences should take the M.S. degree; others, the M.A.

Courses and Curricula

All courses listed in the Graduate School Bulletin, except student teaching, are open to graduate students if approved by their directors of graduate study.

Graduate students are eligible to take (1) regular courses which meet as organized classes and (2) independent-study or research courses in which each student carries on investigations independent of class meetings; but at least one-half, and preferably three-fourths, of the minimum requirements for the master's degree shall be in regular courses.

All candidates for masters' degrees shall earn at least nine semester hours in courses numbered 200 or above. Exceptions to this rule may be made only with the approval of the Graduate Council.

Sustained Residence Required

Candidates for masters' degrees shall spend at least two full summer terms or one semester in full-time study at the University, except in rare individual cases where specific permission to modify this regulation is obtained from the Graduate Council.

Examinations

A final oral examination is given all candidates for masters' degrees in course, not later than eight days before the close of the semester. The Dean of the Graduate School appoints examining committees of at least three members each for the purpose, electing the members from the major and minor professors under whom the work was done. The Dean is ex-officio a member of all such examining committees. The candidate is asked to defend his thesis, if one has been written, and is examined on any subject matter related to his field.

Application for the Degrees

Early in the final semester or term the student must make formal application in the Registrar's Office for his degree.

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.

REQUIREMENTS FOR THE DEGREES OF MASTER OF ARTS AND MASTER OF SCIENCE

The Two Plans

The Graduate School authorizes all departments which are approved for graduate work and which wish to do so to permit students to satisfy the requirements for the M.A. and the M.S. degrees by either of two plans.

PLAN A

(See also pages 153, 154, and 155.)

Credits and Courses

The candidate must complete at least 24 semester hours of graduate course work with a standing of 2.0 (B) or better. At least 9 of these hours (except when excused in rare individual cases by special permission of the Graduate Council) must be in courses limited to graduate students (in courses numbered 200 or above).

The candidate shall have a major field which shall comprise at least two-thirds of the course work; the other one-third may be taken in that field or in fields which have graduate relationship with it. In education and agriculture only one-half of the work must be in the major field.

Residence

The minimum residence required is one academic year of 36 weeks. This residence may be fulfilled by any combination of semesters or summer sessions which totals the required number of weeks, provided at least one full semester or two complete summer terms are spent in residence.

This does not mean that the work prescribed for each individual can always be completed in the minimum length of time. Inadequate preparation or assistance in departments very frequently makes a longer period necessary.

Thesis

Two typewritten, unbound copies of the thesis, approved by the thesis director and the appropriate director of graduate study, and in a form acceptable to the Graduate School, must be presented to the Graduate School Office not later than two weeks before the last day on which grades may be reported to the Registrar's Office. The candidate must also submit an abstract of his thesis not exceeding two hundred words and suitable for publication. The final oral examination may not be taken before the thesis has been accepted by the Graduate School Office. Information about this thesis deadline may be obtained from the Graduate School Office.

The University protects the rights of thesis and dissertation authors by placing certain restrictions upon borrowers' use of them as long as they are unpublished. Before the title-page of every thesis and dissertation a copy of the following *Rules for the Use of Theses* is placed. The student prepares this page for each copy of his thesis and submits it as part of the thesis.

RULES FOR THE USE OF THESES

Unpublished theses submitted for the masters' and doctors' degrees and deposited in the University of Kentucky Library are as a rule open for inspection, but are to be used only with due regard to the rights of the authors. Bibliographical references may be noted, but quotations or summaries of parts may be published only with the permission of the authors, and if granted, proper credit must be given in subsequent written or published work.

Extensive copying or publication of the thesis in whole or in part requires also the consent of the Dean of the Graduate School of the University of Kentucky.

This thesis has been used by the following persons, whose signatures attest their acceptance of the above restrictions. A library which borrows this thesis for use by its patrons is expected to secure the signature of each user.

Name and Address Date

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Theses and dissertations must be developed under the direction of a member of the Graduate Faculty.

Each thesis or dissertation is to be judged by the final committee on its merits as presented to it at the examination.

Collaborative group effort by two or more graduate students is not forbidden; but there must be enough independent effort to enable each one to make a separate contribution and to prepare an individual thesis or dissertation.

Masters' theses must have the signed approval of the thesis director and the appropriate director of graduate study before they may be accepted by the Graduate School.

Language Requirements

A reading knowledge of at least one modern foreign language is required. This language should be pertinent to the program of the student and approved by his adviser. The language requirement must be satisfied by an examination given by the foreign language department of the University offering instruction in the language concerned. The passing of this examination may satisfy one of the two language requirements for the doctorate if approved by the student's special committee.

PLAN B

Plan B (which is not necessarily available in all departments that have Plan A) has the same minimum requirements as Plan A except that six or more semester hours of course work may be substituted for a thesis and that in a few departments a reading knowledge of a foreign language may not be required. A student may follow this plan only with the approval of the department concerned. Additional requirements, if any, set up by an area of study may be found in the area announcements in the Graduate School Bulletin.

REQUIREMENTS FOR THE DEGREE OF MASTER OF ARTS IN EDUCATION

See Education, pages 132, 133, and General Requirements for all advanced degrees, pages 151, 153, 154.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURE AND MASTER OF SCIENCE IN HOME ECONOMICS

(See also pages 149, 151.)

A student holding a bachelor's degree from a standard agricultural college may obtain the degree of Master of Science in Agriculture or Master of Science in Home Economics by satisfying the following requirements:

1. The completion of 24 semester hours of graduate work with an average standing of 2.0 or better, 36 weeks in residence, and a thesis, or the completion of 36 semester hours of graduate work with a standing of

2.0 or better, 45 weeks in residence, and no thesis. At least 9 hours must be on the "200" level.
2. Under either plan no grade below C may be counted.
3. One-half of the work must be in one department, the remainder in any other department or departments approved by the major professor.
4. There is no language requirement for either of these professional degrees.

In either case a final oral examination is given the candidate not later than 8 days before the close of the semester in which the degree is to be secured. The candidate is expected to show a comprehensive knowledge of the subject matter related to the field of his major work and in case a thesis has been prepared to defend it.

REQUIREMENTS FOR THE DEGREE OF MASTER OF MUSIC

Master of Music in Applied Music

A minimum of twenty-four graduate hours.

Eight to twelve graduate hours in Applied Music.

In the event the student is not sufficiently prepared to do graduate work in Applied Music, or if there is a deficiency in repertoire, he must study without credit until fully prepared to do graduate work. Candidates in Applied Music, Voice, must have completed one year of study in each of two modern foreign languages.

Twelve to sixteen hours from at least two of the following: Music literature, music theory, music education, or non-music subjects.

A public recital of music major proportion passed upon by the music faculty and a comprehensive examination in the area of cencentration.

Master of Music in Music Education

A minimum of twenty-four graduate hours.

Eight to twelve hours in the field of music education.

Twelve to sixteen hours in two or more of the following areas: Music literature, music theory, applied music, education, other non-music courses.

A thesis, a written and oral comprehensive examination in the area of concentration.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN LIBRARY SCIENCE

(See also pages 151, 152, 153.)

A student holding a bachelor's degree from a fully accredited institution may obtain the degree of Master of Science in Library Science by satisfying the following requirements:

1. Thirty semester hours in graduate courses.
2. An average standing of 2.0 or better on all work taken as a graduate student.
3. Thirty-six weeks in residence.
4. At least one year of college credit (six semester hours with a grade of C or better) in a modern foreign language or a reading knowledge as demonstrated by the usual graduate examination.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN PUBLIC HEALTH

A student holding a bachelor's degree from a fully accredited institution or the M.D. degree from a recognized Medical School may obtain the degree of Master of Science in Public Health by satisfying the following requirements:

1. Twenty-four semester hours in graduate courses with an average standing of 2.0 or better.
2. No grade below C may be counted.
3. Thirty-six weeks in residence.
4. An acceptable thesis.
5. There is no language requirement for this degree.

REQUIREMENTS FOR ADVANCED DEGREES IN ENGINEERING

Two classes of advanced degrees are offered in the College of Engineering, the masters' degrees and the professional degrees.

THE MASTERS' DEGREES IN ENGINEERING. The master's degree in engineering may be obtained by satisfying the following requirements:

1. Twenty-four semester hours in graduate courses with an average standing of 2.0 or better.
2. No grade below C may be counted.
3. Thirty-six weeks in residence.
4. An acceptable thesis.
5. Two-thirds of the work must be in the major subject.
6. There is no language requirement for these degrees.

The candidate must hold the corresponding Bachelor of Science degree in engineering or the equivalent from this institution or from another engineering school of recognized standing. The degrees offered are Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Mechanical Engineering, Master of Science in Metallurgical Engineering, and Master of Science in Mining Engineering.

The Professional Degrees in Engineering

The professional degrees of Civil Engineer (C.E.), Electrical Engineer (E.E.), Mechanical Engineer (M.E.), Metallurgical Engineer (Met.E.), or Mining Engineer (E.M.) will be granted only to graduates of the University of Kentucky, College of Engineering, who present satisfactory evidence of professional work of creditable quality in the engineering fields of their choice, extending over a period of five years, and who submit satisfactory theses as further evidence of their professional attainments.

A candidate holding a master's degree in engineering shall be considered to have fulfilled two years of the five-year requirement for the corresponding professional degree.

An application for a professional degree must be made to the Dean of the Graduate School and have the approval of the director of graduate study in his engineering field not less than one academic year before the degree may be granted.

The Graduate Committee will pass on the qualifications of each applicant. It may, at its discretion, require an oral examination. The applicant is expected

to submit a record of his engineering experience, which should include a complete list of his professional engagements, showing in each case the length of time employed and the position held. He should give for reference the names of at least three persons who are familiar with his engineering work. Preferably these persons should be connected with the organizations by whom he has been employed.

A thesis is required of each candidate. It may be in the field of research, design, invention, or engineering processes and methods. It must contain some original thought and be the product of the individual submitting it. Quotations and references with proper credit may be used. In general, the thesis should be of such a nature that it will be of value to the engineering profession.

A candidate holding a bachelor's degree in one field of engineering may apply for a professional degree in another field of engineering if he has attained unusual prominence and success in that field.

Fees

The fees for a professional degree in engineering are $15.00 for registration and $20.00 for graduation.

REQUIREMENTS FOR THE DEGREE DOCTOR OF ENGINEERING

(See page 160.)

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy is conferred upon a candidate who, after completing not less than three years of graduate work devoted to the study of a special field of knowledge, presents a satisfactory dissertation and passes a comprehensive examination, thus qualifying for recognition as a scholar of high attainments in his chosen province.

The doctor's degree is intended to represent not a specified amount of work covering a specified time, but the attainment, through long study, of independent and comprehensive scholarship in a special field. Such scholarship should be shown by a thorough acquaintance with present knowledge in a particular field of learning and a marked capacity for research.

Admission

For information concerning admission see pages 147, 148.

Advisers and the Special Committee

The director of graduate study in student's major area will be the student's adviser until he has selected his dissertation director and has been accepted by him. When the dissertation director has been chosen, the student's special committee will be set up by the Dean after he has conferred with the student, the director of graduate study, and the dissertation director. This committee should be set up as soon as the student has adjusted himself to the University environment and has found a suitable dissertation problem. Until the special committee is formed, the director of graduate study will advise the applicant as to his schedule of study, and he must initial each schedule before it is presented to the Dean.

The special committee will consist of the dissertation director as chairman, two or three other members from the major area, and one or two members from the minor academic area — in all, five members. This committee will advise the applicant and will set the requirements which the student must meet before he will be admitted to the final examination.

Special committees keep minutes of all meetings and send abbreviated copies to the Dean's Office to be made a part of the student's record. This committee determines when the qualifying examination is to be administered, and the chairman schedules the examination in writing, sending a copy of the announcement to the Dean. The appointed special committee will be the final judge on a majority basis of the questions to be asked on the qualifying examination and of the result of the examination. This committee may be advised by colleagues when it thinks it is desirable.

Courses of Study

Every applicant for the degree must select one major area of study and no more than two minor subjects, at least one of which must be outside the major area. The major subject shall be one in which he intends to concentrate his efforts; the minor subjects must be approved by the major area and by the representative of the minor on the special committee.

The applicant's principal work must be in the major subject. Although the regulations are somewhat elastic respecting the time to be devoted to the major and minor subjects, the major subject should represent approximately two-thirds of the student's entire time. The other one-third should be devoted to the minor subject(s). At least one-sixth of the total time must be devoted to a minor outside of the major academic department, and at least one member of the special committee from outside the major area must represent this outside minor. Only the Graduate Council may authorize departures from this rule.

A full-time course load for any semester ranges from 9 to 15 semester hours of credit; in the summer, from 6 to 9 semester hours.

Residence

A minimum of three collegiate years of resident graduate work, of which at least the last required year in residence must be spent at the University of Kentucky, is required for the doctorate. The amount of residence to be transferred on account of prior graduate work at some other institution is determined jointly by the Special Committee, the Registrar, and the Dean of the Graduate School. Candidates may be given leaves of absence by their special committees (not to exceed one-fourth of the last year of required residence) to make use of superior facilities elsewhere. Leaves consuming more than one-fourth of the last year must be approved by the Graduate Council and will not be allowed to candidates who have not spent at least one year at the University already.

A doctoral student's schedule may include an assignment to work on his dissertation, and appropriate residence may be allowed for such study, but in no case shall the residence allowed exceed the number of weeks spent in such dissertation research.

While it is expected that a well-prepared student of good ability may secure the degree upon completion of three years of full-time study, it should be understood that this requirement is a minimum and is wholly secondary to the matter of scholarship. Time spent in study, however long, the accumulation of facts, however great in amount, and the completion of courses, however numerous, cannot be substituted for independent thinking and original research.

Language Requirements

The applicant must give evidence of having a good reading knowledge of, and of being able to translate at sight, at least two modern foreign languages. This proficiency is determined by examinations conducted by the respective

language departments at the University of Kentucky. While ordinarily French and German are acceptable, the final choice should be made under the guidance of the student's special committee, which will recommend what languages are to count. The language requirements must be satisfied before the applicant can be admitted to the qualifying examination.

Qualifying Examinations

A qualifying examination is required of all applicants for the doctorate to determine whether the applicant should be admitted to candidacy. The examination probably should be taken during the student's fourth semester of full-time graduate study, or the equivalent, but in no case later than the thirtieth day of the academic year in which the degree is expected. This examination shall be both written and oral and shall cover both major and minor subjects. The special committee shall report to the Dean the result of the examination, including the time schedule of the examination. If the result is failure, the committee shall recommend the conditions to be met before another examination may be administered. The minimum time before another examination may be given is six months. The same committee, or as many of the members as are available, plus those added by the Dean to fill vacancies, shall give the second examination. A third examination shall not be allowed.

A minimum of one academic year must elapse between the time of the qualifying examination and the conferring of the degree. If a student has completed his full residence and course requirements, however, and wishes to complete his dissertation in absentia, he may petition the Graduate Council for permission to do this out of residence and without payment of the usual registration fees.

Dissertation

Each candidate must present a dissertation covering his thesis work. This dissertation must give evidence of the candidate's ability to carry on independent investigation and must be satisfactory in style and composition. It must represent a definite contribution to the knowledge of his subject, must be the result of independent work, must include original research, and must in some way add to or otherwise modify what was previously known on the subject. Unless the director of the dissertation specifically recommends departures from the instructions in the thesis manual recommended by the Graduate School, the thesis must be in conformity with advice in this manual. Two bound typewritten copies of the dissertation and two typewritten copies of an abstract, the original bound, the first carbon unbound, usually of not less than 400 words nor more than 600 words, must be 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. An approval sheet signed by a majority of the special committee (including the director of the thesis) must accompany the dissertation. Before dissertations are bound a standard form containing *The Rules for Use of Theses* must be prepared and must be bound with the manuscript, before the title page. (See page 153 for these *Rules.*)

It is expected that every doctoral dissertation will be worthy of publication either in its entirety in book form or as articles in the leading journals and periodicals of the field, and the candidate is urged to use every reasonable effort to obtain such publication for his own sake and in the interest of the Graduate School. In order to insure availability of such contributions, the following arrangements are provided:

1. A candidate may elect in writing to have his dissertation published, either as a whole or in acceptable part (if approved by the director of graduate study in the area concerned and by the Dean of the Graduate School), in a book or an approved journal. A candidate must make a deposit of $50 to guarantee publication. If within four years after the commencement at which the degree was received the candidate demonstrates that he has a contract with a recognized publisher or an acceptance by an editor of a recognized journal, he will be allowed one more year to submit the required number of copies to the Graduate School and recover his deposit. Failing of either step he will forfeit his deposit and arrangement No. 2 will be followed. The printed dissertation must have a cover and a title page, and the latter, in addition to the title and the name of the author, must bear an appropriate inscription as follows:

   A portion of a dissertation / A dissertation } presented

   to the Faculty of the Graduate School of the University of Kentucky in candidacy for the degree of Doctor of Philosophy (Education)

2. A candidate may elect in writing to let his dessertation be microfilmed and copyrighted by the University. The copyright will be taken in the name of the author. One positive microfilm copy will be deposited in the University Library and will be available for inter-library loan. Microfilm copies of dissertations may be purchased at cost. The abstract of each dissertation will be printed in an issue of *Microfilm Abstracts* (published by University Microfilm, Ann Arbor, Michigan), which is distributed to leading libraries here and abroad. University Microfilms will also have the microfilm copy of the dissertation catalogued by an expert, and this information sent to the Library of Congress, for printing and distribution of cards to depository catalogues and libraries.

   To cover the costs involved, a candidate is required to pay at the Office of the Comptroller a fee of $50 before taking the final examination. Even if the candidate elects to use this arrangement for publication he should understand that it is still desirable for him to have his work printed in a recognized way.

Final Examination

After the acceptance of the dissertation by the special committee and the Dean of the Graduate School the candidate shall be given a final oral, or, if the examining committee elects, an oral and a written examination. The examining committee shall consist of a minimum of five persons, appointed by the Dean of the Graduate School, after he has conferred with the director of graduate study for the area. (The President of the University and the Dean of the Graduate School are ex-officio members of all examining committees.) The director of graduate study (or his delegate) shall be chairman of the committee. Other members shall include the major professor, a third representative of the department, a representative of the minor, and one member of the Graduate Faculty associated with neither the major nor minor areas. The final examination shall include a defense of the dissertation and shall be as comprehensive in the major and minor areas as the committee desires to make it.

If the student passes this examination, he will be recommended for the degree at the next commencement provided one academic year has lapsed since the qualifying examination.

The completion of three years of residence work confers no right upon the student to be examined.

Recommendation

After the final examination has been passed, the name of the candidate will be presented for recommendation to the Board of Trustees for the degree of Doctor of Philosophy in course.

Attendance at commencement is required for those receiving degrees unless (for special reasons) they are excused in writing.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF EDUCATION

The requirements for the degree of Doctor of Education are the same as those for the degree of Doctor of Philosophy with the following exception.:

1. No languages are required for the Ed.D. degree.
2. A total of 72 semester hours is required of which at least one-third and not more than one-half must be in departments outside the College of Education.

Applicants for the Ed.D. degree, who are required to do as least one-third of the minimum requirements outside of areas in the College of Education, shall declare at least one area other than Education when their special committees are appointed. Two members shall be chosen from these areas.

The Registrar, the Graduate committee of the College of Education, and the Graduate Dean will evaluate credits and residence to be allowed transfer students. It is understood, however, that the special committee may accept only such courses as fit into the graduate program of the student.

REQUIREMENTS FOR THE DOCTOR OF ENGINEERING DEGREE

These are the same as those for the Doctor of Philosophy degree. (See pages 156-160.)

GRADUATE STUDENTS NOT APPLICANTS FOR DEGREES

Graduate students who are not working toward advanced degrees are not required to designate major or minor subjects, but may elect their work with a view to the special purposes for which they are in attendance at the University.

Any course of study announced for advanced undergraduates and graduates is open for election by such students under the same conditions as apply to candidates for degrees.

Should a graduate student, who has not arranged for his work with a view to obtaining a degree, subsequently desire to become an applicant for a degree, the number of semester hours he is to receive for work already done will be determined at the time he applies for admission as applicant for the degree.

No work is given graduate credit unless the student was enrolled in the Graduate School at the time during which the work was taken.

CHECK LIST FOR GRADUATE STUDENTS SEEKING ADVANCED DEGREES

1. Send to the Registrar application for admission; request Registrars of former institutions to send transcripts of work previously completed; and request references to send letters of recommendation — all at least four weeks prior to first admission.

2. On or before date of first registration consult appropriate director of graduate study and plan tentative course of study. (At registration the director's signature on the classification card approving the registration is required.)

3. *Early in the first term or semester apply for the Graduate Record Examination* (Profile Tests, Aptitude Test, and Advanced Test in your major field), if you have not previously taken this standardized test. Apply at the University Testing Bureau, Personnel Office, Administration Building. Take test at time designated. (*Scores on this test are necessary before admission to full graduate standing.* See page 148 of this Bulletin.)

4. Early in the first term or semester begin preparations for the language examination(s) required for the degree and arrange to take the necessary language examination(s) early in graduate career.

5. *After first term or semester apply for full graduate standing* (secure forms from the Graduate Office), if a graduate degree is sought.

6. Before the beginning of each succeeding semester or term consult the appropriate director of graduate study concerning program for the new term.

7. If doctoral applicant, during or before the fourth semester of graduate study confer with director of graduate study and Graduate Dean concerning Special Committee. After the appointment of the Special Committee, the chairman becomes graduate adviser. At least once each year request the chairman of the Special Committee to hold a meeting to review the course program and the research, in retrospect and (especially) in prospect.

8. If doctoral applicant, arrange with Special Committee for Qualifying Examination at least one academic year before the degree is expected.

9. Before beginning thesis or dissertation, secure from the Campus Bookstore Kate Turabian's *A Manual for Writers of Dissertations* and follow instructions therein, unless specifically directed otherwise by your director of graduate study.

10. *Early in the semester or term when the degree is expected, file application for the degree* (Registrar's Office).

11. Submit to the Graduate Office the thesis (if required) or dissertation in final form (after it has been read and approved by the director of graduate study and the committee) by or before the thesis deadline indicated in the University Calendar at the front of the Graduate School Bulletin.

12. Arrange for the final oral examination (consult the director of graduate study and the Graduate Office) at least two weeks before the end of the term or semester when the degree is expected.

13. Pay the commencement fee and (if applicable) the dissertation fee as soon as the final oral examination is scheduled.

14. Secure commencement instructions from the Graduate Office.

RESEARCH PROGRAM AT OAK RIDGE INSTITUTE OF NUCLEAR STUDIES

The University is one of the Sponsoring Universities of the Oak Ridge Institute of Nuclear Studies located at Oak Ridge, Tennessee. Through this cooperative association with the Institute the University of Kentucky Graduate Research Program has at its disposal all the facilities of the National Laboratories in Oak Ridge and of the research staffs of these laboratories. When masters' and doctoral candidates have completed their residence work it is possible, by special arrangement, for them to go to Oak Ridge to do their research problems and prepare their theses. In addition, it is possible for the staff members of this university to go to Oak Ridge for varying periods, usually not less than three months, for advanced study in their particular fields. Thus, both staff and students may keep abreast of the most modern and up-to-date developments in atomic and nuclear research that is in progress at the Oak Ridge laboratories.

The students will go to Oak Ridge on Oak Ridge Graduate Fellowships which have varying stipends determined by the number of dependents they have and the level of work that they are doing. Staff members may work in Oak Ridge on stipends commensurate with their present salary and rank.

For further information inquire at the office of the Graduate School or write directly to the Chairman of the University Relations Division of the Oak Ridge Institute of Nuclear Studies, Box 117, Oak Ridge, Tennessee.

Southern Regional Training Program in Public Administration

Since 1945 the Universities of Kentucky, Alabama, and Tennessee have conducted a joint program in public administration leading to a master's degree. Part of the course work is completed at each institution and three months of successful internship are required. For detailed information, anyone interested should inquire of the Political Science Department at the University of Kentucky.

Advanced Study and Research by Guests of the University.

When the appropriate resources are available at the time desired, the President of the University, upon the recommendation of the Dean of the Graduate School and the department affected, will welcome advanced scholars as guests of the University, with the privilege of auditing seminars and research courses and of carrying on research in laboratories and libraries. Normally there will be no charge except for laboratory expenses. Negotiations for such arrangements should be conducted in advance through the Graduate Office.

FELLOWSHIPS AND SCHOLARSHIPS

The University of Kentucky offers the following 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 University Fellowships, with a stipend of $750 each. University Scholarships, with a stipend of $600 each.

Fellows and Scholars are expected to devote their entire time to graduate work, and no teaching or other departmental work may be required of them; nor are they permitted to perform any duties for extra pay. Fellows and Scholars must carry a full schedule unless work on a thesis is substituted for part of the load. In this case recommendation must be made by the adviser and approved by the Graduate Council. The award is paid in ten equal monthly installments. Fellows, scholars, graduate assistants, and instructors pay the fees assessed residents of Kentucky. The appointments are made for one year only but may be renewed if it can be shown that the study and research should be continued.

These fellowships and scholarships are open to students who hold bachelors' degrees or higher from any college or university of recognized standing. Forms for making applications may be secured from the office of the Dean of the Graduate School and must be submitted not later than March 25 of each year.

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, Engineering, 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 Interscholastic League.

4. Bureau of Audio-Visual Materials.— Furnishes educational motion picture films and other visual aids service to schools and clubs.

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' credit 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. or the B.S. degree a total of 30 credits from other colleges of the University.

AIR SCIENCE AND TACTICS

Air Force Reserve Officers' Training Corps (AFROTC)

Robert S. Larson, Robert L. Able, Marshall B. Bone, James D. Carr, Forrest A. Carson, Leo DiStefano, Robert L. Eckard, Montgomery D. Givens, William D. Hartshorn, Crawford E. Hicks, Barney E. Lee, Joseph C. Martin, George L. Parsons, Jack M. Seeley, Bernard M. Smith, Thomas B. Spalding, Albert J. Stern

Air Force Basic Course

(Freshmen and Sophomores)

Air Science I ROTC (First Year)

10a, b AIR SCIENCE I, ROTC. (2 ea.)
An orientation of the AFROTC program which includes the obligations of the cadet and significance of service in the armed forces; aviation history; basic flight principles; international tensions and security structures; instruments of national military security; and fundamentals of global geography. Leadership laboratory. Three hours per week.

Air Science II ROTC (Second Year)

20a, b AIR SCIENCE II, ROTC. (2 ea.)
Elements of aerial warfare emphasizing selection and types of military targets; the study of air oceans; the procurement of aircraft; the selection of air bases; career opportunities; leadership laboratory. Three hours per week. *Prereq: 10a, b.*

Advanced Course, Air Force ROTC

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

Air Science III ROTC (Third Year)

30a, b AIR SCIENCE III, ROTC. (3 ea.)
Functions of the Air Force Commander and his staff; communication processes and methods of teaching; military law; applied air science; functions of an air base; leadership laboratory. Five hours per week. *Prereq: 20a, b.*

Air Science IV ROTC (Fourth Year)

40a, b AIR SCIENCE IV, ROTC. (3 ea.)
A study of the principles of leadership and management, military aspects of world political geography, foundations of military power, military aviation and the science of war, career guidance, briefing for commissioned service and leadership laboratory. Five hours per week. *Prereq: 30a, b.*

35 AFROTC SUMMER CAMP. (O) S
Practical application to include firing individual weapons, participation in field exercises, familiarization with base activities and problems and inspection of equipment; introduction of cadets to operational phases of the air fighting force; leadership training.

ANATOMY AND PHYSIOLOGY

Richard S. Allen, James William Archdeacon, Louis L. Boyarsky, and Joseph Wm. Pryor.

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 — Archdeacon
The course is designed to present to the student who has no scientific background a thorough survey of the arrangement and general functions of various systems that make up the human body. Lectures, three hours.

4 ELEMENTARY ANATOMY. (5) II — Allen and Assistant
A course for Physical Education majors; others also. Muscles in the monkey are carefully dissected and results compared with the human body. Lectures, two hours; lab, six hours. *Prereq: Zoology 25.*

5 ELEMENTARY PHYSIOLOGY. (3) I, II, S — Allen
Emphasis is placed upon the physiology of muscle, circulation, respiration, digestion, absorption, energy metabolism, and excretion. Lectures, two hours; lab, two hours. Unavailable to students having A. & P. 10. *Prereq: Home Economics or Physical Education Curriculum.*

*6a GENERAL ANATOMY AND PHYSIOLOGY FOR NURSES. (3) I — Boyarsky
The following topics are studied: physico-chemical phenomena of protoplasm; general structure of the body; osteology; myology; and neurology. Lectures, two hours; lab, two hours. *Prereq. or concurrent: General Chemistry.*

*6b GENERAL ANATOMY AND PHYSIOLOGY FOR NURSES. (3) II — Boyarsky
A continuation of 6a. The course covers the vascular, respiratory, digestive and excretory systems. Metabolic phenomena are also considered. Lectures, two hours; lab, two hours. *Prereq: 6a.*

10 GENERAL PHYSIOLOGY. (5) I, II — Allen, Archdeacon, Boyarsky, and Assistant
This is a study comparing the human with the lower animals and plants. Physical and chemical fundamentals are emphasized. Lectures, three hours; lab, four hours. *Prereq: Chemistry 1a and 1b. Physics 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; lab, four hours. *Prereq: 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; lab, four hours. *Prereq: A. & P. 10 or the equivalent; Chemistry 1a and 1b.*

105 ARCHITECTURE OF THE HUMAN SKELETON. (4) II, S — Allen
A course for students of Anthropology and Art and for Pre-meds. Each bone is studied in detail with respect to its architecture, function, joint combination, and muscular relations. Lectures, two hours; lab, four hours. *Prereq: Junior standing.*

106 INTRODUCTION TO ENDOCRINOLOGY. (3) I, S — Allen and Archdeacon
Introductory study to endocrine glands in which general development, anatomical location, structure, and fundamental functions of organs are presented. Lectures, three hours. *Prereq: A. & P. 10 or equivalent; Zoology 7b; Chemistry 1a and 1b; Instructor's consent.*

107 COMPARATIVE NEURO-PHYSIOLOGY. (4) I* — Allen
A comparative study of anatomy and physiology of human nervous system with those of the lower animals. Valuable to students of biology, physiology, psychology, and pre-medicine. Lectures, two hours; lab, four hours. *Prereq: A. & P. 10 or equivalent.*

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* Open to Freshmen.

108 CIRCULATION, RESPIRATION, AND METABOLISM. (3) II, S Archdeacon
A comprehensive study of chemical and physical phenomena of respiration, circulation, and metabolic phases. Emphasis is on circulatory and respiratory mechanisms of higher mammals. Lectures, two hours; lab, two hours. *Prereq: A. & P. 10 or equivalent.*

109 CELLULAR PHYSIOLOGY. (3) I, S Boyarsky
This is a more intensive study of general physiological principles. Special emphasis is on chemistry and physics of the cell. Lectures, two hours; lab, two hours. *Prereq: A. & P. 10 or equivalent; Physics, and General Chemistry.*

110 INTERMEDIATE METABOLISM. (3) I Archdeacon
The role of vitamins in oxidation-reduction enzyme systems and intermediate metabolic phenomena of carbohydrates, proteins, and fats are considered. Lectures, two hours; lab, two hours. *Prereq: A. & P. 10 or equivalent; Physics, and Organic Chemistry.*

116a, b SEMINAR IN ANATOMY AND PHYSIOLOGY. (1 ea.) I, II Archdeacon
This course is for Departmental majors and serves to prepare them for the comprehensive examination. It is open only to Seniors. One two-hour period a week. *Prereq: A. & P. 10, other Departmental requirements.*

201a-i RESEARCH IN PHYSIOLOGY. (3 ea.) I, II, S Allen, Archdeacon, and Boyarsky
The pursuit of an assigned problem in which students have the opportunity to demonstrate their originality. Conference and laboratory, six hours. *Prereq: A. & P. 10 or equivalent; Chemistry 130a, 130b; Physical Chemistry desirable; Physics, one year.*

202 PHYSIOLOGICAL TECHNIQUE. (2) I Archdeacon
This course offers training in techniques used in physiological research. Operational procedures are undertaken in gastro-intestinal, hemodynamic, and respiratory systems. Lecture, one hour; lab, two hours. *Prereq: A. & P. 10 or equivalent.*

203 EXPERIMENTAL ENDOCRINOLOGY. (2) II Allen
Abnormalities of various endocrine glands are produced experimentally. Results are very closely followed and recorded. Reports are handed in to instructor upon completion of each case. Lecture, one hour; lab, two hours. *Prereq: A. & P. 106.*

204a-i GRADUATE SEMINAR IN ANATOMY AND PHYSIOLOGY. (1) I, II Boyarsky
Required of all graduate students. Discussion period, one hour.

205 ADVANCED NEUROPHYSIOLOGY. (3) II Boyarsky
Electrical analyses of nerve fibres and synapse are considered; also, nerve impulse theories, reflexes, metabolism; and central nervous function from the cybernetic viewpoint. Lectures, two hours; lab, two hours. *Prereq: A. & P. 107, 109. Instructor's consent.*

ANCIENT LANGUAGES AND LITERATURES

Jonah W. D. Skiles, Wilbert L. Carr, Theodore Tolman Jones, Robert Newman Mooney and Albert Pappenheim.

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 Latin or Greek or Hebrew. *Required:* A minimum of 15 credits of advanced work in Ancient Languages and Literatures; Tutorial Seminar; 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 in the same language for full credit.

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

Latin

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

*1b ELEMENTARY LATIN READING. (3) I, II, S
Selections relating to Roman life and literature, including Caesar. Emphasis on learning to read Latin. *Prereq: A. L. 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. *Prereq: 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. *Prereq: 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 Senecute*, and such other prose as may meet the needs of the class. *Prereq: Three years of high school Latin or three semesters of college Latin or consent of instructor.*

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

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

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

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

109a, b LATIN LITERATURE. (3 ea.) On demand
Courses in various authors, periods, or types to suit the needs of the class. *Prereq: Twelve semester hours of Latin, or the equivalent, and permission of the instructor.*

114a, b LATIN COMPOSITION. (1 ea.) On demand
The writing of Latin prose of moderate difficulty. *Prereq: A. L. 3 or consent of instructor.*

121 ROMAN CIVILIZATION. (2) II, S
Special reference to the relation to modern life. Topics in literature, art, philosophy, and religion, as well as in political history. No knowledge of Latin necessary.

150 THE TEACHING OF LATIN. (3) I, II, S
The place of Latin and the classical humanities in general education. Objectives, materials, and methods. The reading approach to learning Latin. Evaluation of textbooks and other materials. *Prereq: Senior standing.*

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

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 some understanding of Greek civilization. Vocabulary building.

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* Open to Freshmen.

51b SELECTIONS FROM THE GREEK NEW TESTAMENT. (3) II
Easier parts of the New Testament read to introduce the Greek Testament and to give facility in reading Greek. *Prereq: A. L. 51a.* This course does not duplicate and course in classical Greek.

52a, b SELECTIONS FROM GREEK WRITERS. (3 ea.) I, II, S
Selections from various writers, such as Xenophon, Herodotus, Plutarch, or from various periods of Greek literature, including the *Koine. Prereq: A. L. 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. *Prereq: A. L. 51b or consent of instructor.*

54 PLATO. (3) II
Selections, with an attempt to evaluate their philosophy in its relation to both ancient and modern thought. *Prereq: A. L. 51b or consent of instructor.*

70 GREEK MYTHOLOGY. (2) I, S
The Greek myths studied both from the standpoint of their meaning to the Greeks and Romans and from the standpoint of their use in later literature and in everyday life. No knowledge of Latin or Greek required.

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

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

156 GREEK TRAGEDY. (3) I
Selected plays from Aeschylus, Sophocles, and Euripides. Lectures on Greek tragedy and its effects on the Western World. *Prereq: A. L. 53 or 54 or consent of instructor.*

157 GREEK COMEDY. (3) II
Selected plays of Aristophanes. Lectures on Greek comedy and its effect on the Western World. *Prereq: A. L. 156 or consent of instructor.*

204 THE GREEK OF THE NEW TESTAMENT. (3) I, S
Class and/or individual work. Reading or research in the vocabulary and syntax of the *Koine,* in the text of the Testament, and in other fields. *Prereq: Two years of college Greek or consent of instructor.*

Hebrew

*81a BEGINNING HEBREW. (3) I
Emphasis on learning to read simple Biblical Hebrew prose, with attention to the basic elements of Hebrew grammar.

81b ELEMENTARY HEBREW READING. (3) II
Selections from the prose portions of the Hebrew Old Testament. Emphasis on learning to read Hebrew. *Prereq: A. L. 81a or the equivalent.*

82a, b SELECTIONS FROM THE HEBREW OLD TESTAMENT. (3 ea.) I, II
Selections of prose and/or poetry to develop ability in reading Hebrew and in understanding Hebrew thought. *Prereq: A. L. 81b or the equivalent.*

83a, b HEBREW CONVERSATION AND COMPOSITION. (1 ea.) I, II
Practice in the use of the language. Primarily for those wishing to improve aural-oral ability, but also for those wishing to have additional practice in the language. *Prereq: Consent of the instructor.*

84a ISAIAH. (3) I
Selections with attention to the literary, historical, and general cultural background. *Prereq: 82b or consent of instructor.*

84b THE PSALMS. (3) II
Selections with attention to poetic form and to historical and general cultural background. *Prereq: 84a or consent of instructor.*

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* Open to Freshmen.

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

General Courses

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.

*31 MEDICAL TERMINOLOGY FROM GREEK AND LATIN. (3) II
Latin and Greek roots, prefixes, and suffixes as found in medical terminology. Primarily for pre-medical, pre-dental, pre-nursing and pre-veterinary students, but others will be admitted for help in vocabulary building.

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-d 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. *Prereq: Major and a standing of 2.0 in dept.*

200 RESEARCH IN THE TEACHING OF CLASSICAL LANGUAGES. (3) On demand
Problems in the teaching of Latin and/or Greek in secondary and/or higher education. Objectives, methods, preparation of materials, development of curricula, or the history of the field. *Prereq: A. L. 150 or the equivalent.*

201 COMPARATIVE GREEK AND LATIN GRAMMAR. (3) I, II, S
Studies or research in comparative linguistics, historical syntax, semantics, and other aspects of linguistics in the Greek and Latin area. *Prereq: Necessary command of the langauges involved.*

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

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

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

ANTHROPOLOGY

Charles E. Snow, Frank J. Essene, Raymond H. Thompson, and William S. Webb.

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; plus a comprehensive examination in the Senior year.

*1 INTRODUCTION TO PHYSICAL ANTHROPOLOGY. (3) I, II, S Snow
An outline of the biological aspects of man. Demonstration lectures on man's origin and development, the primates, fossil man, races, race mixture, human biology, and growth.

*2 INTRODUCTION TO CULTURAL ANTHROPOLOGY. (3) II, S Essene
Archaeological remains of prehistoric man and the arts, industries, social organization, languages, and religions of modern primitive peoples.

*3a SOCIETIES AROUND THE WORLD. (3) I, II, S Staff
Meets Social Studies requirements. Comparative study of Eskimo, Navajo, and Baganda as preliterate, primitive societies in difficult environments. Same as Geography and Sociology 3a.

11 ANTHROPOMETRY. (2) I, S Snow
A laboratory course teaching the technique of measuring and describing the human body or skeleton from anatomical landmarks with emphasis upon the practical application to human engineering.

60 PRIMITIVE INVESTIONS. (3) I Essene
Ancient and modern inventions of primitive peoples. Theoretical approach combined with handling and manufacturing artifacts. *Prereq: Anthro. 2.*

103a-d INDEPENDENT WORK IN ANTHROPOLOGY. (3 ea.) I, II, S Staff
Prereq: Major and a standing of 2.0 in the dept.

107 ETHNOLOGY OF THE NEW WORLD. (3) II Essene
Cultures and physical types of the American Indians during and after White settlement. (Northwestern North America is not included.)

111 ARCHAEOLOGICAL THEORY AND METHOD. (3) II Thompson
The concepts and aims of archaeology, its history as a scientific discipline and its present role in the social sciences. Attention to basic principles in field work, and to recent advances.

112 ARCHAEOLOGY OF KENTUCKY. (3) II, S Thompson
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.

114 PREHISTORIC MESO-AMERICA AND PERU. (3) I Thompson
An intensive study of the native American civilizations, their origins, development, and achievements.

115 NORTH AMERICAN ARCHAEOLOGY. (3) I Thompson
Origin and growth of prehistoric American Indian cultures north of Mexico as revealed by archaeological data.

116 BEGINNINGS OF CIVILIZATION. (3) I Thompson
Prehistory of the near East, the earliest evidences of agriculture, pastoralism, pottery, smelting, writing, law codes, irrigation, astronomy, kingships, building of stone, priesthood, temples, coined money. *Prereq: One course in Anthro.*

117 DIFFUSION OF CIVILIZATION. (3) II Essene
Prehistory of the Far East, Europe, and Negro Africa and ethnology of primitive tribes in these areas. The spread of Near Eastern civilization provided the basis for higher culture developments. *Prereq: Anthro. 116 or equivalent course on the Near East.*

118 CULTURES OF THE SOUTHWESTERN UNITED STATES. (3) II Thompson
Development of sedentary and nomadic Indian peoples, from earliest times to the present. Emphasis on Puebloan, Mogollon, and Hohokam archaeology and continuity with modern Indians.

125 PHYSICAL ANTHROPOLOGY. (4) II Snow
A lecture-laboratory course on the biological nature of man. The fields of the primates, fossil man, races, race culture, constitutional anthropology and human growth with supplementary laboratory exercises will be covered. *Prereq: Anthro. 1 or 3 hours in any other Biol. Sci.*

126 HUMAN ANCESTRY. (4) I Snow
A lecture-laboratory course on human origins and the fossil remains of Pleistocene man throughout the world. The lineage, formation and inter-breeding of modern racial groups will be stressed. *Prereq: Anthro. 125 or special permission.*

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. *Prereq: Anthro. 1 and 2.*

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* Open to Freshmen.

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. *Prereq: Anthro. 1 and 2.*

140 MYTHOLOGY. (3) II — Essene
The unwritten literature of primitive peoples. Themes, diffusion, style, literary devices, and function of myths.

141 APPLIED ANTHROPOLOGY. (3) II — Essene
Application of anthropological methods to contemporary practical problems such as acculturation, colonial administration, intercultural education, and race relations. *Prereq: Anthro. 2.*

142 CULTURE AND PERSONALITY. (3) I — Essene
The cultural basis of personality. Personal character considered as the result of culturally fostered patterns. The ideal personality in several selected societies. (Also listed as Sociology 142.)

150a-d TUTORIAL SEMINAR. (2 ea.) I, II, S — Staff
Anthropological methods and theory. *Prereq: Major in anthropology.*

180 ANTHROPOLOGY: MAN AND HIS WORKS. (3) I, S — Staff
Survey of the major fields of anthropology, physical, prehistory, and ethnology and a guide to source material. Designed for students not contemplating further work in anthropology.

201a, b SEMINAR. (2 ea.) I, II, S — 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.

203a, b RESEARCH PROBLEMS IN ANTHROPOLOGY. (3 ea.) I, II, S — Staff
Intensive study in the fields of Physical Anthropology, Archaeology and Ethnology with qualified staff members. Term papers required.

ART

Donald L. Weismann, Clifford Amyx, C. Raymond Barnhart, Anne W. Callihan, Anne G. Green, Edward W. Rannells, and Janis Sternbergs.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

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.

Requirements for a Major. Prerequisites: Art 30 and 61 (drawing), 62 (design), 35 or 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.

Requirements for a Major in Art Education. Prerequisites: Art 30 and 61, 62. *Required:* A minimum of 18 credits in Art — Art 10a, b, 36, 65a, 65b or 64a, 143, 157 — and 22 credits in Education — Edu. 16, C44, 105, 110, 142, C147.

°30 INTRODUCTION TO ART. (2) I, II — Staff
(1) Forms of art (2) essentials of design, theory of color, analysis of forms. Given in illustrated lectures, assignments, notebooks and reports. Required of all prospective majors in art.

Drawing and Painting

°51a PAINTING. (For non-art majors) (2) I, II, S — Sternbergs
A general studio course for students not intending to major in art. Study of color, form, and space as expressive elements in the making of pictures. Instruction in the various media: pastel, water-color, tempera, oil. Six studio hours.

*51b PAINTING. (For non-art majors) (2) I, II — Sternbergs
Continuation of 51a. Six studio hours.

*61 ELEMENTARY DRAWING. (2) 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. Six studio hours.

63 INTERMEDIATE DRAWING. (2) I, II — Sternbergs
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. *Prereq: 65a.*

65a PAINTING. (3) I, S — Amyx and Barnhart
Fundamental procedures in oil painting. Introduction to the material. Basic principles of space and color construction through still life and landscape. Nine studio hours. *Prereq: 61, 62.*

65b PAINTING. (3) I, II, S — Amyx and Barnhart
Continuation of 65a. Nine studio hours.

116a PRINTMAKING. (2) I, II — Sternbergs
Technical instruction in printmaking processes: lithography, etching, wood cut. Six studio hours. *Prereq: 65a and 63.*

116b PRINTMAKING. (2) I, II — Sternbergs
Continuation of 116a. Six studio hours.

165a INTERMEDIATE PAINTING. (3) I, II, S — Amyx
Advanced problems in space and color construction. Introduction to figure and portrait. Individual development of basic painting procedures. Nine studio hours. *Prereq: 63, 65b.*

165b INTERMEDIATE PAINTING. (3) I, II, S — Amyx
Continuation of 165a. Nine studio hours.

167 PROFESSIONAL PAINTING TECHNIQUES. (3) I, II — Amyx
Advanced problems in painting media. Historical and contemporary procedures. Open only to advanced students. Nine studio hours. *Prereq: 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.

Design

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

*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) I, II, S — Barnhart
Wood carving in the round. Individual expression controlled by design principles. Nine studio hours. *Prereq: 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. *Prereq: 64a.*

66 DESIGN IN DECORATION. (3) I, II — Green
Interior design; problems in color; projects in textile design, ornament, etc., adapted to the individual. Nine studio hours. *Prereq: 61, 62.*

68a GRAPHIC DESIGN. (2) I, S — Barnhart
Basic training in the design of printing, lettering, illustration; layout and presentation. Six studio hours. *Prereq: 29, 63.*

68b GRAPHIC DESIGN. (2) II, S — Barnhart
Continuation of 68a. Individual problems for actual use in posters, publications, advertising, etc. Six studio hours. *Prereq: 68a.*

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* Open to Freshmen.

179a-d INDEPENDENT WORK: DESIGN, CONSTRUCTION. (3 ea.) I, II Staff
Individual research and experimental work in technical and theoretical problems of design and construction of forms, including sculpture. Each semester's work is subject to review by the staff. *Prereq: Major and a standing of 2.0 in the dept.*

History of Art

35 ANCIENT ART. (2) I
The art in the ancient cultures of the Mediterranean and West-Asian world through Greek and Roman times. Emphasis on classical art. Illustrated lectures, conferences, and reports.

36 MEDIEVAL ART. (2) II
The art of Byzantium and the near East and of the Latin and Germanic cultures in the West; Romanesque and Gothic art in northern Europe. Emphasis on Christian art. Illustrated lectures, conferences, and reports.

46 THE DECORATIVE ARTS. (2) II Green
A survey of the decorative arts, with special reference to the major styles developed in France and England in the eighteenth and early nineteenth centuries. Illustrated lectures, discussions, and reports.

138 RENAISSANCE IN THE NORTH. (2) I
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.

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.

141 BAROQUE ART. (3) II
The arts of the Reformation and Counter-Reformation in Europe from the mid-sixteenth century in Italy through the eighteenth century in France and Germany. The Baroque and Rococo styles; study of individual masters. 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 in relation to art; study of 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; study of individual artists. Illustrated lectures and reports.

145a HISTORY OF ARCHITECTURE. (2) I Rannells
A survey of architectural developments from ancient times through the 18th century. Analysis of Classical, Medieval, Renaissance, and Baroque styles. Illustrated lectures and reports.

145b HISTORY OF ARCHITECTURE. (2) II Rannells
A study of modern architecture, 19th and 20th centuries. Emphasis on contemporary developments. 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. Illustrated lectures and reports.

151 CRITICISM OF ART. (3) II Amyx
Analyses, interpretations, evaluations. Fundamentals of æsthetics 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.

153 AESTHETICS. (3) I Amyx
Problems of method in æsthetics; major types of æsthetic theory. Aesthetic materials of the arts, in literature, music, and the space arts. Form and types of form. Meaning in the arts. Interrelations of the arts. Lectures, discussions, reports.

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. The seminar is prerequisite to the comprehensive examination required for graduation.

175a-d INDEPENDENT WORK: HISTORY, CRITICISM. (3 ea.) Staff
Individual research and writing: history, criticism, æsthetics, etc. Collaboration with other humanistic disciplines. Each semester's work is subject to review by the staff. Open only to advanced students.

Art Education

10a PUBLIC SCHOOL ART. (2) I, II, S Weismann
Essentials in art: elementary skills in drawing, design, and lettering. For students in elementary education, to meet teaching certificate requirements. Lectures, four studio hours, weekly problems.

10b PUBLIC SCHOOL ART. (2) I, II, S Weismann
Application of art essentials to the teaching of art in the elementary grades. For students in elementary education, to meet teaching certificate requirements. Lectures, four studio hours, weekly problems.

155 ART IN ELEMENTARY SCHOOLS. (2) II
An advanced course for in-service teachers in elementary schools. Programs of instruction related to the development levels of vision and expression in the child. Lectures, conferences, studio work, and reports.

157 ART IN SECONDARY SCHOOLS. (3) S Amyx and Rannells
Art for teachers in secondary schools. The literature of art education. Courses of study. Teaching materials. Lectures, conferences, and reports.

BACTERIOLOGY

Morris Scherago, Ogden F. Edwards, L. C. Harrison, Margaret Hotchkiss, James C. Humphries, Elmer S. Maxwell, Robert S. Weatherwax, and R. H. Weaver.

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: 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.

Courses 52 or 102 may be taken to fulfill the requirements of students in the College of Agricultural and Home Economics, and by premedical students.

*2a ELEMENTARY MICROBIOLOGY. (4) I, II Weaver and Weatherwax
The fundamental nature of bacteria and other microorganisms. Morphology of microorganisms. Recommended for Bacteriology majors and for those taking Bacteriology to fulfill a biological science requirement. Lecture, two hours; lab, four hours.

*2b ELEMENTARY MICROBIOLOGY. (4) I, II Weaver and Weatherwax
Continuation of 2a. A cultural study of bacteria. Microbial physiology. Relationship of microorganisms to soil fertility, foods, industrial fermentations, disease, etc. Lecture, two hours; lab, four hours. *Prereq: Bact. 2a.*

*6a BACTERIOLOGY FOR NURSES. (4) I, II, S Scherago and Hotchkiss
A study of the charateristics and habits of microorganisms and of their relation to medicine, surgery, and public health. Lecture and recitation, two hours; lab, 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; lab, two hours.

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* Open to Freshmen.

52 PRINCIPLES OF BACTERIOLOGY. (4) I, II, S Scherago or Edwards and others
Lecture and recitation, two hours; lab, four hours. (An alternative course for students who do not have the prerequisites for 102.) *Prereq. or concurrent: Chem. 1b or 4b.*

56 BACTERIOLOGY OF FOODS. (For Sophomores.) (4) I, S Weaver and Humphries
Dairy and miscellaneous food products; food preservation; food poisoning. Standard methods for official food and public health laboratories. Lecture, two hours; lab, four hours. *Prereq: Bact. 102 or 52; or 2b and Chem. 1b.*

57 BACTERIOLOGY OF WATER AND SEWAGE Weaver and Humphries
(For Sophomores.) (4) II, S
Microbiology of water; methods of purification. Sewage disposal methods. Operation of swimming pools. Standard and other methods for examination. Lecture, two hours; lab, four hours. *Prereq: Bact. 102 or 52; or 2b and Chem. 1b.*

102 GENERAL BACTERIOLOGY. (4) I, II, S Scherago or Hotchkiss and others
Microorganisms; their morphology, classification, physiology, relation to certain fermentations, to food, to soil fertility, and to disease. Lecture and recitation, two hours; lab, four hours. *Prereq: Chem. 1b or 4b.*

103 PATHOGENIC BACTERIOLOGY. (4) I, S Scherago and Humphries
Human and animal pathogenic microorganisms, especially their morphological, cultural, and pathogenic properties. Lectures, two hours; lab, four hours. *Prereq: Bact. 102 or 52; or 2b and Chem. 1b.*

104 APPLIED BACTERIOLOGY. (2) I, II, S Hotchkiss and others
A course in bacteriological analysis to supplement Courses 52 and 102. Lab, four hours. *Prereq: Bact. 102 or 52; or 2b and Chem. 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. Lab, six hours. *Prereq: Preceded or accompanied by Bact. 103.*

110b LABORATORY DIAGNOSIS. (3) II, S Hotchkiss
Continuation of 110a. Examination of blood continued. Laboratory diagnosis of parasitism and infectious diseases. Lab, six hours. *Prereq: Preceded or accompanied by Bact. 103.*

111 GENERAL PATHOLOGY. (4) I, S Scherago, Maxwell, and Hotchkiss
Effects of disease are studied at autopsies and by the examination of fresh and museum specimens and histological sections. Lecture, two hours; lab, four hours. *Prereq: Anat. and Physiol. 10; Zool. 7b, 101b, and 106; Bac. 103.*

115a-f INDEPENDENT WORK. (3 ea.) I, II, S Staff
Students are assigned special problems in laboratory work and reference reading. Lab, six hours. *Prereq: Major and a standing of 2.0 in the department.*

120a, b HOSPITAL LABORATORY PRACTICE.
(4, 6) I, II, S Maxwell, Harrison, and others
Students are required to carry out, under supervision, the laboratory work in one of the hospitals in Lexington. Lab, twelve hours, and eighteen hours, respectively. *Prereq: Bact. 110a and 110b.*

125 IMMUNOLOGY AND SEROLOGY. (5) II, S Scherago and Humphries
The theories and mechanism of infection and immunity; preparation, standardization, and uses of biological products; serology. Lectures, two hours; lab, six hours. *Prereq: Bact. 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
Lab, ten hours.

203a PUBLIC HEALTH BACTERIOLOGY. (3) I, S Scherago and others
Public health aspects of bacteriology including the etiology, epidemiology, immunology, and lab. diagnosis of infectious diseases. Lectures, one hour; lab, four hours. *Prereq: Open only to physicians and health officers or those with equivalent training.*

203b PUBLIC HEALTH BACTERIOLOGY. (3) II, S Scherago and others
Continuation of 203a. Lectures and recitations, one hour; lab, four hours. *Prereq: Bact. 203a.*

206 BACTERIOLOGY OF FOODS. (4) I, S Weaver and Humphries
Dairy and miscellaneous food products; food preservation; food poisoning. Standard methods for official food and public health laboratories. Lecture, two hours; lab, four hours. *Prereq: Bact. 102 or 52; or 2b and Chem. 1b.*

207 BACTERIOLOGY OF WATER AND SEWAGE. (4) II, S Weaver and Humphries
Microbiology of water; methods of purification. Sewage disposal methods. Operation of swimming pools. Standard and other methods for examination. Lecture, two hours; lab, four hours. *Prereq: Bact. 102 or 52; or 2b and Chem. 1b.*

210 CLINICAL MYCOLOGY. (2) I, S Hotchkiss
Methods and techniques for isolating and propagating pathogenic actinomycetes and fungi. Laboratory diagnosis of fungous infections. Lab, four hours. *Prereq: Chem. 13b; reading knowledge of one foreign language; Bact. 125.*

220 HISTORY OF BACTERIOLOGY. (2) II, S Weaver
Conferences, two hours. *Prereq: Bact. 125.*

222 ADVANCED GENERAL BACTERIOLOGY. (4) I, S Weaver
Bacterial cytology; theories of staining. Microbial genetics. Taxonomy and nomenclature. Lectures and conferences, two hours; lab, four hours. *Prereq: Bact. 125 and Chem. 130a, b.*

224 DISINFECTANTS AND ANTIBIOTICS. (3) II, S Hotchkiss
Chemical agents injurious to microorganisms. Practical applications and methods of testing. Conferences, one hour; lab, hour hours. *Prereq: Bact. 2b, or 52 and 104; Chem. 130b.*

226a METABOLISM OF MICROORGANISMS. (4) I Weatherwax
Chemical changes produced by microorganisms; properties of their enzymes; the physiology of their growth. Lectures or conferences, two hours; lab, four hours. *Prereq: Chem. 130b; reading knowledge of German or French.*

226b METABOLISM OF MICROORGANISMS. (4) II Weatherwax
Continuation of 226a. Lectures or conferences, two hours; lab, four hours. *Prereq: Bact. 226a.*

235 IMMUNOCHEMISTRY AND ADVANCED IMMUNOLOGY. (4) II, S Scherago or Humphries
Chemistry of antigens and antibodies; of the reaction between them *in vitro* and *in vivo;* immune and hypersensitive reactions. Lectures and conferences, two hours; lab, four hours. *Prereq: Bact. 125b; Chem. 130b and 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) II, S Edwards
Theory, operation and uses of the magnetic electron microscope and the vacuum unit for metal shadow casting. Lecture, one hour; lab, four hours. *Prereq: Physics 3a and 3b.*

272 VIRUSES AND RICKETTSIAE. (4) I, S Edwards
Natures, activities, and methods of laboratory cultivation of viruses and rickettsiae; their relation to bacteria, plants, and animals. Lectures, two hours; lab, four hours. *Prereq: Bact. 125.*

BOTANY

Herbert P. Riley, Richard A. Chapman, Carl E. Henrickson, Frank T. McFarland, and Berthus B. 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. Prerequisites: 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. Cells and tissues; the structure and functions of the root, stem, and leaf; reproduction in flowering plants. Two lectures and two two-hour lab periods per week.

*2 PLANT KINGDOM. (3) Staff
Structure, life cycles, and biological relationships of typical lower plants and gymnosperms. Two lectures and one two-hour lab period per week. *Prereq: Botany 1 or 25.*

15 LOCAL FLORA. (Systematic Botany) (3) II McInteer
A course designed to teach beginners how to identify unknown vascular plants. Introductions on use of manuals, herbarium and principles of taxonomy. Six hours of lab per week. *Prereq: Botany 1 or 25.*

19 DENDROLOGY. (2) I, II McInteer
Primarily a field course in which a student is taught how to identify and recognize trees by their bark, bud and leaf characters. Summer and winter conditions studied. Two lectures per week. *Prereq: Botany 1 or 25.*

*25 GENERAL PLANT BIOLOGY. (3) I, II, S Staff
The principles underlying the structure and functions of green plants; reproduction. Three lectures per week. *No prereq.*

40 THE ORIGIN OF CULTIVATED PLANTS. (3) II Riley
Archaeological, historical, and biological evidence for the place and time of origin of many plants useful to man and the relation of these plants to ancient centers of civilization. Three lectures per week.

103 PLANT PHYSIOLOGY. (4) I Henrickson
A study of basic principles of plant physiology; water relations including internal movement, transpiration, and absorption; photosynthesis. Two lectures and two two-hour lab periods per week. *Prereq: Bot. 1 or 25, Chem. 1b or 4b or equivalents.*

104 PLANT PHYSIOLOGY. (4) II Henrickson
A study of elementary metabolism; mineral nutrition; plant hormones; the physiology of vegetative and reproductive growth. *Prereq: Bot 1 or 25, Chem. 1b or 4b or equivalents.*

106a-c SPECIAL PROBLEMS. (3 ea.) I, II Staff
Independent work in some phase of advanced Botany. *Prereq: Eighteen 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 lab periods per week. *Prereq: Six credits of botany.*

114 ECOLOGY. (4) II McInteer
The relationships existing between plants and their various factors of environment. Three lectures and one two-hour lab period per week. *Prereq: Six credits of botany.*

115a, b SEMINAR. (1 ea.) I, II Staff
Readings and reports on special topics. Required of all senior botany majors.

124 ANATOMY OF VASCULAR PLANTS. (4) II Riley
The nature and origin of primary and secondary tissues and their distribution in plant organs. Three lectures and one two-hour lab period per week. *Prereq: Six credits of Botany.*

125 MYCOLOGY. (4) I Chapman
The structure, relations, and physiology of the fungi and their relations with and effects on other plants and animals. Two lecture-discussions and two two-hour lab periods per week. *Prereq: Botany 1 or its equivalent.*

126 ADVANCED MYCOLOGY. (4) II Chapman
Detailed examination of the structure and physiology of specific groups of fungi that are of economic importance. Two lecture-discussions and two two-hour lab periods per week. *Prereq: Botany 125 or its equivalent and consent of instructor.*

130 INTRODUCTION TO HEREDITY. (3) I, II, S Riley
Chromosomal cytology and the principles of heredity; three lectures per week. *Prereq: 3 credits in the Biological Sciences.*

132 GENES AND THEIR ACTION. (3) I Riley
The nature and action of genes. Physiological genetics. Three lectures per week. *Prereq: Botany 130 or equivalent.*

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* Open to Freshmen.

134 CYTOGENETICS. (4) II Riley
Chromosome aberrations and their importance in heredity and evolution. Three lectures and one two-hour lab period per week. *Prereq: Botany 130 or equivalent.*

150a ADVANCED SYSTEMATIC BOTANY. (3) I Staff
Qualified students will study assigned family groups from the standpoint of relationships. A detailed study of keys and various systems of Taxonomy. One lecture and two two-hour lab periods per week. *Prereq: Botany 15 or equivalent.*

150b ADVANCED SYSTEMATIC BOTANY. (3) II Staff
A continuation of Botany 150a. One lecture and two two-hour laboratory periods per week. *Prereq: Botany 150a.*

160 PLANT MICROTECHNIQUE. (3) II Staff
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 lab periods per week. *Prereq: Six credits of botany.*

206a, b RESEARCH IN PLANT MORPHOLOGY. (4, 4) Staff
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) Staff
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) Henrickson
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) McInteer
Graduate students may carry on independent work that may be used in the preparation of their theses. *Prereq: Botany 150b.*

215a, b RESEARCH IN CYTOGENETICS. (4, 4) Riley
Independent investigations in cytogenetics and radiation genetics. In connection with his investigations, the student will be expected to master the literature and present a report.

235 PLANT CYTOTAXONOMY. (3) I Riley
Cytogenetic, geographical, ecological, and other factors that have influenced the origin and development of species of plants. Three lectures per week. *Prereq: Botany 15 and 134 or equivalents.*

500-1, 2, 3 THESIS. (0) Staff

CHEMISTRY

Lyle R. Dawson, Donald P. Ames, Charles Barkenbus, Rodney E. Black, Frank Brower, David S. Byrd, Paul R. Caudill, Paul W. Davis, Jr., James W. Drenan, John Drenchko, Peter Drenchko, Richard H. Graves, Ellwood M. Hammaker, LeRoy Jackopin, Joseph E. Koles, Charles J. Korpics, Eugene C. Martin, Jacob R. Meadow, John R. Mitchell, John M. Patterson, William K. Plucknett, Paul G. Sears, Walter T. Smith, Jr., Olus J. Stewart, George R. Vogel, William F. Wagner, John R. Wilson, and Richard Wolford.

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 of juniors and seniors as majors in the Department of Chemistry is restricted to students having a grade-point average of 1.0 or higher in all chemistry courses.

Requirements for the degree, A.B. with a major in Chemistry

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

Requirements for a Major. Prerequisites: Chemistry 1a and 1b, 22 or 25a. *Required:* Chemistry 130a, b, 143 or 140a, b with 144a, b; Physics 1a, b or 3a, b, and sufficient additional courses in physical and biological sciences to satisfy the requirements in the field of concentration.

Requirements for the degree, B.S. with a major in Chemistry

Requirements in the Field of Concentration: Forty credits of advanced work in the field of physical sciences during the junior and senior years, including the major work.

Requirements for a Major. Prerequisites: Chemistry 1a, 1b, 25a, 25b, mathematics through the calculus, and two years of German. *Required:* 130a, 130b, 133, 140a, 140b, 144a, 144b, 110a, 110b, 111, 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 an eight-dollar chemical breakage punch card which is valid until exhausted, or for a period of two years. It becomes invalid two years after the date it is issued. Refund of the unused portion of the deposit on a valid card may be obtained after 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 brief study of the qualitative analysis scheme for the metallic ions. Lectures, two hours; recitation, one hour; lab, four hours. *Prereq: 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 are given special emphasis. Lectures, two hours; recitation, one hour; lab, two hours. *Prereq: Proficiency in arithmetic and algebra.*

*3 CHEMISTRY FOR NURSES. (5) I, II — Patterson
This course deals with those general principles of chemistry which give the necessary foundation for practical work in nutrition, materia medica, and other subjects. Lecture and recitation, three hours; lab, four hours.

*4a, b GENERAL CHEMISTRY FOR STUDENTS IN AGRICULTURE AND HOME ECONOMICS. (4, 4) I, II, S — Staff
Subject matter similar to 1a, b, with emphasis on topics of importance to students in the College of Agriculture. Lectures, two hours; recitation, one hour; lab, two hours. *Prereq: Proficiency in arithmetic and elementary algebra.*

22 ANALYTICAL CHEMISTRY. (5) I, II, S — Hammaker
An introduction to the theory and practice of qualitative analysis and the general principles and methods of quantitative analysis. Lectures, two hours; lab, six hours. *Prereq: Chem. 1b, 2b, or 4b.*

25a, b ANALYTICAL CHEMISTRY. (5, 5) I, II — Wagner
Fundamental course in qualitative and quantitative analysis including theories and calculations. Lectures, two hours; lab, six hours. *Prereq: Chem. 1b, 2b, or 4b.* (Primarily for students seeking B.S. degrees in Chemistry or Industrial Chemistry.)

* Open to Freshmen.

30a, b ORGANIC CHEMISTRY. (5, 5) I, II, S Barkenbus
Lectures, three hours; lab, four hours. *Prereq: Chem. 1b or 2b.*

37 ORGANIC CHEMISTRY. (4) I, II, S Patterson
An elementary course for non-professional students. Lectures, three hours; lab, two hours. *Prereq: Chem. 1b, 2b, or 4b.*

110a, b ADVANCED INORGANIC CHEMISTRY. (2, 2) I, II, S Ames
A systematic course in inorganic chemistry with especial emphasis upon the preparation and reactions of various types of inorganic compounds. Lectures, two hours. *Prereq: Quantitative analysis and organic chemistry.*

111 ADVANCED INORGANIC LABORATORY. (1) II, S Ames
Laboratory exercises are chosen to illustrate the methods of preparation of the different classes of inorganic compounds, and to provide training in the newer techniques in the field. *Prereq: Chem. 110a.*

122 INSTRUMENTAL ANALYSIS. (3) II, S Wagner
The applications of microscopic, colorimetric, spectrophotometric, polarographic, and electrometric methods. Lecture, one hour; lab, six hours. *Prereq: Chem. 25b.*

125 ADVANCED QUANTITATIVE ANALYSIS. (3) I Wagner
The complete analysis of a silicate mineral or ore, and the alloys of iron, copper, and aluminum. Lecture, one hour; lab, six hours. *Prereq: Chem. 25b.*

130a, b ORGANIC CHEMISTRY. (5, 5) I, II, S Barkenbus and Smith
A systematic study of organic compounds. Lectures, three hours; lab, four hours. *Prereq: Chem. 1b or 2b.*

133 QUALITATIVE ORGANIC ANALYSIS. (3) I, S Barkenbus and Smith
A systematic study of the separation and identification of organic compounds. Lecture, one hour; lab, six hours. *Prereq: Chem. 130b, or 30b.*

136 SYNTHETIC ORGANIC CHEMISTRY. (3) II, S Barkenbus
A critical comparison of preparation methods accompanied by laboratory work and reports. Lab, nine hours. *Prereq: Chem. 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, three hours. *Prereq: Analytical Chem., Mathematics 20b and Physics 3b.*

141 CHEMICAL THERMODYNAMICS. (3) II Plucknett
Principles and applications of chemical thermodynamics. Lectures, three hours. *Prereq: Chem. 140b.*

143 PHYSICAL CHEMISTRY. (5) I Drenan
For students in Agriculture and the Biological Sciences. Lectures and recitations, three hours; lab, six hours. *Prereq: Chem. 1b or 4b, and 37; Physics 1b.*

144a, b PHYSICAL CHEMISTRY LABORATORY. (2, 2) I, II, S Drenan
Laboratory studies in physical chemistry to accompany 140a, b. Lab, six hours. *Prereq: Quantitative Analysis, Mathematics 20b, Physics 3b.*

145 COLLOID CHEMISTRY. (2) II Black
Lectures, recitations, and assigned readings on the chemistry of colloids. Lectures and recitations, two hours. *Prereq: Chem. 140b.*

147a, b PHYSICAL CHEMISTRY FOR ENGINEERS. (4, 4) I, II Dawson and Drenan
The principles of physical chemistry are studied with emphasis upon the application of these in mining and metallurgical engineering. Lectures and recitations, three hours; lab, three hours. *Prereq: Chem. 22, Mathematics 20b, and Physics 3b.*

150a, b PHYSIOLOGICAL CHEMISTRY. (4, 4) I, II Smith
A study of the chemistry of living processes. Lectures and recitations, three hours; lab, three hours. *Prereq: Chem. 1b or 4b, 25a and 130b.*

160a, b INDUSTRIAL CHEMICAL PROCESSES AND STOICHIOMETRY. (2, 2) I, II Meadow
A survey of the chemistry of various manufacturing processes, with some emphasis on calculations involving stoichiometrical relationships. Lectures, two hours. *Prereq: Chem. 140b.*

164a, b INDUSTRIAL CHEMICAL PRINCIPLES. (2, 2) I, II Plucknett
Fundamental principles applied to problems in industrial chemistry and chemical engineering. Lectures, two hours. *Prereq: Chem. 140b.*

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

182 LABORATORY ARTS. (2) I, II
The fabrication of chemical apparatus of glass, metal, and plastics. *Prereq: Major in the Department of Chemistry with Junior standing.*

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

215a, b RADIOCHEMISTRY. (2, 2) I, II — Ames
The chemistry of the radioactive elements and other substances involved in nuclear reactions. Lectures, two hours. *Prereq: Chem. 140b.*

220 ADVANCED QUALITATIVE ANALYSIS. (3) I — Wagner
A study of qualitative analysis for the anions and the separation and detection of the less common elements, employing a physico-chemical method of approach to the theory of separation. Lectures, one hour; lab, six hours.

221 SEMIMICRO QUANTITATIVE ANALYSIS. (3) — Hammaker
The applications of semimicro and micro techniques to the quantitative analysis of both organic and inorganic substances. Lectures, one hour; lab, four hours. *Prereq: Chem. 140b.*

223 OPTICAL METHODS OF ANALYSIS. (2) — Hammaker
An intensive study of the theory and applications of each of the following methods: emission spectroscopy, absorption spectrophotometry, colorimetry, refractometry, and polarimetry. Laboratory, six hours. *Prereq: Chem. 122 and 140b.*

227 MISCROSCOPIC ANALYSIS. (2)
Qualitative and semi-quantitative analysis of microgram amounts of various cation groups in a single drop under a microscope. Lab, six hours. *Prereq: Chem. 25b.*

228 PRINCIPLES OF ANALYTIC CHEMISTRY. (3) II — Wagner
An advanced study of the theory and practice of quantitative analysis. Lectures and discussions, three hours. *Prereq: Chem. 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. Lectures, two hours. *Prereq: Chem. 130b.*

232 STEREOISOMERISM OF CARBON COMPOUNDS. (3) II — Smith
Optical isomerism; polarimetry; stereochemistry of biphenyls and related compounds; cistrans isomerism; and stereochemistry of the sugars. Lectures, three hours. *Prereq: Chem. 130b.*

234 THE ELECTRONIC THEORY AS APPLIED TO ORGANIC REACTIONS. (2) I — Patterson
A study of the modern viewpoints of valence and their application to the interpretation of organic reactions. Lectures, two hours. *Prereq: Chem. 130b and 140b.*

238 PRINCIPLES OF ORGANIC CHEMISTRY. (4) I — Barkenbus
A general survey of the field of organic chemistry. Lectures, four hours. *Prereq: Chem. 130b or equivalent.*

244 PHASE RULE. (2) II — Sears
Lectures and assigned readings on the theory and applications of the phase rule. Lectures, two hours. *Prereq: Chem. 140b.*

246 CHEMICAL KINETICS. (3) — Plucknett
Studies of chemical reactions from the standpoint of velocity and mechanism. Lectures, three hours. *Prereq: Chem. 140b.*

248 PRINCIPLES OF PHYSICAL CHEMISTRY. (4) I — Black
An advanced course dealing with the fundamental principles of physical chemistry. *Prereq: College physics, integral calculus, and one course in physical chemistry.*

288a-h GRADUATE SEMINAR. (1 ea.) 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.

310 TOPICS IN INORGANIC CHEMISTRY. (2) II Ames
The chemistry of the rare earths and other less common elements. Selected topics dealing with recent advances in the field. Lectures, two hours. *Prereq: Chem. 110b.*

314 NON-AQUEOUS SOLUTIONS. (2) II Sears
A study of the properties of non-aqueous solutions and reactions in non-aqueous media. Lectures, two hours. *Prereq: Chem. 140b.*

322 ELECTRICAL METHODS OF ANALYSIS. (2) I Wagner
The theory and application of potentiometric, polarographic, and conductometric measurements. Lectures, one hour; lab, three hours. *Prereq: Chem. 122 and 140b.*

335 MOLECULAR REARRANGEMENTS. (2)
A study of the various mechanisms which have been proposed for reactions which produce change in the structural arrangement of the molecule. Lectures, two hours. *Prereq: Chem. 234.*

336 HETEROCYCLIC COMPOUNDS. (2)
Occurrence, preparation, and properties of cyclic compounds containing oxygen, sulfur, and nitrogen. Lectures, two hours. *Prereq: Chem. 130b.*

339a, b TOPICS IN ORGANIC CHEMISTRY. (2, 2) I, II Staff
Selected topics which may include heterocyclic organic compounds, natural and synthetic dyes, carbohydrates, nitrogen compounds, and other recent advances in the field of organic chemistry. Lectures, two hours. *Prereq: Chem. 130b.*

340 ELECTROCHEMISTRY. (3) I Black
Modern theories of solutions. Applications of electrochemical methods in determining the properties of solutions. Polarization. Electrolysis. Equilibrium in solutions of electrolytes. Lectures, three hours. *Prereq: Chem. 140b.*

341 QUANTUM CHEMISTRY. (2) Drenan
An introduction to quantum mechanics with emphasis on the aspects closely related to chemistry. *Prereq: Chem. 140b and differential equations.*

342 STATISTICAL THERMODYNAMICS. (2) Drenan
The study of chemical thermodynamics from the viewpoint of the statistical treatment of systems rather than from the empirical classical approach. *Prereq: Chem. 141 and differential equations.*

349a, b TOPICS IN PHYSICAL CHEMISTRY. (2, 2) Staff
Selected topics which may include photochemistry, structure of crystals, molecular spectra, nature of the chemical bond, and other recent advances in the field of physical chemistry. Lectures, two hours. *Prereq: Chem. 140b and Mathematics 105a, b.*

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 foa a Major. Prerequisites: Economics 51 and 52. *Required:* A minimum of 18 credits of advanced work in Economics, including Tutorial course 167, which 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. 300 and include the following: 51 and 52—Principles of Economics; 102—Labor Economics; 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; 147—American Business Leaders; 148—European Business Leaders; 153—The Economics of Consumption; 154—Urban Real Estate; 155—Industrial Relations; 160—Business Combinations; 165—Comparative Economic Systems; 166—Personnel Problems; 167—Tutorial Work in Economics.

EDUCATION

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

ENGINEERING

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

ENGLISH, SPEECH, AND DRAMATIC ARTS

William S. Ward, Jacob H. Adler, Ben W. Black, Gifford Blyton, George K. Brady, Wallace N. Briggs, Allen B. Brown, Robert B. Challener, Theodore Cogswell, Arthur L. Cooke, Alfred L. Crabb, John L. Cutler, Lehre L. Dantzler, E. F. Farquhar, George P. Faust, Sheldon Grebstein, Leila G. Harris, Maurice A. Hatch, Matthew S. Hazelrigg, Robert D. Jacobs, William H. Jansen, Grant C. Knight, Jack W. Markden, Dougald McD. Monroe, Jr., Arthur K. Moore, Ernest L. Rhodes, Lolo L. Robinson, John Paul Runden, Hill Shine, Herman E. Spivey, J. Reid Sterrett, Thomas B. Stroup, Hollis Summers, Guy Whitehead, and Charles R. Woodard.

Requirements for a Major:

1. English: *Prerequisites:* 1a, 1b, 3a, and 3b.
2. Speech: *Prerequisites:* 1a, 1b, 3a, 3b, and 6.
3. Dramatic Arts: *Prerequisites:* 1a, 1b, 3a, 3b, 35 or 36, 6 or 32 or 38.

Required for an English major: A minimum of 24 additional credits of advanced work in English.

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

Requirements in Field of Concentration. Forty credits (in courses not open to freshmen) in the field of Literature, Philosophy, 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, imaginative literature is substituted for factual essays and articles. Elective for students recommended by their instructors and approved by a committee.

30 BUSINESS ENGLISH. (2) Cutler and others
Primarily for juniors and seniors in the Colleges of Commerce and Engineering. A study of the forms of business correspondence and practice in writing them. *Prereq: English 1a and 1b.*

° Open to Freshmen.

60 ADVANCED COMPOSITION. (3) Jacobs
A course intended for those who feel the need of further instruction and practice in writing. The emphasis is upon thoughtful organization of material and clear writing. *Prereq: English 1a and 1b.*

80 THE WRITING OF FICTION. (3) Summers
A course for those who wish to write fiction and to develop a critical appreciation of narrative writing. Analysis of models and student manuscripts. *Prereq: English 1a and 1b, and consent of the instructor.*

101 THE GRAMMAR OF STRUCTURE AND USAGE. (3) Faust
Descriptive grammar for advanced students. Analysis of sentence structure; consideration of standards of usage; investigation of current practice. *Prereq: English 1a and 1b.*

102 MODERN BRITISH AND AMERICAN ENGLISH. (3) Cutler
A survey of modern British and American English with respect to pronunciation, syntax, spelling, and usage. Historical developments will be examined insofar as doing so sheds light on modern practice. *Prereq: English 1a, 1b, 3a, 3b.*

117a WORKSHOP IN IMAGINATIVE WRITING. (2) Guthrie
Chief attention will be directed to the short story, but time will also be given to the novel. Manuscripts will be analyzed, but primary attention will be given to the theory and convention of fiction writing. *Prereq: English 1a, 1b, and/or consent of instructor.*

117b WORKSHOP IN IMAGINATIVE WRITING. (2) Guthrie
A continuation of English 117a. Emphasis on application of fictional techniques in student copy. Designed to bring about a fuller understanding of the conventions set forth in 117a and to bring practice closer to theory. *Prereq: English 117a and/or consent of instructor.*

203 OLD ENGLISH. (3) Moore
A study of Old English language and literature.

204 HISTORY OF THE ENGLISH LANGUAGE. (3) Cutler
A survey tracing the development of modern standard English from its Indo-European origin. Emphasis will be placed on the history of sounds, inflections, and vocabulary and the varying concepts of "correctness."

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. *Prereq: English 1a and 1b.*

3b SURVEY OF ENGLISH LITERATURE. (3) Staff
A study of major English writers of the 19th and early 20th centuries. English 3a is not a prerequisite for 3b, and either may be taken for credit without the other. *Prereq: English 1a and 1b.*

*4 INTRODUCTION TO LITERATURE. (3) Summers and others
An analytical rather than historical approach to literature, intended to deepen the student's insight into the nature and purpose of literature and to develop literary taste and judgment.

5a MAJOR AMERICAN WRITERS. (3) Spivey and others
The approach is æsthetic and analytical, rather than historical. Writers for the first semester are selected from these: Franklin, Irving, Poe, Longfellow, Hawthorne, Emerson, Thoreau, and Melville. *Prereq: English 1a and 1b.*

5b MAJOR AMERICAN WRITERS. (3) Spivey and others
Whitman, Twain, Howells, James, Frost, Robinson, Eliot, O'Neill, and Maxwell Anderson. 5a is not a prerequisite for 5b, and either may be taken without the other. *Prereq: 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. *Prereq: English 1a, 1b, 3a, 3b.*

105 CHAUCER. (3) Moore and Cutler
Extensive readings in the chief works of Chaucer with assigned problems relating to Chaucer and his age. *Prereq: English 1a, 1b, 3a, 3b.*

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* Open to Freshmen.

106a ENGLISH ROMANTIC POETRY. (3) Ward
The philosophical, critical, social, and political backgrounds of romanticism are examined. The emphasis is on Wordsworth, Coleridge, Byron, Shelley, and Keats. *Prereq: English 1a, 1b, 3a, 3b.*

106b ENGLISH ROMANTIC PROSE. (3) Ward
The novel, the essay, and literary criticism are studied. Special attention is given to Lamb, Hazlitt, DeQuincey, Scott, and Jane Austen, and to the critical prose of Wordsworth, Coleridge, and Shelley. *Prereq: English 1a, 1b, 3a, 3b.*

107a VICTORIAN POETS. (3) Shine
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. *Prereq: English 1a, 1b, 3a, 3b.*

107b VICTORIAN PROSE. (3) Shine
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. Prereq: English 1a, 1b, 3a, 3b.*

108a PRINCIPLES OF LITERARY CRITICISM. (3)
A course designed to show criticism as a growth and development in an historical survey and to give a corpus of opinion about literature. *Prereq: English 1a, 1b, 3a, 3b.*

108b PRINCIPLES OF LITERARY CRITICISM. (3)
A continuation of 108a, which is not prerequisite although desirable. *Prereq: English 1a, 1b, 3a, 3b.*

109 PRE-SHAKESPEARIAN DRAMA. (3) Stroup
A course in English origins, beginning with the *Quem Quaeritis Trope* and extending through the works of the early Elizabethans. *Prereq: English 1a, 1b, 3a, 3b.*

110a SHAKESPEARE: THE COMEDIES. (3) Hatch and Black
Shakespeare's comedies will be studied in detail. *Prereq: English 1a, 1b, 3a, 3b.*

110b SHAKESPEARE: THE TRAGEDIES. (3) Hatch and Black
A continuation of English 110a, with special attention to the great tragedies. *Prereq: 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. *Prereq: 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 from Dickens through Gissing. *Prereq: English 1a, 1b, 3a, 3b.*

116 THE CONTEMPORARY DRAMA. (3)
A course designed to show the development and tendencies in Continental, British, and American dramatic literature, 1850 to date. *Prereq: 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. *Prereq: English 1a, 1b, 3a, 3b.*

123b AMERICAN LITERATURE AFTER 1830. (3) Knight
The triumphant years of American romanticism, with especial attention to Emerson, Thoreau, Hawthorne, Melville, Poe, and Whitman. 123a is not a prerequisite. *Prereq: English 1a, 1b, 3a, 3b.*

124a ENGLISH LITERATURE: 1500-1600. (3) Stroup
Literature of the Elizabethan period exclusive of the drama. Foreign sources of the English Renaissance. Major writers such as More, Ascham, Wyatt, Sidney, Spenser, Raleigh, and Marlowe. *Prereq: English 1a, 1b, 3a, 3b.*

124b ENGLISH LITERATURE: 1600-1660. (3) Stroup
Selected non-dramatic works of such writers as Bacon, Donne, Ben Jonson, George Herbert, Izaak Walton, Herrick, Sir Thomas Browne, Vaughan, Traherne, and Milton. *Prereq: English 1a, 1b, 3a, 3b.*

127a LITERATURE OF THE BIBLE. (3)
The Old Testament is studied as a post-exilic, edited, body of literature. *Prereq: English 1a, 1b, 3a, 3b.*

127b LITERATURE OF THE BIBLE. (3)
The Wisdom Literature as humanistic. *Prereq: English 1a, 1b, 3a, 3b.*

130a COMPARATIVE LITERATURE. (3) Brady
Extensive reading of literary masterpieces from Homer to Montaigne. The readings are in English translations, but a reading knowledge of at least one foreign language is desirable. *Prereq: English 1a, 1b, 3a, 3b.*

130b COMPARATIVE LITERATURE. (3) Brady
From Montaigne to Anatole France. A continuation of English 130a, which is not prerequisite, although desirable. *Prereq: English 1a, 1b, 3a, 3b.*

131a-d INDEPENDENT WORK. (3 ea.) Staff
For advanced students of high standing. Each pursues a course independently, under the guidance of a staff member, writes a paper embodying the results of his study, and takes an examination. *Prereq: English 1a, 1b, 3a, 3b.*

133 THE DEVELOPMENT OF AMERICAN REALISM. (3) Knight
Traces American realism from Yankee and pioneer humorists through the local color school, leading novelists of the eighties and nineties, their contemporaries in drama and poetry, to writers of today. *Prereq: English 1a, 1b, 3a, 3b.*

143 EDGAR ALLEN POE. (3)
A comprehensive study of Poe's works, poetry, and prose. *Prereq: English 1a, 1b, 3a, 3b.*

145 ELIZABETHAN DRAMA, EXCLUSIVE OF SHAKESPEARE. (3) Stroup
A survey of English drama from the early Elizabethans until the closing of the theatres. *Prereq: 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. *Prereq: English 1a, 1b, 3a, 3b.*

148 A GENERAL INTRODUCTION TO FOLKLORE. (3) Jansen
An introduction—on a world-wide scope—to the types of folklore. Emphasis upon folklore as a cultural phenomenon in its own right and upon its relations to literary types. The development of the science of folklore. *Prereq: English 1a, 1b, 3a, 3b.*

149 AMERICAN FOLKLORE. (3) Jansen
A study of the major materials in American folklore. The use of this material in other forms. Experience in actual collecting and in the cataloging of materials. English 148 is not a prerequisite. *Prereq: English 1a, 1b, 3a, 3b.*

152 THE AGE OF POPE. (3) Cooke
Addison and Steele, Swift, Pope, Defoe, and other contemporary figures. *Prereq: 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 theatres in 1642 and the death of Sheridan. *Prereq: English 1a, 1b, 3a, 3b.*

155a CONTEMPORARY AMERICAN POETRY. (3)
An examination of the forces which have modified poetry in England and America since 1830; and a study of the major modern poets. *Prereq: English 1a, 1b, 3a, 3b.*

155b CONTEMPORARY BRITISH POETRY. (3)
A continuation of 155a, which is not prerequisite, although desirable. *Prereq: English 1a, 1b, 3a, 3b.*

156a THE MODERN AMERICAN NOVEL. (3)
Dreiser, Cather, Lewis, Hemingway, Wolfe, and Faulkner are emphasized. Novels chosen for their enduring value rather than historical importance; attention to shifting techniques of fiction and to contrasting interpretations of the American scene. *Prereq: English 1a, 1b, 3a, 3b.*

156b THE MODERN BRITISH NOVEL. (3)
A study of the content and technique of the best twentieth-century British novels, with some consideration of these in relation to significant social, philosophical, and literary trends. *Prereq: English 1a, 1b, 3a, 3b.*

165 THE LYRIC IN ENGLISH. (3) Moore
A course designed to trace the development of English lyrical poetry through the study of representative specimens, past and present. *Prereq: English 1a, 1b, 3a, 3b.*

180 ENGLISH COMPOSITION AND LITERATURE FOR TEACHERS. (3) Ward
The basic scholarly studies helpful to high school teachers of English. The teaching of grammar, punctuation, usage, etc.; of theme planning, correction, and revision; of reading factual and imaginative literature, with required explications. *Prereq: English 1a, 1b, 3a, 3b.*

205 SURVEY OF MIDDLE ENGLISH LITERATURE. (3) Cutler and Moore
Romance, drama, lyrics, and ballads.

206a-d SEMINAR: STUDIES IN THE ENGLISH ROMANTIC PERIOD. (3 ea.) Ward
Studies to be centered upon one of the following: a particular author or small group of authors, a literary *genre,* or a literary movement during the Age of Wordsworth.

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 ea.) Moore and Cutler
Studies in Old English poetry and prose. Cynewulf, Beowulf, Alfred and his circle, Middle English, Chaucer.

213a-d SEMINAR: STUDIES IN RESTORATION AND EIGHTEENTH CENTURY LITERATURE. (3 ea.) Cooke
Emphasis upon one: 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.

214a-d SEMINAR: STUDIES IN VICTORIAN LITERATURE. (3 ea.) Shine
Intensive studies in the social and literary significance of Arnold, Browning, Tennyson, Mill, Carlyle, and Ruskin.

215a-d SEMINAR: STUDIES IN LITERARY CRITICISM. (3 ea.) 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 ea.) Spivey and Knight
Studies to be centered upon one of the following: a particular author or a small group of authors, a literary *genre,* a literary movement, or a restricted period of time prior to 1900.

217a-d SEMINAR: STUDIES IN CONTEMPORARY AMERICAN LITERATURE. (3 ea.) Spivey and Knight
Studies to be centered upon one of the following: a particular author or a small group of authors, a literary *genre,* a literary movement, or a restricted period of time subsequent to 1900.

224a-d SEMINAR: STUDIES IN ENGLISH LITERATURE FROM 1500 TO 1660. (3 ea.) 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.

500, 1-2-3 THESIS. (0) Graduate Staff

Speech

*6 THE ESSENTIALS OF SPEECH. (3) Blyton, Robinson, and Sterrett
Designed to give the student platform experience in the fundamentals of effective speaking.

7 ADVANCED PUBLIC SPEAKING. (3) Sterrett
A continuation of English 6 with emphasis upon speeches for special occasions. *Prereq: English 1a, 1b, English 6.*

11 ARGUMENTATION AND DEBATE. (3) Blyton
Intended to familiarize the student with the theory of argument and to provide opportunities for practice in the several forms of debate. *Prereq: 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 allocated for practice in organizing groups and conducting meetings.

38 ORAL INTERPRETATION. (3) Sterrett
An analysis of prose and poetry for oral interpretation. Recommended for those who plan to teach English literature. *Prereq: English 1a and 1b.*

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* Open to Freshmen.

*40a, b INTERCOLLEGIATE DEBATING. (1 ea.) Blyton
Preparation for and participation in intercollegiate debating.

40c-f INTERCOLLEGIATE DEBATING. (1 ea.) Blyton
Preparation for and participation in intercollegiate debating.

138 ADVANCED ORAL INTERPRETATION. (3) Sterrett
The cutting and adapting of the three act play for oral presentation. *Prereq: English 38 or consent of instructor.*

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. *Prereq: 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. *Prereq: English 146a.*

150 WORKSHOP IN SPEECH EDUCATION. (6) Blyton
Designed for advanced students, especially teachers and prospective teachers. Individual and group research projects pertaining to the teaching of speech.

157 TEACHING OF SPEECH AND ORAL ENGLISH. (3) Blyton
An analysis of the field of speech education as related to the teacher of speech.

158 ADVANCED 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 and argument than is covered in English 11. *Prereq: English 11.*

159 PERSUASION. (3) Blyton
The principles and methods of persuasion. Of particular benefit to teachers, lawyers, business majors, and other persons whose work is concerned with motivating human conduct. *Prereq: English 11 or 146a.*

164 SPEECH COMPOSITION. (3) Sterrett
A study of the speech structure and its characteristic oral style. Both the analysis of contemporary speeches and the preparation of speech manuscripts. *Prereq: English 6.*

DRAMATIC ARTS

32 VOICE DEVELOPMENT. (3) Briggs
An analysis of each student's voice and articulation, and a pointing out of methods to correct speech faults. Exercises for flexibility, range, relief from tension, and articulation. *Prereq: English 1a and 1b.*

*35 STAGECRAFT. (2) Rhodes
Laboratory work which presents the technical problems of construction, painting of scenery, properties, and costuming. Recommended for those interested in public school and community theatre staging.

*36 STAGING TECHNIQUES. (2) Rhodes
English 35 is not prerequisite, but desirable. Advanced problems of stage management, state lighting and equipment. Instruction in model-building and experimental stage design.

134 HISTORY OF THE STAGE. (3) Rhodes
Designed to give the student a knowledge of dramatic history in relation to the problems of staging. Laboratory work is offered to acquaint the student with the present-day developments of historic devices and technique of staging.

137 STAGE PRODUCTIONS IN SCHOOL AND COMMUNITY. (3) Briggs
Designed for teachers and community theatre workers. The problems of staging under circumscribed conditions, minimum essentials of play production, and means of constructing or supplying these needs. Individual student problems.

160 THEORY AND TECHNIQUE OF ACTING. (3) Briggs
Development of skill 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. *Prereq: English 1a and 1b.*

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* Open to Freshmen.

161 THEORY AND TECHNIQUE OF DIRECTING. (3) Briggs
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. *Prereq: English 1a and 1b.*

162 THEORY AND TECHNIQUE OF THEATRE PRODUCTION. (3) Rhodes
Application of modern æsthetic principles and theories of the theatre. Attention to coordination of the playwright, designer, technical director, electrician, stage manager, actor, etc. *Prereq: English 1a, 1b, 35 or 36.*

163 SCENIC DESIGN. (3) Rhodes
A study of form, line, and color as applied to the stage. Practical work in the building of model sets and in the application of these models to the major production. *Prereq: English 1a, 1b; 35 or 36.*

172 WRITING THE ONE-ACT PLAY. (3) Robinson and others
This course is designed for those students interested in the creative drama. The completion of at least one one-act play is required during the semester.

174 WRITING THE FULL-LENGTH PLAY. (3) Robinson and others
The writing of a full-length play is required during the semester. *Prereq: English 172.*

GEOGRAPHY

Joseph Raymond Schwendeman, Thomas Perry Field, Daniel Jacobson, and James Algan Shear.

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 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 Shear
An orientation course to the field of geography, certain basic facts and geographical tools. Major emphasis upon elements of weather, climate, and earth processes.

*2 REGIONAL GEOGRAPHY OF THE WORLD. (3) II, S Shear
A study of the geography of the climatic regions of the world, an explanation of their (1) position, (2) extent, and (3) influence upon people. (Required of students in Education for elementary certification.)

*3a SOCIETIES AROUND THE WORLD. (3) I, II, S Schwendeman and Field
Meets Social Studies requirements. Comparative study of the Eskimo, Navajo, and Baganda as preliterate, primitive societies in difficult environments. (Same as Anthropology and Sociology 3a.)

*3b SOCIETIES AROUND THE WORLD. (3) I, II Schwendeman
Meets Social Studies requirements. Comparative study of the Chinese Peasant, Cotton South and British Midlands as more highly developed societies living in more moderate environments. (Same as Sociology 3b.)

*10 ECONOMIC GEOGRAPHY SURVEY. (3) I, II, S Jacobson
A survey of the factors of the natural environment and their relationships to selected agricultural, manufactural, and mineral commodities including both national and world patterns of distribution.

20 INTRODUCTON TO METEOROLOGY. (3) I Shear
A study of the atmosphere directed toward elementary understanding of weather, its elements and controls. Attention is given to instruments, maps, and observation techniques. *Prereq: Geography 1, for Freshmen.*

22 CLIMATOLOGY. (3) II Shear
A study of elements and controls of climate and of world climatic patterns. *Prereq: Geography 1, for Freshmen.*

* Open to Freshmen.

30a, b INTRODUCTORY FIELD STUDIES IN GEOGRAPHY. (3 ea.) Staff
Techniques of obtaining and verifying data in the field, association of geographic names, technical and descriptive terms of geographic phenomena with classification and report.

100 REGIONAL GEOGRAPHY OF ANGLO-AMERICA. (2) I, S Jacobson
A regional interpretation of the physical features and productive capacities of the various geographical areas of the United States, Canada, and Alaska. *Prereq: One geography course.*

101 GEOGRAPHY OF KENTUCKY. (2) II, S Schwendeman
A study of how the people of Kentucky adjust themselves to the location, surface, climate of their state and utilize their natural resources. *Prereqs One geography course.*

102 REGIONAL GEOGRAPHY OF LATIN AMERICA. (2) I Schwendeman
A study of countries and geographic regions of Mexico, Central America, and South America. *Prereq: One geography course.*

103 REGIONAL GEOGRAPHY OF EUROPE. (2) I Shear
A study of Western Europe major geographic regions, climate, soil, terrain, mineral, and biotic factors. Population problems, economic adjustments, and political significance of resources. *Prereq: One geography course.*

104 REGIONAL GEOGRAPHY OF ASIA. (2) II Jacobson
A regional study of the countries of the Orient; major emphasis upon Soviet Russia, China, Japan, and India. Role of the Orient in the international landscape. *Prereq: One gergraphy course.*

105 REGIONAL GEOGRAPHY OF AUSTRALIA AND THE PACIFIC ISLANDS. (2) II Field
A study of the geographic problems and adjustments of the peoples and countries of the Pacific area. Reference to the strategic nature of their location. *Prereq: One geography course.*

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. *Prereq: One lower division course in geography.*

110 ADVANCED ECONOMIC GEOGRAPHY. (2) II Jacobson
An analysis of the patterns of interrelationships between natural factors and economic production with particular attention and field trips to local agricultural and industrial developments. *Prereq: Geography 10.*

112 CONSERVATION OF NATURAL RESOURCES. (2) I Jacobson
A general study of the needs for and problems of conserving the natural resources of the United States including the development of the conservation movement and resource use. *Prereq: Geography 10.*

122 APPLIED CLIMATOLOGY. (2) II Shear
Studies involving the application of certain basic statistical techniques to the analysis of the climate of small regions. *Prereq: Geography 22 or equivalent.*

130a, b INTERMEDIATE FIELD STUDIES. (3 ea.) Staff
An intensive study of a particular geographic area with such specific skills as filling in a base map and observing and recording data for map composition and report.

132a-d INDEPENDENT WORK IN GEOGRAPHY. (3 ea.) I, II, S Staff
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. *Prereq: Major and a standing of 2.0 in the department.*

133a-k SPECIAL PROBLEMS. (1 ea.) I, II, S Staff
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 Field
A course in the construction and interpretation of maps. *Prereq: Geography 1.*

136 APPLIED CARTOGRAPHY. (3) I, II, S Field
Map compilation techniques as directed by Army Map Service specifications. Enrollment by permission.

140 GEOGRAPHICAL FOUNDATIONS OF WORLD POWER. (2) I Schwendeman
The influence of such factors as location, size, form, surface, climate, and natural resources, on the rise and fall of nations. Consideration given to geopolitics. *Prereq: One geography course.*

230a, b ADVANCED FIELD STUDIES IN GEOGRAPHY. (3 ea.) Staff
Field study and preparation of a report which shall include both manuscript and graphic material.

200a, b REGIONAL STUDY OF SPECIAL AREAS. (3 ea.) Staff
The application of the methods of regional interpretation to special areas such as the U.S.S.R., Mediterranean Basin, Caribbean Region, Mexico, Central Europe, etc.

500-1-2-3 THESIS. (0) I, II, S Staff

GEOLOGY

A. C. McFarlan, William R. Brown, Irving S. Fisher, Lynn Jacobsen, Vincent E. Nelson, and John Stokley.

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, 112, 107a, 107b, 123a, 123b, 118a, 129, 130, 126a, 126b. *Field Work:* A summer field course, Geology 118a, 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 lab. conf. (Credit is not allowed for both 3 and 50a.)

10a FIELD GEOLOGY. (3)
An introduction to field methods involving the identification and tracing of formations, areal mapping, and structure contouring. *Prereq: Geol. 30a, 30b.* For special fee see page 21. One lecture and 6 hours field work.

10b FIELD GEOLOGY. (2)
Topographical mapping. Six hours of field work a week. *Prereq: Geol. 30a, 30b; Math. 18, and CE 12.* For special fee see page 21.

12a ELEMENTARY GEOLOGY FOR ENGINEERS. (3) Stokley
An introduction to the principles of geology. Lecture and recitation two hours; one lab conference.

12b ELEMENTARY GEOLOGY FOR ENGINEERS. (3) Stokley
The practical application of geology to engineering work. A treatment of metallic and non-metallic mineral resources. Geologic maps. Two lectures, one lab conference. *Prereq: Geol. 12a.*

*14a, b ELEMENTARY FIELD GEOLOGY. (1 ea.)
Visits are made to localities in the vicinity of Lexington to study local geologic phenomena. For special fee see page 21.

*20a, b LABORATORY WORK IN ELEMENTARY GEOLOGY. (1 ea.)

*23a, b ELEMENTARY FIELD WORK IN REGIONAL GEOLOGY. (6 ea.) McFarlan and Nelson
Eight weeks in the field. The party works along with that in Geol. 118a. *Prereq: Elementary Geol.* For special fee see page 21.

30a GENERAL GEOLOGY. (5) Nelson
Geological Processes—A study of the forces and processes responsible for the features of the earth.

30b GENERAL GEOLOGY. (5) Nelson
Historical Geology. Lecture, four hours; lab, two hours.

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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. 21.

*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 geologic features of the earth. An introduction to mineral resources, historical geology and the fossil record. Lectures, three hours. *Prereq: Geol. 50a.*

*53 PHYSIOGRAPHY OF NORTH AMERICA. (3) Stokley
A regional study of the physical regions of North America, land forms, their nature and origin. Lecture, two hours; lab, two hours. *Prereq: a course in Elem. Geol.*

101a PALEONTOLOGY. (3) McFarlan
A study of fossil invertebrates, their nature, classification, and geological distribution. Lecture, one hour; lab, four hours. *Prereq: Geol. 30a, 30b and Gen. Zoology.*

101b PALEONTOLOGY. (3) McFarlan
A study of geologic faunas. Practice in determining stratigraphic horizons. Lecture, one hour; lab, four hours. *Prereq: Geol. 101a.*

105a-f INDEPENDENT WORK IN GEOLOGY. (3 ea.)
Directed work in independent investigations. Thesis required.

107a-f ADVANCED FIELD GEOLOGY. (2 ea.) McFarlan and others
A field course in geologic mapping involving problems of local structure and stratigraphy. Six hours a week in the field. *Prereq: Geol. 10a, 10b.* For special fee see page 21.

112 ECONOMIC GEOLOGY. (4) Brown
Mineral deposits other than petroleum and natural gas. Distribution, mode of occurrence, origin, methods of search for and uses. Lecture, three hours; lab, two hours. *Prereq: Geol. 30a, 30b, 123a, and 123b.*

118a-d FIELD WORK IN REGIONAL GEOLOGY. (8 ea.) McFarlan and Nelson
Eight weeks in the field in Colorado. The course is an effort to bring the student into contact with diverse geological phenomena and problems. Practice in geological field methods. See special announcement. Required of major students at the end of junior year. *Prereq: Geol. 30a, 30b.* For special fee see page 21.

120a GEOLOGY OF KENTUCKY. (3) McFarlan
A study of the geological features of the state other than mineral resources. These include the major event 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 record.

123a MINERALOGY. (3) Fisher
A study of geometrical crystallography and other physical properties useful in mineral identification. Lecture, one hour; lab, four hours. *Prereq: Geol. 30a, 30b; Chem. 1a and 1b, or a background in Chemistry.*

123b MINERALOGY. (3) Fisher
The determination of minerals by physical properties, blowpipe analysis, and the petrographic miscroscope. A study of their origin, occurrence, and associations. Lecture, one hour; lab, four hours. *Prereq: Geol. 123a.*

126a-d SEMINAR. (1 ea.) Staff
Required of all senior majors.

127 PETROLEUM GEOLOGY. (2) Jacobsen
The origin and accumulation of petroleum and natural gas. A study of geological methods used in exploratory work. Geology of principal producing fields. Lecture, two hours. *Prereq: Geol. 30a, 30b, and Physics 1a, 1b.*

129 ELEMENTARY PETROLOGY. (3) Jacobsen
A megascopic study of the common rocks with emphasis on the sedimentary rocks and processes of sedimentation.

130 ELEMENTARY STRUCTURAL GEOLOGY. (3) Nelson
An introduction to Earth structures. Advanced geologic map interpretation, handled from the regional point of view.

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, three hours; or lecture, two hours; lab, two hours. *Prereq: Physics 1a 1b; Geol. 30a, 30b, 130*

* Open to Freshmen.

210a STRATIGRAPHIC PALEONTOLOGY. (3) McFarlan
Regional stratigraphy. Succession of faunas and the use of fossils for stratigraphic correlation. Lecture, one hour; lab, four hours. *Prereq: Geol. 30a, 30b, 101a, 101b.*

210b STRATIGRAPHIC PALEONTOLOGY. (3) McFarlan
A continuation of 210a. Lecture, one hour; lab, four hours. *Prereq: Geol. 210a.*

212a OPTICAL MINERALOGY. (3) Brown
A study of the optical properties of minerals by means of the petrographic microscope. Lecture, one hour; lab, four hours. *Prereq: Geol. 123a and 123b; Physics 1a, 1b.*

212b SEDIMENTARY PETROLOGY. (4) Jacobsen
The classification and interpretation of sedimentary rocks, with emphasis on those aspects which relate to the occurrence of petroleum. Lecture, two hours; lab, four hours. *Prereq: Geol. 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; lab, four hours. *Prereq: Geol. 212a.*

213 ADVANCED ECONOMIC GEOLOGY. (3) Nelson
Lecture, two hours; lab, two hours.

216 ENGINEERING AND GROUNDWATER GEOLOGY. (3)
Professional training in the work of the geologic consultant and staff geologist in engineering work. Exploratory work for industrial and farm groundwater supplies.

217a-d SEMINAR. (1 ea.)

500 1-2-3 THESIS. (0) Staff

HISTORY

Thomas D. Clark, Carl B. Cone, W. Clement Eaton, J. Merton England, Will D. Gilliam, James F. Hopkins, A. D. Kirwan, E. E. Kraehe, Robert G. Lunde, Shelby T. McCloy, Charles R. Mayes, Hambleton Tapp, 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. Prerequisites: 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 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 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.

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* Open to Freshmen.

*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 4a.

*5a HISTORY OF THE UNITED STATES THROUGH 1865. (3) I, II Staff
This course traces the nation's development through the Civil War. It is designed to meet the demands for a general understanding of American history. This course fulfills the requirements for the elementary teachers' certificate.

*5b HISTORY OF THE UNITED STATES SINCE 1865. (3) I, II Staff
A continuation of 5a, from 1865 to the present.

28 THE ANCIENT WORLD. (3) 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. *Prereq: History 5a or equivalent.*

100b THE DIPLOMACY AND FOREIGN POLICY OF THE UNITED STATES SINCE 1898. (3) II Hopkins
A continuation of 100a. Foreign policy after the United States became a world power. *Prereq: History 5b or equivalent.*

105a COLONIAL AMERICA. (3) I Gilliam
A study of the origins and development of the English colonies; their relations with England and European states. Emphasis on imperial policies and colonial autonomy. *Prereq: One year of American or European History.*

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. *Prereq: 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 involves 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
The development of American life and thought.

124b SOCIAL AND CULTURAL HISTORY OF THE UNITED STATES SINCE 1865. (3) II England
A continuation of 124a.

132 HISTORY OF AMERICAN AGRICULTURE.(3) Wall
A study of American agriculture from 1800 to 1941.

140a-f INDEPENDENT WORK. (2 ea.) Staff
Under special conditions selected students may investigate problems, with weekly reports to the instructor.

141 TUTORIAL READING. (1) Staff

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. *Prereq: History 5a and 5b or equivalent.*

* Open to Freshmen.

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. *Prereq: One year of American History.*

151a THE AMERICAN FRONTIER. (3) I Eaton and Clark
A course dealing specifically with American westward expansion. *Prereq: History 5a and 5b or equivalent.*

151b THE AMERICAN FRONTIER. (3) II Eaton and Clark
A continuation of 151a. It will consider the Trans-Mississippi West.

180a HISTORY OF THE OLD SOUTH. (3) I Eaton and Kirwan
A study of the colonial beginnings and expansion of southern life, economics, and society. The growth of slavery, staple agriculture, and sectional politics will constitute the major interest. *Prereq: History 5a.*

180b THE SOUTH IN THE CIVIL WAR AND RECONSTRUCTION. (3) II Eaton and Kirwan
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.

II. England and the British Empire

131a ENGLISH CONSTITUTIONAL HISTORY TO 1603. (3) I Cone
A study of the backgrounds of the English constitution. *Prereq: History 2a or equivalent.*

131b ENGLISH CONSTITUTIONAL HISTORY SINCE 1603. (3) II Cone
A continuation of 131a. The constitutional struggle between the Stuart kings and Parliament; triumph of constitutional monarchy; rise of the Cabinet; effect of democracy in recent times. *Prereq: History 2b or equivalent.*

134 HISTORY OF CANADA. (3) Cone
A brief survey of Canada under the French; the development under British control; evolution of the Dominion; relation with the United States and British Commonwealth of Nations. *Prereq: One year of college history.*

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.

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. *Prereq: History 2a and 2b.*

138 BRITISH SOCIAL HISTORY DURING THE TUDOR PERIOD, 1485-1603. (3) 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. *Prereq: History 2a.*

139 BRITISH HISTORY SINCE 1815. (3) I Cone
A detailed study of Britain's political, social, diplomatic and industrial development during the modern period. Special consideration of Britain in World War I and World War II, and her position in the contemporary world.

III. Europe

110 POLITICAL AND ECONOMIC HISTORY OF MEDIEVAL EUROPE. (3) I
Special emphasis is on those political, economic, and consttutional aspects of the growth of European medieval states which have had continuing significance in modern times.

111 MEDIEVAL CIVILIZATION. (3) II
The chief emphasis will be placed on the "High Middle Ages" of the twelfth and thirteenth centuries and the distinctive civilization which then flourished in Western Europe.

115 THE RENAISSANCE AND REFORMATION. (3) I McCloy
This course is designed for a study of the birth of modern spirit and institutions.

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.

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 1774 to 1795, and changes under Napoleon.

119b EUROPE IN THE NINETEENTH CENTURY. (3) II Kraehe
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.

120 EUROPE IN THE TWENTIETH CENTURY. (3) I Kraehe
A study of the origins and consequences of the two World Wars together with the revolutionary movements of fascism and communism and their challenge to liberal democracy.

145 RUSSIA SINCE 1900. (3) II
This course will trace the development of Russia through the revolutionary upheavals of the present century, to a proletarian and industrial state under the Soviet regime.

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. *Prereq: 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. *Prereq: History 4a and 4b.*

185a CULTURAL HISTORY OF SEVENTEENTH CENTURY EUROPE. (3) I McCloy
A history of the development of culture in Western and Southern Europe in various fields.

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.

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). *Prereq: History 4a 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. *Prereq: History 4b 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.

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 ea.) Clark
Intensive studies in the political, social, and cultural history of the United States since 1914. Different topics will be stressed in rotation.

280 EUROPEAN HISTORIOGRAPHY. (3) I — McCloy

281 AMERICAN HISTORIOGRAPHY. (3) II — Clark, Eaton, and Kirwan

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).

300a-d SEMINAR IN AMERICAN FOREIGN POLICY. (3 ea.) I, II — Hopkins
Problems selcted 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 ea.) I — Eaton

320a-d SEMINAR IN MODERN EUROPEAN HISTORY. (3 ea.) — Kraehe

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 ea.) I, II — McCloy
Studies in the source materials of the French Revolution and its background, the Enlightenment.

365 THE AMERICAN CIVIL WAR. (3) II — Eaton

366 RECONSTRUCTION. (3) II — Eaton and Kirwan

500-1, 2, 3 THESIS. (0) I, II, S — Staff

HOME ECONOMICS

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

HUMANITIES

To satisfy the lower division requirement in the Humanities, students in the College of Arts and Sciences must take two courses in literature and philosophy (Humanities A, B, or C) and one course in art or music (Humanijties 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. *Prereq: 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. *Prereq: 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. *Prereq: 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. *Prereq: Sophomore standing.*

E. MUSIC: THE RENAISSANCE TO THE PRESENT. (2)
Lectures and discussion, with illustrations by performance and from recordings. Study of musical forms; required reading and listening; analyses of selected masterworks. *Prereq: Sophomore standing.*

HYGIENE AND PUBLIC HEALTH

John S. Chambers, J. D. Farris, W. Brooks Hamilton, and Wilbur A. Heinz.

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. Lectures, discussions, demonstrations.

*9 FUNDAMENTALS OF HEALTH. (2) I, II, S — Heinz and Hamilton
A course considering the major health problems of today, with special emphasis upon the problems of adult health. It covers the area of chronic disease and disability and reviews our knowledge concerning the causes, prevention, and control of these diseases.

24 COMMUNITY ORGANIZATION FOR PUBLIC HEALTH. (1) I, II — Staff
A consideration of community resources that may be utilized in the promotion of Public Health programs.

51 PERSONAL HEALTH PROBLEMS. (2) I, II — Hamilton
A course involving the detailed study of certain practical health problems of the present day. Not available for credit to students who have had Hygiene 1. Not open to Freshmen.

100a PUBLIC HEALTH. (3) I, S — Hamilton
A consideration of the cause, prevalence, transmission, and control of preventable diseases.

100b PUBLIC HEALTH. (3) II, S — Heinz
A continuation of 100a. Administrative and organizational approach to disease prevention.

104 MATERNAL AND CHILD HEALTH. (2) II, S
Problems in Maternal and Child Health.

110 HEALTH EDUCATION. (3) II, S — Heinz
A course dealing primarily with principles of health education, health service, and health protection.

111a-f INDEPENDENT WORK IN HYGIENE AND PUBLIC HEALTH. (3 ea.) I, II, S — Heinz
Prereq: Major and a standing of 2.0 in the department.

115 COMMUNICABLE DISEASES. (3) II, S — Hamilton
A study of communicable diseases with reference to casual agents, avenues of infection and methods of prevention, with special emphasis on those diseases prevalent in Kentucky. *Prereq: Bacteriology 52 or equivalent.*

* Open to Freshmen.

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, II, S
An introduction to mental hygiene including a consideration of the cause, treatment and prevention of mental disorders. Not open to students who have credit in Psychology 124.

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) I, S — Heinz
An individual problems course for students and teachers in service, based upon a systematic attack upon the health problems of a school.

200 EPIDEMIOLOGY. (3) I, II, S — Hamilton
The cause, transmission, and control of communicable diseases.

204 MATERNAL AND CHILD HEALTH. (2) I, S — Staff
A study of the principles of maternal, prenatal, infant, and child care.

212a PUBLIC HEALTH ADMINISTRATION. (3) I, S — Heinz
A consideration of the principles of public health administration.

212b PUBLIC HEALTH ADMINISTRATION. (2) II — Heinz
A continuation of Hygiene 212a.

218a VITAL STATISTICS. (3) I, S — Heinz
Application of the statistics of population, births, deaths, etc. in Public Health.

218b VITAL STATISTICS. (2) II, S — Heinz
A continuation of Hygiene 218a.

290 SEMINAR. (1) I, II, S — Staff

500-1, 2, 3 THESIS. (0) I, II, S — Staff

JOURNALISM

See page 249

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

E. J. Humeston, Emma Lou Lecky, Laura K. Martin, King Richeson, Margaret Roser, and Azile M. Wofford.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

Requirements in the Field of Concentration: Forty credits of advanced work in the Field of Literature, Philosophy, and the Arts, or acceptable equivalent, including major work.

Requirements for a Major. Prerequisite: Junior or senior standing, with average scholastic record during the first two college years. Prospective majors should consult with the Head of the Department regarding courses to be taken during the first two years of college. A broad academic program is recommended. *Required:* A minimum of 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.

Professional Courses

101a-d INDEPENDENT WORK. (1 ea.) I, II, S — Staff
Conferences, assigned readings, reports, etc. *Prereq: Major and a standing of 2.0 in the department.*

110 THE LIBRARY IN THE SCHOOL. (3) I, II, 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.

121 LIBRARIES AND LIBRARIANSHIP. (3) I, II, S — Martin
An orientation course designed to give students a general understanding of libraries and library work.

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. 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. Emphasizes materials in the subject fields useful in enriching the school curriculum. Designed for teachers as well as librarians.

129 CATALOGING AND CLASSIFICATION. (3) I, S — Lecky
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, II, S — Humeston
A study of the essential reference works, including dictionaries, encyclopedias, atlases, yearbooks, and periodical indexes; and the more important subject and trade bibliographies.

133b REFERENCE AND BIBLIOGRAPHY. (3) II, S — Lecky
A continuation of L.S. 133a. Emphasis is placed on reference books in subject fields and on the national and subject bibliographies. *Prereq: L.S. 133a.*

139 LIBRARY PRACTICE. (3) I, II, S — Humeston and 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, II, 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.

152 BOOK SELECTION. (3) I, S — Humeston or Martin
A general study of book selection principles and methods, with emphasis on printed materials as they interpret modern problems.

186 VISUAL TEACHING. (3) I, II, S
A course in methods and techniques of visual instruction. Emphasis is on the effective use of films, film strips, pictures, maps, graphs, slides, field trips, by means of lesson plans. Surveys are made of visual materials. (Same as Ed. 186.)

187 NON-BOOK MATERIALS. (3) I, II, S — Lecky
Selection, organization, and use of non-book materials in various types of libraries.

212 THE PUBLIC LIBRARY. (2) I, II, S — Martin
A study of the public library as a functioning institution. The course will include case studies of specific libraries.

214 THE COLLEGE AND UNIVERSITY LIBRARY. (2) I, II, S — Humeston
A study of the college and university library as a functioning institution. The course will include case studies of specific libraries.

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* Open to Freshmen.

227 PROBLEMS IN READING FOR CHILDREN AND YOUNG PEOPLE. (2) II, S — Wofford
Reading interests of young readers of various ages, and reading needs of average and exceptional readers. Current studies in field considered. Designed for those with experience in working with young readers. *Prereq: 127a, b, or equivalent.*

229 ADVANCED CATALOGING AND CLASSIFICATION. (3) II, S — Lecky
Expansion of the principles and methods of classification and cataloging books and related materials. Attention given to more advanced problems in cataloging. *Prereq: 129 or equivalent.*

232 LIBRARY WORK WITH CHILDREN. (3) I, S — Martin
A study of the origin and present status of library work with children in school and public libraries.

233 SUBJECT BIBLIOGRAPHY. (3) II — Staff
A comprehensive study of basic reference materials in the humanities, social sciences, and natural sciences. This course emphasizes reference service in research libraries. *Prereq: 133a, b, or equivalent.*

235 GOVERNMENT PUBLICATIONS. (2) II — Lecky
A study of the problems of acquisition, preparation, and use of United States federal, state, and local government publications. Some consideration is given to documents of the United Nations. *Prereq: 133a, b, or equivalent.*

242 HISTORY OF BOOKS. (2) I — Lecky
This course considers the records of early man, invention of the alphabet, early writing materials, manuscript books, the invention of printing, and book production in modern times.

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.

252 ADVANCED BOOK SELECTION. (3) II, S — Martin
Emphasis on the more imaginative and creative forms of literature, especially the place of fiction in the modern library. *Prereq: 152 or equivalent.*

254 SEMINAR. (2) II, S — Humeston
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.

500 1-2-3 THESIS. (0) — Staff

MATHEMATICS AND ASTRONOMY

James C. Eaves, Cephas Bevin, Paul P. Boyd, Marion C. Brown, Howard W. Burnette, Jack D. Carey, Joseph B. Cornelison, Vincent F. Cowling, Harold H. Downing, Adolph W. Goodman, Tadeusz Leser, Sallie E. Pence, Sara L. Ripy, Donald C. Rose, Manning I. Rose, Thomas S. Rowland, Richard H. Sprague, Garnett L. Stephens, William C. Swift, Sherman B. Vanaman, Jr., James A. Ward, John B. Wells, and Wilson M. Zaring.

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.

*A. PLANE GEOMETRY.(0) Staff
A course designed to cover the essentials in Plane Geometry to prepare the student for further work in mathematics. *Prereq: none.*

*1 BASIC MATHEMATICS. (3) I, II, S Staff
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.

*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. Prerequisites for M. and A. 20a. *Prereq: 1 unit high school plane geometry.*

4 ELEMENTARY THEORY OF STATISTICS. (3) Wells
Contents: Arithmetic mean, geometric mean, median, mode, standard deviation. skewness and linear correlation; applications with emphasis on assumptions and interpretations. *Prereq: 1½ units high school algebra or M. and A. 5 or 17.* (Not open to Freshmen.)

*5 COLLEGE ALGEBRA. (5) I, II, S Staff
Review of high school algebra, and topics given in a standard college course. *Prereq: M. and A. 1 or a score of F or G on University Placement Test.* (Credit is not allowed for both 5 and 17.)

*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. *Prereq: M. and A. 5 or 17.*

*17 COLLEGE ALGEBRA. (3) I, II, S Staff
Standard course. *Prereq: 1 unit high school algebra and score of E on University Placement Test.* (Credit is not allowed for both 5 and 17.)

*18 PLANE TRIGONOMETRY. (3) I, II, S Staff
Study of the triangle with applications. Also a study of analytic trigonometry. *Prereq: 1 unit high school plane geometry, and M. and A. 5 or score of E on University Placement Test.*

*19 PLANE ANALYTIC GEOMETRY. (3) I, II, S Staff
A brief study of coordinate systems; sketching curves from their equations; conic sections, parametric equations. *Prereq: M. and A. 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. *Prereq: M. and A. 2 or ½ unit high school solid geometry and M. and A. 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. *Prereq: M. and A. 20a.*

25 INTERMEDIATE CALCULUS. (3) II Staff
Contents: Limits, continunity, curvature, mean value theorem, indeterminate forms, series expansions, hyperbolic functions, partial differentiation, definite integrals, advanced forms of integrals. *Prereq: M. and A. 20b.*

26 ADVANCED COLLEGE ALGEBRA. (3) I Ward
Topics include mathematical induction, determinants, systems of enumeration, binominal and multinominal theorems. Diophantine equations, and partial and continued fractions. *Prereq: M. and A. 5 or 17.*

27 ADVANCED ANALYTIC GEOMETRY. (3) Pence
General equations of the second degree, translation and rotation of axes, invariants, simple transformations in the plane, tangents and normals, polar reciprocation, inversion. *Prereq: M. and A. 20a.*

35 DIFFERENTIAL EQUATIONS FOR ENGINEERS. (2) Brown or Leser
First order differential equations, second order differential equations with constant coefficients, and applications. *Prereq: M. and A. 20b.*

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* Open to Freshmen.

37 FUNDAMENTALS OF ELEMENTARY MATHEMATICS. (3) Ward or Downing
A course designed to give teachers an understanding of elementary mathematics. Selections will be made from: the number system, elementary number theory, algebra, non-Euclidean geometry, finite geometry, topology, matrices. *Prereq: Consent of instructor.*

101a-f INDEPENDENT WORK IN MATHEMATICS. (3 ea.) I, II, S Staff
Reading courses for upper division and graduate students of high standing. *Prereq: Major and a standing of 2.0 in the department.*

102 VECTOR ANALYSIS. (3) Cowling
Contents: The algebra and calculus of vectors; applications to geometry, electricity, and physics; harmonic functions and potentials. *Prereq: M. and A. 20b.*

103 THEORY OF EQUATIONS. (3) Downing
Topics included: Solutions of cubic and quartic equations; ruler and compass constructions; roots of unity; solutions of numerical equations, systems of linear equations, symmetric functions, and resultants. *Prereq: M. and A. 20a.*

105a DIFFERENTIAL EQUATIONS. (3) Leser
First order differential equations, singular solutions, second order differential equations, integration in series, special second order equations. *Prereq: M. and A. 20b.*

105b DIFFERENTIAL EQUATIONS. (3) Leser
Equations in several variables, partial differential equations. *Prereq: M. and A. 105a.*

106a, b ADVANCED CALCULUS. (3, 3) Downing or Cowling
Continuous functions, differentiable functions, infinite series, implicit functions, Riemann integral, the gamma and beta functions, line, surface and space integrals. *Prereq: M. and A. 25 or equivalent.*

107 PROJECTIVE GEOMETRY. (3) Pence
Contents: Harmonic forms, projectively related primitive forms, curves and pencils of rays of second order, ruled surfaces of second order, theory of poles and polars, involution, inversion. *Prereq: Consent of instructor.*

116 ANALYTIC MECHANICS. (3) Leser
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. *Prereq: M. and A. 20b.*

118 SOLID ANALYTIC GEOMETRY. (3) Brown
Systems of planes, plane coordinates, the concept of infinity, transformation of coordinates, types of surfaces, quadric surfaces, tetrahedral coordinates. *Prereq: M. and A. 20a.*

119 COLLEGE GEOMETRY. (3) Pence
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. *Prereq: Consent of instructor.*

120 MATHEMATICAL STATISTICS. (3) II Goodman
Topics considered: Averages, coefficients of dispersion and skewness, correlation and regression lines, curve fitting, Bernoulli Theorem, DeMoivre-Laplace Theorem, generating functions, sampling. *Prereq: M. and A. 25.*

122 ACTUARIAL MATHEMATICS. (3)
Theory of mortality tables, life annuities, premiums, terminal reserve, joint-life annuities and insurance. *Prereq: M. and A. 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. *Prereq: Consent of instructor.*

126 INTRODUCTION TO HIGHER ALGEBRA. (3) Ward
Integral domains, fields, rings, polynomials, vector spaces. *Prereq: M. adn A. 26 or consent of instructor.*

127a, b INTRODUCTION TO HIGHER GEOMETRY. (3, 3) Pence
Emphasis on fundamentals common to all geometry. Geometries associated with the projective group and the group of circular transformations. *Prereq: M. and A. 27, or its equivalent.*

128a THE OPERATIONAL CALCULUS. (3) Leser
The introductory theory and properties of the Laplace Transformation. Application in differential equations, difference equations and boundary value problems of mechanics, electricity and heat. *Prereq: M. and A. 35.*

128b THE OPERATIONAL CALCULUS. (3) Leser
The theory of the inverse Laplace Transformation. Applications in advanced boundary value problems. Fourier Transforms and applications. *Prereq: M. and A. 128a.*

129 PROBABILITY. (3) Cowling
Theorems of total and compound probability, Bernoulli's Theorem, Bayes' Theorem. Poisson Law, Expected value, Law of large numbers. Distribution functions and characteristic functions. *Prereq: M. and A. 25.*

132 THE CALCULUS OF FINITE DIFFERENCES. (3)
A study of the methods of differencing, interpolation, finite integration, summation of series, approximate integration and difference equations. *Prereq: M. and A. 25.*

141 INTRODUCTION TO THEORY OF NUMBERS. (3) Ward
Divisibility, prime numbers, congruences and residues, Diophantine equations. *Prereq: Consent of instructor.*

144a-f PROBLEM SEMINAR. (2 ea.) Senior Staff
Reports on current research papers. Problems from various fields of mathematics. *Prereq: Consent of instructor.*

146 ALGEBRAIC METHODS IN ENGINEERING. (3) Ward
Study of number systems matrices, determinants, and Boolean Algebra with applications to electrical networks, machine computation, and other engineering problems. *Prereq: M. and A. 20b.*

201a-f INDEPENDENT WORK IN MATHEMATICS. (3 ea.) Senior Staff
Reading courses in the 200 group for graduate students. *Prereq: Consent of the Department.*

202a, b ALGEBRAIC CURVES. (3, 3) Pence
Topics include general properties of algebraic curves, the theory of residuation, singular points, covariant curves, unicursal curves, systems of curves. *Prereq: M. and A. 127b.*

204a, b CALCULUS OF VARIATIONS. (3, 3) Downing
The ordinary problem for the plane and space cases; the necessary conditions of Euler, Weietrass, Legendre, and Jacobi. The parametric problem; the isoperimetric problem. Sufficiency conditions. *Prereq: M. and A. 105b.*

205 DIFFERENTIAL GEOMETRY. (3) I Downing
Metric differential geometry of curves and surfaces in 3 dimensional Euclidean space, developable surfaces, curvature, geodesics, mapping of surfaces, absolute geometry of a surface. *Prereq: Consent of instructor.*

206 THEORY OF GROUPS. (3) Ward
Permutation groups, isomorphisms, the group postulates, abstract groups, automorphisms, homomorphisms, quotient groups. Abelian groups, Galois groups. *Prereq: M. and A. 126b, or consent of instructor.*

207a, b FUNCTIONS OF A COMPLEX VARIABLE. (3, 3) Goodman
Differentiation and integration, contour integration, poles and residues, Taylor and Laurent series, conformal mapping, Riemann mapping theorem, Dirichlet problem, multiple-valued functions, Riemann surfaces, and applications. *Prereq: M. and A. 106b.*

208a, b FUNCTIONS OF A REAL VARIABLE. (3, 3) Goodman or Cowling
Brief discussion of real numbers; continuous functions, semi-continuous functions, functions of bounded variation; Stieltjes Integral, measure and integration. *Prereq: M. and A. 106b, or consent of instructor.*

209a-f SELECTED TOPICS IN THE THEORY OF COMPLEX VARIABLES. (3 ea.) Cowling or Goodman
Analytic continuation, functions with natural boundaries, gap theorems, over-convergence, entire functions, Dirichlet series. *Prereq: M. and A. 109b, or consent of instructor.*

210 ADVANCED MATHEMATICAL STATISTICS. (3)
Theory of sampling, the Chi-square distribution, testing statistical hypotheses. *Prereq: M. and A. 120.*

212a, b SUMMABLE INFINITE PROCESSES. (3, 3) Cowling
Fundamental limit ideas applied to infinite sequences, infinite series, infinite products, etc. Summability of Cesaro, Holder, Abel, Borel and Leroy. *Prereq: M. and A. 106b, or consent of instructor.*

213 FOURIER SERIES. (3) Cowling
Expression of a general periodic function as a Fourier series, sufficient conditions for convergence, Fejer's theorem, applications. *Prereq: M. and A. 106b.*

214 POTENTIAL FUNCTIONS. (3) Leser
Topics considered: Attraction of bodies, Newtonian potential function, theorems of Green and Gauss, level surfaces, spherical harmonics. *Prereq: M. and A. 105b.*

220a, b MATHEMATICAL SEMINAR. (2, 2)

221 TENSOR ANALYSIS. (3) Cowling
Topics considered: The theory of tensors, quadratic differential forms, Riemannian geometry, pseudo-Euclidean geometry. *Prereq: 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. *Prereq: Consent of instructor*

223 INTEGRAL EQUATIONS. (3) Cowling
Systems of ordinary linear equations, linear operators, orthogonal systems, linear integral equations of the second kind, theorems of Freedholm, Volterra's equation. *Prereq: Consent of instructor.*

226a, b HIGHER ALGEBRA. (3, 3) Ward
Groups, rings, fields, extension fields, Galois theory, linear algebra, hyper-complex numbers, ideals. *Prereq: M. and A. 126b, or consent of instructor.*

227a, b HIGHER GEOMETRY. (3 ea.) Pence
Topics include: Projective spaces, groups of collineations, invariants and covariants, Cremona transformations, the plane cubic and quartic, space curves, the cubic surface. *Prereq: M. and A. 127b, or consent of instructor.*

230 TOPOLOGY. (3) Goodman or Cowling
Calculus of sets, metric and separable spaces, complete spaces, continuous mapping, simply connected domains, accessibility and Jordan domains. *Prereq: M. and A. 106a, or consent of instructor.*

231 ADVANCED DIFFERENTIAL EQUATIONS. (3)
Existence theorems, partial differential equations, linear equations with periodic coefficients, classical equations, equations in infinitely many variables. *Prereq: M. and A. 105b.*

232a, b LINEAR SPACES. (3, 3) Cowling
Topological spaces, metric spaces, vector spaces, Banach space, with applications to summability theory, infinite systems of linear equations, spectral theory.

236 THEORY OF MATRICES. (3) Ward
Study of matric algebra and canonical forms. *Prereq: M. and A. 126, or consent of instructor.*

241 NUMBER THEORY. (3) Ward
Peano's Axioms, continued fractions, quadratic fields, algebraic integers, p-adic numbers, etc. *Prereq: M. and A. 126b and 141.*

500 1-2-3 THESIS. (0) Senior Staff
This course is designed for graduate students working for advanced degrees. The time-credit is on the same basis as for any other course but no point-credit is given.

Astronomy

51a, b DESCRIPTIVE ASTRONOMY. (3, 3) Rose
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. *Prereq: none.*

54 ELEMENTARY OBSERVATIONS IN ASTRONOMY. (2) Rose
A course dealing with the use of maps, charts, globes, geld-glasses, transit instrument, telescope, and cross-staff to determine direction, distance, position, and motion of the astronomical bodies. Two evenings, two hours each. *Prereq: none* (not open to Freshmen).

55a, b ELEMENTARY ASTRONOMY. (3, 3) Rose
The celestial sphere, time calendar, apparent motions of heavenly bodies; practical and gravitational astronomy, instruments; the planetary system; the sun, moon, stars, stellar motions, stellar variation; Milky Way system, cosmology. *Prereq: M. and A. 17, 18.*

56a, b SPHERICAL ASTRONOMY. (3, 3) Rose
Spherical trigonometry, celestial sphere, refraction, planetary motions, time, planetary phenomena, aberration, parallax, precession and nutation, proper motion of stars, astronomical photography, binary star orbits, occulations and eclipses, dependencies. *Prereq: M. and A. 19.*

251a CELESTIAL MECHANICS. (3) Downing
Topics included: Rectilinear motion, central forces, potential and attraction of bodies, and the problem of two bodies. *Prereq: M. and A. 105a.*

251b CELESTIAL MECHANICS. (3) Downing
Orbit computation, the problem of three bodies, and perturbations. *Prereq: M. and A. 251a.*

MILITARY SCIENCE AND TACTICS

Reserve Officers Training Corps (ROTC)

Henry H. Rogers, Arthur L. Dudley, Raymond L. Fugate, George S. Gordon, John T. Henderson, James F. Hoffman, William C. Hungate, Jr., Thomas D. Longino, Clair A. Norman, Clyde L. Ormiston, Bruce R. Payne, II, John I. Riley, Lake G. Sedberry, Kenneth J. Tickle, and John M. Walton.

Branch General

Basic Course

*1a, b MILITARY SCIENCE I, ROTC. (2 ea.) Staff
Introductory course covering broad concepts of military science, including Organization of the Army; American military history; and individual weapons, together with such practical subjects as marksmanship, leadership and drill.

22a, b MILITARY SCIENCE II, ROTC. (2 ea.) Staff
Course in crew-served weapons and gunnery; map and aerial photograph reading; school of the soldier, and exercise of command. *Prereq: 1a and 1b.*

Advanced Course

Upon successful completion of the Advanced Course (MS III and MS IV), commissions may be granted as Second Lieutenants, United States Army Reserve. Each member of the Advanced Course will be required to attend Summer Camp.

Prerequisite for the Advanced Course is the satisfactory completion of Military Science I and Military Science II, or one year's active duty in the Armed Forces, and selection by the President of the University and head of the Department of Military Science.

30a, b MILITARY SCIENCE III, ROTC. (Branch General) (3 ea.) Staff
A further study of crew-served weapons and gunnery; small unit tactics and communications; organization, function and mission of the services; leadership; school of the soldier and exercise of command. *Prereq: 20a and b, or 21a and b* (1954 only).

40a, b MILITARY SCIENCE IV, ROTC. (Infantry) (3 ea.) Staff
An advanced study of infantry techniques on Battalion and higher level, emphasizing staff procedures, combined arms employment, and general military functions such as troop movements, psychological warfare, and administration. Includes practical work in leadership and drill. *Prereq: 30a and b* (1954 only).

41a, b MILITARY SCIENCE IV, ROTC. (Signal Corps) (3 ea.) Staff
An advanced study of Signal Corps techniques and higher echelon functions including communication material and equipment, together with general military administration. Includes practical work in leadership and drill. *Prereq: 31a and b* (1954 only).

* Open to Freshmen.

11 ARMY ROTC SUMMER CAMP. (0) S
Practical training supplementing theoretical work of the college course. Exercises developing performance technique of tactical, technical, and administrative duties; training in leadership is stressed. Record and familiarization firing of weapons. *Prereq: 30a and b.*

MODERN FOREIGN LANGUAGES AND LITERATURES

A. E. Bigge, Norman H. Binger, Jane Haselden, Daniel V. Hegeman, J. E. Hernández, Margaret Horsfield, John A. Rea, Hobart Ryland, Blaine W. Schick, Alberta W. Server, John H. Ubben, Thomas C. Walker, and Paul K. Whitaker.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

Requirements in the Field of Concentration: Forty credits in the field of Literature, Philosophy, and the Arts, including the Major work, in courses not open to freshmen. With the approval of the head of the department and the dean, courses in related fields may be counted in the field of concentration.

It is inadvisable for a student to begin the study of two foreign languages at the some time.

The student who presents one unit of high school foreign language will be permitted to enroll in first year work for full credit. Those who present two units may enroll in first year work and will receive full credit if at least a B standing is made in each semester of this course.

French Language and Literature

Requirements for a Major. Prerequisites: Junior standing; 12 hours of English, MFL 1a, 1b, 2a, 2b; 81a, 81b or 51a, 51b; 3a, 3b, or 5a, 5b. *Required:* a minimum of 17 credits of adanced work in French; MFL 191a, b. Comprehensive examination in the senior year.

*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. *Prereq: 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. *Prereq: 1a, b or two years of high school French.*

2b INTERMEDIATE FRENCH. (3) I, II, S Staff
A continuation of 2a. *Prereq: 2a or three years of high school 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. Vocabulary will be built by the use of images rather than by translation, i.e. the direct method. *Prereq: 2a, b.*

4a-c FRENCH NOVEL AND DRAMA. (3 ea.) I, II, S Ryland
Reading of standard texts in prose, and drama. Verb drill, dictation, composition, conversation drill, based on some text read and memorized. Reports on assigned reading outside of classrooms. *Prereq: 2a, b.*

5a, b FRENCH PHONETICS. (3, 3) I, II, S Schick
A scientific study of French sounds based on the International System of Phonetic Symbols. *Prereq: 2a, b.*

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* Open to Freshmen.

*6 ELEMENTARY AURAL-ORAL PRACTICE IN FRENCH. (1) Staff
Two hours a week. A course to improve pronunciation and comprehension of spoken French. Aural-oral drills, diction, and recordings.

101a, 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. *Prereq: 5a, b or equivalent.*

102a, b FRENCH LITERATURE OF THE XIX CENTURY. (3, 3) I, II, S Walker
During the year some of the standard works are studied. Written reports in French on assigned topics. Outside reading of 1500 to 2000 pages to be assigned when the class has been started. *Prereq: 4a, b.*

103a, b FRENCH LITERATURE OF THE XVII CENTURY. (3, 3) I, II, S Ryland
A course in the Classic Drama of the XVII Centucy. 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. *Prereq: 4a, b.*

104a, b ADVANCED FRENCH GRAMMAR. (3, 3) I, II, S Schick
A study of the finer points of French grammar. *Prereq: 4a, b.*

105a, 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. *Prereq: 4a, b.*

106a, b FRENCH LITERATURE OF THE XX CENTURY. (3, 3) I, II, S Schick
A study of the modern writers starting with the Symbolist Group and continuing up to the present. *Prereq: 4a, b.*

107a, 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. *Prereq: 3a, b or 5a, b.*

108a-d INDEPENDENT WORK IN FRENCH. (3 ea.) I, II, S Staff
Prereq: Major and a standing of 2.0 in the department.

191a, b TUTORIAL SEMINAR FOR MAJORS IN THE ROMANCE LANGUAGES. (French) (1, 1) I, II Staff
A survey of Spanish literature. Required of all Majors in French during the senior year.

193 THE TEACHING OF ROMANCE LANGUAGES. (3) S Server
A course for teachers and prospective teachers of French or Spanish, with the objective of providing a more vital approach to the teaching of these languages.

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. *Prereq: twenty-one semester hours of college French.*

202a, b OLD FRENCH. (3, 3) I, II, S Rea
A study of the historical development of the French language to 1300, with readings in Old French literature. *Prereq: three years of college French or equivalent.*

203a, b SEMINAR IN FRENCH LITERATURE. (3, 3) I, II, S Staff
Prereq: twenty-one semester hours of college French.

291a, b ROMANCE PHILOLOGY. (3, 3) I, II, S Rea
Study of the historical development of the various Romance languages with reading of texts chiefly from the medieval period. Special attention will be given to historical phonology and morphology. *Prereq. for both 291a and 291b: 202a or 281a or equivalent.*

500-1, 2, 3 THESIS. (0) I, II, S Staff

German Language and Literature

Requirements for a Major. Prerequisites: Junior standing, 21a, 21b, 22a, b. *Required:* A minimum of 18 credits of work in German, independent of Junior and Senior Tutorial Courses. Majors must pass a final comprehensive examination.

* Open to Freshmen.

*21a ELEMENTARY GERMAN. (3) I, II, S — Staff
The essentials of grammar with practice in reading and writing German.

*21b SIMPLE GERMAN READING AND PRONUNCIATION. (3) I, II, S — Staff
Continuation of German 21a with more extended exercise in easy reading, writing and pronunciation. *Prereq: 21a or one high school unit.*

22a GERMAN 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. *Prereq: 21b.*

22b GERMAN TRANSLATION AND RAPID READING. (3) I, II, S — Staff
Continuation of 22a. *Prereq: 22a.*

23a 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 reading and builds up a graduated vocabulary in Biological Sciences. *Prereq: 21b.*

23b READINGS IN MEDICAL GERMAN. (3) I, II, S — Staff
Continuation of 23a. *Prereq: 23a.*

24a READINGS IN CHEMICAL GERMAN. (3) I, II, S — Staff
This course is designed to meet the needs of Industrial Chemists and Chemistry majors. The material provides a vocabulary in Chemistry and an intimate acquaintance with the style which is characteristic of German scientific writing. *Prereq: 21b.*

24b READINGS IN CHEMICAL GERMAN. (3) I, II, S — Staff
Continuation of 24a. *Prereq: 24a.*

*25 ELEMENTARY AURAL-ORAL PRACTICE IN GERMAN. (1) — Staff
A course designed to improve pronunciation and comprehension of spoken German. Aural-oral drills, dictation, recording, etc. Class will be limited to permit individual attention.

26 INTERMEDIATE AURAL-ORAL PRACTICE IN GERMAN. (1)
Continuation of the elementary course on a more advanced level. May be taken only in conjunction with courses on or beyond the second year level. *Prereq: 25 or permission of instructor.*

27a ELEMENTARY GERMAN CONVERSATION AND COMPOSITION. (3) I, II, S — Ubben
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 21b should be able to master without difficulty. *Prereq: 21b or approval of the Department.*

27b ELEMENTARY GERMAN CONVERSATION AND COMPOSITION. (3) I, II, S — Ubben
Continuation of 27a. *Prereq: 27a.*

28a INTRODUCTION TO CLASSICAL AND 19th CENTURY GERMAN LITERATURE. (3) I, II, S — Bigge
The emphasis in this course will be on the development of reading facility and the acquisition of vocabulary through extensive reading. Selections from the less difficult work of authors of this period will be read. *Prereq: 22b.*

28b 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. *Prereq: 22b.*

29 SURVEY OF GERMAN LITERATURE IN ENGLISH TRANSLATION. (2) Hegeman
More than a thousand years of German literature, from the "Song of Hildebrand" to "The Magic Mountain," are covered in this course. No knowledge of German is required. Lectures and reports on outside reading.

121a-d 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. *Prereq: Major and a standing of 2.0 in the department.*

122a, b ADVANCED SCIENTIFIC GERMAN. (3 ea.) I, II, S — Whitaker
This course is designed for students of the Physical and Biological Sciences. Reading is done in recent German scientific journals and books, the material being selected in line with the student's special interest. *Prereq: 23b or 24b.*

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* Open to Freshmen.

PROSEMINARS IN 18th, 19th and 20th CENTURY GERMAN LITERATURE.

A balanced selection of works from one representative author of each century will be studied in each course, and written reports will be assigned on various subjects related to his writing.

The purpose of the proseminar courses is threefold:

(1) Study of a representative author and certain of his works in their relation to his period;

(2) Acquaintance with basic works of the author;

(3) Training in simple research projects and proper form in the writing of papers.

Prerequisites for any Proseminar Course: 28a or 28b.

123 PROSEMINAR IN KLEIST. (3) I — Whitaker

124 PROSEMINAR IN HAUPTMANN. (3) II — Bigge

125 PROSEMINAR IN SCHILLER. (3) I — Hegeman

126 PROSEMINAR IN GRILLPARZER. (3) II — Whitaker

127 PROSEMINAR IN THOMAS MANN. (3) I — Bigge

128 PROSEMINAR IN LESSING. (3) II — Hegeman

129 PROSEMINAR IN HEBBEL. (3) I — Whitaker

130 PROSEMINAR IN SUDERMANN. (3) II — Whitaker

131a, b JUNIOR TUTORIAL FOR GERMAN MAJORS. (1 ea.) I, II, S — Staff
History of German Literature from its beginning.

132a, b SENIOR TUTORIAL FOR GERMAN MAJORS. (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 semseter.

133a, 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 Faust. His principal literary works will be read and attention devoted to autobiographical material, letters and diaries. *Prereq: six semesters of German.*

134 ORIGIN AND DEVELOPMENT OF THE GERMAN LANGUAGE. (3) I, II — Staff
This course in Germanic Philology acquaints the student with the position of German in the European language group and traces the development of the language to the present. Special emphasis is given to the relationship of German and English words. *Prereq: six semesters of German.*

135 INTRODUCTION TO MIDDLE HIGH GERMAN. (3) I, II — Staff
This is a literary course with a necessary minimum of Middle High German grammar. Selections will be read from epic and lyric poetry of the period and reports will be given on assigned topics. *Prereq: six semesters of German.*

136 ADVANCED GERMAN CONVERSATION AND COMPOSITION. (3) I, II — Ubben
This course is primarily for German majors, particularly those planning to teach. It involves intensive practice in the writing of German prose, with some review of German grammar. *Prereq: six semesters of German.*

221a 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. *Prereq: six semesters of German.*

221b THE GERMAN NOVELLE. (3) II — Whitaker
This course traces the origin and development of the German Novelle from Goethe to Thomas Mann. *Prere: six semesters of German.*

222a, b 20th CENTURY GERMAN LITERATURE. (3 ea.) I, II — Bigge
Extensive readings, discussions, and comprehensive reports on the leading literary minds and movements of this Century. *Prereq: six semesters of German.*

223 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. *Prereq: six semesters of German.*

500-1, 2, 3 THESIS. (0) I, II, S — Staff

Spanish Language and Literature

Requirements for a Major. Prerequisites: Junior standing, 12 hours of English, MFL 81a-b, 82a-b; 1a-b, or 51a-b, 85a-b. *Required:* A minimum of 17 credits of advanced work in Spanish, MFL 191a-b. Comprehensive examination in the senior year.

°81a 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.

°81b ELEMENTARY SPANISH. (3) I, II, S — Staff
A continuation of 81a. Selected readings. *Prereq: 81a or one year of high school Spanish.*

°83 ELEMENTARY AURAL-ORAL PRACTICE IN SPANISH. (1) — Staff
Two hours a week. A course to improve pronunciation and comprehension of spoken Spanish. Aural-oral drills, dictation and recordings.

82a INTERMEDIATE SPANISH. (3) I, II, S — Staff
Readings of selected Spanish works and rapid review of principles of grammar. *Prereq: 81a, b or two years of high school Spanish.*

82b INTERMEDIATE SPANISH. (3) I, II, S — Staff
Continuation of 82a. *Prereq: 82a or three years of high school Spanish.*

84a-c SPANISH NOVEL AND DRAMA. (3 ea.) I, II, S — Server
Reading of standard texts; brief survey of Spanish literature; composition and outside reading. *Prereq: 82a, b.*

85a, b SPANISH CONVERSATION AND COMPOSITION. (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. Class conducted entirely in Spanish. *Prereq: 82a, b.*

86 CIVILIZATION OF SPAIN AND SPANISH AMERICA. (2) I, II — Server
Spanish traditions and their influence on the cultural development of Spanish America; indigenous civilizations and folklore. Lectures and reports on outside reading. No knowledge of the Spanish language is required.

181a, b ADVANCED SPANISH GRAMMAR AND COMPOSITION. (3, 3) I, II, S — Server
A study of the finer points of Spanish grammar. *Prereq: 84a, b.*

182a, b SPANISH LITERATURE OF THE XVII CENTURY. (3, 3) I, II, S — Hernández
Selected literature of the Golden Age; Cervantes, the picaresque novel, leading dramatists. *Prereq: 84a, b.*

183a, b SPANISH LITERATURE OF THE XX CENTURY. (3, 3) I, II, S — Server
A study of the works of the Generation of 1898 and representative works of recent writers. *Prereq: 84a, b.*

184a, 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. *Prereq: 84a, b.*

185a SPANISH LITERATURE OF THE XIX CENTURY. (3) I, II, S — Server
A study of Spanish Romanticism and the works of the leading Costumbristas. *Prereq: 84a, b.*

185b 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. *Prereq: 84a, b.*

186a-d INDEPENDENT WORK IN SPANISH. (3 ea.) I, II, S — Staff
Prereq: Major and a standing of 2.0 in the department.

191c, d TUTORIAL SEMINORS FOR MAJORS IN THE ROMANCE LANGUAGES. (Spanish) (1, 1) I, II — Staff
A survey of Spanish literature. Required of all Majors in Spanish during the senior year.

193 THE TEACHING OF ROMANCE LANGUAGES. (3) S — Server
A course for teachers and prospective teachers of French or Spanish, with the objective of providing a more vital approach to the teaching of these languages.

° Open to Freshmen.

281a OLD SPANISH. (3) I, II, S — Server
A study of the vocabulary and grammar of Old Spanish, contrasting and comparing it to modern Spanish. *Prereq: twenty-one semester hours of college Spanish.*

281b OLD SPANISH. (3) I, II, S — Server
Reading of texts in Old Spanish. *Prereq: 281a.*

282a, b SEMINAR IN SPANISH LITERATURE. (3, 3) I, II, S — Staff
Prereq: twenty-one semester hours of college Spanish.

500-1, 2, 3 THESIS. (0) I, II, S — Staff

Italian

51a, b ELEMENTARY ITALIAN. (3, 3) I, II, S — Schick
A study of the grammar and composition of Italian. *Prereq: for 51b is 51a or one year of high school Italian.*

52a, b INTERMEDIATE ITALIAN. (3, 3) I, II, S — Schick
Review of grammatical principles and readings of selected Italian works. *Prereq: for 52a, 51b. Prereq: for 52b, 52a.*

Russian

71a, b ELEMENTARY RUSSIAN. (3, 3) — Staff
The study of the basic principles of the language through grammar and reading, with emphasis on oral practice.

72a, b INTERMEDIATE RUSSIAN. (3, 3) — Staff
Review of grammatical principles, supplementary reading of lighter prose. Increased emphasis on good pronunciation and comprehension of spoken Russian. Conversation and recordings. *Prereq: 71a, b.*

73a, b ADVANCED READINGS IN RUSSIAN LITERATURE. (3, 3) — Staff
Readings in Russian in Gogol, Turgenev, Tolstoy, Lermontov, Dostoyevski, and others. Assigned readings in English on Russian history and culture. Review of Russian grammar as necessary. Oral practice. *Prereq: 72b or equivalent.*

MUSIC

Edwin E. Stein, Arnold Blackburn, Forrest Conway, Lela Cullis, James A. King, Gordon J. Kinney, Aimo Kiviniemi, Mildred S. Lewis, Virginia Lutz, Warren Lutz, Ford Montgomery, Nathaniel Patch, Frank J. Prindl, Marvin Rabin, William Worrel, and Kenneth R. Wright.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

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 Requirements for a Major. Prerequisites: Junior standing; Music 11a, b; 51a, b; 52a, b; 53a, b; Applied Music—8 to 12 semester hours.

Required: A minimum of 30 semester hours of advanced work in music as prescribed by the Department of Music. All music majors are required to take part in two performing organizations each semester. A comprehensive examination is required in the senior year.

4a PUBLIC SCHOOL MUSIC. (2) I, S — Worrel and Lewis
Methods and materials for the Primary Grades, stressing care of the child voice; rote-song singing, and repertoire; rhythmic development; listening experiences of standard musical literature; beginning notation. For non-music majors.

4b PUBLIC SCHOOL MUSIC. (2) II, S — Worrel and Lewis
Methods and materials for the Intermediate Grades. Two and three part singing; minor mode. A study of typical music texts for fourth, fifth, and sixth grades. *Prereq: 4a.* For non-music majors.

*11a THEORY I—THE ELEMENTS OF MUSICAL THEORY. (2) I Rabin
Notation, terminology, sightsinging, and ear-training. Simple problems in analysis and dictation. Three class meetings each week.

*11b THEORY I—THE ELEMENTS OF MUSICAL THEORY. (2) II Rabin
Continuation of 11a. *Prereq: 11a. Three class meetings each week.*

13a FORM AND ANALYSIS. (2) I, S Kinney
A study of the design and harmonic structure of simple and complex forms of music through analyses of standard musical compositions. *Prereq: Music 51a, b; 52a, b.*

13b FORM AND ANALYSIS. (2) II, S Kinney
A continuation of Music 13a. *Prereq: Music 13a.*

15a-q APPLIED MUSIC—Piano. (2 ea.) I, II, S Montgomery, Patch, and Conway

16a-q APPLIED MUSIC—Strings. (2 ea.) I, II, S Wright, Kinney, and Rabin

17a-q APPLIED MUSIC—Voice. (2 ea.) I, II, S King, Lutz, and Kiviniemi

18a-q APPLIED MUSIC—Organ. (2 ea.) I, II, S Blackburn

19a HISTORY OF MUSIC. (3) I, S Blackburn
A survey of the history of music from ancient times to the present.

19b HISTORY OF MUSIC. (3) II, S Blackburn
A continuation of Music 19a.

*22a, b BAND. (2 ea.) I, II Prindl and W. Lutz
For Freshmen.

23a, b BAND. (2 ea.) I, II Prindl and W. Lutz
For Sophomores.

28a, b CONCERT BAND. (2 ea.) I, II Prindl and W. Lutz
For Juniors.

29a, b CONCERT BAND. (2 ea.) I, II Prindl and W. Lutz
For Seniors.

31a-q APPLIED MUSIC—Woodwind Instruments. (2 ea.) I, II, S W. Lutz and Stein

32a-q APPLIED MUSIC—Brass and Percussion Instruments. (2 ea.) I, II, S Prindl and Worrel

39a-h GLEE CLUB. (1 ea.) I, II V. Lutz and King
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.

44a METHODS AND MATERIALS IN THE ELEMENTARY GRADES. (4) I, S Lewis
A course in methods and materials in music education for the first six grades including the care of the child voice, rhythmic development, rote-singing and repertoire, listening experience, part-singing and notation.

44b METHODS AND MATERIALS ON THE SECONDARY LEVEL. (4) II, S Lewis
Methods and materials in music education for junior and senior high schools. This includes the study of the adolescent, general music classes, organization of glee clubs, assemblies, integrated units, program production, etc. *Prereq: 44a.*

46a-p CLASS INSTRUMENTS. (1 ea.)
Class instruction in beginning string, woodwind, brass and percussion instruments, and participation in a laboratory instrumental group once a week.

46a, b CLASS INSTRUCTION IN VIOLIN. (1 ea.) I, II, S Rabin

46c, d CLASS INSTRUCTION IN CLARINET. (1 ea.) I, II, S W. Lutz

46e, f CLASS INSTRUCTION IN TRUMPET. (1 ea.) I, II, S Prindl

46g CLASS INSTRUCTION IN CELLO. (1) I, S Kinney

46h CLASS INSTRUCTION IN OBOE. (1) II, S W. Lutz

* Open to Freshmen.

46i CLASS INSTRUCTION IN FLUTE. (1) I, S — W. Lutz

46j CLASS INSTRUCTION IN FRENCH HORN. (1) I, S — Worrel

46k CLASS INSTRUCTION IN PERCUSSION. (1) II, S — Prindl

46l CLASS INSTRUCTION IN TROMBONE. (1) I, S — Worrel

46m CLASS INSTRUCTION IN BASSOON. (1) I, S — W. Lutz

46n CLASS INSTRUCTION IN STRING BASS. (1) II, S — Kinney

46p CLASS INSTRUCTION IN VIOLA. (1) II, S — Rabin

47a INSTRUMENTAL METHODS AND MATERIALS. (3) I, S — Worrel
A study of methods and materials for teaching instrumental music on the elementary and secondary school levels including a survey of the public school music program generally.

47b INSTRUMENTAL METHODS AND MATERIALS. (3) II, S — Worrel
A continuation of 47a. *Prereq: 47a.*

48a-h UNIVERSITY CHORISTERS. (1 ea.) I, II — Lewis
Admission to the University Choristers is through the director.

49a-h UNIVERSITY CHORUS. (1 ea.) I, II, S — Kiviniemi
Any student in the University may be admitted to the University Chorus after consultation with the director.

50a SIGHTREADING AND ACCOMPANYING. (1) I, S — Conway
A course designed for piano majors to study problems in sightreading and accompanying. One lecture and one lab meeting a week.

50b SIGHTREADING AND ACCOMPANYING. (1) II, S — Conway
A continuation of 50a. One lecture and one lab meeting a week.

51a THEORY II—AURAL THEORY. (2) I — Wright
Development of aural responsiveness to the harmonic and melodic elements of music, and of sight-singing techniques as an aid to musical comprehension. Three meetings each week. *Prereq: 11b.*

51b THEORY II—AURAL THEORY. (2) II — Wright
The continuation of the aural and sight-singing techniques of 51a. Three meetings each week. *Prereq: 51a.*

52a THEORY II—WRITTEN THEORY. (2) I — Wright
The acquisition of harmonic vocabulary and development of partwriting techniques, elementary counterpoint, free composition, and analysis. This course must be taken concurrently with 51a. Two meetings each week. *Prereq: 11b.*

52b THEORY II—WRITTEN THEORY. (2) II — Wright
The continuation of the work of 52a. This course must be taken concurrently with 51b. Two meetings each week. *Prereq: 52a.*

53a THEORY III—ADVANCED HARMONY AND COUNTERPOINT. (2) I — Kinney
A study of the 19th Century harmonic idioms through projects in analysis and composition. Three meetings a week. *Prereq: 52b.*

53b THEORY III—ADVANCED HARMONY AND COUNTERPOINT. (2) II — Kinney
Further study of 19th century harmonic idioms, and survey of 20th century idioms through projects in analysis, and composition in 19th and 20th century styles. Three meetings each week. *Prereq: 53a.*

102a VOCAL PEDAGOGY. (2) I, S — Kiviniemi
For teachers of voice, supervisors of music and choir directors. The study of physical and psychological problems in the teaching of voice production, the study of breath control, diction, resonance, interpretation, and repertoire.

102b VOCAL PEDAGOGY. (2) II, S — Kiviniemi
A continuation of 102a. *Prereq: 102a.*

103a PIANO PEDAGOGY. (1) I, S — Montgomery
A study of teaching methods and materials.

103b PIANO PEDAGOGY. (1) II, S — Montgomery
A continuation of 103a. *Prereq: 103a.*

106a PIANO LITERATURE. (2) I, S — Patch
A survey of music written for the piano, emphasizing problems in performance of standard piano literature.

106b PIANO LITERATURE. (2) II, S — Patch
A continuation of 106a. *Prereq: 106a.*

107a VOCAL LITERATURE. (2) I, S — V. Lutz
A study of the development of the Art Song, Opera, Oratoria, and Cantata.

107b VOCAL LITERATURE. (2) II, S — V. Lutz
A continuation of 107a. *Prereq: 107a.*

108a HISTORY AND LITERATURE OF THE ORGAN. (2) I, S — Blackburn
A course of study designed to give the organ student a practical knowledge of the development of the organ, its construction, the standard literature, and teaching materials.

108b HISTORY AND LITERATURE OF THE ORGAN. (2) II, S — Blackburn
A continuation of 108a. *Prereq: 108a.*

110 RESEARCH PROBLEMS IN PEDAGOGY OF THEORY. (2) I, II, S — Kinney
A course in the teaching of music theory. *Prereq: 53a, b.*

113a COUNTERPOINT. (2) I, S — Wright
A study of Counterpoint based on 16th Century and 18th Century contrapuntal techniques, original compositions and analysis.

113b COUNTERPOINT. (2) II, S — Wright
A continuation of 113a. *Prereq: 113a.*

115a CHORAL CONDUCTING. (2) I, S — Lewis
A study of the fundamentals of choral conducting and choral literature, emphasizing materials for the secondary school level.

115b CHORAL CONDUCTING. (2) II, S — Lewis
A continuation of 115a. *Prereq: 115a.*

116a INSTRUMENTAL CONDUCTING. (2) I, S — Rabin
A study of the technique and practice of the fundamentals of instrumental conducting and score reading.

116b INSTRUMENTAL CONDUCTING. (2) II, S — Rabin
A continuation of 116a. *Prereq: 116a.*

117a ORCHESTRATION. (2) I, S — Kinney
This course includes a study of the individual instruments of the orchestra and band with practice in scoring for these instruments.

117b ORCHESTRATION. (2) II, S — Kinney
A continuation of 117a. *Prereq: 117a.*

118 MARCHING BAND TECHNIQUE. (2) II, S — W. Lutz
A study of marching band organization and formation planning.

119a COMPOSITION. (2) I, S — Wright
A beginning course in original composition which affords the student opportunity to compose in the small forms.

119b COMPOSITION. (2) II, S — Wright
A continuation of 119a. *Prereq: 119a.*

120a SURVEY OF MUSIC LITERATURE. (2) I, S — Rabin
This course is intended for non-music majors desiring to acquire an understanding of the literature of music through a study of representative compositions of great composers. *Prereq: Humanities E or consent of instructor.*

120b SURVEY OF MUSIC LITERATURE. (2) II, S — Rabin
A continuation of Music 120a. *Prereq: Same as above.*

123 SURVEY OF CONTEMPORARY MUSIC. (2) I, S — Kinney

124a-c OPERA WORKSHOP. (1 ea.) S — V. Lutz and Kiviniemi

145 GENERAL SUPERVISION OF MUSIC. (2) II, S — Lewis
A study of supervision of the school music program through curriculum planning, supervisory techniques, administrative and community relationships, the use of mechanical aids in the improvement of teaching, etc.

200a-c ADVANCED COMPOSITION AND ORCHESTRATION. (2 ea.)** — Wright

203 CHORAL LITERATURE AND TECHNIQUE. (2) I, S — Lewis
A study of Choral literature and its interpretation.

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 intensive study in the field of band arranging.

205 MEDIEVAL AND RENAISSANCE MUSIC. (2) II, S Stein
An advanced study of the musical development during these periods.

206 SEVENTEENTH AND EIGHTEENTH CENTURY MUSIC. (2) I, S Stein
An advanced study of the music from the Baroque and Classical Periods.

207 THE ROMANTIC MOVEMENT. (2) II, S Stein
An historical study of the Romantic Movement in music during the nineteenth century.

214 ADVANCED INSTRUMENTAL CONDUCTING. (2)** Rabin
This course is intended to further develop the ability to interpret and conduct the larger forms written for the symphony orchestra and concert band.

215a-h APPLIED MUSIC—Piano. (2 ea) I, II, S Montgomery, Patch, and Conway
Prereq: Eight credits of undergraduate accredited study in Piano.

216a-h APPLIED MUSIC—Strings. (2 ea) I, II, S Rabin, Kinney, and Wright
Prereq: Eight credits of undergraduate accredited study on the string instrument in which graduate work is desired.

217a-h APPLIED MUSIC—Voice. (2 ea.) I, II, S King, V. Lutz, and Kiviniemi
Prereq: Eight credits of undergraduate accredited study in voice.

218a-h APPLIED MUSIC—Organ. (2 ea.) I, II, S Blackburn
Prereq: Eight credits of undergraduate accredited study in organ.

220 RESEARCH METHODS. (2) I, S Stein
A course designed to acquaint the student with the basic research techniques and materials in music.

224a ADVANCED MUSICAL ANALYSIS. (2) I, S Wright
A course designed to show the changing aspects of musical style through analysis of representative compositions from all periods.

224b ADVANCED MUSICAL ANALYSIS. (2) II, S Wright
A continuation of 224a. *Prereq: 224a.*

231a-h APPLIED MUSIC—Woodwind Instruments. (2 ea.) I, II, S W. Lutz and Stein
Prereq: Eight semester hours of accredited undergraduate study.

232a-h APPLIED MUSIC—Brass and Percussion Instruments. (2 ea.) I, II, S Prindl and Worrel
Prereq: Eight semester hours of accredited undergraduate study.

242 ADMINISTRATION AND SUPERVISION OF PUBLIC SCHOOL MUSIC. (3) II, S Worrel
A study of current trends in school music, curricula, testing programs, and other supervisory procedures.

243 ADVANCED METHODS AND MATERIALS IN MUSIC EDUCATION. (2) I, S Worrel
Survey and evaluation of new Public School Music methods and materials.

244 HISTORY AND PHILOSOPHY OF MUSIC EDUCATION. (2) I, S Worrel
A course designed to acquaint the student with the historical development and basic philosophy in Public School Music.

NURSING

Ann Lee Brown.

The following courses in Nursing are open only to junior and senior students who are Registered Nurses:

100 INTRODUCTION TO NURSING. (3)
A survey course with emphasis on source materials and the interrelations of nursing and the biological and social sciences.

**Offered according to demand.

101a-d PRACTICUM IN NURSING. (2 ea.)
Training in public health nursing is arranged in cooperation with city and county health organizations, selected hospitals, clinics and health agencies. Training for students with major pograms in teaching, supervision or administration in hospitals is arranged in cooperating institutions.

103 WARD ADMINISTRATION. (3)
Elementary principles of ward administration and teaching.

106 ADMINISTRATION OF THE HOSPITAL NURSING SERVICE. (3)
The relation of nursing service to the various hospital departments, to schools of nursing, and to social agencies; staff organization; personnel policy; records; budgets; equipment and supplies.

PHILOSOPHY

John Kuiper, Jesse De Boer, and John Henry Melzer.

UPPER DIVISION REQUIREMENTS – *Junior and Senior Years*

Requirements in the 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, including Philosophy 21. *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 problems of philosophy.

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, S — DeBoer
A first course in ethics; study of the nature of moral action; meaning of right and good; moral standards; principal moral theories; organization of individual and social values.

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 neorealism, critical realism, critical monism, pragmatism, idealism, neoscholasticism, existentialism, and logacal positivism.

106 REPRESENTATIVE MODERN PHILOSOPHERS. (3) — Kuiper
A study of the original works of the chief figures in modern philosophy. Special attention will be given to Descartes, Spinoza, Locke, Hume, and Kant.

109a-d INDEPENDENT WORK. (3 ea.) I, II, S — Staff
Open only to students who have distinguished themselves in philosophy or in allied subjects.

110 THE MAKING OF THE MODERN MIND. (3) I — Kuiper
A study of the intellectual background of the modern age. Renaissance humanism, 17th and 18th century rationalism, 19th century romanticism and idealism are some of the major tendencies to be stressed.

115 INTERMEDIATE LOGIC. (3) II — Melzer
A second course in logic including the logic of classes, of relations, of propositions and propositional functions, the theory of the deductive systems, and a consideration of the rival schools of contemporary logical theory.

118 PLATO AND ARISTOTLE. (3) S DeBoer
Plato's development of a theory of the world and of practice, studies in selected dialogues. Analysis of passages in Aristotle's major works on natural philosophy, metaphysics, knowledge, ethics, and politics.

120 GREAT RELIGIONS. (3) II, S DeBoer
A descriptive survey of several religions as they developed within their culture, for example, Hinduism, Buddhism, Confucianism, 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 concepts of God, the soul, immortality; and internal and external criticisms of religion.

130 METAPHYSICS. (3) DeBoer
Study of concepts and problems important for understanding the general or ultimate factors in reality; e.g. space-time, change, causality, substance, matter, life, God.

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 developments in semantics.

153 AESTHETICS. (3) I Amyx
Problems of method in aesthetics; major types of aesthetic theory. Aesthetic materials of the arts in literature, music, and the space arts. Form and types of form. Meaning in the arts. Interrelations of the arts. Lectures, discussions, reports. (Same as Art 153.)

160 PHILOSOPHY OF SCIENCE. (3)
An examination of the logical and epistemological foundations of empirical science, including such topics as the unity and diversity of the sciences, methodology, theory and explanation, and current studies in the language of science.

190 PROBLEMS OF PHILOSOPHY. (3) Staff
This course is designed for upper division and graduate students who have had little or no formal training in philosophy but wish to study the presuppositions underlying religion, education, art, morality, and government.

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.

201a, 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, Martha G. Carr, Mary Carson, Maurice A. Clay, Blanton L. Collier, Stella Gilb, Charles W. Hackensmith, Bernard M. Johnson, Milo G. Karsner, Earl Kauffman, Jr., William E. McCubbin, Lovaine C. Lewis, Alfred M. Reece, Adolph Rupp, Bernie A. Shively, Janice C. Stille, and Florence O. Stout.

Service Courses (For Men and Women)

Note: All students except those excused from Physical Educartion are required to enroll in Physical Education 1 for their first semester and Physical Education 2 for their second semester. Students may elect to enroll in Physical Education 3, 4, 5 or 6 after completing the two semesters of required courses. See page 79 for requirements.

PHYSICAL EDUCATION 1. (1) I, II, S
Two activities selected from a large variety of aquatic, individual and group activities. Required the first semester a student enrolls in physical education service courses.

PHYSICAL EDUCATION 2. (1) I, II, S
Two additional activities (not taken in Physical Education 1) chosen from the available aquatic, individual and group activities. Required the second semester a student enrolls in physical education service courses.

PHYSICAL EDUCATION 3. (1) I, II, S
Any two activities not previously taken in Physical Education 1 or Physical Education 2. *Prereq: P.E. 1, P.E. 2.*

PHYSICAL EDUCATION 4. (1) I, II, S
Two additional activities on the intermediate level not previously taken. *Prereq: P.E. 1, P.E. 2, P.E. 3.*

PHYSICAL EDUCATION 5. (1) I, II, S
Two activities on the advanced level not previously taken. *Prereq: P.E. 1, P.E. 2, P.E. 3, P.E. 4.*

PHYSICAL EDUCATION 6. (1) I, II, S
Two additional activities on the advanced level. *Prereq: P.E. 1, P.E. 2, P.E. 3, P.E. 4, P.E. 5.*

Professional Courses

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

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

Requirements for a Major. Prerequisites: For Men and Women — Zoology 1; Sociology 3a or 3b, or 40; English 6; Hygiene 9; Physical Education 40. For Women — Physical Education 46, 47, 49, 57. For Men — Physical Education 41, 42, 43, 45, 56.

Required: For Men and Women — English 159 or 32; Anatomy and Physiology 4 and 5; Home Economics 101; Hygiene 110; Physical Education 51, 61, 62a, b, 80, 143, 140, 165, 172, 180. For Women: Hygiene 7; Physical Education 53, 90, 190. For Men: Physical Education 52, 70.

(*For Teaching Certificate:* Education 148, C-147, 105, 169a, b, Physical Education 60, 144. Only 6 hours of Education count in Field of Concentration in A. & S. It is recommended that the student seeking a teaching certificate elect a second teaching field in addition to Physical Education and that he consult with his or her adviser early in the Freshman year.)

Courses for Men and Women

40 PROFESSIONAL ORIENTATION. (2) I — Carr and Clay
Introduction to the fields of health, physical education, and recreation. Two hours per week. Required of all students the first fall semester enrolled in the University in Physical Education.

41 BASKETBALL COACHING FUNDAMENTALS. (2) I, II — Rupp-Clay
Theory and practice in coaching fundamentals involved in basketball. Four hours lab per week.

42 FOOTBALL COACHING FUNDAMENTALS. (2) I — McCubbin-Collier
Theory and practice in coaching fundamentals of football. Four hours lab per week.

43 TRACK AND FIELD COACHING FUNDAMENTALS. (2) II — Seaton
The theory and practice of coaching track and field events. Four hours lab per week.

44 BASEBALL AND SOFTBALL COACHING FUNDAMENTALS. (3) S — Johnson
Theory and practice in coaching fundamentals involved in baseball and softball. Six hours lab per week.

45 TEAM SPORTS FOR MEN. (2) I, II — Johnson
Coaching fundamentals, instruction, practice, and rules in the following sports: Touch football, volleyball, speed ball, and soccer. Four hours per week lab.

46 FALL TEAM SPORTS FOR WOMEN. (3) II Carson
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 Carson
Materials, practice, and techniques for the teaching and coaching of softball, volleyball, and speedball for women. Six hours per week.

48 INDIVIDUAL SPORTS FOR MEN. (2) II, S Reece
Theory and practice in the techniques and teaching procedures of golf, tennis, and handball. Four hours per week.

49 INDIVIDUAL SPORTS FOR WOMEN. (2) II, S Lewis
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.

51 CO-RECREATIONAL ACTIVITIES. (3) I, S Lewis, Seaton, McCubbin
Theory and practice in the techniques and teaching procedures of archery, badminton, and bowling. Six hours lab per week.

52 SWIMMING AND DIVING (FOR MEN). (2) I, S Reece
The techniques of swimming, water safety, diving, and conducting of meets, water pageants, etc. Four hours per week lab. Open to all university students. *Prereq: Special skill test.*

53 SWIMMING AND DIVING (FOR WOMEN). (2) I, S Reece
The techniques of swimming, water safety, diving, and conducting meets, water pageants, etc. Four hours per week lab. Open to all university students. *Prereq: Special skill test.*

56 GYMNASTICS FOR MEN. (3) II Johnson
Theory and practice in calisthenics, tumbling, pyramid building, trampoline, parallel bars, horizontal bar and spring board. Six hours per week, all lab.

57 GYMNASTICS FOR WOMEN. (2) I Carson
Theory and practice in calisthenics, conditioning exercises, stunts, tumbling and pyramid building, with emphasis upon development of good body mechanics. Four hours lab per week.

60 PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL. (3) I, II, S Gilb
Required of all physical education majors and others who wish to qualify for a teaching certificate. Materials and techniques in physical education activities suitable for elementary school children.

61 FIELD TRIP. (0) II Carr and 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 ea.) I, II Carr and Seaton
This work is to be given in preparation for the comprehensive examination. For Arts and Sciences majors only. One hour per week.

70 TRAINING AND FIRST AID. (2) I, S Hackensmith
Principles and practice of first aid, massage, taping and therapy available to the coach and teacher for the prevention and care of athletic injuries. Three hours per week lecture and practice

72a INTERMEDIATE FOOTBALL. (2) McCubbin and Collier
A specialized course for students who wish to become coaches; detailed discussion of the fundamentals of all positions and coaching techniques. Four hours lab.

72b INTERMEDIATE FOOTBALL. (2) McCubbin and Collier
A continuation of Phy. Ed. 72a; playing strategy and coaching techniques. Four hours lab.

80 RECREATION LEADERSHIP. (2) I, II Kauffman
Discussion, observation, and practice of leadership in recreation situations. Students in class serve as leaders of the Faculty Children's Play Club and of special activities by other groups when requested. Lecture, two hours; lab, two hours.

81 CAMP LEADERSHIP. (2) II Kauffman
Designed for the training camp administrators and counselors. One hour lecture and two lab per week.

85 JUMPING (HORSEBACK). (1) Ryen
Practice in jumping over different obstacles for show and hunting. *Prereq: P.E. 1-16 or consent of instructor.* Two hours per week lab.

86 EQUESTRIAN DRESSAGE. (2) Ryen
The technique of training dressage. One hour lecture and two hours laboratory. *Prereq: Horsemanship or equivalent.*

87 INTERMEDIATE DRESSAGE. (1) Ryen
The techniques of training a horse for dressage in position and utmost collection. *Prereq: P.E. 86 or consent of instructor.* Two hours lab.

90 FOLK, TAP, AND SOCIAL DANCING. (3) II Carr and Lewis
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 fundamentals of tap dancing. Six hours per week.

91 TECHNIQUE AND PROCEDURE OF THE DANCE. (3) I Stille
An analytical study of contemporary dance, structure and technique through basic principles of kinesthetics, form and creativity. Dance as an educational function. Open to male students. Two hours lecture and recitation, and two hours lab.

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.

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. Two hours per week. *Prereq: Physical Education 41 or consent of instructor.*

142 COACHING ADVANCED FOOTBALL. (2) II, S Collier and McCubbin
Lecture and recitation on the theory of football. Special emphasis is placed on generalship, signal systems, scouting and conditioning of players. Two hours per week. *Prereq: Physical Education 42 or consent of instructor.*

143 HISTORY AND PRINCIPLES OF PHYSICAL EDUCATION. (3) I 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) II, S Carr and Clay
Required for teacher certification in physical education. Theory and practice in methods of teaching physical education activities and supervising programs in the secondary school. One hour per week of lecture, and four hours lab.

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 lab two hours per week.

154 ADVANCED AQUATICS (FOR MEN). (1) II, S Reece
The technique and method of life saving, swimming, and diving leading to an instructor's certificate. Two hours per week. *Prereq: A senior LS certificate; or Physical Education 52.*

155 ADVANCED AQUATICS (FOR WOMEN). (1) II Reece
The technique and method of life saving, swimming, and diving leading to an instructor's certificate. Two hours per week lab. *Prereq: A senior LS certificate; or Physical Education 53.*

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 lab.

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 lab.

159a SPORTS OFFICIATING FOR WOMEN. (1) I, S Carson
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 lab.

159b SPORTS OFFICIATING FOR WOMEN. (1) II, S Carson
Instruction, interpretation of rules, and practice in officiating basketball, softball, tennis, and other sports. Preparation for Women's National Official's rating in athletics. One hour lecture, two hours lab.

165 SAFETY IN PHYSICAL EDUCATION. (2) I, 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. *Prereq: 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 of practice per week. *Prereq: 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 recreational therapy. Four hours per week lab. *Prereq: Physical Education 173 or consent of instructor.*

175 FIELD WORK IN REHABILITATION. (3) Hackensmith
Clinical practice in therapeutic exercise under medical supervision. Designed to qualify students as Exercise Therapists and to prepare those entering allied fields of rehabilitation. One hour lecture and four hours laboratory.

180 ADMINISTRATION AND ORGANIZATION OF RECREATION. (3) II, S Kauffman
This course is designed to equip students and community workers with workable procedures for developing and operating recreation programs in communities of various sizes and with varying political and social structures.

181 CAMPING IN EDUCATION. (2) I, S Kauffman
Purpose, history, organization, and conduct of camps of various types. *Prereq: Physical Education 81 or permission of instructor.*

182 INTRAMURAL SPORTS. (2) II, S McCubbin and Staff
A study of the development of intramural sports; lecture, recitation, and practice in methods of organizing and administering intramural sports. Three hours per week. One hour lecture and two hours lab.

183 INTERPRETATIONS OF LEISURE AND RECREATION. (3) I, S Kauffman
Designed to provide students interested in recreation as a profession as an adjunct to other work, or as informed citizens with a basic understanding of the signficance of leisure and the objectives of recreation.

184 ADVANCED DRESSAGE. (2) Ryen
Advanced techniques in equestrian dressage leading up to the fundamentals of high school riding. *Prereq: P.E. 87.* One hour lecture, two hours laboratory.

185 COMMERCIAL RECREATION. (3) II, S Kauffman
This course is concerned with the socio-economic aspects of commercial recreation and the development of operational techniques of such enterprises. Designed for students and operators of commercial recreation facilities. *Prereq: Sociology 40, or consent of instructor.*

186 EQUITATION TEACHING. (2) Ryen
The techniques of horsemanship and methods of instruction. One hour lecture and two hours laboratory. *Prereff: Horsemanship and Animal Industry 5.*

190 HISTORY AND SURVEY OF THE DANCE. (3) II, S Stille
The study of the evolution of dance through the cultural periods of history and the correlation of social structure and dance forms. Open to male students. Three hours per week.

191 RHYTHMICAL FORMS AND ANALYSIS. (2) II Stille
A functional study of rhythms 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, two hours lab.

192 DANCE COMPOSITION. (4) I Stille
Dance choreography, program planning, directing, staging and costuming. Formal program required of all students. Open to male students. Two hours lecture and recitation; four hours lab per week. *Prereq: Physical Education 91.*

195 FOLK DANCE LEADERSHIP FOR SCHOOL AND COMMUNITY. (2) Karsner and Lewis
Philosophy, background, and methods of folk dance for schools and communities. Leadership, participation, and program planning with special emphasis upon field work with community groups. One hour lecture and two hours lab.

Graduate Courses for Men and Women

240 GRADUATE SEMINAR IN PHYSICAL EDUCATION. (2) I, II, S — Carr and Hackensmith
A review of current literature in the field. Guidance in thesis writing. Two hours per week.

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.

243 PROBLEMS IN THE ADMINISTRATION OF ATHLETICS. (2) II, S — Clay and Shively
For athletic directors, supervisors, and athletic coaches. A study of representative athletic administration procedures for colleges and public school systems. Business management is also stressed. Two hours per week.

244 TESTS AND MEASUREMENTS IN HEALTH AND PHYSICAL EDUCATION. (3) I, S — Hackensmith
The theory and practice of tests and measurements in the field of health and physical education. Two hours lecture and two hours lab.

280 PROBLEMS IN RECREATION. (2) I, S — Kauffman
Current problems in recreation are identified and analyzed by the application of appropriate recreation technique. The course is designed for recreationists, school people and community workers.

PHYSICS

Francis L. Yost, Lewis W. Cochran, Thomas M. Hahn, Jr., R. D. Halladay, Richard Hanau, Bernard D. Kern, O. T. Koppius, John R. Lamarsh, R. C. Layson, Richard Mockler, Jean L. Ryan, William O. Shropshire, Wm. H. Snedegar, Andrew Spear, and William S. Webb.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

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

Requirements for a Major. Prerequisite: Physics 3a-b; Mathematics 17, 18, and 19. *Required:* Mathematics 20a-b; a minimum of 19 credits of advanced work in Physics, including at least two advanced laboratory courses; a comprehensive examination in the senior year.

*1a GENERAL ELEMENTARY PHYSICS. (5) I, II, S — Staff
An elementary course covering the Mechanics of solids, liquids, and gases; and Heat. Lectures and recitations, four hours; lab, two hours. *Prereq: High School or College Algebra, Plane Geometry.*

*1b GENERAL ELEMENTARY PHYSICS. (5) I, II — Staff
Continuation of Physics 1a, covering Magnetism and Electricity, Sound, and Light. Lectures and recitations, four hours; lab, two hours. *Prereq: Physics 1a or equivalent.*

3a GENERAL COLLEGE PHYSICS. (6) I, II, S — Staff
An advanced general course covering the Mechanics of solids, liquids, and gases; and Heat. Lectures and recitations, four hours; lab, four hours. *Prereq: Mathematics 17, 18, and 19; Chemistry 1a-b; or equivalents; concurrent, Mathematics 20a.*

3b GENERAL COLLEGE PHYSICS. (6) I, II, S — Staff
An advanced general course covering Magnetism and Electricity, Sound, and Light. Recitations, four hours; lab, four hours. *Prereq: Physics 3a or equivalent; concurrent, Mathematics 20b.*

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* Open to Freshmen.

*51a INTRODUCTION TO PHYSICS. (3) I Koppius
A lecture demonstration course covering the Mechanics of solids, liquids, and gases; and Heat.

*51b INTRODUCTION TO PHYSICS. (3) II Koppius
A lecture demonstration course covering Magnetism and Electricity, Sound, and Light. *Prereq: Physics 51a or equivalent.*

104 THEORETICAL MECHANICS. (4) I Kern
Considers the fundamental laws of mechanics and the conditions under which they hold. Topics are the dynamics and statics of a particle and rigid body, including constrained and oscillatory motion. *Prereq: Physics 3b; Mathematics 20b.*

108 LIGHT. (3) Hanau
Considers basic phenomena of geometrical and physical optics including thick lenses, apertures, wave motion, interference, diffraction, polarization, double refraction, and the theory of selected optical instruments. *Prereq: Physics 3b; Mathematics 20b.*

110 SPECTROSCOPY. (3) Hanau
Considers production, recording, measuring, and interpretation of spectra. Includes atomic structure, spectrographs, photometry, interpretation of spectra in fields of atomic structure and spectrographic analysis. *Prereq: Physics 3b; Mathematics 20b.*

111 ELECTRICITY AND MAGNETISM. (3) Mockler
Considers the fundamental theory of electricity and magnetism, including conductors and dielectrics, magnetic forces and energy of current, magnetization of iron, and transient and alternating currents. *Prereq: Physics 3b; Mathematics 20b.*

114 VACUUM TUBES AND CIRCUIT THEORY. (3) Staff
A lecture and problem course covering the theory of vacuum tubes and associated circuits. *Prereq: Physics 3b; Mathematics 20b.*

115 THEORY OF MEASUREMENTS. (3) Staff
Considers the analysis of experimental data, including finding an empirical equation to fit data, quantitative graphs, approximations, probability distributions, errors and deviations, least square solutions. *Prereq: Physics 104; Mathematics 20b.*

119 X-RAYS AND CRYSTAL STRUCTURE. (3) Staff
Considers the production and properties of X-rays, including development of the formulae of absorption, scattering, polarization; methods of wave-length measurement; the Compton effect; quantum phenomena. *Prereq: Physics 3b; Mathematics 20b.*

120 X-RAY TECHNIQUE. (2) Cochran
An introductory course for medical technologists; includes the design and operation of X-ray equipment, and the factors affecting the quality of radiographs. Several weeks are devoted to practice in radiography. *Prereq: Physics 1b.*

123a HEAT AND THERMODYNAMICS. (3) Lamarsh
Stresses fundamental principles of heat phenomena; laws of thermo dynamics; equations of state for gases; changes of state; thermodynamic relations and their applications to physics and allied sciences. *Prereq: Physics 3b; Mathematics 20b.*

123b HEAT AND THERMODYNAMICS. (3) Lamarsh
Continuation of Physics 123a; thermodynamic functions; thermodynamic equilibrium; phase rule and phase equilibria; equilibrium in gaseous and liquid systems; ionic equilibrium; electromotive force and free energy; surface phenomena; radiation; Nernst's heat postulate. *Prereq: Physics 123a.*

125a-d INDEPENDENT WORK IN PHYSICS. (3 ea.) Staff
Prereq: Major and a standing of 2.0 in the department.

130 EXPERIMENTAL PHYSICS: SPECTROSCOPY. (2) Hanau
Considers the use and properties of various light sources; prism and grating spectrographs; photographic materials; photometry; qualitative and quantitative analysis of unknown materials by spectrographic methods. *Prereq: Physics 110 or 108.*

131 EXPERIMENTAL PHYSICS: ELECTRICITY AND MAGNETISM. (2) Cochran
Includes calibration and use of electrometers, galvanometers, and potentiometers; studies of dielectrics and magnetization; measurements of capacitance, resistance and inductance; absolute determinations of electrical quantities. *Prereq: Physics 111.*

134 EXPERIMENTAL PHYSICS: VACUUM TUBES. (2) Staff
Considers the measurements of circuit and vacuum tube constants, and the experimental study of amplifiers, a.f. and r.f. oscillators, pulse generators, saw-tooth generators, etc. *Prereq: Physics 114, or equivalent* (may be taken simultaneously).

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* Open to Freshmen.

135 EXPERIMENTAL PHYSICS: ATOMICS AND NUCLEONICS. (2) Cochran
Considers the methods of producing and detecting nuclear particles. The experiments include methods appropriate to alpha particles, electrons and positrons, photons, neutrons, fission fragments and mesons. *Prereq: Physics 155a or equivalent.*

137 EXPERIMENTAL PHYSICS: HEAT. (2) Koppius
Considers gas thermometers, resistance thermometers, radiation, pyrometers, thermocouples; determination of expansion coefficients, vapor pressures, densities, viscosity, surface tension, transition points, specific and latent heats, ratio of specific heats, conductivities, radiation constants. *Prereq: Physics 123a.*

138 EXPERIMENTAL PHYSICS: LIGHT. (2) Hanau
Considers the properties of lenses, mirrors, prisms, gratings, and combination of these elements. Important optical phenomena are studied by means of microscope, telescope, spectrometer, interferometer, polarimeter. *Prereq: Physics 108.*

155a FUNDAMENTAL ATOMIC AND NUCLEAR PHYSICS. (3) Hahn
Stresses the fundamental principles of atomic and nuclear theory and practice. Topics: atomic nature of matter, radiant energy, atomic and molecular structure, radioactivity, nuclear structure. *Prereq: Physics 3b; Mathematics 20b.*

155b FUNDAMENTAL ATOMIC AND NUCLEAR PHYSICS. (3) Kern
A continuation of Physics 155a emphasizing a detailed study of nuclear structure. Topics: basic facts for nuclear theory (size, spin, and statistics), constituent particles, disintegration, nuclear dynamics, and nuclear forces. *Prereq: Physics 155a.*

205 KINETIC THEORY OF MATTER. (3) Staff
Classical kinetic theory of gases, including theorems of Clausius, Joule, Maxwell, and Boltzman; coefficients of viscosity and slip; Brownian movements; specific heat relations; equations of changes of state. *Prereq: Two "100" Physics courses; Mathematics 105a.*

206 METHODS OF MATHEMATICAL PHYSICS. (3) Lamarsh
Solution of physical problems systematized according to the equations they satisfy. Variational methods, boundary conditions, eigenfunctions, Green's function, integral representations, approximation procedures, with applications from electromagnetic theory, quantum mechanics, acoustics. *Prereq: Consent of instructor.*

208 MICROWAVES. (3) Mockler
Considers electromagnetic wave theory emphasizing modern problems of microwave transmission, including plane, rectangular, and cylindrical wave guides, and special problems of transmission at hyperfrequency. *Prereq: Mathematics 105a; Physics 111; Electrical Engineering 133 or equivalent.*

212 CONDUCTION OF ELECTRICITY THROUGH GASES. (3) Hanau
Considers basic phenomena of electrical discharge in gases, including ionic formation, mobility, diffusion, and recombination; representative discharges such as the arc, glow, spark, corona. *Prereq: Physics 111; 110 or 155a; Mathematics 105a.*

213 ELECTROMAGNETIC THEORY. (3) Staff
Applies electromagnetic theory to the optical phenomena of reflection, refraction, polarization, absorption, and dispersion. Isotropic, non-isotropic, conducting, and non-conducting media are treated. *Prereq: Physics 111 and 108; Mathematics 105a.*

214 TRANSIENT ELECTRIC AND VACUUM TUBE PHENOMENA. (3) Staff
Considers transient currents in circuits with variable inductance, capacitance, and resistance, coupled circuits, vacuum tube circuits. Heaviside's operational method of circuit analysis is used. *Prereq: Physics 111 or 114; Mathematics 105a.*

215a QUANTUM MECHANICS. (3) Hahn
Considers the origin of quantum theories and the older theories of Bohr and Sommerfeld; mathematical techniques of quantum mechanics; general aspects of wave mechanics and matrix mechanics; the uncertainty principle. *Prereq: Physics 217a.*

215b QUANTUM MECHANICS. (3) Hahn
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. *Prereq: 215a or equivalent.*

217a THEORETICAL PHYSICS. (4) Lamarsh
A course of lectures presenting the basic aspects of theoretical physics in a unified way. Representative tpoics: advanced dynamics; hydrodynamics; elasticity. *Prereq: Two "100" courses in Physics; Mathematics 105a.*

217b THEORETICAL PHYSICS. (4) Hahn
A continuation of 217a dealing with statistical mechanics, thermodynamics, electrodynamics, relativity, quantum theory. *Prereq: Physics 217a or equivalent.*

218 THERMODYNAMICS. (3) Kern
Review of the two classical laws of thermodynamics and their dynamical and statistical mechanical support; Nernst's heat theorem; applications of classical thermodynamics; relativity thermodynamics. *Prereq: Physics 123a; Mathematics 105a.*

220a-h SEMINAR. (1 ea.) Staff
A weekly meeting of the staff and advanced students for the discussion of recent developments in physics and of work in progress in the department. Credit is given to those who satisfactorily present papers.

224 THEORY OF THE SOLID STATE. (3) Staff
A lecture and problem course covering the fundamental theory of the structure and properties of complex atoms, molecules, liquids and solids. Topics include mechanical, chemical, and thermal properties of matter. *Prereq: Physics 215a or equivalent.*

226a, b RESEARCH. (3 ea.) Staff

227a, b RESEARCH. (5 ea.) Staff

230a NUCLEAR PHYSICS. (3) Hahn
A lecture and problem course dealing with advanced experimental nuclear physics. Topics include properties of nuclei, nuclear transformations, observational methods, radioactivity and interaction of radiation with matter. *Prereq: Physics 217a.*

230b NUCLEAR PHYSICS. (3) Hahn
A lecture and problem course concerned with the theories of the structure of atomic nuclei. Topics include nuclear shell structure, internuclear forces, nuclear binding energies, and theory of nuclear reactions. *Prereq: Physics 215a or equivalent.*

231 ATOMIC STRUCTURE. (3) Hahn
A lecture and problem course treating the theory of atomic structure. Topics include atomic and molecular spectra, multiplet structure, interatomic and intermolecular forces, and quantum mechanical treatment of the vector model. *Prereq: Physics 215a.*

232 STATISTICAL MECHANICS. (3) Mockler
A lecture and problem course dealing with the thermal properties of matter from the standpoint of statistical mechanics. Topics include thermodynamic properties, perfect gases, and Fermi-Dirac statistics. *Prereq: Physics 123b and 217a.*

250 COSMIC RAYS AND RELATIVISTIC PHENOMENA. (3) Kern
A lecture and problem course dealing with the field of cosmic rays. Topics include relativity theory, interaction of cosmic rays with matter, shower theory, properties and production of mesons. *Prereq: Physics 217a or equivalent.*

500-1, 2, 3 THESIS. (0) Staff

POLITICAL SCIENCE

Amry Vandenbosch, O. H. Cornwell (Visiting Lecturer), Herbert N. Drennon, Gladys M. Kammerer, Noah Mullins (Visiting Lecturer), John E. Reeves, J. B. Shannon, Paul M. Smith (Visiting Lecturer), Ernest G. Trimble, and Kenneth E. Vanlandingham.

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. Prerequisites: Political Science 51 and Economics 51. *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 paper in the senior year.

*51 AMERICAN GOVERNMENT. (3) I, II, S Staff
A survey of federal, state, and local governments in the United States, with comparisons with government on the same levels in Canada and Great Britain.

* Open to Freshmen.

111 CURRENT PUBLIC AFFAIRS. (2) I, II Staff
An analysis and discussion of the most significant contemporary problems 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.

500-1, 2, 3 THESIS. (0) Staff

I. Political Parties and Public Opinion

170 POLITICAL PARTIES. (3) I Shannon
An analysis of pressure groups; organization, methods, and functions of political parties in the United States.

173 PUBLIC OPINION. (3) II Shannon
A study of the nature of public opinion, influence of the press, propaganda techniques and media of communication in politics.

179 POLITICAL LEADERSHIP. (3) II, S Shannon
A course in practical politics, an analysis of the interaction of leaders and led in government. A course intended particularly for persons expecting to enter the profession of politics.

RELATED COURSES IN OTHER DEPARTMENTS

Psychology 104, Social Pspchology.

II. Public Administration

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
A study of the history of the merit system in public administration, recruitment, position classification, pay policies, employee relations and morale, tenure, promotion, transfer, and training in the public service; the role of the personnel officer.

177c ADMINISTRATIVE REGULATION. (3) II, S Kammerer
An examination of the regulatory movement, legal bases of regulation, the organization and administration of regulatory agencies, practice and procedure in rule making and administrative adjudication; and judicial control.

202 NATIONAL AND REGIONAL PLANNING. (3) II, S Shannon
A study of the theories and principles of planning with a detailed investigation of the regional life of selected areas.

206 SPECIAL PROBLEMS IN PUBLIC ADMINISTRATION. (3) I Kammerer or Reeves
A research course in selected problems of public administration. The problems will be chosen in accordance with the needs and desires of students registered for the course.

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, Roman and early Christian Political Thought.

171b MODERN POLITICAL THEORY. (3) II Shannon
Study of Machiavelli, Hobbes, Locke, Rousseau, Burke, and the theories of the American and French Revolutions, the English Utilitarians.

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.

271 SEMINAR IN CONTEMPORARY POLITICAL THEORY. (3) I, S Shannon
An intensive study of contemporary political ideologies.

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 Drennon
A study of the governments of Great Britain and the Dominions, France, and Scandinavia.

155b COMPARATIVE GOVERNMENT – CONTEMPORARY DICTATORSHIPS. (3) II, S Drennon
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, India, and the countries of Southeast Asia.

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.

176 LEGISLATION. (3) II Kammerer
A functional study of legislative bodies and the process of legislation, covering the organization of legislative assemblies, operation of the committee system, procedures, bill drafting, aids, and controls over legislation.

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.

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.

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
The relations between the United States and the Latin American countries, with emphasis on the Monroe Doctrine and Pan-Ameircanism.

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; treatment of aliens.

165 WORLD POLITICS. (3) I, II, S Drennon
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 Vandenbosch
Background of the United Nations. Problems and issues at the San Francisco Conference; analysis of charter and comparison with League of Nations Covenant; nature, structure, and functions.

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.

217 CONTEMPORARY AMERICAN DIPLOMATIC PROBLEMS. (3) I, S Vandenbosch
An examination of the more important and basic current problems of American foreign policy.

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.

VII. State and Local Government

*52 MUNICIPAL GOVERNMENT. (3) I Reeves
An introductory course in the study of the structure and functions of modern city governments with some attention to other forms of local government.

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.

140 RURAL LOCAL GOVERNMENT. (3) I, S Vanlandingham
A study of the organization and functioning of units of local government, with primary emphasis on government in Kentucky counties.

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.

RELATED COURSES IN OTHER DEPARTMENTS

Economics 124. State and Local Taxation.
Sociology 40. The Community.
Sociology 170. The City.

141 POLICE ADMINISTRATION. (3) Smith
Evaluation of police organization and administration; the organization, functions and procedures of modern police departments on municipal, county, state and national levels. *Prereq: Consent of the Department.*

142 INTRODUCTION TO LAW ENFORCEMENT. (3) Smith
Need for good relations between police, the public and the press; police and politics; crime as a social problem; crime prevention and detention.

144 TRAFFIC REGULATION. (3) Smith
An introduction to the principles of traffic regulation; engineering, education, enforcement; organization; methods; accident investigation and statistics.

146a CRIMINAL IDENTIFICATION AND INVESTIGATION. (2) Cornwell
Elements of police investigations; interrogations of witnesses and suspects; collection, care and preservation of evidence; fingerprinting. *Prereq: Consent of the Department.*

146b POLICE SCIENCE LABORATORY TECHNIQUES. (2) Cornwell
Central laboratory services in criminal investigation; case studies; identification and analysis of evidence; court procedure in laboratory cases. One hour lecture, three hours lab. *Prereq: Completion of or concurrent with 146a.*

* Open to Freshmen.

PSYCHOLOGY

James S. Calvin, Robert E. Bills, Richard Blanton, Lysle W. Croft, Charles F. Diehl, Graham B. Dimmick, Betsy W. Estes, Parl L. Mellenbruch, Ernest Meyers, Jack J. Monroe, Edward Newbury, Robert D. North, Frank A. Pattie, Robert W. Rasor, A. Dudley Roberts, Erwin W. Straus, Walter E. Watson, and M. M. White.

For information regarding the Industrial Psychological, Child Guidance, and speech correction services, see "Special Services of the University," p. 311.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

Requirements for a Major. Prerequisite: Phychology 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.

*1 INTRODUCTION TO PSYCHOLOGY. (4) I, II, S — Staff
An introduction to the study of problems of human behavior. Among the topics covered are: heredity; development of the individual, motivation, emotion, learning, the senses, perception, and personality. Lecture-Recitation, three hours; lab, two hours.

2 APPLIED PSYCHOLOGY. (3) I, II — Mellenbruch
Practical application of psychology to business, industry, law, medicine, and everyday living. The student is led to see how he can employ psychology efficiently and how psychology in turn affects him. *Prereq: 1.*

7 PSYCHOLOGY OF THE CHILD. (3) I, II, S — Bills and Estes
The development of behavior from birth to maturity. The problems of conduct arising during infancy, childhood, and adolescence in relation to child care and training. *Prereq: 1.*

8 INDIVIDUAL DIFFERENCES. (3) I, II, S — Newbury
An introduction to the study of individual differences in relation to measurement in psychology. Effects on behavior of race, sex, heredity, physical constitution, and training will be considered. *Prereq: 1.*

104 SOCIAL PSYCHOLOGY. (3) I, II — White
Description and explanation of social phenomena in terms of the original and acquired reaction systems of the individual. Topics given special consideration: crowds, mob behavior, propaganda, and nationalism. *Prereq: 1.*

108 EXPERIMENTAL PSYCHOLOGY. (4) I — Meyers
An experimental study of the nature of sensation and perception — of the process by which we know the world through our senses: vision; hearing; taste and smell; the skin senses. *Prereq: 1.*

113 PSYCHOLOGY OF LEARNING. (4) II — Meyers and Calvin
An experimental study of the learning process with an analysis of various types of learning — verbal learning, form learning, conditioned-response learning, acquisition of skills, memory, problem solving, thinking. *Prereq: 1.*

114 ABNORMAL PSYCHOLOGY. (3) I, II, S — Pattie
Disturbed conduct and thinking studied from both the theoretical and the practical points of view. The major psychoses and neuroses are given special consideration. Some opportunity for clinical observation. *Prereq: 1.*

115 GENETIC PSYCHOLOGY. (3) II — Newbury
Influence of heredity factors in the development of human behavior. A critical survey of the evidence regarding psychological traits such as musical and other special abilities, intelligence, interest, insanity. *Prereq: 1.*

116 ANIMAL BEHAVIOR. (4) I — Newbury
Experimental techniques used in investigations of animal behavior. Topics include: heredity and environment, activity, instinct, motivation, learning, sensory discrimination, and personality in subhuman species. *Prereq: 1.*

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* Open to Freshmen.

117 BIOLOGY OF MOTIVATION. (2) II Newbury
Fundamental activating and goal-seeking processes of living organisms, biologically considered, including experimental and theoretical studies on such topics as instincts, drives, motives, and taste preferences. *Prereq: 1.*

120a-d INDEPENDENT WORK IN PSYCHOLOGY. (2 ea.) I, II, S Staff
Designed for advanced students who undertake minor research problems to be conducted in regular consultation with the instructor. *Prereq: Major in the Department with a standing of two in psychology courses.*

121 STUDENT PERSONNEL. (3) I, II Croft
The methods of dealing with student personnel problems in college and high school, including the problems of selection, classification, grading, personal adjustment, motivation, guidance, and vocational placement. *Prereq: 1.*

124 MENTAL HYGIENE. (3) I, II, S Bills
A general orientation to the subject of mental hygiene, its historical development, its scope and relation to various sciences. The individual and cultural determinants of behavior will be discussed. *Prereq: 1.*

125 EXPERIMENTAL CHILD STUDY. (3) I, II Estes
An advanced course in the psychology of the normal child. The scientific background of experimental and observational method. Opportunities are provided to work with children. *Prereq: Psy. 7.*

127 INTRODUCTION TO INDUSTRIAL PSYCHOLOGY. (3) I Mellenbruch
Review of the functions and findings of psychology applicable to business and industry. Topics covered are: employment procedures, personnel testing, attitude analysis, motivation, and morale. *Prereq: Psy. 1.*

128 PSYCHOLOGY OF INDUSTRIAL PERSONNEL PROCEDURE. (3) II Mellenbruch
A practical course for those preparing for personnel administration and for psychology in industry and business. A study is made of the theory and methods of position classification, job analysis, job evaluation, merit rating, supervisor selection and training, and collective bargaining. *Prereq: Psy. 1.*

130a SPEECH CORRECTION: A SURVEY. (3) I, S Diehl
An introduction to the nature, causes, and treatment of the major disorders of speech: articulation, stuttering, voice, cleft palate, hearing, cerebral palsy and aphasia. *Prereq: 9 semester credits in Psychology.*

130b SPEECH CORRECTION: AN INTRODUCTION TO THERAPY. (3) II, S Diehl
Observation and discussion of and limited supervised experience with therapeutic techniques and procedures of speech therapy. *Prereq: 130a, or concurrent.*

131 STUTTERING AND ITS CORRECTION. (3) II Diehl
The nature, causes, and treatment of stuttering, with emphasis on therapeutic procedures. *Prereq: 130a.*

141 PSYCHOLOGY OF THE CRIMINAL. (2) Watson
A study of psychological factors involved in criminality with special emphasis on the emotional and personality patterns underlying the life of the criminal, and the problems brought about by incerceration. *Prereq: 1.*

150 PSYCHOLOGICAL TESTING. (3) I, II Estes
A general orientation to the field of psychological testing. Introduction to the principles and methods of psychological testing, and a survey of the various kinds of psychological tests. *Prereq: 1, 8.*

201a-h SEMINAR IN PSYCHOLOGY. (1 ea.) I, II Staff
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 Staff
Shorter research problems are registered under this number. A minimum of six hours a week is required in consultation with the instructor.

205a, b SEMINAR IN SOCIAL PSYCHOLOGY. (3 ea.) II White and Bauder
Each semester some topic in the field of social psychology, such as attitudes and beliefs, structure and function of social groups, social determinants of behavior, leadership, and morale will be studied intensively. Same as Sociology 205a, b.

210a-h RESEARCH IN PSYCHOLOGY. (3 ea.) I, II, S 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. *Prereq: 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. The following aspects of emotional behavior are considered: the conscious experience of emotion; behavior in emotional situations; physiological changes accompaning emotion. *Prereq: Psy. 108 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. *Prereq: Psy. 113 or equivalent.*

215 PSYCHOMETRICS. (3) I, II North
Analysis and interpretation of human measurements. The course deals with the computation and interpretation of simple, partial, and multiple correlations, regression equations, and reliability of measures. *Prereq: Math. 4 or equivalent.*

217 PHYCHOLOGY OF LANGUAGE. (2) II Diehl
A survey of semantic uses of language as related to human behavior. Special attention will be given to language problems of the brain injured: aphasic, cerebral palsied, and mentally disordered.

219 CLINICAL PSYCHOLOGY. (4) I, II, S Blanton
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.

225 PRACTICE IN TESTING: INTELLIGENCE TESTS. (3) I, II Estes
This course provides advanced laboratory practice in the measurement of intelligence by individual techniques. Six hours a week. *Prereq: Psy. 8 or equivalent.*

226 PSYCHOLOGICAL MEASURING INSTRUMENTS. (3) II Mellenbruch and North
A study is made of a wide variety of psychological tests including group intelligence tests, personality and interest inventories, area aptitude tests, and special aptitude tests. *Prereq: Psy. 8.*

230 PERSONALITY THEORY. (3) I
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 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 and item analysis of an original test by the student. *Prereq: Psy. 215.*

234b TEST STANDARDIZATION. (3) II Melleubruch
A continuation of 234a. The student will administer a revised form of his preliminary test to an adequate sampling of the appropriate population and will determine its reliability and validity. *Prereq: Psy 234a.*

235 DIAGNOSIS AND COUNSELING IN A STUDENT PERSONNEL PROGRAM. (3) II Croft
An advanced course in techniques for collecting information for student counseling, diagnostic techniques, and the techniques of counseling and interviewing. *Prereq: A graduate major in Psychology or Education, and Psy. 121.*

237 CLINICAL TESTING. (2) I, II Watson
Practical experience in the application of clinical diagnostic techniques to a variety of pathological subjects. *Prereq: Psy. 225.*

238 THE RORSCHACH TEST. (4) I, II Dimmick
An introduction to the Rorschach test as a clinical treatment. Practice in administering, scoring and interpreting the test. *Prereq: Psy. 219.*

239 THE THEMATIC APPERCEPTION TEST. (3) II, S
An introduction to the Thematic Apperception Test as an instrument for obtaining information concerning thought content, attitudes, and feelings. Practice in administering, scoring, interpretation. *Prereq: Psy. 238.*

240a THERAPEUTIC PROCEDURES. (3) I, II Bills
Theory and technique of nondirective psychotherapy. Consideration will be given to the personality theory formulated for the technique and the supporting evidence. Supervised counseling experience. *Prereq: Psy. 219.*

240b THERAPEUTIC PROCEDURES. (3) Dimmick
History, evolution and rationale of various psychotherapeutic procedures including directive psychotherapy, play therapy, use of painting and drawing. Demonstrations and supervised experience in these techniques. *Prereq: Psy. 219.*

241 MOTIVATION. (2) II Dimmick
A survey of our present knowledge – clinical, experimental, and observational – of affective and conative factors in psychopathology. Psychoanalytic theory of motivation of behavior is emphasized.

245 ADVANCED ABNORMAL PSYCHOLOGY. (3) I Dimmick
Special consideration is given the neuroses and the psychoses. Emphasis is placed upon the problems of differential diagnosis through the use of psychological techniques. *Prereq: Psy. 114, 219.*

250 THE RORSCHACH TEST: (Advanced Course). (4) II Dimmick
In this course emphasis will be placed on the interpretation of a wide range of normal and pathological Rorschach records. *Prereq: Psy. 238.*

270 PSYCHOLOGICAL EXPERIMENTATION. (3) I, II Calvin
A study of the application of experimental methods in the major areas of psychology, including sensation and perception, learning, motivation, emotion, and personality. The design of research studies will be emphasized. *Prereq: Psy. 108, 113.*

300a MEDICAL THERAPEUTIC PROCEDURES. (1) I Straus
Rationale, procedures, and results of four important psychiatric therapeutic methods: (1) electrical and pharmacological shock, (2) narcohypnosis of drug-analytic methods, (3) malaria and other types of fever therapy, and (4) prefrontal lobotomy.

300b MEDICAL THERAPEUTIC PROCEDURES. (1) II Straus
This course presents the history, rationale, indications, procedures, and results of psycho-therapeutic methods.

310a-h PRACTICUM IN CLINICAL PSYCHOLOGY. (3 ea.) I, II Blanton
Supervised case experience in clinical psychology. Students rotate among various institutions, including neuropsychiatric hospitals, institutes for mental defectives, and child guidance clinics. *Prereq: Psy. 226, 238.*

311a-h PRACTICUM IN STUDENT PERSONNEL. (3 ea.) I, II, S Croft
Nine hours of supervised work each week in the University Personnel Office.

312a-h PRACTICUM IN CHILD PSYCHOLOGY. (3 ea.) I, II, S
Nine hours of supervised work each week.

313a-h PRACTICUM IN INDUSTRIAL PSYCHOLOGY. (3 ea.) I, II, S Mellenbruch
Nine hours of supervised work each week.

315a, b PRACTICUM IN SPEECH THERAPY. (3 ea.) I, II, S Diehl
Practical case work in speech therapy in speech clinic, hospitals, and public schools. Training in diagnostic examination, case history methods, and group therapy. *Prereq: 130a, b.*

431a-p SPECIAL FIELD PRACTICUM. (1 ea.) 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 .....

500-1, 2, 3 THESIS. (0) I, II, S Staff

RADIO ARTS

Camille Henderson Halyard, O. Leonard Press, and Stuart W. Hallock.

UPPER DIVISION REQUIREMENTS – *Junior and Senior Years*

Requirements in Field of Concentration: Forty semester hours in courses not open to freshmen, including the major work, in the field of Literature, Philosophy, and the Arts, during the junior and senior years.

Requirements for a Major. Prerequisites: Radio Arts 1a, 1b. *Required:* Radio Arts 2a, 101, 102, 103, 105, 106a, 106b, 110, and 111. Comprehensive examination.

*1a RADIO TODAY. (3) I, S
A familiaization of the set-ups of radio stations and networks, their relationship with the federal body regulating them, and many of the various tools used by them in presenting radio programs. Lecture and recitation, three hours.

*1b RADIO TODAY. (3) II
Radio in public service; broadcasts to schools; building the radio schedule; serving the sponsor; listener problems; the newer radio arts (FM, Facsimile, Television). Lecture and recitation, three hours.

2a RADIO ANNOUNCING. (2) I, II, S
The study and practice of radio announcing, with emphasis on studio and microphone techniques, pronunciation, inflection. Workshop on WBKY. Lecture and recitation, one hour; lab, two hours. No prerequisite.

101 RADIO REGULATIONS. (2) I
A study of the Rules and Regulations of the Federal Communications Commission; music licensing regulations; libel and slander; copyrights as applied to broadcasting. Lecture and recitation, two hours. No prerequisite.

102 ADVANCED RADIO ANNOUNCING. (2) II
The study of news commentating, public events, man-on-the-street, the interview, round table participation and moderation, and concert announcing. Workshop on WBKY. Lecture and recitation, one hour; lab, two hours.. *Prereq: 2a.*

103 RADIO AND TELEVISION ADVERTISING. (2) I
The data and techniques of radio and television advertising, including problems of coverage and circulation, spot campaigns, testing, time buying, the agency, measuring broadcast effectiveness, merchandising radio and television advertising, and time selling. Lecture and recitation, two hours.

105a RADIO SCRIPT WRITING. (2) I, S
Practice in script writing in the various short forms; commercials, interviews, talks, and development of ideas into drama, documentary, dramatic narrative, and other. Lecture and recitation, one hour; lab, two hours. No prerequisite.

106a RADIO PRODUCTION. (2) I, II, S
The tools of Production Directing. General procedures, application of procedure, including program building, studio problems and projects; casting, rehearsing and acting, on-the-air practice. Lecture and recitation, one hour; lab, two hours. No prerequisite.

106b RADIO PRODUCTION. (2) II, S
A continuation of 106a. Advanced practice in radio production involving individual research on assigned projects for radio broadcast. Conferences and lab. *Prereq: Radio Arts 105a and 106a or consent of instructor.*

110 PRO-SEMINAR IN RADIO. (1) II
Discussion and reports of current broadcasting highlights and problems. Required of all seniors in preparation for the comprehensive examination. Lecture and recitation, one hour.

111 CINEMATOGRAPHY. (2) I
The art of making films for television, including the mechanics of motion picture photography. A study of equipment, lenses, lighting, color, editing and set design. Lecture, two hours; lab, two hours. *Prereq: Consent of instructor.*

SOCIAL WORK

Harold E. Wetzel, Irving A. Gail, and Beulah Theobald.

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.

* Open to Freshmen.

Requirements for a Major. Prerequisite: Social Work 24. A basic minimum of twenty hours in social work including 100, 113, 116, 122, 130a, and 140a plus additional courses depending on the student's area of specialization, including specific courses in sociology, psychology, hygiene and economics. Tutorial and comprehensive examination in the senior year.

24 ORIENTATION TO SOCIAL WELFARE PRACTICE. (3) I, II
An introduction to the organization and function of selected social work agencies in the community. Lectures, discussions, and observational visits. 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. Interrelationship of federal, state and local services; standards and supervision as influenced by federal security legislation. *Prereq: 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 interpretations and their implications for social case work. For majors in the department. *Prereq: two courses in social work.*

111a-d INDEPENDENT WORK. (1 ea.) I, II, S Staff
Conferences, assigned readings, reports on minor research problems. *Prereq: Major and a standing of 2.0 in the department.*

113 INTRODUCTION TO SOCIAL CASE WORK 1. (2) II Theobald
An introductory course in the generic principles of social case work. Discussions based on selected readings and case records. For majors in the department. *Prereq: two courses in social work.*

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. *Prereq: two courses in social work.*

122 FIELD OF SOCIAL WORK. (3) I, II, S
Function, method, and philosophy of contemporary social work. The divisions of the field (case work, group work, community organization, institutional work, social action, and research) and the professional status of social work will be considered.

127a, b TUTORIAL WORK IN SOCIAL WORK. (1 ea.) I, II, S Staff
For senior majors in the department.

130a COMMUNITY ORGANIZATION FOR SOCIAL WELFARE. (3) I, S
Methods and techniques of social welfare planning. Analysis of needs and resources, coordination of agencies, financing and developing chest and council programs and interpretation of social work.

130b COMMUNITY ORGANIZATION FOR SOCIAL WELFARE. (3) II
A continuation of 130a with emphasis on the organization and function of social welfare agencies at the national and international level. *Prereq: 130a or permission of the instructor.*

131 FIELD PRACTICE IN COMMUNITY ORGANIZATION. (2) I, II Staff
Supervised experience in planning and execution of simple projects in community organization. For senior majors by special permission. *Prereq: SW 130a.*

140a PRINCIPLES OF SOCIAL GROUP WORK. (3) I, S
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
The group work process as applied to agency administration, supervision of staff and volunteers, statistical and process recording, evaluation of program, personnel and committee relationships. *Prereq: 140a or consent of the instructor.*

144a, b FIELD PARTICIPATION IN GROUP WORK PROGRAMS. (2 ea.) I, II, S
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. *Prereq: SW 140a, and consent of the instructor.*

151 PUBLIC ASSISTANCE PROGRAMS. (3) II Wetzel
The current function of public assistance upon the federal, state, and local level with emphasis on the public assistance provisions of the Social Security Act, general relief, and work relief policies.

217 GENERIC SOCIAL CASE WORK. (2) I Theobald
An introductory course for graduate students with emphasis upon the application of case work principles in problems of increasing complexity. *Prereq: 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 1. (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

Howard W. Beers, C. Arnold Anderson, James S. Brown, A. Lee Coleman, James W. Gladden, Sarah B. Holmes, James W. Hughes, Sidney Kaplan, Irwin T. Sanders, and Willis A. Sutton.

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 Sociology 106 or equivalent, at least 3 credits in Theory and Methodology, and 6 credits in one of the other subdivisions below. To be considered for graduation with honors, majors must take Independent Work and must pass a comprehensive examination.

Courses in Sociology

I. Introductory and General Sociology

*3a SOCIETIES AROUND THE WORLD. (3) I, II, S Staff
Meets Social Studies requirements. Comparative study of the Eskimo, Navajo, and Baganda as preliterate, primitive societies in difficult environments. (Same as Anthropology and Geography 3a.)

*3b SOCIETIES AROUND THE WORLD. (3) I, II, S Staff
Meets Social Studies requirements. Comparative study of the Chinese Peasant, Cotton South, and British Midlands as more highly developed societies living in more moderate environments. (Same as Geography 3b.)

106 PRINCIPLES OF SOCIOLOGY. (3) I, II, S
A survey of the basic elements of culture, collective behavior, communities, social institutions, and social change. Basic concepts required for the analysis of sociological data are systematically considered.

107 COMPARATIVE SOCIOLOGY. (3) I Sanders
A study of the dynamics of culture as shown in a primitive, a peasant, and a modern culture system.

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* Open to Freshmen.

II. Theory and Methodology

105 SOCIAL THEORY: PLATO TO COMTE. (3) I — Hughes
The social theories of representative social thinkers, together with a brief study of their lives and the times in which they lived. Extensive reading of their works. *Prereq: one sociology course.*

114a-d INDEPENDENT WORK. (1 ea.) I, II, S — Staff
Study of some special topic by duly authorized students. *Prereq: Major and a standing of 2.0 in the department.*

122 CONTEMPORARY SOCIOLOGICAL THEORY. (3) II — Anderson
A study of the leading developments in sociological theory and methodology from Comte to the present time. *Prereq: two sociology courses.*

124 TECHNIQUES OF SOCIAL INVESTIGATION. (3) I — Coleman
A study of the practical applications of sociology in organizing, conducting, and interpreting social surveys and other forms of sociological research. *Prereq: one sociology course.*

130 SOCIAL SYSTEMS. (3) S
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 ea.) I, II, S — Staff
Consideration mainly of methods of research and of current sociological literature.

202a-j SPECIAL PROBLEMS IN SOCIOLOGY. (1 ea.) I, II, S — Staff

225 SYSTEMATIC SOCIOLOGY. (3) I — Sanders
An intensive study of certain selected sociological theorists such as Weber, Durkheim, Simmel, Pareto, and others.

500-1, 2, 3 THESIS. (0) — Staff

III. Social Organization and Process

6 AMERICAN IMMIGRANTS AND RACES. (3) II
A study of ethnic groups in the United States, and of national policies for dealing with related problems, including special attention to Negro-white relations.

*7 SOCIAL INSTITUTIONS. (3) II — Anderson
A comparative analysis of the familial, economic, religious, recreational, and other basic institutions of human society, with emphasis upon the institutionalization process.

40 THE COMMUNITY. (3) I, S — Sutton
Social organization and process in modern communities; social techniques of community improvement.

109a THE FAMILY. (3) I, II, S — Gladden
A study of the institutions of marriage and the family and an analysis of the various factors and forces at work in our time which are affecting the individual marital relationship. *Prereq: two sociology courses.*

109b THE FAMILY. (3) II, S — Gladden
A study of the various social situations in which children grow to early adolescence with emphasis on the primary group relationships in home, neighborhood, play group, and school. *Prereq: Sociology 109a or permission of instructor.*

126 INDUSTRIAL SOCIOLOGY. (3) I — Gladden
A sociological analysis of the division of labor, the characteristics of occupational groupings; principal socio-economic movements, and group relationships in modern industry. *Prereq: one sociology and one economics course.*

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. *Prereq: one sociology course.*

128 THE SOCIOLOGY OF THE SOUTH. (3) II, S — Anderson
Analysis of the population and social organization of the south and of the factors influencing the development and utilization of the human resources of the region. *Prereq: senior standing of social science majors; others by arrangement.*

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* Open to Freshmen.

129 RELIGION AND CULTURE. (3) I Gladden
An analysis of the structure, function, and process of religion, using the development of the Hebrew and Christian religions to show social origins of the two faiths and the effect of cultural change on their growth.

131 SOCIOLOGICAL ANALYSIS OF AMERICAN SOCIETY. (3)
A study of the contemporary U.S.A. with emphasis upon the changing relations among various aspects of American society and culture. *Prereq: one sociology course.*

132a, b INTERGROUP RELATIONS. (3 ea.) S Kaplan
Analysis of relationships between groups which differ in religious, ethnic, or socio-cultural backgrounds; the development of educational and social techniques for reduction of tensions. (Same as Education 132a, b.)

164 THE BALKANS: THE STUDY OF A PEASANT SOCIETY. (3) II, S Sanders
A description of the basic social structure of the Balkan region 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 Sutton
This course is a study of the sociology of city life. The major emphasis is upon the ecological and social characteristics of urban life in contrast to rural community life. *Prereq: An introductory sociology course or with approval of instructor.*

209 SEMINAR IN THE FAMILY. (2) II Gladden
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 Coleman
A sociological scheme of analysis is applied to the special problems of adjustment arising from ethnic group relations and culture contacts.

228 SOCIOLOGY OF RELIGION. (3) II Gladden
Critical study of reciprocal relation of religion and culture, the function of religion in society, social sources of religious concepts, religious differentiation and institutionalization, the problem of church and state.

230 EDUCATIONAL SOCIOLOGY. (3) II, S Hartford
A course in the sociological foundations of education. (Same as Education 230.)

260 PROBLEMS IN EDUCATIONAL SOCIOLOGY. (3) S Hartford
An advanced course in the application of sociological findings to education, including consideration of southern regional problems and potentialities. *Prereq: 12 semester hours of graduate work including Education 230 or equivalent.* (Same as Education 260.)

IV. Social Disorganization and Reorganization

*2 MODERN SOCIAL PROBLEMS. (3) I, II, S Holmes
An introductory course involving an examination of selected social problems of the present day. Topics discussed are family, poverty, crime, race, housing, population, industrial development, etc. Not open to seniors in Arts and Sciences College.

101 SOCIAL DEPENDENCY. (3) I
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 Hughes
A systematic examination of the various types of social disorganization, with particular emphasis upon the sociological explanation of underlying factors. *Prereq: one sociology course.*

103 CRIMINOLOGY. (3) I, II, S Hughes
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 Beers
A study of movements and trends in population, with respect to race, age, birth-rates, etc. *Prereq: Sociology 124 or its equivalent.*

V. Personality and the Group

25 COLLECTIVE BEHAVIOR. (3) I, II Kaplan
A sociological interpretation of group life and of certain aspects of social life, inculding the building up or shaping of public opinion or social control.

* Open to Freshmen.

104 SOCIAL PSYCHOLOGY. (3) I, II, S — White
Description and explanation of social phenomena in terms of the original and acquired reaction systems of the individual. Topics given special consideration: crowds, mob behavior, propaganda, and nationalism. *Prereq: Psychology 1.* (Same as Psychology 104.)

142 CULTURE AND PERSONALITY. (3) — Essene
The cultural basis of personality. Personal character considered as the result of culturally fostered patterns. The ideal personality in several selected societies. Lectures, three hours. (Same as Anthropology 142.)

205a, b SEMINAR IN SOCIAL PSYCHOLOGY. (3 ea.) II — White
Each semester some topic in the field of social psychology, such as attitudes and beliefs, structure and function of social groups, social determinants of behavior, leadership, and morale will be studied intensively. (Same as Psychology 205a, b.)

VI. Rural Sociology

(The following courses in Rural Sociology are offered in the College of Agriculture and Home Economics.)

10 INTRODUCTION TO RURAL SOCIOLOGY. (3) I, II — Beers, Brown

115 ORGANIZATION OF RURAL GROUPS. (3) II, S — Brown

125 RURAL MOVEMENTS AND SOCIAL POLICY. (3) I

160 RURAL COMMUNITY ANALYSIS. (3) I, II — Sanders

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

230 RURAL URBAN RELATIONS. (3) I

250a, b TOPICAL SEMINAR. (3) II — Staff

ZOOLOGY

John M. Carpenter, William R. Allen, Roger W. Barbour, Alfred C. Brauer, and James M. Edney.

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. Prerequisites: Junior standing; Zoology 6 credits. *Required:* Zoology 7a or 157a; 7b, or 157b, or 21; Zoology 106; 108a, b; 114a, b; a minimum of 15 credits of advanced work, passing a comprehensive examination before graduation.

Courses Recommended for Special Curricula: Medical Sciences 1, 7b, 101a, b, 105, 106, 108b, 117, 119, 123. Teacher Training, 1, 7a, b, 11, 21, 102, 103a, b, 108a, b, 109. Pre-Conservation Training, 1, 7a, 21, 102, 103a, b, 105, 109, 112, 117, 119, 123, 130, 141. No prerequisites for Zoology 1 required for admission to all other courses. See Catalog and Instructor.

*1 PRINCIPLES OF ANIMAL BIOLOGY. (4) I, II, S — Staff
General studies on cell structure, mitosis, gametogenesis, ontogeny, histology, physiology, homology, ecology, taxonomy, heredity, and phylogeny. Laboratory studies on typical Invertebrate and Vertebrate types. Two lectures and two lab periods per week for one semester.

7a COMPARATIVE ANATOMY. (4) I — Brauer
Invertebrates. Comparative morphology of types of the important phyla, classes, and orders. Life histories and development of selected forms. *Prereq: Zoology 1.*

7b COMPARATIVE ANATOMY. (4) I — Edney
Systematic consideration of chordates with emphasis on vertebrates. Comparative studies of chordate morphology, phylogeny, ontogeny, organology, physiology, and homology. Laboratory studies on typical prochordates, cyclostomes, and gnathostomes, and the cat. *Prereq: Zoology 1.*

11 NATURE STUDY. (4) II, S — Barbour
Get acquainted studies of the natural environment as the background of human culture. Elementary materials for use of schools, Nature Clubs, Scouts, etc. Stars, planets; earth forms; trees, birds, insects, fishes. Lectures, lab, field work.

21 NATURAL HISTORY OF THE VERTEBRATES. (4) I, II, S — Barbour
An introduction to the natural history and taxonomy of the fishes, amphibians, reptiles, birds, and mammals. Two lectures, two field or lab exercises per week. *Prereq: Zoology 1.*

101a HISTOLOGY. (4) I, II, S — Brauer
Histology of the tissues. A course in the technique of preparation of animal tissues for microscopic study. Practice in imbedding, staining, sectioning, mounting, and identification of tissues. *Prereq: Zoology 1.*

101b HISTOLOGY. (3) I, II, S — Brauer
Histology of the organs. A continuation of Courses 101a in which the studies are based on the organs and special attention given to pathology. *Prereq: Zoology 101a.*

102 ORNITHOLOGY. (4) II, S — Barbour
A study of the life-histories, habits, identification, structure, adaptations, and physiology of birds. Special emphasis upon migrations, songs, nests and economic importance of our native birds. Lectures; field excursions; lab studies: *Prereq: Zoology 1.*

103a GENERAL ENTOMOLOGY. (3) I — Allen
A beginning course in the study of this greatest group of the Animal Kingdom. Anatomy, morphology, adaptations, life-histories of representatives of the most important orders of insects and other arthropod classes. *Prereq: Zoology 1.*

103' GENERAL ENTOMOLOGY. (3) II — Allen
Continuation of 103a. More detailed study of the orders and many representative families. Methods of making and preserving insect collections. Identification; life-history, ecology of many insect species. Making an individual collection. *Prereq: Zoology 103a.*

105 PARASITOLOGY. (4) I, S — Edney
Protozoan, helminth and arthropod parasites of man and domestic animals, emphasis on etiology, epidemiology, methods of diagnosis, control measures, and life histories. Techniques for host examination and preparation of material for study. *Prereq: Zoology 1.*

106 EMBRYOLOGY. (4) I, II, S — Brauer
A general course in ontogeny. Studies in maturation, fertilization, cleavage, organogenesis and anomalies of development with laboratory work based on the chick and pig. *Prereq: Zoology 1.*

108a PRINCIPLES OF ZOOLOGY (Evolution). (2) I, S — Allen
An advanced lecture course on some of the fundamental principles of animal biology. Organic evolution and related dynamic aspects of the living organism. Two hours per week.

108b PRINCIPLES OF ZOOLOGY (Heredity). (2) II, S
Lectures and recitations on principles of heredity, variation and eugenics. Two hours per week.

109 ANIMAL ECOLOGY AND FIELD BIOLOGY. (3) I — Barbour
An analysis of the environment and the respective adjustments of animal life to the environmental complex. Habitats, food, respiratory needs and mechanisms, life-histories, animal associations, adaptations. *Prereq: Zoology 1.*

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* Open to Freshmen.

110a-f INDEPENDENT WORK. (3 ea.) I, II, S — Staff
Special problems for individual students who are capable of pursuing independent investigations. *Prereq: Major and a standing of 2.0 in the department.*

111 SPECIAL MICROTECHNIQUES IN ZOOLOGY. (3) I, II, S — Brauer
Special methods in histological technique for students of Zoology, Pathology or Anatomy. *Prereq: Zoology 101a, b.*

112 ICHTHYOLOGY. (4) I — Allen
Taxonomy of the fishes with life-histories and biology of types. Fish structure and physiology, habits, ecology. Fish-culture and economic Ichthyology: care of fishes, aquaria, etc. Elements of fresh-water fishery administration. *Prereq: Zoology 1.*

114a-f ZOOLOGICAL SEMINAR. (1 ea.) I, II — Staff
Reports on: technical papers in scientific journals, book review, recent developments in Zoology, scientific meetings. Tutorial instruction preparatory to comprehensive examination. Required of all majors in Zoology.

117 MEDICAL PROTOZOOLOGY. (4) II, S — Edney
The etiology, epidemiology, pathology, diagnosis, prophylaxis and control of parasitic protozoa, with special emphasis on life cycles and detailed studies of the protozoan parasites of man. Given alternate years. *Prereq: Zoology 105.*

119 HELMINTHOLOGY. (4) II, S — Edney
The etiology, epidemiology, pathology, diagnosis, prophylaxis and control of trematode, cestode and nematode parasites of vertebrates, with special emphasis on those of veterinary and medical importance. Given alternate years. *Prereq: Zoology 105.*

120 ANIMAL CYTOLOGY. (4) I
A study of recent concepts of the organization of protoplasm and correlated activities in animal cells. Two lectures, four hours lab. *Prereq: Zoology 1, 101a and b, or satisfactory equivalents.*

123 MEDICAL ENTOMOLOGY. (4) I, S — Edney
Study of Arthropod vectors of disease. Structure, collection, identification, control measures and life history studies. Given alternate years. *Prereq: Zoology 105.*

126 SPECIATION. (3) I, II — Carpenter
Mechanisms of Evolution. A discussion of modern theories and problems concerning the formation of animal and plant species. Three hours per week. *Prereq: Eight hours of Biological Science including Zoology 1.*

140 HERPETOLOGY. (4) II — Barbour
Designed to acquaint the student with the amphibians and reptiles of eastern North America, their classification, adaptations and natural history. Lecture, two hours; lab, four hours per week. *Prereq: Zoology 1.*

141 MAMMALOGY. (4) I — Barbour
Designed to acquaint the student with the mammals of eastern North America, their classification, adaptations and natural history. Lecture, two hours; lab, four hours per week. *Prereq: Zoology 1.*

157a INVERTEBRATE ANATOMY. (4) I — Brauer
An advanced course on the comparative anatomy of invertebrate animals with special attention paid to phylogeny, organology, and taxonomy. *Prereq: Zoology 1.*

157b ADVANCED VERTEBRATE ZOOLOGY. (4) I — Edney
Systematic consideration of chordates with emphasis on vertebrates. Comparative studies of chordate morphology, phylogeny, ontogeny, organology, physiology and homology. Laboratory studies on typical prochordates, cyclostomes, gnathostomes and the cat. *Prereq: Zoology 1.*

166 PHYSIOLOGY OF DEVELOPMENT. (3) I — Brauer
A review of theories of differentiation and a consideration of the genetic environment, and correlative physiological factors in differentiation. Lectures, assigned readings and literature reports. *Prereq: 1; 7a, 7b or 106.*

Courses Primarily for Graduate Students

Qualified students may elect work in any special field listed below. Independent work under direction, with conferences on objectives, principles, materials, methods, analysis of data and conclusions. Progress reports required at intervals.

202a-d PROBLEMS IN ORNITHOLOGY. (3 ea.) I, II, S — Barbour
205a-d PROBLEMS IN PARASITOLOGY. (3 ea.) I, II, S — Edney
206a-d PROBLEMS IN EMBRYOLOGY AND HISTOLOGY. (3 ea.) I, II, S — Brauer
209a-d PROBLEMS IN LIMNOLOGY AND ECOLOGY. (3 ea.) I, II, S — Allen, Barbour
212a-d PROBLEMS IN ICHTHYOLOGY. (3 ea.) I, II, S — Allen
216a-d PROBLEMS IN SPECIATION. (3 ea.) I, II, S — Carpenter
220a-d PROBLEMS IN CYTOLOGY. (3 ea.) I, II, S
221a-d PROBLEMS IN HERPETOLOGY AND MAMMALOGY. (3 ea.) I, II, S — Barbour
500-1-2-3 THESIS. (0) I, II, S — Staff

SCHOOL OF JOURNALISM

L. Niel Plummer, J. Ardery McCauley, Marguerite McLaughlin, William M. Moore, and Victor R. Portmann.

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: Six to eight hours of journalism. *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 85.

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 — Plummer
A course of lectures and readings designed to introduce prejournalism students to the opportunities in journalism and advertising, the qualifications and training implicit in journalism as a profession.

10 SURVEY OF JOURNALISM. (3) S — McCauley
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 ENTYMOLOGY. (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
Instruction and practice in news gathering, news evaluation, and news writing. *Prereq: Journalism 22.*

100b NEWS REPORTING. (3) I, II, S — Plummer
A continuation of Journalism 100a with emphasis on special fields of information. *Prereq: Journalism 100a.*

101 COPYREADING AND EDITING. (3) I, II — McCauley
Instruction and practice in newspaper deskwork. Preparation of local, state, telegraph, and radio news and features; picture editing, and page make-up. Lab, six hours. *Prereq: Journalism 100a.*

102 COMMUNITY JOURNALISM. (3) I, S — Portmann
A study of the problems which confront the community weekly and the small city daily. *Prereq: Journalism 22.*

* Open to Freshmen.

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 newspaper. *Prereq: Journalism* 22.

105 LAW OF THE PRESS. (2) I, II, S Plummer
A study of the special laws of libel, copyright, and regulatory provisions that pertain to the press.

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. *Prereq: Senior standing.*

107 EDITORIAL WRITING. (2) I McCauley
A study of editoriols, editorial columns, and editorial pages. Publication of copy encouraged. *Prereq: Journalism* 22.

108 HISTORY OF JOURNALISM. (3) II Portmann
A study of the rise and development of American journalism and newspapers. *Prereq: Senior standing.*

109 TYPOGRAPHY. (2) I Portmann
Instruction and practice in typographic composition. Use of type faces in news editing. Study of typography in the make-up of American newspapers. Lab, four hours.

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
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, one hour; lab, four hours.

118 PUBLIC RELATIONS. (3) II, S McCauley
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. *Prereq: Senior or graduate standing.*

123 FEATURE WRITING. (3) I, II Moore
Instruction and practice in writing features. Lectures, readings, and reports directed toward discovering, gathering, organizing, writing, and marketing feature articles. *Prereq: Senior standing or consent of instructor.*

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. *Prereq: Senior or graduate standing, or consent of instructor.*

127 REPORTING PUBLIC AFFAIRS. (3) II McCauley
Instruction and practice in reporting the news originating in courts and other public institutions. *Prereq: Journalism 100b and senior standing.*

130 INTRODUCTION TO PRESS PHOTOGRAPHY. (3) I, II, S Moore
Use of cameras, printers, enlargers, and laboratory equipment in modern press photography, and a study of selected readings on photographic methods and skills.

150 RADIO NEWS SCRIPTS. (2) I, II Moore
Instruction and practice in writing news and feature material for radio presentation. *Prereq: Journalism* 22.

COLLEGE OF AGRICULTURE AND HOME ECONOMICS

AGRICULTURAL ECONOMICS

Aubrey J. Brown, Wendell Chester Binkley, John Harvey Bondurant, Lawrence Allen Bradford, George B. Byers, Dana George Card, Carl McKinley Clark, Harold B. Clark, Harald Jensen, Ernest Joseph Nesius, Hugh Bruce Price, John C. Redman, John Bissell Roberts, Robert William Rudd, and Leon Angus Vennes.

General Agricultural Economics

1 AGRICULTURAL ECONOMICS. (3) I, II, S — Bradford, Jensen, Clark, H. B.
An examination of the agricultural industry and of farm businesses as affected by economic forces.

Agricultural Marketing

100 AGRICULTURAL MARKETING. (3) I, II, S — Binkley, Clark, H. B., Vennes
Principles and methods of marketing farm products with attention to systems and agencies at both country and central markets. *Prereq: Econ. 51; Agr. Econ. 1.*

101 AGRICULTURAL COOPERATION. (3) II, S — Clark, H. B., Vennes
Principles, methods, and problems involved in the cooperative marketing of farm products and in the purchase of farm production supplies through cooperatives. *Prereq: Agr. Econ. 100.*

102a MARKETING TOBACCO. (2) I, S — Clark, C. M.
Special emphasis on the marketing of and the market systems for tobacco. Application of marketing principles and methods to tobacco. *Prereq: Agr. Econ. 100.*

102b TOBACCO MARKET GRADES AND GRADING. (1) S — Clark, C. M.
Procedures and problems in establishing market standards for tobacco, including practice in grading. *Prereq. or concurrent: Agr. Econ. 102a, or approval of instructor.*

103 MARKETING LIVESTOCK AND LIVESTOCK PRODUCTS. (2) II, S — Brown
Analysis of livestock and dairy markets; market organization, agencies, institutions, and services; and public regulations. *Prereq: Agr. Econ. 100.*

109 MARKETING AND PROCESSING POULTRY PRODUCTS. (2) I, S — Roberts, Wightman
Organization and operation of markets; grading, packaging and handling poultry and eggs. Lecture, one hour; lab, two hours. *Prereq: A. I. 41, Agr. Econ. 100.* Same course as A. I. 142.

206 ADVANCED AGRICULTURAL MARKETING. (3) II — Price
A critical examination of objectives and results of various types of research in market organization, marketing functions, market management, and price analysis. *Prereq: Approval of instructor.*

220a ECONOMICS OF AGRICULTURAL PRODUCTION: STATIC APPLICATION. (3) I — Jensen
Application of economic principles to agricultural production problems of resource combination, enterprise selection, scale of operations, household-firm relationships, interregional competition, and national agricultural policies and programs. *Prereq: Approval of instructor.*

220b ECONOMICS OF AGRICULTURAL PRODUCTION: DYNAMIC APPLICATION. (3) II — Jensen
A continuation of 220a with application to dynamic situations. *Prereq: Agr. Econ. 220a and approval of instructor.*

Agricultural Statistics

130 AGRICULTURAL STATISTICS. (3) I, II — Card, Clark, H. B.
Principles and methods involved in the analysis, interpretation, and use of agricultural statistics including variation, correlation, standard errors, and simple analysis of variance.

230 STATISTICS FOR AGRICULTURAL RESEARCH: SOCIAL SCIENCES. (3) II Card
Multiple and partial correlation, test of reliability, sample surveys, and other techniques for agricultural research. *Prereq: Agr. Econ. 130 or equivalent.*

231 STATISTICS FOR AGRICULTURAL RESEARCH: PLANT AND ANIMAL SCIENCES. (3) II Card
Analysis of variance and covariance; statistical considerations in the design of experiments; tests of significance and confidence limits. *Prereq: Agr. Econ. 130 or equivalent.*

Agricultural Policy and Land Economics

140 AGRICULTURAL POLICY. (3) II Price, Rudd
Historical development of principles underlying agriculutral policy; objectives of agricultural policy; appraisal of current and proposed agricultural programs. *Prereq: Agr. Econ. 100.*

145 LAND ECONOMICS. (3) I Redman
Institutional, technological and physical forces affecting the use of land resources in agriculture. Analysis of problems connected with land tenure, land conservation and transfer of farm real estate. *Prereq: Agr. Econ. 110 or approval of instructor.*

240 ADVANCED AGRICULTURAL POLICY. (3) I Price, Rudd
Influences of policies upon economic progress, efficiency in resource use, distribution of income, and welfare in agriculture. *Prereq: Approval of instructor.*

Farm Management

110 FARM MANAGEMENT. (3) I, II, S Bradford
An analysis of management and of the science of organizing and operating farms; measurements of success; developing crop and livestock programs; and record keeping in the light of maximizing returns from resources. *Prereq: Agr. Econ. 1; Econ. 51.*

111 ADVANCED FARM MANAGEMENT. (3) II Bradford, Jensen
An advanced analysis of management and managing farms. *Prereq: Agr. Econ. 110.*

114 CURRENT FARM MANAGEMENT PROBLEMS. (3) S Bradford
An analysis of the current economic problems in farming, such as costs, technological developments, demand changes, and resource use. An introductory course designed primarily for professional workers in agriculture. *Prereq: Agr. Econ. 110, or approval of instructor.*

115 FARM ACCOUNTING. (2) II Bradford
Development and analysis of farm records and farm accounts including farm cost accounting. *Prereq: Agr. Econ. 110.*

116 LAND VALUE AND APPRAISAL (Odd No. Years). (3) I Bondurant
The capitalization process, and other methods of valuing farm land; appraisal procedures of the Federal Land Banks and other credit institutions. *Prereq: Agr. Econ. 110 or approval of instructor.*

117 TYPES AND SYSTEMS OF FARMING (Even No. Years). (3) I Bondurant
Critical study of the business organization and management of Kentucky farm businesses. Field trips required. *Prereq: Agr. Econ. 110, or approval of instructor.*

118 FARM LABOR UTILIZATION. (3) I Byers
Efficient work method fundamentals as applied to agricultural production, work simplification analysis of specific farm jobs and incentive payment plans for encouraging economic use of farm labor, are studied. *Prereq. or concurrent: Agr. Econ. 110.*

Production Economics

120 PRODUCTION ECONOMICS. (3) I Bradford, Jensen
Economic analysis of agricultural production. A theoretical treatment of land and capital returns, costs and related functions of agricultural production at an elementary level. *Prereq: Agr. Econ. 110.*

121 COST, PRICE AND PRODUCTION RELATIONSHIPS IN AGRICULTURE. (3) S Bradford
Relationship among production expenses, cost of production, prices paid, prices received, agricultural production, and farm income. Designed primarily for professional workers in agriculture. *Prereq: Agr. Econ. 110, and approval of instructor.*

Agricultural Prices and Finance

150 AGRICULTURAL PRICES. (3) II Clark, H. B., Vennes
Price behavior of agricultural products including supply-price relationships and their relation to the general price level. *Prereq: Econ. 51.*

155 AGRICULTURAL AND FARM FINANCE. (3) I, S Clark, C. M., Bradford
Credit needs of agriculture; problems connected with farm and market agency financing; organization and operation of agricultural credit agencies. *Prereq: Econ. 51.*

250 ADVANCED AGRICULTURAL PRICES. (3) I Rudd
Advanced study of agricultural price behavior by the application of economic theory and statistical analysis. *Prereq: Approval of instructor.*

General Courses

160 SPECIAL PROBLEMS IN AGRICULTURAL ECONOMICS. (3) I, II Brown and Staff
Directed independent study of a selected problem. *Prereq: Approval of instructor and head of department.*

260a-c SPECIAL PROBLEMS IN AGRICULTURAL ECONOMICS. (3 ea.) I, II Brown and Staff
Open to graduate students who have the necessary training and ability to conduct research on a selected problem. *Prereq: Approval of head of department.*

216 RESEARCH METHODS IN AGRICULTURAL ECONOMICS. (3) II Jensen, Redman
An analytical examination of research methods and techniques used in agricultural economics. *Prereq: Approval of instructor.*

200a-d AGRICULTURAL ECONOMIC SEMINARS. (0) I, II Staff
Analysis of economic problems which affect agriculture.

500-1, 2, 3 THESIS. (0) Staff

AGRICULTURAL ENTOMOLOGY

Walter Allen Price and Lee Hill Townsend.

1 AGRICULTURAL ENTOMOLOGY. (3) I, II 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. Lectures, two hours; lab, two hours.

2 APICULTURE. (3) II Townsend
The anatomy of the bee; the colony; location and equipment of the apiary; honey production; diseases and enemies of bees. Laboratory work includes manipulation of equipment and bees. Lectures, two hours; lab, two hours.

3 ECONOMIC ENTOMOLOGY: HOUSEHOLD INSECTS. (2) I Townsend
Life histories, habits, and control of the common insects which are injurious and troublesome in the home. Consideration is given to certain other insects which have public health importance. Lectures, two hours.

102 ECONOMIC ENTOMOLOGY. (3) Townsend
For those interested in agricultural teaching and extension work. Life history, control, and identification of economic insects of Kentucky are considered. Lectures, two hours; lab, two hours. *Prereq: Agr. Ent. 1.*

103 ECONOMIC ENTOMOLOGY: FRUIT AND GARDEN INSECTS. (3) I, S Townsend
Life histories, habits, distribution, and control of insects injurious to fruits and vegetables, with attention to those found in Kentucky. Enemies of these species are considered. Lectures, two hours; lab, two hours. *Prereq: Agr. Ent. 1.*

104 ECONOMIC ENTOMOLOGY: FARM CROP INSECTS AND ANIMAL PARASITES. (3) II, S Townsend
Life histories, habits, distribution, and control of insects injurious to farm crops; also insect parasites of farm animals. Enemies of these species are considered. Lectures, two hours; lab, two hours. *Prereq: Agr. Ent. 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. *Prereq: Agr. Ent. 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. *Preres: Agr. Ent. 1, 103, 104, 105a, b.*

AGRICULTURAL EXTENSION

Frank James Welch and Thomson Ripley Bryant.

101 PRINCIPLES OF AGRICULTURAL EXTENSION. (3) II — Bryant
Philosophy, history and development of Agricultural Extension; evaluation of instructional techniques; leadership training; and practice in use of Extension methods. Three lectures per week. Open to juniors, seniors and graduate students.

110 AGENCY RELATIONSHIPS. (1) II — Welch
In this course the student learns something of the objectives and how public and private agricultural agencies and organizations work together for the improvement of agriculture. Lecture, one hour.

AGRONOMY

Hugh Bruce Price, Jesse Byron Brooks, Stephen Diachun, Ernest Newton Fergus, Perry Elmer Karraker, James Byron Kelley, William Albert Seay, Roy Edwards Sigafus, William Gregory Survant, William Dorney Valleau, and Earl Robert Young.

1 ELEMENTARY FARM CROPS. (3) I, II — Sigafus
A survey course considering geographical distribution, science of production, and uses of important field crops. Lecture and recitation, two hours; lab, two hours.

101 PASTURE PRODUCTION AND MANAGEMENT. (3)
The selection of pasture crops and their establishment, fertilization and management for temporary or permanent pastures. Lecture and recitation, three hours. *Prereq: Agron. 1.*

102 FIELD CROP ECOLOGY. (3) I, S — Sigafus
A study of the environmental factors affecting the yield and quality of field crops. Lecture and recitation, three hours. *Prereq: Agron. 1; Bot. 1.*

103 WEEDS. (2) II, S — Sigafus
The important characteristics, identification, and control of weeds, with emphasis on identification and control of Kentucky weeds. Lecture and discussion, two hours. *Prereq: Bot. 1.*

104 ADVANCED CROPS: FORAGE CROPS. (3) I, S (1953) — Fergus
A comprehensive study of forage crops with special emphasis upon their production in Kentucky. Lecture and recitation, three hours. *Prereq: Agron. 1; Bot. 1.*

105 ADVANCED CROPS: CEREALS. (3) II — Sigafus
A study of the grain crops of the world, in respect to adaptation, culture and uses. Lecture and recitation, two hours; laboratory, two hours. *Prereq: Agron. 1; Bot. 1.*

106 FIELD CROP IMPROVEMENT. (3) II — Anderson
A study of the principles involved and the techniques used in breeding crop plants. Lecture and recitation, three hours. *Prereq: Bot. 1; Agron. 1; A.I. 61.*

107 ADVANCED CROPS: TOBACCO. (3) II — Diachun
Growth characteristics, types, genetics, physiology, and culture of tobacco, including selection of varieties, selection of land, rotations, plant bed management, fertilization, field care, harvesting, and curing, with special emphasis on burley. Lecture and discussion, two hours; lab or field, two hours. *Prereq: Bot. 1; Agron. 1.*

109a-c SPECIAL PROBLEMS IN CROPS. (3 ea.) I, II, S — Staff
Intensive studies of specific crop problems. *Prereq: Agron. 1 and approval of instructor.*

200a-d AGRONOMY SEMINAR. (1 ea.) I, II — Staff

204a-d SPECIAL PROBLEMS IN PRODUCTION OF FORAGE CROPS. (3 ea.) II, S — Fergus and Sigafus
Intensive studies of research relative to particular problems in forage crop production. *Prereq: Approval of instructor.*

205a, b SPECIAL PROBLEMS IN PRODUCTION OF TOBACCO OR CEREALS. (3, 3) II, S — Staff
Prereq: Approval of instructor.

Courses in Plant Pathology

123a-c SPECIAL PROBLEMS IN PLANT PATHOLOGY. (3 ea.) I, II, S — Diachun and Valleau
Prereq: Agron. 141.

141 PLANT PATHOLOGY. (3) I, II — Diachun
Significance, nature, causes, and methods of control of plant diseases. Lectures, three hours. *Prereq: Bot. 1.*

142 DISEASES OF PLANTS. (3) II — Staff
Symptoms, causes, and control of some of the more common representative plant diseases. Students may select disease problems in their major field of interest. Discussion, one hour; lab, four hours. *Prereq: Agron. 141 or equivalent, and consent of instructor.*

241 VIRUS DISEASES OF PLANTS. (4) II — Diachun
Characteristics and properties of viruses that cause plant diseases; host-virus relationships; identification and control of some important virus diseases; consideration of research methods. Lecture and discussion, two hours; lab, four hours. *Prereq: Agron. 141 or equivalent, and consent of instructor.*

245a-d RESEARCH IN PLANT PATHOLOGY. (3 ea.) I, II, S — Staff
Prereq: Agron. 141 or equivalent, and consent of instructor.

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, three hours. *Prereq. 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. Lab, four hours. *Prereq. or concurrent: Agron. 10*

110 SOIL BIOLOGY. (3) I — Seay
A study of soil organisms and biological soil processes in relation to soil productivity. Lecture, two hours; lab, two hours. *Prereq: Agron. 10 and Bact. 52.*

111 SOIL CONSERVATION. (3) I, II, S — Survant
The scope and nature of the soil conservation problem, and the application of soil conservation methods to the planning and management of farms. Lecture and recitation, two hours; lab, two hours. *Prereq: Agron. 10.*

112a-d SPECIAL PROBLEMS IN SOILS. (3 ea.) I, II, S — Karraker, Survant, and Seay
Intensive studies of specific soil problems. *Prereq: 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. *Prereq: Agron. 10.*

114 FERTILIZERS AND SOIL FERTILITY. (3) II, S — Karraker
Sources, manufacture, evaluation, and use of fertilizers and lime materials; soil organic matter and nitrogen. Lecture and recitation, three hours. *Prereq: Agron. 10.*

119 SOIL ORIGIN, CLASSIFICATION, AND MAPPING. (3) II — Karraker
A study of the origin, nature, classification, and mapping of soils. Lecture, recitation, and field work, three hours. *Prereq: Agron. 10.*

120 SOIL PHYSICS. (4) II — Survant
Physical properties of soils, their relationships to management and conservation. Lecture and discussion, two hours; lab, four hours. For agronomy majors and others having a special interest in soils. *Prereq: Agron. 10 and approval of instructor.*

200a-d AGRONOMY SEMINAR. (1 ea.) I, II — Staff

212a-d RESEARCH IN SOILS. (3 ea.) I, II, S — Karraker, Survant, and Seay
Prereq: Approval of instructor.

Farm Engineering

1 MECHANICS OF THE FARMSTEAD. (3) I, II — Brooks
Fundamentals of engineering as applied to agriculture, including materials, transmission of power, farm implements, water supply, sanitation, and electricity. Lecture, two hours; lab, two hours.

2 FARM MOTORS. (3) II — 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, two hours; lab, two hours.

3 FARM STRUCTURAL ENGINEERING. (3) I, II, S — Young and Brooks
Construction, care, and repair of farm buildings and equipment. Drawing, use of lumber, farm woodworking, woodworking tools, and concrete work. Lecture, one hour; lab, four hours.

4 FARM SHOP. (3) I, II, S — Young
Machinery, repair, soldering, cold metal work, forging, oxyacetylene and electric arc welding, pipe fitting, rope work and painting. Lecture, one hour; lab, four hours.

101a-c SPECIAL PROBLEMS. (2 ea.) I, II, S — Staff
This course is designed to permit advanced students to make an intensive study of some phases of Agricultural Engineering in which they are particularly interested. *Approval of instructor required.*

102 DAIRY ENGINEERING. (2) II — Kelley
Engineering principles involved in the construction, operation, and management of machinery and equipment used in processing dairy products. Lecture, two hours. *Prereq: Fm. Eng. 1.*

104 RURAL ELECTRIFICATION. (2) I, II — Kelley
Designed to give students information on how to obtain electric service and on the problems involved in selecting and using farm and home electrical equipment. Lecture, two hours.

105 ENGINEERING PRACTICES IN WATER MANAGEMENT. (3) I, II — Kelley and Brooks
Surveying, mapping, and determining areas of farm land; designing farm drainage systems, farm reservoirs; controlling water erosion with terraces and other mechanical structures. Lecture, one hour; lab, four hours.

106 ADVANCED FARM MACHINERY. (3) S — Young
Selection, operation, and maintenance of farm machinery with emphasis on power-driven machine. Analysis of the machinery needs of farms, adjustments, and servicing of machines. Lecture, one hour; lab, four hours.

ANIMAL INDUSTRY

Wesley Patterson Garrigus, John Orville Barkman, Charles Elmer Barnhart, C. Frank Buck, Earl Neal Boyd,, Ray Horn Dutt, Theodore Russell Freeman, Edwin Stanton Good, Robert B. Grainger, Levi Jackson Horlacher, Wyatt Marion Insko, Jr., Charles Albert Lassiter, Robert Allen Long, James Dillon Kemp, Henry Bartlett Morrison, James Robert Perkins, Joseph Rust, Dwight Moody Seath, Dewey G. Steele, Charles Malcolm Thompson, Ernest Thomas Wightman, and Patch Gregory Woolfolk.

Courses in Animal Husbandry

1 FARM LIVESTOCK PRODUCTION. (3) I, S — Buck and Long
Types, market classes, and grades of beef cattle, sheep, swine, horses, and mules; origin, development, and characteristics of breeds; importance and place of livestock in Kentucky agriculture. Lecture, two hours; lab, two hours.

2 LIVESTOCK JUDGING. (3) II — Long
Evaluation of purebred and commercial beef cattle, sheep, swine, draft horses, and mules. Practice in writing reasons and giving reasons orally. Lab, six hours. *Prereq: A.I. 1. Not open to freshmen.*

4 LIVESTOCK MANAGEMENT. (1) I Long
Intensive training in approved livestock management practices with emphasis on the preparation of animals for show and sale. Lab, two hours.

5 LIGHT HORSE HUSBANDRY. (3) II
A brief study of the breeds of light horses; selection, feeding, and management; fundamental instruction in equitation. Lecture, two hours; lab, two hours. *Not open to freshmen.*

6 FARM BUTCHERING AND MEAT CURING. (4) I, II Kemp
Slaughtering and cutting of beef, veal, hog, and lamb carcasses; correlation of breeding and feeding with carcass values, meat curing. Lecture, two hours; lab, four hours. *Prereq: A.I. 1. Not open to freshmen.*

7 SELECTION, EVALUATION, AND USE OF MEATS. (3) II Kemp
History and growth of packing and meat industry; physical and chemical composition and nutritive value of meat; selection and utilization of cuts; identification; grading, cutting, processing and freezing methods; wholesale and retail sales methods. Lecture, two hours; lab, two hours.

100 ANIMAL BREEDING. (3) II Steele
History of animal improvement; survey of heredity traits in livestock, inbreeding and outcrossing; progeny tests and herd analysis. Lecture, three hours. *Prereq: A.I. 1, 61.*

102 ADVANCED LIVESTOCK JUDGING. (3) I Long
Primarily for judging team candidates. Open only to those who have made good standings in the prerequisite courses. Lab, six hours. *Prereq: A.I. 1, 2, and approval of instructor.*

103 WORK STOCK PRODUCTION. (3) Horlacher
History and importance of the horse and mule industry; selection, breeding, feeding, and management of horses and mules. Lecture, two hours; lab, two hours. *Prereq: A.I. 1, 81.*

104 SHEEP PRODUCTION. (3) II Woolfolk
History and importance of the sheep industry; selection, breeding, feeding, and management of sheep; production and handling of wool. Lecture, two hours; lab, two hours. *Prereq: A.I. 1, 81.*

105 BEEF PRODUCTION. (3) II Long
History and importance of the beef cattle industry; selection, breeding, feeding and management of beef cattle. Lecture, two hours; lab, two hours. *Prereq: A.I. 1, 81.*

106 PORK PRODUCTION. (3) I, II Barnhart
History and importance of the swine industry; selection, breeding, feeding, and management of swine. Lecture, two hours; lab, two hours. *Prereq: A.I. 1, 81.*

108 MEAT JUDGING. (2) I Kemp
Intensive instruction in the evaluation of carcasses and cuts of beef, veal, pork, and lamb. Lab, four hours. *Prereq: 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 Kemp
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, C Woolfolk
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 Barnhart
Problems involving original investigation.

500-1, 2, 3 THESIS. (no credit) Staff

Courses in Dairying

21 FARM DAIRYING. (3) I, II Morrison, Rust, Boyd, and Lassiter
Place of dairying in agriculture; factors affecting secretion, composition, physical and chemical properties of milk and cream; food value of dairy products; dairy calculations; clean milk production; farm dairy processes. Lecture, two hours; lab, two hours.

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, one hour; lab, 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 principles involved in the problem of herd improvement. Lab, six hours. *Prereq: A.I. 21.*

27 SURVEY OF THE DAIRY INDUSTRY. (3) S — Staff
Designed to acquaint students with research problems and methods at other institutions and with commercial operations in other areas. Full time for approximately two and one-half weeks. *Prereq: A.I. 21 or permission of instructor.*

33 ADVANCED DAIRY PRODUCTS JUDGING. (2) II — Freeman
Practice in judging dairy products with especial emphasis being given to commercial methods of scoring dairy products and to procedures followed in intercollegiate judging contests. Lecture, one hour; lab, two hours. *Prereq: A.I. 22 or approval of instructor.* Offered in 1953-54 and alternate years.

120 DAIRY CATTLE BREEDING. (3) II — Seath
Application of genetics to problems of breed and herd improvement; progeny testing of sires; type classification, selective registration; prominent families and strains within the leading dairy breeds. Lecture, two hours; lab, two hours. *Prereq: A.I. 61.*

121 DAIRY CATTLE FEEDING AND MANAGEMENT. (3) I — Lassiter and Seath
Application of principles of nutrition to dairy cattle feeding; current methods contributing to maximum efficiency in the production of quality dairy products on the farm. Lecture, two hours; lab, two hours. *Prereq: A.I. 81.*

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 lab. *Prereq: A.I. 21, 23.*

123 DAIRY BACTERIOLOGY. (2) I — Morrison
Application of bacteriological principles to production and processing of dairy products, entrance of micro-organisms into dairy products, effects of their growth and methods for control. Lecture, two hours. *Prereq: Bact. 52 or 102.*

124 DAIRY BACTERIOLOGY LABORATORY. (2) I — Morrison
Laboratory to accompany A.I. 123, Dairy Bacteriology. Lab, four hours. *Prereq. 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; lab, six hours. *Prereq: A.I. 21.*

127 SURVEY OF THE DAIRY INDUSTRY. (3) S — Staff
Same as A.I. 27 except that graduate students will be given additional assignments.

128 TECHNICAL CONTROL OF DAIRY PRODUCTS. (4) II — Morrison and Freeman
Various chemical and bacteriological tests used in the control of, production, or processing of dairy products. Offered in 1954-55 and alternate years. Lecture, one hour; lab, six hours. *Prereq: A.I. 21, 123, 124.*

129a-f 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; lab, three hours. *Prereq: 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; lab, three hours. *Prereq :A.I. 21.*

132 REPRODUCTION IN DAIRY CATTLE. (2) II — Perkins
A study of male and female reproductive processes in dairy cattle and the application of artificial breeding to the improvement of dairy herds. Lecture, one hour; lab, two hours. *Prereq: A.I. 21, 61; Zool. 1.*

133 ADVANCED DAIRY PRODUCTS JUDGING. (2) II — Freeman
Same as A.I. 33 except that graduate students will be given additional assignments. Lecture, one hour; lab, two hours. *Prereq: A.I. 22 or approval of instructor.* Offered in 1953-54 and alternate years.

139a-d DAIRY SEMINAR. (1 ea.) II — Dairy Staff
Open to Seniors and Graduate Students.

221a-c RESEARCH IN DAIRYING. (3 ea.) I, II, S — Dairy Staff
Problems involving original investigation in either dairy production or dairy manufacturing.

500-1, 2, 3 THESIS. (no credit) — Staff
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; lab, 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; operation of commercial incubators. Lecture, two hours; lab, two hours. *Prereq: 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; lab, four hours. *Prereq: A.I. 41.*

46 SURVEY OF THE POULTRY INDUSTRY. (3) S — Staff
Designed to acquaint students with research problems and methods at other institutions and with commercial operations in other areas. Full-time for approximately two and one-half weeks. *Prereq: 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. *Prereq: A.I. 41, 61.*

141 ADVANCED POULTRY PRODUCTION. (3) I — Wightman
Studies of control measures in poultry diseases, nutrition, marketing; flock management and replacement. Lecture, two hours; lab, and dem., two hours. *Prereq: A.I. 41.*

142 MARKETING AND PROCESSING POULTRY PRODUCTS (2) I — Wightman and Roberts
Organization and functioning of markets; grading, packaging, and handling poultry and eggs. Lecture, one hour; lab, two hours. *Prereq: A.I. 41, Agr. Econ. 100.* Same course as M. & R.F. 142., and Agr. Econ. 109.

145 ADVANCED POULTRY JUDGING. (3) I — Wightman
Primarily for judging team candidates. Open only to those who have made good standing in the prerequisite courses. Lecture, one hour; lab, four hours. *Prereq: A.I. 41, 44.*

146 SURVEY OF THE POULTRY INDUSTRY. (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, II, S — Wightman
Approval of instructor required.

241a-c RESEARCH IN POULTRY. (3 ea.) I, II, S — Wightman and Insko
Problems involving original investigation.

500-1, 2, 3 THESIS. (no credit) — Staff
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. *Prereq: 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. Lab, two hours. Concurrently with A.I. 61, at student's option.

161 GENETICS. (3) I, II, S — Steele
Lecture A.I. 61 and assigned readings. Primarily for graduate students. Lecture, three hours. *Prereq: One course in biology.*

162 GENETICS LABORATORY. (1) I, II — Steele
Similar to A.I. 62 but additional work required. Primarily for graduate students. Lab, two hours. Concurrent 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. *Prereq: A.I. 61.*

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.

500-1, 2, 3 THESIS. (no credit) — Steele
Note. — See also A.I. 200, Animal Industry Seminar.

Courses in Animal Nutrition

81 PRINCIPLES OF ANIMAL NUTRITION. (4) I, II — Buck and Good
Digestion, absorption, assimilation and utilization of nutrients by domestic animals; principal feeds, rations, and nutritive ratios. Lecture, three hours; lab, two hours. *Prereq: Chem. 4a or 1a.*

281 ANIMAL NUTRITION. (3) I — Thompson
The chemistry and physiology of animal nutrition and the nutritive requirements for growth, fattening, reproduction, lactation, and other body functions. Lecture, three hours. *Prereq: Chem. 37 or equivalent.*

282 LABORATORY METHODS IN ANIMAL NUTRITION. (3) I — Grainger
The use of laboratory techniques and equipment in the solution of fundamental problems on nutrition. Lecture and recitation, one hour; lab, four hours. *Prereq. or concurrent: A.I. 281.*

283 ADVANCED ANIMAL NUTRITION. (3) II — Thompson
History and development of nutritional theories and techniques; a critical review of current literature. Lecture and recitation, three hours. *Prereq: A.I. 281.*

284a-c RESEARCH IN ANIMAL NUTRITION. (3 ea.) I, II, — Grainger and Thompson
Problems involving original investigation.

289a-c SPECIAL PROBLEMS IN ANIMAL NUTRITION. (3 ea.) I, II, S — Grainger and Thompson
Approval of instructor required.

500-1, 2, 3 THESIS. (no credit) — Grainger and Thompson
Note. — See also A.I. 200, Animal Industry Seminar.

ANIMAL PATHOLOGY

Floyd Edgar Hull and Ross Gardner Brown.

51 ANIMAL HYGIENE. (3) I, II — Brown
Animal Hygiene includes feed, water, housing, ventilation, yards, pastures, sanitation, and environment. All are part of the many problems to be considered in a program of animal health. Lecture, three hours.

101 ANATOMY AND PHYSIOLOGY OF DOMESTIC ANIMALS. (3) I — Brown
A study of anatomy and physiology as related to courses in livestock judging, nutrition, butchering, breeding, and infectious diseases. Lecture, three hours.

102 INFECTIOUS DISEASES OF DOMESTIC ANIMALS. (3) II, S — Hull and Brown
Distribution, general nature, manner of dissemination, methods of control, prevention, and eradication of infectious and parasitic diseases of animals. Lecture, three hours. *Prereq: An. Path. 51.*

104a, b SPECIAL PROBLEMS IN ANIMAL PATHOLOGY. (3 ea.) I, II — Hull and Brown
Prereq: An. Path. 51, 101, 102, and approval of instructor.

201a, b INVESTIGATIONS IN ANIMAL DISEASES. (3 ea.) I, II — Hull and Brown
This course is open only to persons who have degrees in veterinary medicine.

HORTICULTURE

Albert Jackson Olney, O. Malcolm Davenport, Norris Raymond Elliott, Emery Myers Emmert, John Edward Klinker, 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. Lectures, three hours.

20 ELEMENTARY LANDSCAPE. (2) II — Elliott
The elementary principles of landscape as applied to the planting of urban home grounds and farmsteads. Lectures, two hours. Offered 1955-56 and alternate years.

22 ELEMENTARY FLORICULTURE. (2) II — Elliott
The elementary principles of growing flowers and decorative plants, as house plants, and outdoor culture. Lectures, two hours. Offered 1954-55 and alternate years.

102 PRINCIPLES OF SPRAY PRACTICE. (2) I — Waltman
A study of the principles and practice of spraying for the control of pests of horticural crops. Lecture, one hour; lab, two hours. *Prereq: Hort. 1, Chem. 4a, Ag. Ent. 1.*

103 POMOLOGY: DECIDUOUS TREE FRUITS. (3) I — Waltman
A course dealing with the theory and practice of commercial tree fruit production, with major emphasis on apple growing. Lectures, two hours; lab, two hours. *Prereq: Hort. 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. Lectures, one hour; lab, two hours, first half; lectures, two hours, last half. *Prereq: Hort. 1.*

106a-c SPECIAL PROBLEMS IN POMOLOGY. (3 ea.) I, II, S — Waltman
Prereq: Hort. 1 and one of the following: 103, or 105.

110 THE PRINCIPLES OF VEGETABLE GARDENING. (3) I — Emmert
A study of the fundamental principles underlying commercial production of vegetables. Lectures, two hours; lab, two hours. *Prereq: Hort. 1, Agron. 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. Lectures, two hours; lab, two hours. *Prereq: Hort. 110.*

112a-c SPECIAL PROBLEMS IN VEGETABLE CROPS. (3 ea.) I, II, S — Emmert
Prereq: Hort. 1, 110, and approval of instructor.

120 LANDSCAPE GARDENING. (3) II, S (1955) — Elliott
The adaptation of principles of landscape architecture; coordination of buildings with surroundings; identification and uses of decorative materials and their requirements. Lectures, two hours; lab, two hours. *Prereq: Hort. 1, Bot. 1, 2.* Offered 1954-55 and alternate years.

121 ADVANCED LANDSCAPE. (3) II — Elliott
A continuation of Horticulture 120, with special emphasis on design and use of materials. Lectures, two hours; lab, two hours. *Prereq: Hort. 120.* Offered 1955-56 and alternate years.

122 FLORICULTURE. (2) II — Elliott
A detailed study of specific groups of flowers such as bulbs ,iris, and roses. Lectures, two hours. *Prereq: Hort. 22.* Offered 1954-55 and alternate years.

123 PLANT PROPAGATION. (3) II — Elliott
A detailed study of the methods of propagating certain horticultural plants. Includes cuttings, grafting, and budding. Lectures, two hours; lab, two hours. *Prereq: Hort. 1, 120; Bot. 1, 2.* Offered 1955-56 and alternate years.

124a-d SPECIAL PROBLEMS IN ORNAMENTAL HORTICULTURE. (3 ea.) I, II, S — Elliott
Prereq: Hort. 1, 120, 121; Bot. 1, 2; and approval of instructor.

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; lab, two hours. *Prereq: Hort. 120 or approval of instructor.* Offered 1954-55 and alternate years.

200a-c SEMINAR. (1 ea.) I, II, S — Olney and Staff

201a-c RESEARCH IN HORTICULTURE. (3 ea.) I, II, S Olney and Staff
Prereq: 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 program. Lectures, three hours.

2 FARM FORESTRY. (3) I, II Davenport
The principles of forestry as applied to farm woodlands. Important trees of Kentucky. Tree structure and physiology. Reproduction, management and protection of farm woodlands. Measuring and utilization of wood products. Lectures, two hours; lab, two hours.

10 ELEMENTS OF FOREST MENSURATION. (3) I Davenport
The theory and application of measurements of logs, trees, and stands of timber. Lectures, two hours; lab, two hours. *Prereq: For. 1 or 2; Math. 18; or approval of instructor.*

20 SEEDING AND PLANTING. (3) II Davenport
Artificial regeneration for forest stands; fundamentals of forestry nursery practice; planting techniques and methods. Lectures, two hours; lab, two hours. *Prereq: For. 1 or 2.*

110 WOOD IDENTIFICATION AND TECHNOLOGY. (3) II Davenport
General anatomy of wood, identification of commercial species of the United States based on gross and miscroscopic features. Properties and uses. Lectures, two hours; lab, two hours. *Prereq: For. 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. Lectures, three hours. *Prereq: For. 1 or 2 and approval of instructor.*

115 WOOD CONDITIONING. (3) I, S Davenport
The methods and principles involved in seasoning, changes in physical properties, and preservation of wood. *Prereq: For. 1 or 2.*

120a-c SPECIAL PROBLEMS IN FORESTRY. (3 ea.) I, II, S Davenport
Prereq: For. 110 and 111, and approval of instructor.

RURAL SOCIOLOGY

Howard Wayland Beers, James Stephen Brown, and Ralph J. Ramsey.

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.

115 ORGANIZATION OF RURAL GROUPS. (3) II, S
A study of the dynamics of organized groups; leadership, membership participation and program planning in agricultural organization and other organized rural groups. *Prereq: An introductory course or consent of instructor.*

125 RURAL MOVEMENTS AND SOCIAL POLICY. (3) I Brown
Social factors in selected rural movements, their organization and development, influence upon governmental policy, and the social needs met. *Prereq: An introductory course or consent of instructor.*

160 RURAL COMMUNITY ANALYSIS. (3) I, S Ramsey
The nature of the town-country community, with special emphasis on the function of institutional and agency programs and their leaders in relation to the community. Same courses as Home Econ. 175.

180 ADVANCED RURAL SOCIOLOGY. (3) II Brown
Systematic study of the structure and function of family, informal and locality groups, social strata, religious, educational, political, and occupational groups in rural society.

190a-c SPECIAL PROBLEMS IN RURAL LIFE. (2 ea.) 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.

200a-c RESEARCH IN RURAL SOCIOLOGY. (2 ea.) I, II, S Staff
Individual graduate research with correlated study of rural social research types and methods.

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.

220 SEMINAR IN RURAL ATTITUDES. (3) II
The nature and genesis of rural attitudes and their relation to rural social control; analysis of contemporary rural attitudes and opinions.

230 RURAL URBAN RELATIONS. (3) II Brown
Interdependence of city and country; solidarity and antagonistic relationships of city and country; the process of urbanization; problems of rural adjustment to urban influence.

250a, b TOPICAL SEMINAR. (3 ea.) I, II Staff
Analysis of topics of scientific interest in rural sociology, selected from such fields as the following: criticism of research; sociological factors in land use; migration; rural social ecology of the South; highland societies.

SCHOOL OF HOME ECONOMICS

Statie Erikson, Marie Barkley, Bernice Beers, Leora Bentley, Anne Clemmons, Iris Clark, Betty Jane Downer, Ruth Guenther, Elizabeth Helton, Eloise James, Marion McDowell, Roberta Taylor, and Helen Wilmore.

Courses in Foods and Nutrition

1 PRINCIPLES OF NUTRITION. (3) I, II, S Clemmons
A non-technical course on the essentials of adequate diet for optimum health and on food plans to fit physiological and environmental factors. Lecture and discussion, three hours. Not open to home economics majors.

2 NUTRITION AND PUBLIC HEALTH. (2) S Clemmons
Nutrition as it affects social and family problems in the field of public health. Consideration is given to family food budgets on different economic levels. Lecture, one hour; lab, two hours.

3 DIETETICS FOR NURSES. (4) S Taylor
Principles of normal nutrition and the value of diet in maintaining and restoring health. Modification of normal diet to meet requirements for good nutrition in disease. Lecture, two hours; lab, four hours.

5 FOODS. (4) I, II, S Barkley, Taylor, and Warren
An introduction to the study of food. The classification and composition of foods and study of methods of preparation and principles involved. Lecture, two hours; lab, four hours.

6 FOODS. (3) I, II, S Barkley and Taylor
Meal planning and service. The selection, purchase and preparation of food. Practice is given in different types of food service. Lecture and lab, six hours. *Prereq: H. Econ. 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; lab, three hours. *Prereq: A. & P. 5, Chem. 4b.*

101 PRINCIPLES OF NUTRITION. (3) I, II, S Clemmons
Fundamental facts of nutrition presented as basis for planning adequate diets for people of different ages, activities and needs and at different income levels. Practical aspects are emphasized. Lecture and discussion, three hours. Not open to home economics majors.

102 DIETETICS. (3) I, II, S — Clemmons
Daily food requirements at different age levels and different economic levels. Practice is given in setting up normal dietaries for individuals, families, and other groups. Lecture, two hours; lab, three hours. *Prereq: H. Econ. 6, 11.*

103a, b COMMUNITY NUTRITION. (3 ea.) I, II, S — Clemmons
Study of nutrition education with emphasis on causes and effects of malnutrition, methods of judging nutrition and development of health programs in public schools. Lecture, two hours; lab, two hours. *Prereq. or concurrent: H. Econ. 102.*

105a-c EXPERIMENTAL COOKERY. (3 ea.) I, II, S — Helton
Study of factors that affect results obtained in cooking and food preparation processes. Experimental work under controlled conditions. Lecture, one hour; lab, four hours. *Prereq: Chem. 37, H. Econ. 5 or approval of instructor.*

106a-d FIELD WORK IN NUTRITION. (1 ea.) I, II, S — Clemmons
Nutrition problems at different age levels, correlated with surveys and experimental studies to show the relation between diet selection and its physical and mental effects. Lecture and laboratory. *Prereq: H. Econ. 103a, b, or approval of instructor.*

107 WORKSHOP IN APPLIED NUTRITION. (2)
The application of scientific knowledge of nutrition to the promotion of positive health. Emphasis is given to communications techniques and their use in field work.

108a-c SEMINAR IN NUTRITION. (1 ea.) I — Erikson
Investigations of recent research in nutrition. *Prereq: Senior or graduate standing.*

111 ADVANCED NUTRITION. (6) I — Erikson
Application of biochemistry to understanding of the utilization of nutrients for body processes. Laboratory work includes analysis of digestive juices, blood, and urine; balance experiments. Lecture, three hours; lab, six hours. *Prereq: H. Econ. 11.*

112 NUTRITION IN DISEASE. (4) II — Erikson
Metabolic processes of the body in normal and diseased conditions correlating the metabolic changes due to disease with diet therapy. Lecture, two hours; lab, four hours. *Prereq. or concurrent: H. Econ. 111, 102.*

114 FOOD PRESERVATION. (3) II, S — Helton
Principles of home food preservation. Canning, dehydration, and freezing of fruits, vegetables and meats; pickling of fruits and vegetables; making of jams, jellies and preserves; brining. *Prereq: Bact. 52 and H. Econ. 5.*

115a, b FOOD FOR SPECIAL OCCASIONS. (2 ea.) S — Barkley
Advanced work in culinary arts and skills. Preparation of attractive and appetizing dishes to help the homemaker in planning buffet suppers, receptions, picnics, wedding parties, formal meals. Lab, four hours. *Prereq: H. Econ. 5, 6.*

119a-c SPECIAL PROBLEMS IN FOODS AND NUTRITION. (2 ea.) I, II — Clemmons and Erikson
Intensive work on a specific phase of the field. Senior and graduate standing.

206a-d ADVANCED FIELD WORK IN NUTRITION. (1 ea.) I, II, S — Clemmons
The course is a continuation of H.E. 106a-d with investigations of recent research in the field. Lecture and lab. *Prereq: H. Econ. 103, 106a, or approval of instructor.*

208a-c SEMINAR IN NUTRITION. (2 ea.) I — Erikson

219a-c SPECIAL PROBLEMS IN FOOD AND NUTRITION. (2 ea.) I, II — Clemmons and Erikson
Independent advanced work on a specific problem.

Courses in Clothing, Textiles, Costume Design, and Interior Decoration

20 CLOTHING. (3) I, S — Guenther
Principles of clothing selection and management. Techniques of garment construction. Lab, six hours. Open only to non-home economics students.

25 TEXTILES. (2) I, II, S — Guenther
Fundamentals of weaves, fibers, fabrics and finishes. Simple tests for recognizing fabrics, emphasis on practical aspects. Lecture, one hour; lab, two hours.

26 CLOTHING SELECTION AND COSTUME DESIGN. (3) I, II, S — Downer
Selection of costume and management of the wardrobe. Clothing costs and values. Designing costumes to meet individual needs. Lecture, one hour; lab, four hours. *Prereq: Art 30, or approval of instructor.*

27 CLOTHING CONSTRUCTION. (4) I, II, S — Clark
Basic principles of clothing construction, using commercial patterns with some modification included. Lecture, one hour; lab, six hours. *Prereq: H. Econ. 25, 26.*

28 CLOTHING AND PATTERN DESIGNING. (3) Clark
Development of foundation pattern, flat pattern designing, alteration. Application of design principles to garment. Lecture, one hour; lab, four hours. *Prereq: H. Econ. 27.*

29 HOME FURNISHINGS. (3) Downer
Study of the design, selection, arrangement and care of furnishings in relation to function and according to family needs; elements of interior decoration. Lecture and laboratory.

125 ADVANCED TEXTILES. (2) I, S Guenther
Individual semester reports with emphasis on new developments in textile industry. Class project to determine color fastness, tensile strength, and other quality factors, of various types of textiles. Lecture, one hour; lab, two hours. *Prereq: H. Econ. 25, 161.*

126 COSTUME DESIGN. (3) I, S Downer
The arts of costume today and throughout the past. Costumes are designed to meet today's needs. Lecture, one hour; lab, four hours. *Prereq: H. Econ. 27, Art 30.*

127 ADVANCED CLOTHING. (3) I, II, S Clark and Guenther
The making of foundation and creative pattern designs, also creative design through draping, with emphasis on accurate fittings. Lecture, one hour; lab, four hours. *Prereq: H. Econ. 27.*

128a-c SPECIAL PROBLEMS IN CLOTHING AND COSTUME DESIGN. (2 ea.) I, II, S Guenther
Intensive work on specific phases of the field. Senior or graduate standing.

129 INTERIOR DECORATION. (3) II, S Downer
A study of color, line, texture as used to creat effective interiors suited to modern living. Lecture, two hours; lab, two hours. *Prereq: H. Econ. 25, 61, Art 30 or approval of instructor.*

130a, b INTERIOR DECORATION PROJECTS. (2 ea.) II, S Downer
Selected projects in furnishing the home, including furniture refinishing, upholstering and slip cover making. Costs in terms of time and money are considered. Lab, four hours. *Prereq: H. Econ. 129.*

134 ECONOMICS OF CLOTHING. (2) II, S Guenther
The clothing industry, its influence and economy. Field trips to study mass production, class project and individual semester reports. Lecture, one hour; lab, two hours. *Prereq: H. Econ. 27, 161.*

135 DECORATIVE TEXTILES. (2) II, S Guenther
Survey of techniques used in applying color and design to fabrics. Individual problems, demonstrating techniques, developed. Lecture, one hour; lab, two hours. *Prereq: H. Econ. 25, Art 30.*

136a-c SPECIAL PROBLEMS IN TEXTILES. (2 ea.) I, II, S Downer
Intensive work on specific phases of the field. Senior or graduate standing.

137 TAILORING. (2) I, S Clothing Staff
Analysis of tailoring technique in the shop and in the home. Tailored garments are planned and constructed. Lab, four hours. *Prereq: H. Econ. 127.*

138a-c SPECIAL PROBLEMS IN INTERIOR DECORATION. (2 ea.) I, II, S Downer
Intensive work on specific phases of the field. Senior or graduate standing.

139 ADVANCED INTERIOR DECORATION. (2) II, S Downer
The art of interior decoration throughout the past and today. Interiors are planned to meet today's needs. Lecture, one hour; lab, two hours. *Prereq: H. Econ. 129.*

228a-c SPECIAL PROBLEMS IN CLOTHING AND COSTUME DESIGN. (2 ea.) I, II Guenther and Downer
Independent advanced work on a specific problem.

236a-c SPECIAL PROBLEMS IN TEXTILES. (2 ea.) I, II, S Guenther
Independent advanced work on a specific problem.

237a-c SEMINAR IN TEXTILES, CLOTHING, COSTUME DESIGN, AND INTERIOR DECORATION. (2 ea.) I, II Guenther and Downer
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 Downer
Independent advanced work on a specific problem.

Courses in Institution Management

41 INSTITUTION MARKETING. (3) I, S — Helton
Economics of food and supplies for institutions. Factors that influence selection and purchase. Field trips to wholesale houses, distribution centers and food production plants. Lecture, two hours; lab, two hours. *Prereq: Econ. 51.*

42 INSTITUTION FOODS. (4) I — Helton
Large quantity food preparation and service. Using modern equipment in preparation of large quantities of food. Food cost accounting, job analysis, and time studies. Lecture, two hours; lab, four hours. *Prereq: H. Econ. 5.*

140 THE SCHOOL LUNCH. (3) I, II — Helton
Designed for teachers who manage the lunch room. Consideration is given to equipment, menus, purchase, storage, preparation and service of food. Lecture, two hours; lab, two hours. *Prereq: H. Econ. 5, Econ. 51.*

141 INSTITUTION ORGANIZATION AND MANAGEMENT. (3) II — Helton
Principles of institution organization, types of institution service, personnel and financial management. Legal aspects of institution management. Personal and professional qualifications of an institution manager. *Prereq: H. Econ. 41, 42.*

142a-c INSTITUTION ADMINISTRATION. (2 ea.) I, II, S — Helton
Application of scientific principles of institution management. Practice is given in management in different food units on the campus. *Prereq: H. Econ. 141.*

143 INSTITUTION EQUIPMENT. (3) II — Helton
Selection, arrangement, cost and care of equipment; problems of lighting, heating, ventilation and refrigeration. Two field trips are taken to neighboring cities to see equipment in use in institutions. *Prereq: H. Econ. 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.

Courses in Child Development

51 HEALTH OF THE FAMILY. (3) I, II — Taylor
Factors that influence family health; agencies and forces to be utilized for health improvement; applications of modern science to family health and prevention of disease; techniques of home nursing. Lecture, three hours.

52 INTRODUCTION TO CHILD DEVELOPMENT. (4) I, II — Bentley
Study of children from birth through pre-school and primary years. Emphasis on increased understanding of adult personality through study and observation of young children. Lecture, three hours; lab, two hours.

152 CHILD CARE AND DEVELOPMENT. (3) I — Bentley
Increased understanding of children through study of normal development, care, and guidance of the pre-school child. Observation and participation in nursery school. Lecture, two hours; lab, two hours. *Prereq: H. Econ. 52.*

153 TECHNIQUES OF GUIDANCE FOR THE PRE-SCHOOL CHILD. (4) II
An opportunity for extensive laboratory assistance in the nursery school for students who wish to develop skills in working with children. Lecture, two hours; lab, four hours. *Prereq: H. Econ. 152.*

154 FAMILY LIVING. (4) I, II, S
A study of the influences which bear upon the home and family with emphasis on preparation for successful marriage and parenthood. Lecture, four hours and occasional field trips.

155 THE CHILD AND HIS CLOTHING. (3) S — Staff
A detailed study of the selection, cost and care of the pre-school child's clothing in relation to his needs. Lectures and occasional field trips. *Prereq: H. Econ. 52.*

156 PLAY AND PLAY MATERIALS. (2) S — Bentley
Play activities of young children, relation of play equipment to development, and characteristics of good play materials. Construction of toys suitable for the pre-school child. Lecture, one hour; lab, two hours.

157 INFANT DEVELOPMENT. (2) S — Bentley
Study of development, care and guidance of the child during prenatal, natal, and infant periods. Lecture, two hours. *Prereq: A. & P. 5.*

158 FOOD FOR CHILDREN. (3) II, S Staff
Experience in selection, preparation and serving of food to young children. Emphasis is placed on the pre-school age and the factors important in establishing good food habits. *Prereq: H. Econ. 6, 11, 52.*

159a-c SPECIAL PROBLEMS IN CHILD DEVELOPMENT AND FAMILY LIVING. (2 ea.) I, II Bentley
Intensive work on specific problems. Senior or graduate standing.

259a-c SPECIAL PROBLEMS IN CHILD DEVELOPMENT AND FAMILY LIVING. (2 ea.) I, II
Independent advanced work.

Courses in Home Management

61 HOUSING. (4) I, S Wilmore
The course deals with social and economic problems of housing American families and problems of house buying and house planning from the standpoint of the consumer. Lecture, four hours. *Prereq: Econ. 51.*

161 CONSUMER PROBLEMS. (3) II, S Wilmore
Consumer buying, its social and economic aspects. Analysis of problems of manufacturer, merchant, and consumer in order to understand the needs and responsibilities of each group. Lecture, three hours. *Prereq: Econ. 51; H. Econ. 61.*

162a HOME MANAGEMENT AND FAMILY RELATIONSHIPS. (2) I, II, S Wilmore
Philosophy and principles of home management. Study of the mechanics of time, energy, and money management; personal development, and social and family relationships. Lecture, two hours. *Prereq: Econ. 51; H. Econ. 61.*

162b HOME MANAGEMENT AND FAMILY RELATIONSHIPS. (3) I, II, S Wilmore
A residence period in the Home Management House is required of seniors in home economics. Experience in the application of principles presented in other courses. *Prereq: H. Econ. 162a; Prereq. or concurrent: H. Econ. 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. *Prereq: H. Econ. 162b.*

269a-c SPECIAL PROBLEMS IN HOME MANAGEMENT. (2 ea.) I, II Wilmore
Independent advanced work.

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; lab, two hours.

74 HOME ECONOMICS FOR MEN. (2) I, II H. E. Staff
Study in selected areas of home economics dealing with values in personal and family living.

175 RURAL COMMUNITY ANALYSIS. (3) I
The nature of the town-country community, with special emphasis on the function of intitutional and agency programs and their leaders in relation to the community. Same course as R. S. 160.

COLLEGE OF ENGINEERING

CIVIL AND ARCHITECTURAL ENGINEERING

Robert Ezekiel Shaver, David Knox Blythe, Alvin Lee Chambers, Frank Jacobs Cheek, Jr., William Arthur Gray, Lowell Edward Gregg, Clinton Kelly Hoffman, Ernst Vern Johnson, James Llewellyn Leggett, Jr., Samuel Albert Mory, Jr., and Laurence Chester Pendley.

Architectural Engineering

1 ARCHITECTURAL RENDERING. (2) I, II — Gray
Pictorial delineation of architectural subjects in the medium of pencil, ink, and water color. Drawing, six hours. *Prereq: Junior classification.*

4a ARCHITECTURAL DESIGN. (3) I, II — Gray
Principles of aesthetic design and functional planning of buildings, grade "C" Beaux Arts Institute of Design. Drawing room, nine hours. *Prereq: Junior classification and AE 1.*

4b ARCHITECTURAL DESIGN. (3) I, II — Gray
Continuation of AE 4a. Grade "C" Beaux Arts Institute of Design. Drawing room, nine hours. *Prereq: Junior classification and AE 4a.*

6a ADVANCED ARCHITECTURAL DESIGN. (4) I, II — Gray and Johnson
A study of more advanced problems in architectural composition. Grade "B" Beaux Arts Institute of Design. Drawing room, twelve hours. *Prereq: Senior classification and AE 4b.*

6b ADVANCED ARCHITECTURAL DESIGN. (4) I, II — Gray and Johnson
A continuation of AE 6a. Grade "B" Beaux Arts Institute of Design. Drawing room, twelve hours. *Prereq: Senior classification and AE 6a.*

7a BUILDING CONSTRUCTION. (3) I — Gray
A study of the materials of construction; working drawings and detailing. Lecture and recitation, two hours per week; drafting room, three hours per week. *Prereq: Junior classification and Eng. Dr. 1b.*

7b BUILDING CONSTRUCTION. (3) II — Gray
A continuation of AE 7a with emphasis on methods of construction; working drawings and detailing. Lecture and recitation, two hours per week; drafting room, three hours per week. *Prereq: Junior classification and Eng. Dr. 1b.*

8 THEORY OF ARCHITECTURE. (2) I, II — Johnson
Theory of architectural design with special emphasis on factors affecting the development of plan. Lecture and recitation, two hours. *Prereq: Junior classification.*

Civil Engineering

12 PLANE SURVEYING. (3) I, II — Blythe
Principles, field practice and calculations. General use and care of surveying instruments. Class work, two hours; field work, three hours. *Prereq: Math. 18.*

15 GENERAL SURVEYING. (3) S — Shaver and Blythe
Given at Camp Robinson, Noble, Kentucky. Plane and geodetic surveying field and office practice. *Prereq: Approval of Head of Department.*

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. *Prereq: CE 12.*

16b ROUTE SURVEYING. (3) S — Shaver and Blythe
Given at Camp Robinson, Noble, Kentucky. Complete location survey of highway or railroad. *Prereq: Approval of Head of Department.*

17 HYDROGRAPHIC SURVEYING. (1) S — Shaver and Blythe
Given at Camp Robinson, Noble, Kentucky. Stream gauging. Location surveys for bridges and dams. *Prereq: Approval of Head of Department.*

18 MAPPING AND TOPOGRAPHIC DRAWING. (2) I, II Hoffman
Constrution of maps from field notes, reproduction and changing scale of maps. topographic symbols, contours, projected location, profile, line, and grade. Drafting room, six hours. *Prereq: CE 12.*

23 SEMINAR. (1) I, II Chambers
A study of current engineering literature as related to civil engineering; assigned reading and report. Round table conference, two hours. *Prereq: Senior classification.*

24 SANITARY ENGINEERING FOR SANITARY INSPECTORS. (4) S Cheek
Theory and practical application for county and state sanitarians only. Lecture and recitations, forty-five hours. Field trips and reports, thirty-six hours. Weekly seminar at Fayette County Health Office.

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. *Prereq: CE 16a.*

81 TESTING MATERIALS. (1) I, II, S Chambers and Pendley
Experimental investigations and tests of wood, metals, cement, concrete, and other construction materials to verify the laws governing their behavior under given conditions. Lab, two hours. *Prereq. or concurrent: AM 100.*

107 SOIL MECHANICS. (3) I, II Pendley
A study of soil and its utilization in foundations for structures and subgrade for highways. Stabilization and improvement of bearing values. Lectures and recitations, two hours a week; lab, three hours. *Prereq: Junior classification; Prereq. or concurrent: Geol. 12b.*

110a REINFORCED CONCRETE. (4) I, II 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. *Prereq: CE 171a.*

110b REINFORCED CONCRETE. (3) I, II Mory
Continuation of CE 110a, with special emphasis on complete structures. Lecture and recitation, two hours; drawing room, three hours. *Prereq: CE 110a.*

114 ADVANCED SURVEYING. (3) I, II Blythe
Methods of geodetic surveying and adjustment of observations, map projections. Plane table survey. Introduction to aerial photography. Class work, two hours; field work, three hours. *Prereq: Summer Camp.*

115 ENGINEERING INTERPRETATION OF AERIAL PHOTOGRAPHS. (3) I Blythe
Fundamentals of aerial photography as applied to modern engineering surveys. Analysis and reports on soil pattern, geologic formations, and land use studies using photographs. *Prereq: Consent of instructor.*

120 HYDRAULICS. (2) I, II, S Cheek
Mechanics of fluids under static and dynamic conditions. Fundamentals as found in any standard elementary textbook. Lecture and recitation, two hours. *Prereq: AM 4 and AM 100.*

123 HYDRAULICS LABORATORY. (1) I, II, S Cheek
Experimental investigation and application of some of the more important principles covered in CE 120. Lab, three hours. *Prereq. or concurrent: CE 120.*

126 HYDROLOGY. (2) I, II Cheek
Occurrence, control, and utilization of water particularly as a problem of Civil and Sanitary Engineering. *Prereq: CE 120.*

130a HIGHWAY ENGINEERING. (3) I Pendley
Highway organization, administration, and finances. Planning and geometric design of highways. Soils, drainage, earthwork, soil stabilized and low type roads. Lecture, two hours; lab, three hours. *Prereq: CE 107.*

130b HIGHWAY ENGINEERING. (3) II Chambers
Materials, construction, and maintenance of intermediate and high type roads including all types of bituminous surfaces, macadams and Portland cement concrete. Lecture, two hours; lab, three hours. *Prereq: CE 130a.*

151 WATER SUPPLY AND WATERWORKS. (2) I, II Cheek
Rainfall and run-off, surface and underground sources of supply. The purification plant and its operation. Distribution and pressure problems. Pipe networks. Lecture and recitation, two hours. *Prereq: CE 120. Concurrent with CE 152.*

152 SEWERS AND DISPOSAL. (2) I, II Cheek
Sanitary and storm sewers, flow problems. Disposal plants and their operation. Lecture and recitation, two hours. *Prereq: CE 120. Concurrent with CE 151.*

157 SANITARY ENGINEERING FOR HEALTH OFFICERS. (2) S Cheek
For County Health Officers only. Stress is laid upon preventative rather than curative measures. The theory portion of CE 24 is included so the doctor will better understand the problems of the sanitarian.

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. *Prereq: CE 151 and 152.*

159 DESIGN AND OPERATION OF WATERWORKS AND SEWERS. (2) I, II Cheek
General designs of water treatment and sewage disposal plants; distribution and collection systems; practice in the more common laboratory tests used in the plants. Lab and drawing room, six hours. *Prereq: CE 151 and 152.*

171a THEORY OF STRUCTURES. (3) I, II Leggett
Analysis of stresses in simple and indeterminate structure, including beams, girders, trusses, towers, and building frames. Lecture and recitation, three hours. *Prereq. or concurrent: AM 100.*

171b THEORY OF STRUCTURES. (3) I, II Mory
Continuation of CE 171a with emphasis on indeterminate structures. Lecture and recitation, three hours. *Prereq: CE 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. *Prereq: CE 171a.*

173b STEEL STRUCTURES. (2) I, II Leggett
Continuation of CE 173a with emphasis on floor systems, trusses, and plate girders for bridges. Drawing room, six hours. *Prereq: CE 173a.*

174 GRAPHIC SOLUTIONS. (2) I, II 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. *Prereq. or concurrent: CE 171a.*

182 SANITATION. (2) I, II Cheek
Municipal and rural sanitation presented from an engineering viewpoint. Also includes problems in heating, lighting, plumbing, and ventilation. *Prereq: 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 ADVANCED REINFORCED CONCRETE STRUCTURES. (3) I, II Mory and Leggett
Theory and application of condensed forms of stress analysis and design as applied to continuous unsymmetrical building frames. Lecture, three hours. *Prereq: CE 171b and 110b.*

202b ADVANCED REINFORCED CONCRETE STRUCTURES. (3) I, II Mory
Theory and application of the column analogy method of stress analysis and design as applied to members and continuous structures with emphasis on arches. Lecture, three hours. *Prereq: CE 171b and 110b.*

202c ADVANCED REINFORCED CONCRETE STRUCTURES. (3) I, II Mory
Theory and application of stress analysis and design methods as applied to continuous unsymmetrical frames carrying horizontal loads; frames with haunched members and continuous arches on slender piers. Lecture, three hours. *Prereq: CE 202b.*

202d ADVANCED REINFORCED CONCRETE STRUCTURES. (3) I, II Mory
Problems in the design and detailing of special structures, selected jointly by the student and instructor. Lecture, one hour; lab, four hours. *Prereq: CE 202c.*

221a, b ADVANCED SOIL MECHANICS. (3 ea.) I, II Gregg
Advanced study of the engineering properties of soils and the application of these theories to the design of engineering structures. Lecture, one hour; lab, four hours. *Prereq: CE 107.*

230a ADVANCED HIGHWAY ENGINEERING. (3) I, II Gregg
A study of highway administration, economics and finance including, sources and types of revenue, road costs, toll financing, classification of roads, benefits from improvement and program planning. Lecture, three hours. *Prereq: CE 130b or consent of instructor.*

230b ADVANCED HIGHWAY ENGINEERING. (3) I, II Pendley
A study of traffic, planning and geometric design including traffic surveys, traffic control, parking and design consideration. Lecture, two hours; lab, two hours. *Prereq: CE 130a or consent of instructor.*

230c ADVANCED HIGHWAY ENGINEERING. (3) I, II Gregg
Highway design, construction and maintenance including, physical aspects of design, drainage, road types, pavement design, construction methods and supervision, and maintenance methods. Lecture, three hours. *Prereq: CE 232a.*

230d ADVANCED HIGHWAY ENGINEERING. (3) I, II Gregg
Origin, production, classication, and significant properties of bituminous materials, bituminous paving mixes, paints, metal products and miscellaneous materials used in the highway industry. Tests and application of test data. Lecture, two hours; lab, two hours. *Prereq: CE 130b.*

230e ADVANCED HIGHWAY ENGINEERING. (3) I, II Gregg
Production, classification and significant properties of Portland and natural cements, mineral aggregates, and concrete paving mixtures. Tests and application of test data. Lecture, two hours; lab, two hours. *Prereq: CE 130b.*

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; lab, four hours.

252a-d SANITARY ENGINEERING. (3 ea.) I, II Cheek
Continuation of CE 159 covering more detailed design of various sanitary constructions. (Additional courses in chemistry, bacteriology, and zoology should be taken in connection with this course.) Class work, one hour; lab, 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; lab, four hours.

272a ADVANCED STEEL STRUCTURES. (3) I, II Mory
Theory and application of the Williot and Mohr diagrams, Maxwell's law of reciprocal relations, virtual work and influence lines for determining deflections, movements and camber in design of continuous steel trusses and plate girders. Lecture, three hours. *Prereq: CE 171b and 173b.*

272b ADVANCED STEEL STRUCTURES. (2) I, II Leggett
Preparation of design drawings of structures analyzed and proportioned in CE 202a and 272a. Lab, four hours. *Prereq: CE 202a and 272a.*

272c ADVANCED STEEL STRUCTURES. (3) I, II Leggett
Theory and application of stress analysis and design methods as applied to single and multi-span gabled frames and thin shells. Lecture, three hours. *Prereq: 272a and 202b.*

272d ADVANCED STEEL STRUCTURES. (3) I, II Mory
Theory and application of stress analysis and design as applied to suspension bridges. Lecture, two hours; lab, two hours. *Prereq: CE 272a.*

282a-f SPECIAL PROBLEMS IN CIVIL ENGINEERING. (3 ea.) Staff
Individual work on some selected problems in one of the various fields of Civil Engineering. Lab, six hours. *Prereq: Approval of Head of 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.

500-1, 2, 3 THESIS. (0) I, II, S Staff

ELECTRICAL ENGINEERING

H. A. Romanowitz, Leslie Keene Adams, Nathan B. Allison, Brinkley Barnett, Robert Layman Boggess, Hansford White Farris, Herbert Lawrence Fogel, Peter John Graham, Charles Thomas Maney, and Gustavus Edward Smith.

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. Two hours lab.

18 GRAPHICAL REPRESENTATIONS. (2) I, II Maney
Electrical symbols; layout of typical electrical transmission circuits and control circuits; cabinet design; electrical material cost estimates from building construction drawings; sketching of complex wave forms from oscillograms and equations. Lab, six hours. *Prereq. or concurrent: EE 114, Junior classification.*

21R PRINCIPLE OF ELECTRICAL ENGINEERING. (3) I, II Fogel
A study of the application of the fundamental laws of electric, magnetic, and dielectric circuits. Recitation, three class hours. *Prereq. or concurrent: Math 20a and Physics 3a. Concurrent: EE 21L.*

21L PRINCIPLES OF ELECTRICAL ENGINEERING LABORATORY. (1) I, II Fogel
Laboratory practice and experiment exercises relating to studies in EE 21R. Lab, three hours. *Concurrent: EE 21R.*

101 FUNDAMENTALS OF ELECTRICAL MACHINERY. (3) I, II Staff
(For Civil, Metallurgical, and Mining Engineers.) A study of elementary direct current and alternating current circuits, machinery controls and illumination equipment. Two class hours; two hours lab. *Prereq: Physics 3b.*

102 ELECTRICAL MACHINERY. (2) II Staff
(For Metallurgical and Mining Engineers.) A study of electric power and its control as applied to mining machinery and metallurgical processes. Two class hours. *Prereq: EE 101.*

103 ELECTRICAL LABORATORY FOR MINING ENGINEERS. (1) II Staff
A laboratory study of circuits and equipment used in the servicing and operation of industrial equipment. With special emphasis on mining applications. Three hours lab. *Concurrent: EE 102.*

105a ELECTRICAL ENGINEERING CIRCUITS AND MACHINERY. (4) I Boggess
(For Mechanical Engineers.) Study of electrical circuits and machinery and their control as found in modernly equipped installations. Three class hours; three hours lab. *Prereq: Physics 3b and Math. 20b.*

105b ELECTRICAL ENGINEERING CIRCUITS AND MACHINERY. (4) II Boggess
(For Mechanical Engineers.) Continuation of EE 105a. Three class hours; three hours lab.

107R ELECTRICAL CONTROLS. (2) I Maney
Control of electric equipment. Types of contractors, relays, etc. Typical circuits with which they are tied together into units for automatic functioning. Recitation, two class hours. *Prereq: EE 116R, 116L, 105 or* 101. *Concurrent: EE 107L.*

107L ELECTRICAL CONTROLS LABORATORY. (1) I Maney
Laboratory practice and experiment exercises relating to studies in EE 107R. Lab, three hours. *Concurrent: EE 107R.*

108R INDUSTRIAL ELECTRONICS. (2) I, II Romanowitz and Smith
Electronic devices for industrial use, and their applications in the control of rectifiers, motors and welders. High frequency heating, timing circuits, and oscillators; phototubes, etc. Recitation, two class hours. *Prereq: EE 116R, 116L, 161R,* 161L. *Concurrent: EE 108L.*

108L INDUSTRIAL ELECTRONICS LABORATORY. (1) I, II Romanowitz and Smith
Laboratory practice and experiment exercises relating to studies in EE 108R. Lab, three hours. *Concurrent: EE 108R.*

111 ADVANCED ELECTRICAL LABORATORY. (1) I, II Staff
Lab, two hours.

114R. ALTERNATING CURRENT CIRCUITS. (3) I, II Graham
A mathematical study of single phase and polyphase circuits under the influence of steady state sinusoidal and nonsinusoidal voltages. Recitation, three class hours. *Prereq. or concurrent: EE 21R, 21L, Math. 20b. Concurrent: EE 114L.*

114L ALTERNATING CURRENT CIRCUITS LABORATORY. (1) I, II Graham
Laboratory practice and experiment exercises relating to studies in EE 114R. Lab, three hours. *Concurrent: EE 114R.*

115R DIRECT CURRENT MACHINERY. (2) I, II Barnett
A study of D.C. Machinery construction and design, and its operation and characteristics. Recitation, two closs hours. *Prereq: EE 114R, 114L, Math. 20b. Concurrent: EE 115L.*

115L DIRECT CURRENT MACHINERY LABORATORY. (1) I, II Barnett
Laboratory practice and experiment exercises relating to studies in EE 115R. Lab, three hours. *Concurrent: EE 115R.*

116R ALTERNATING CURRENT MACHINERY. (3) I, II Barnett
A study of A.C. Machinery construction and its operation and characteristics. Recitation, three class hours. *Prereq: EE 114R, 114L, 115R, 115L. Concurrent: EE 116L.*

116L ALTERNATING CURRENT MACHINERY LABORATORY. (1) I, II Barnett
Laboratory practice and experiment exercises relating to studies in EE 116R. Lab, three hours. *Concurrent: EE 116R.*

117 ADVANCED ALTERNATING CURRENT MACHINERY. (3) II Maney
Advanced analytical study of A.C. Machinery characteristics. *Prereq: EE 116R, 116L.*

118 ELECTRICAL POWER PLANT EQUIPMENT. (3) I Maney
A study of the electrical elements of a modern power plant and their operation and characteristics. *Prereq: EE 116R, 116L.*

120 ELECTRICAL CIRCUIT ANALYSIS. (3) I, II Smith
Mathematical and physical principles of engineering analysis. Analogies, duals. Steady state and transient solutions. Fourier and Laplace analyses. Dimensional analysis. Bessel and Hyperbolic functions, etc. Two class hours; two hours lab. *Prereq: EE 114R, 114L, Math. 35.*

123 ELECTRICAL EQUIPMENT PROBLEMS. (2) I, II Boggess
(For Electrical Engineers.) Individual problems related to engineering practice are assigned. The solutions involve economic as well as engineering considerations. Lecture, one hour; five hours lab. *Prereq: EE 116R, 116L, 120.*

124 ELECTRICAL DESIGN. (2) I, II Barnett
Fundamental relations in the design of electrical machinery. Includes the calculations for the design of several pieces of electrical equipment. Lecture, one hour; five hours lab. *Prereq: EE 115R, 115L, 116R, 116L.*

135R NETWORKS AND LINES. (3) I, II Allison and Graham
Fundamentals of network theory in communication and power circuits. Network theorems, transmission lines and wave filters. Recitation, three class hours. *Prereq: EE 114R, 114L, 120. Concurrent: EE 135L.*

135L NETWORKS AND LINES LABORATORY. (1) I, II Allison and Graham
Laboratory practice and experiment exercises relating to studies in EE 135R. Lab, three hours. *Concurrent: EE 135R.*

136R ILLUMINATION ENGINEERING. (2) II Maney
Spectral nature of light sources; entities in illumination systems; measurements and standards; design of interior and outdoor lighting systems. Recitation, two class hours. *Prereq: Physics 3, Math. 20b. Concurrent: EE 136L.*

136L ILLUMINATION ENGINEERING LABORATORY. (1) II Maney
Laboratory practice and experiment exercises relating to studies in EE 136R. Lab, three hours. *Concurrent: EE 136R.*

137 ELECTRIC POWER TRANSMISSION AND DISTRIBUTION. (3) I, II Maney
A study of the problems involved in the transmission of electric power with special emphasis on the elements of the transmission line. *Prereq: EE 120, 135R, 135L.*

139 TELEPHONY. (3) I Staff
The theory and practice of modern telephone operation. *Prereq: EE 135R, 135L.*

151a, b SEMINAR. (1 ea.) I, II Staff
Weekly meetings with staff for reports and discussion on research and modern trends and practices in Electrical Engineering. Two class hours. *Prereq: 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 for students the character of whose previous work justifies it.

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 for students the character of whose previous work justifies it.

161R VACUUM TUBE ELECTRONICS. (3) I, II — Fogel
High vacuum and gas tube characteristics. Electronic circuits, rectifiers and smoothing filters. Audio amplifiers, oscillators. Electronic instruments. Recitation, three class hours. *Prereq: EE 114R, 114L. Concurrent: EE 161L.*

161L VACUUM TUBE ELECTRONICS LABORATORY. (1) I, II — Fogel
Laboratory practice and experiment exercises relating to studies in EE 161R. Lab, three hours. *Concurrent: EE 161R.*

162R RADIO CIRCUITS. (3) I, II — Smith and Graham
Resonance at radio frequencies; coupled circuits and impedance transformation; radio frequency amplifiers. AM and FM transmitters and receivers. Recitation, three class hours. *Prereq: EE 161R, 161L. Concurrent: EE 162L.*

162L RADIO CIRCUITS LABORATORY. (1) I, II — Smith and Graham
Laboratory practice and experiment exercises relating to studies in EE 162R. Lab, three hours. *Concurrent: EE 162R.*

164R RADIO AND TELEVISION CIRCUITS. (3) I, II — Allison and Farris
High frequency phenomena: Coupled circuits, impedance transformation, lines antenna feeding and matching, wide band amplifiers, pulse circuits. Recitation, three class hours. *Prereq: EE 162R, 162L, 135R, 135L. Concurrent: EE 164L.*

164L RADIO AND TELEVISION CIRCUITS LABORATORY. (1) I, II — Allison and Farris
Laboratory practice and experiment exercises relating to studies in EE 164R. Lab, three hours. *Concurrent: EE 164R.*

165 FIELDS AND WAVES. (2) I, II — Romanowitz
Fundamental theory of current, potential, power, and electric and magnetic fields. Vector analysis, Maxwell's equations. Plane waves, power flow and the Poynting vector. Two class hours. *Prereq: EE 120.*

172R AUTOMATIC CONTROL SYSTEMS. (3) I, II — Smith
Closed loop industrial control systems and system elements. Analysis of modes of operation. Stability, adjustment. Recitation, three class hours. *Prereq: EE 102, 103 or EE 105a, 105b or equivalent. Concurrent: EE 172L.*

172L AUTOMATIC CONTROL SYSTEMS LABORATORY. (1) I, II — Smith
Laboratory practice and experiment exercises relating to studies in EE 172R. Lab, three hours. *Concurrent: 172R.*

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) — Barnett
The theory underlying the calculation and operation of long distance transmission circuits. Special attention to relay control.

210 SYMMETRICAL COMPONENTS. (3) — Staff
A study of the symmetrical component method of analyzing unbalanced conditions on transmission lines and its use in solving relay applications.

211a LINEAR CIRCUIT ANALYSIS I. (3) — Smith
Laplace and Fourier transform methods of analysis of linear lumped constant systems under transient and steady state conditions; Feedback amplifiers; Filter networks; Stability and physical realizability. *Prereq: EE 120, 135R, 135L.*

211b LINEAR CIRCUIT ANALYSIS II. (3) — Smith
Continuation of EE 211a with an introduction to non-linear systems.

212 SERVOMECHANISMS. (3) — Smith
Synthesis of closed loop systems. Transient and steady state analysis of system transfer functions. Laplace transform and loci plot methods. *Prereq: EE 107R, 107L, 108R, 108L, 211a.*

221 ELECTRON BEHAVIOR IN HIGH VACUUM AND GAS TUBES. (3) Romanowitz
Potential distribution, thermionic emission and electron flow; Energy of electrons in Metals; Maxwellian Distribution equation and curves; Random motions of electrons and ions. *Prereq: EE 108R, 108L, 120.*

222 GASEOUS CONDUCTING ELECTRONIC DEVICES. (3) Romanowitz
Atomic energy level diagrams; Photo-electric emission and devices; Electric arcs and glow dischages, plasmas and boundaries, sheaths and probes; Industrial devices. *Prereq: EE 221.*

223 LINES AND WAVE GUIDE. (3) Allison and Farris
Open wire and coaxial lines, reflections, standing waves; circle diagram; stub matching; impedance transformation; wave guides. *Prereq: 135R, 135L, 120.*

226 MICROWAVE ENGINEERING. (3) Allison and Farris
Generation, detection, and measurement of microwave energy; vacuum tubes at ultra high frequencies, the klystron and the magnetron. Lecture, two hours; three hours lab. *Prereq: EE 164R, 164L, 165.*

227 ELECTROMAGNETIC FIELDS. (3) Allison and Romanowitz
Advanced studies in electric and magnetic fields, using vector methods and Maxwell's equations; wave equations, radiation and propagation of energy. *Prereq: EE 165.*

230a-f SPECIAL PROBLEMS IN ELECTRICAL ENGINEERING. (3 ea.) Staff
Open to graduate students who have the ability to carry on research. Individual work in one of the various fields of Electrical Engineering. Lab, six hours a week.

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 class hours.

500-1, 2, 3 THESIS. (0) I, II, S Staff

ENGINEERING — GENERAL

Robert Dawson Hawkins, Staley Fields Adams, Nathan B. Allison, William Jackson Barber, James Lee Carter, Jr., Willis Merle Carter, Alvin Lee Chambers, Edward Everett Elsey, Oliver William Gard, George Richard Gerhard, Clinton Kelly Hoffman, John Sherman Horine, Laurence Chester Pendley, Gustavus Edward Smith, Ernest Melvern Spokes, and Warren Ware Walton.

Applied Mechanics

2 MECHANISMS. (3) I, II, S Hawkins, Barber, and Adams
(For Mechanical Engineers.) Movement of machine parts such as crank and link motions, cams, gears, straight line and quick return motions. Lecture and recitation, two hours; lab, three hours. *Prereq: Physics 3a and Eng. Dr. 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. *Prereq: Physics 3a and 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. *Prereq: AM 3. Prereq. or concurrent: Math. 20b.*

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. *Prereq: Physics 3a and Engr. Dr. 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. *Prereq, or concurrent: Math. 20b. Prereq: AM 3.*

100 STRENGTH OF MATERIALS. (4) I, II, S Hawkins, Barber, and Adams
A study of stress and strain due to direct forces, shear, bending, torsion, eccentric loads and combined stresses. Lecture and recitation, four hours. *Prereq: AM 3 and Math. 20b.*

106 ADVANCED STRENGTH OF MATERIALS. (3) I, II, S Hawkins and Adams
Unsymmetrical bending of beams, thin plates, stress analysis of thick walled cylinders, and rotating discs. Theory of elastic energy, curved beams, stress concentration, and fatigue. Lecture and recitation, three hours. *Prereq: AM 100.*

107 MECHANICAL VIBRATIONS. (4) I, II Hawkins and Barber
Vibrations of systems of one and several degrees of freedom, critical speeds, and torsional and lateral vibrations of shafts. Lecture and recitation, four hours. *Prereq: AM 4 or 7 and AM 100. Prereq. or concurrent: Math. 35.*

NOTE: Credit will not be given in both AM 2 and AM 6.

NOTE: Credit will not be given in both AM 4 and AM 7.

Engineering Administration

102 ENGINEERING ADMINISTRATION. (3) I, II Elsey
A study of the methods, procedures, and principles involved in engineering analyses, contracts, specifications, estimates and valuations, and administration of engineering projects. Lecture and recitation, three hours. *Prereq: Senior classification.*

Engineering Drawing

Horine, J. Carter and Hoffman.

1a ELEMENTARY ENGINEERING DRAWING. (2) Horine, Hoffman, and J. Carter
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. Three two-hour periods a week.

1b DECRIPTIVE GEOMETRY. (2) I, II, S Horine, Hoffman, and J. Carter
A study of the essential principles of descriptive geometry and the solution of practical problems pertaining to the various branches of engineering. Three two-hour periods a week. *Prereq: Engr. Dr. 1a.*

2 MECHANICAL DRAWING. (1) I, II, S Horine, Hoffman, and J. Carter
(For students in Industrial Chemistry.) Freehand lettering, exercises in the use of instruments, orthographic, and axonometric projection, graphs and tracing. One two-hour period and one one-hour period a week.

12 GRAPHICAL COMPUTATIONS. (2) M. Carter
Graphic solution of problems in mechanism, construction, and use of alignment charts. Lecture, one hour; drafting room, three hours. *Prereq. or concurrent: Physics 3a, AM 2. Prereq: Engr. Dr. 18.*

18 ADVANCED ENGINEERING DRAWING. (2) I, II, S Horine and J. Carter
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. *Prereq: Eng. Dr. 1b.*

115 PHOTOGRAPHY. (3) I Nollau
(For Engineers.) Lectures on the optics and chemistry of photography together with practical demonstrations. Lecture, one hour; lab, four hours a week. *Prereq: Chem. 1a, Physics 3a, Junior standing.*

Fire Protection and Safety Engineering

101a FIRE PROTECTION ENGINEERING. (2) I Gard
A study of building materials and construction relative to fire prevention and the analysis of common fire hazards. Lecture and recitation, two hours a week. *Prereq: Junior classification.*

101b FIRE PROTECTION ENGINEERING. (2) II Gard
A study of special fire hazards, principles of fire insurance ratings, and laws and ordinances governing fire prevention and protection. Lecture and recitation, two hours a week. *Prereq: Junior classification.*

101c FIRE PROTECTION ENGINEERING. (2) I Gard
A study of fire protection methods including water supply, fire fighting equipment, town grading, alarm systems and special extinguishing devices. Lecture and recitation, two hours a week. *Prereq: Junior classification.*

102 SAFETY ENGINEERING. (2) II Gard
A study of safety methods including industrial accident prevention, accident statistics and analysis, industrial safety hazards, protective equipment, transportation and general safety. Lecture and recitation, two hours a week. *Prereq: Junior classification.*

Student Assemblies

*1 INTRODUCTION TO ENGINEERING. (0) I Horine
Scientific lectures and demonstrations covering all branches of engineering and the allied sciences. One hour a week.

*2 ENGINEERING PROBLEM. (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. *Prereq: Math. 18.*

3a, b CLASS SOCIETY. (Sophomore)
(0 ea.) I, II Allison, Carter, Chambers, Gard, Gerhard, Smith, Spokes
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 Allison, Carter, Chambers, Gard, Gerhard, Smith, Spokes
One hour a week. Content same as 3a.

5a, b CLASS SOCIETY. (Senior)
(0 ea.) I, II Allison, Carter, Chambers, Gard, Gerhard, Smith, Spokes
One hour a week. Content same as 3a.

MECHANICAL ENGINEERING

Estel Burdell Penrod, Merl Baker, Willis Merle Carter, Oliver William Gard, Herschel Oscar Knight, Karl Otto Lange, Fritz Mangelsen, Maurice Keith Marshall, Paul Leroy Pfennigwerth, James Franklin Thorpe, and Warren Ware Walton.

**15a, b MANUFACTURING PROCESSES.
(2 ea.) I, II, S Carter, Gard, Knight, and Mangelsen
Covering machine tool operation, inspection, measurement of finished work, foundry practice, 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. *Prereq: Engr. Dr. 18, ME 15b. Prereq. or concurrent: AM 100.*

100b MACHINE DESIGN. (3) I, II, S Carter and Gard
Continuation of ME 100a. Drawing room, nine hours. *Prereq: ME 100a.*

104a ENGINEERING THERMODYNAMICS. (3) I, S Penrod and Thorpe
Fundamental principles of thermodynamics. Lecture and recitation, three hours. *Prereq: Physics 3b and Math. 20b.*

104b ENGINEERING THERMODYNAMICS. (3) II, S Penrod and Thorpe
Continuation of ME 104a. Lecture and recitation, three hours. *Prereq: ME 104a.*

105 POWER PLANT ENGINEERING. (3) II, S Walton
Study of the characteristics of steam and internal combusion engineering generating power stations. Lecture and recitation, three hours. *Prereq: ME 104b and 112.*

107 FLUID MECHANICS. (3) II Penrod, Baker, and Lange
Fundamental principles of fluid flow. Lecture and recitation, three hours. *Prereq: ME 104a.*

108 INTERNAL COMBUSTION ENGINES. (3) II Carter, Lange, and Marshall
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. *Prereq: ME 105b or 134.*

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* Open to Freshmen.
**Not open to Freshmen.

109 REFRIGERATION. (3) I, S — Penrod and Baker
A course which deals with compression and absorption refrigeration machines and installations. Lecture and recitation, three hours. *Prereq: ME 104b or 134.*

112 MECHANICAL LABORATORY. (2) II, S — Staff
Fundamentals of mechanical engineering laboratory practice. Lecture and recitation, one hour; lab, three hours. *Prereq: ME 104a, Engl. 1b.*

113a MECHANICAL LABORATORY. (2) I — Staff
Performance tests on heating, ventilating, and power plant equipment. Lecture and recitation, one hour; lab, three hours. *Prereq: ME 104b and 107.*

113b MECHANICAL LABORATORY. (2) II — Staff
Continuation of ME 113a. Lecture and recitation, one hour; lab, three hours. *Prereq: ME 113a.*

114a AIR CONDITIONING, HEATING, AND VENTILATING. (3) I — Baker and Pfennigwerth
Theory of air conditioning and the mechanical equipment of buildings. Lecture and recitation, three hours. *Prereq. or concurrent: ME 109.*

114b AIR CONDITIONING, HEATING AND VENTILATING DESIGN. (3) II — Baker, Pfennigwerth, and Walton
Continuation of ME 114a and the complete design and layout of a year-round air conditioning system. Lecture, one hour; drawing room, six hours. *Prereq: ME 114a.*

116 ELEMENTARY HEATING, VENTILATING, AND AIR CONDITIONING. (3) II — Baker and Pfennigwerth
Fundamental principles of air conditioning. Lecture and recitation, three hours. *Prereq: Physics 1a or its equivalent.*

122a SEMINAR. (1) I — Staff
Studies of current engineering literature, preparation and prmesentation of bibliographies and reports through the use of the Engineering Index and Industrial Arts Index. Two hours a week. *Prereq: Senior classification.*

122b SEMINAR. (1) II — Staff
Continuation of ME 122a. Two hours a week. *Prereq: Senior classification.*

129 ELEMENT OF HEAT TRANSFER. (4) I, S — Penrod, Baker, and Walton
Fundamental principles of heat transfer. Lecture and recitation, four hours. *Prereq: ME 104b.*

130 APPLIED AERODYNAMICS. (3) I — Lange, Gard, and Marshall
Fundamental principles of fluid mechanics applied to aerodynamics. Lecture and recitation, three hours. *Prereq: ME 104b and 107.*

131a AIRPLANE DESIGN. (3) — Lange, Gard, and Marshall
Covering fundamental principles of airplane design. Lecture and recitation, three hours. *Prereq. or concurrent: ME 130.*

131b AIRPLANE DESIGN. (3) — Lange and Gard
Continuation of ME 131a. Lecture and recitation, one hour; drafting room, six hours. *Prereq: ME 131a.*

133 TOOL DESIGN. (3) I — Gard and Carter
An introduction to Tool Engineering which embodies the fundamental principles of designing jigs, fixtures, cams, gauges, punches, dies, and automatic machine tools. Lecture, one hour; drawing room, six hours. *Prereq: ME 100b.*

134 ELEMENTS OF ENGINEERING THERMODYNAMICS. (3) I — Staff
(For Civil, Electrical, and Mining Engineers.) General energy equations, mixtures of gases and vapors, flow of fluids, vapor power cycles, internal combustion cycles, and refrigeration cycles. Recitation, three hours. *Prereq: Physics 3b and Math. 20b.*

135 EXPERIMENTAL AERODYNAMICS. (3) II — Lange, Gard, and Marshall
A complete wind tunnel analysis of a scale made to obtain lift, drag, pitching moment, and side force data. Lecture, one hour; lab, four hours. *Prereq: ME 130.*

136 INTERNAL COMBUSION ENGINE LABORATORY. (1) I, II — Walton, Pfennigwerth, and Marshall
A study of magnetos, distributors, fuel ignition, timing, carburetors, oil systems, and performance tests on engines. Aeronautical lab, three hours. *Prereq. or concurrent: ME 108, 113a.*

137 MOTION AND TIME STUDY. (3) I — Gard
Principles and uses of motion economy and fundamentals of time study. Lecture and recitation, three hours. *Prereq: ME 15b.*

138 PRODUCTION ENGINEERING. (3) I Gard
Scheduling, routing, material control, quality control, and problems in engineering economy. Lecture and recitation, three hours. *Prereq: ME 137.*

139 PLANT LAYOUT. (3) II Gard
Selection of processes and machines, material handling systems, and plant requirements. Lecture, two hours; drawing room, three hours. *Prereq: ME 138.*

141a MECHANICAL AND ELECTRICAL EQUIPMENT FOR BUILDINGS. (3) I Baker and Pfennigwerth
A course for Architectural Engineers. The principles of water supply, plumbing and drainage, air conditioning, electrical equipment, lighting, and acoustics are studied. Lecture and recitation, three hours. *Prereq: Physics 3b.*

141b MECHANICAL AND ELECTRICAL EQUIPMENT FOR BUILDINGS. (3) II Baker and Pfennigwerth
Continuation of ME 141a. Lecture and recitation, three hours. *Prereq: ME 141a.*

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.

202a-d POWER PLANT ENGINEERING. (3 ea.) Penrod and Walton
Advanced work in the design, selection, layout, and operation of heat-power plant equipment.

203a HEATING, VENTILATING, AND AIR CONDITIONING. (3) Baker
Theoretical analysis of complex refrigeration cycles and treatment of advanced refrigeration topics; intermittent heating; advanced psychrometrics and air conditioning techniques.

203b HEATING, VENTILATING, AND AIR CONDITIONING. (3) Baker
Analysis of panel heating and cooling systems; theoretical development of exact radiaton equations involving multiple reflections; configuration factor analysis; exact and simplified design techniques.

203c, d HEATING, VENTILATING, AND AIR CONDITIONING. (3 ea.) Baker
Advanced work in the design, selection, layout, and operation of heating, ventilating, and air conditioning equipment with emphasis on industrial application and heat pump design.

204a-d ADVANCED MACHINE DESIGN. (3 ea.) Gard and 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
For graduate students having research ability. Each course consists of individual work in one of the various fields of Mechanical Engineering. Lab, six hours. *Prereq: Approval of Head of Department.*

211a ADVANCED ENGINEERING THERMODYNAMICS. (4) I, II Penrod
Critical treatment of the laws of thermodynamics, temperature scales; applications of theory to compressors and internal combustion engines; frequent reference to research papers. Lecture, four hours. *Prereq: ME 104b or consent of instructor.*

211b ADVANCED ENGINEERING THERMODYNAMICS. (4) II Penrod
Continuation of ME 211a. *Prereq: ME 211a.*

212a ADVANCED FLUID MECHANICS. (4) I Penrod and Lange
Fundamentals of hydro- and aero-mechanics treated by the use of vector and tensor calculus. Lecture, four hours. *Prereq: ME 107 or consent of instructor.*

212b ADVANCED FLUID MECHANICS. (4) II Penrod and Lange
Continuation of ME 212a. *Prereq: ME 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. *Prereq: ME 107, 129 or equivalent.*

213b ADVANCED HEAT TRANSFER. (4) II Baker and Penrod
Continuation of ME 213a. *Prereq: 213a.*

214a, b SPECIAL PROBLEM IN AERONAUTICAL ENGINEERING. (3 ea.) I, II — Lange and Marshall
Advanced course in aircraft power plant engineering dealing with special problems in reciprocating engines, gas turbines, and jet propulsion. Aeronautical lab, nine hours. *Prereq: Approval of Head of Department.*

215a-d SEMINAR. (1 ea.) — Penrod, Carter, and Baker
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.

216 STEAM TURBINES. (4) — Penrod
Steam turbine cycles, flow of steam through nozzles and blades; internal losses; reheat factor; regenerative feed-heating; turbine performance at varying loads; mixed-pressure turbines; construction of nozzles and diaphragms. *Prereq: Approval of Head of Department.*

217 GAS TURBINES AND JET PROPULSION. (4) — Penrod and Carter
Momentum, energy, and thermodynamics of gas flow; performance calculations; centrifugal, axial-flow, and Lysholm compressors; gas turbine cycles and characteristics; combustion chamber; aircraft, stationary, marine, and locomotive power plants; rockets. *Prereq: Approval of Head of Department.*

218 ADVANCED GEAR DESIGN. (3) — Carter
Fundamentals of gearing; involute trigonometry; design of planetary gear systems and transmission; study of gear forms such as bevel, helical, worm and spiral; study of gear manufacturing methods. Lecture and recitation, three hours. *Prereq: ME 100b.*

500-1 THESIS. (0) I, II, S — Staff

500-2 THESIS. (0) I, II, S — Staff

500-3 THESIS. (0) I, II, S — Staff

METALLURGICAL AND MINING ENGINEERING

Charles Stevens Crouse, Robert Carlisle Duncan, Jr., George Richard Gerhard, Joseph Pershing Hammond, Thomas Alexander Kendall, Ernest Melvern Spokes, and Roy Erwin Swift.

Metallurgical Engineering

26 ENGINEERING METALLURGY. (3) I, II — Gerhard
An elementary terminal course in the production and treatment of metals and alloys to furnish a background for the intelligent use of these materials. Lecture and recitation, three hours. *Prereq: Chem. 2a.*

27 GENERAL ELEMENTARY METALLURGY. (3) I, II — Swift
An elementary course covering general metallurgical principles. Fuels, refractories, furnace pyrometry and the several type alloys are considered. Lecture and recitation, three hours. *Prereq: Chem. 1a.*

29 METALLURGY OF THE FERROUS METALS. (3) I, II — Gerhard
Principles and processes employed in the production, treatment, and preparation of iron and steel, with a brief consideration of their constitution including the iron-carbon phase diagram. Lecture and recitation, three hours. *Prereq: Met. E. 27 and Chem. 1b.*

37 ADAPTIVE METALLURGY FOR ENGINEERS. (4) I, II — Gerhard
Principles of production and treatment of metals and alloys; correlation of structures, properties, and applications for Mechanical Engineers. Lecture and recitation, four hours. *Prereq: Chem. 1b or 2b and Physics 3a.*

60 METALLURGICAL LABORATORY AND SHOP PRACTICE. (6) S — Gerhard and Staff
Metallurgical and allied problems worked out practically in the laboratories and shops of the College. Lab, thirty-three hours. *Prereq: Five semesters in Metallurgical Engineering or its equivalent.*

121 FUEL AND METALLURGICAL LABORATORY. (2) I, II — Kendall
Analysis of ores, slags, and other metallurgical products by both wet and dry methods; determinative methods utilized in the analysis of fuels. Lab, six hours. *Prereq: Chem. 21a and Met. E. 27.*

128 METALLURGY OF NON-FERROUS METALS. (3) I, II Crouse
Principles and processes employed in the production and preparation of copper, lead, aluminum, and other non-ferrous metals; consideration of the strategic and economic importance of these metals. Lecture and recitation, three hours. *Prereq: Met. E. 27.*

132 METALLURGICAL CALCULATIONS. (5) I, II Crouse
Calculations involved in the practical application of metallurgical principles both general and specific. Recitation and problems, five hours. *Prereq: Chem. 21a, Met. E. 29 and 128.*

140 THE SCIENCE OF METALS. (3) I, II Crouse
First course in physical metallurgy; correlation of structures of metals and alloys to their physical properties together with the effects of mechanical work and heat. Lecture and recitation, three hours. *Prereq: Physics 3b, Chem. 21a, and Met. E. 29.*

142 FERROUS METALLOGRAPHY AND HEAT TREATMENT. (3) I Gerhard
Correlation of composition, heat-treatment, miscrostructures, and properties of ferrous metals and alloys. Engineering, tool, heat-resistant, and corrosion-resistant ferrous alloys, and cast irons are included. Lecture, two hours; lab, three hours. *Prereq: Met. E. 60, 140.*

143a PHYSICS OF METALS. (3) I Hammond
Radiography and x-ray metallography; structural metallurgical topics; elastic, plastic properties; diffusion; solubility of gases; introduction to electron and ban theory of solids. Lecture and recitation, two hours; lab, two hours. *Prereq: Physics 123b, Chem. 140b, Met. E. 140.*

143b PHYSICS OF METALS. (3) II Hammond
This is a continuation of Met. E. 143a, without the laboratory. Lecture and recitation, three hours. *Prereq: Met. E. 143a.*

144 NON-FERROUS METALLOGRAPHY AND HEAT TREATMENT. (3) II Hammond
Correlation of compositions, heat-treatment, microstructures, and properties of non-ferrous metals and alloys. Commercially pure metals; and solid solution, cold-working, age-hardenable, and martensitic-type alloys are considered. Lecture, two hours; lab, three hours. *Prereq: Met. E. 60, 140.*

164 ELEMENTS OF LOW TEMPERATURE CARBONIZATION. (3) I, II Crouse
Principles involved in the low temperature treatment of coals and other carbonaceous materials, including hydrogenation. Lecture and recitation, three hours; assigned reference reading. *Prereq: Physics 123b and Chem. 140b.*

166 MINERALS BENEFICIATION. (5) II Spokes
Principles and mechanics of beneficiation involved in the preparation of mine products, principles of plant design, and current developments. Lecture and recitation, five hours. *Prereq: Chem. 21a, Physics 3b, and Met. E. 26 or 27.*

167 MINERALS BENEFICIATION LABORATORY. (1) II Spokes
Application of the principles studied in Met. E. 166. Lab, two hours. *Concurrent: Met. E. 166.*

175a, b SEMINAR. (1 ea.) I, II Staff
General discussions of metallurgical subjects; preparation and delivery of papers and reports; extemporaneous speaking, and the briefing of technical books and articles in current literature. Two hours. *Prereq: 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. The Doctor of Engineering Degree is offered in the field of physical metallurgy.

207 ADVANCED PRODUCTION METALLURGY. (3) I, II Crouse and Gerhard
Principles and practices used in the production of alloys; with special stress upon any particular group of alloys that the student may choose. Reference reading and laboratory work are emphasized. Lecture, two hours; lab, eight hours.

209 ADVANCED ORE DRESSING. (6) I, II Spokes
Ore dressing plant design and original research in concentration problems. Lecture and recitation, two hours; lab, eight hours.

210 TECHNOLOGY OF LOW TEMPERATURE CARBONIZATION. (6) I, II Crouse
Principles and practices employed in low temperature carbonization of carbonaceous materials such as oil shales, bituminous and cannel coals. Lecture and recitation, two hours; lab, eight hours. *Prereq: Permission of Head of Department.*

213 X-RAY METALLOGRAPHY. (4) I, II Hammond
Crystallography; x-ray theory. Laue, rotation-crystal, powder x-ray diffraction methods; special cameras; structure-factor equations; reciprocal lattice; stereographic, gnomonic projections; poles figures; stress-strain analysis, phase diagrams; electron diffraction. Lecture, three hours; lab, three hours. *Prereq: Physics 119.*

214 THEORETICAL STRUCTURAL METALLURGY. (3) I, II Hammond
Interatomic forces of crystal bonding; free electron; zone theory; equilibrium and rate of approach thereto; thermal behavior, structure and free energy of alloy phases; equilibrium diagrams; diffusion; order-disorder change; nucleation and phase growth. Lecture, three hours.

215 SPECIAL-PURPOSE ALLOY STEELS. (3) I, II Crouse and Hammond
Fundamental principles of the more complicated and special alloy steels and their heat treatment. Carbon, mild alloy, N.E., S.A.E., tool and super alloys are included. Alternate alloy steels for application are considered. Lecture, three hours.

216 THE PHYSICAL CHEMISTRY OF STEEL MAKING. (3) I, II Crouse and Gerhard
Reactions involved in steel making processes. Slag constitution, slag control, and effects of additions to liquid metal. Influences of melting, refining, and deoxidizing practices on properties of finished steel are emphasized. Lecture, three hours.

217 THE MICROSCOPY OF SLAGS AND REFRACTORIES. (3) I, II Gerhard
Identification of phases in slags. Emphasis is placed on the interpretation of microstructural features as indicators of high temperature reaction tendencies among silicate and oxide systems. Lecture and recitation, one hour; lab, six hours.

218 DIFFUSION AND HEAT FLOW IN METALS. (2) I, II Hammond
Fick and Fourier equations applied to diffusion and solid state transformations, and to the heating and cooling of metals in metallurgical processes. Radiation convection, and conduction are considered in principles of furnace design. Lecture, two hours.

220 CRYSTAL PLASTICITY. (3) I, II Hammond
Fundamentals of plastic deformation in metals. Topics will include crystallography, slip, twinning, strain hardening, recovery, cold working, cold-worked and recrystallization textures. Heyns stresses, creep and similar subject matter. Lecture and recitation, three hours.

221 ADVANCED PHASE DIAGRAMS. (3) I, II Hammond
Review of thermodynamic fundamentals and application to binary pressure-temperature-composition diagrams. Construction and interpretation of ternary temperature-composition diagrams. Review and discussion of important ternary diagrams. Lecture and recitation, three hours. *Prereq: Chem. 244.*

222 CORROSION. (3) I, II Hammond
Corrosion mechanisms, including the electro-chemical theory, fundamentals of oxidation and tarnish, passivity and effects of crystal orientation on corrision. Corrosion of various engineering materials in various environments and testing. Lecture, two hours; lab, three hours.

223 METALS AT HIGH TEMPERATURE. (3) I, II Hammond
Fundamental considerations involved in high temperature behavior of metals. Test methods and equipment for elevated temperature testing. A review of the commercial alloys for high temperature use and study of current literature. Lecture, two hours.

224 MATERIALS ENGINEERING. (3) I, II Hammond
Various factors in specification and testing of materials. Materials for lightweight construction, mechanical and electrical applications, and severe service conditions are treated. Material failures, trouble shooting and testing are discussed. Lecture, two hours; lab, three hours.

240a-f SPECIAL PROBLEMS, LITERATURE AND LABORATORY. (3 ea.) I, II Staff
Literature research and planning of research programs; shop problems and technical writing, including a term paper, are required. Lab, six hours. Consultation and lecture by appointment.

275a-h SEMINAR. (1 ea.) I, II Hammond
Review of current literature in the field of metallurgical engineering and presentation of papers thereon. Presentation of talks on departmental research. Group and panel discussions. Required of all graduate students. Two hours.

500-1, 2, 3 THESIS. (0) I, II, S Staff

Mining Engineering

126a ELEMENTS OF MINE SURVEYING. (2) I — Spokes
Surface and underground methods for coal and metal mine surveys. Tunnel surveys and shaft plumbing. Lecture and recitation, one hour; practical work, three hours. *Prereq: CE 12.*

126b ELEMENTS OF MINING. (3) I — Spokes and Swift
Fundamental mining operations, prospecting, and mine development. Lecture and recitation, three hours. *Prereq: Chem. 1b, Physics 3a, Geol. 12a. Prereq. or concurrent: Min. Engr. 126a.*

130 MINE ADMINISTRATION. (3) I — Spokes
The engineering aspects of mine administration and management, including safety engineering. Lecture and recitation, three hours. *Prereq: Senior classification.*

131 MINE SURVEYING PRACTICE. (1) S — Spokes and Swift
Given at summer surveying camp at Camp Robinson, Noble, Breathitt County, Kentucky. Field practice in mine surveying and mapping. *Prereq: Min. Engr. 126a. Concurrent: CE 15 and 16b.*

132 MINE RESCUE TRAINING AND FIRST AID. (0)
Required of mining engineers. Fundamental principles of mine rescue training and first aid. Given on University campus by Kentucky Department of Mines and Minerals, U. S. Bureau of Mines, or both in collaboration. *Prereq: Junior or Senior classification.*

133a, b COAL PREPARATION. (3 ea.) I, II — Spokes
Principles and practice of coal preparation and associated operations. Lecture and recitation, three hours. *Prereq: Met. E. 166 and 167.*

134 MINING METHODS. (3) I — Crouse and Spokes
Surface and underground mining of metallic ores and similar materials. Economic, engineering, and operating factors. Lecture and recitation, three hours. *Prereq: Min. Eng. 126b.*

135 COAL MINING. (2) II — Spokes and Swift
Surface and underground methods, equipment, and economics in the United States and abroad. Lecture and recitation, three hours. *Prereq: Min. Engr. 126b.*

136 MINE VENTILATION. (2) II — Spokes and Swift
The principles and methods of mine ventilation and air conditioning; the control of dangerous impurities. Lecture and recitation, two hours. *Prereq: Min. Engr. 126b.*

137 MINE PLANT AND MACHINERY. (3) I — Swift
Theory and practice of mine haulage, hoisting, drainage, and pumping; compressed air practice. Lecture and recitation, three hours. *Prereq: Min. Engr. 126b.*

138 MINE PLANT DESIGN. (2) I — Spokes
The application of engineering principles to the problems of mining. Drawing room, four hours. *Prereq: Senior classification.*

139 VALUATION OF MINERAL PROPERTIES. (2) II — Swift
Methods of appraising the value of deposits of ores, mineral fuels, and non-metallics. Lecture and recitation, two hours. *Prereq: Econ. 51, Min. Engr. 126b.*

175a, b SEMINAR. (1 ea.) I, II — Staff
The preparation and delivery of papers and reports on mining subjects, extemporaneous speaking, and the briefing of technical books and articles in the current literature. Two hours. *Prereq: 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 — Spokes
Detailed study of the structure and function of a mining enterprise from both the financial and the engineering standpoint. Lecture and recitation, three hours.

207 ADVANCED PROSPECTING. (2) I, II — Spokes
Study of the principles involved in the geophysical investigation of the minerals of the earth's crust. Lecture and recitation, two hours.

209 ADVANCED MINE ENGINEERING. (7) I, II — Spokes
Procedure and methods of collecting and recording data for 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 — Spokes and Swift
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. Lab, six hours.

221a-d SEMINAR. (1 ea.) — Staff
Review of current literature in the field of Mining Engineering and presentation of papers on departmental research. Required of all graduate students. Two hours.

222 CERAMIC ENGINEERING. (3) I, II — Swift
Materials and equipment used in the ceramics industry. Physical and chemical principles relating to the manufacture of ceramic products such as pottery, tile, brick, white-ware, refractories, glass, and enamels on metals. Calculations involving formulas, batches of materials, and the drying and firing of ceramic ware. Lecture and recitation, three hours.

223 FUELS AND THEIR COMBUSTION. (3) I, II — Crouse
Available fuels in the solid, liquid, and gaseous states. Emphasis will be on the utilization of fuels in the mineral industries. Technology of fuels. Physics and chemistry of combustion. Combustion calculations. Lecture and recitation, three hours.

224 PREPARATION AND USES OF INDUSTRIAL MINERALS. (3) I, II — Swift
Sources, processing, marketing, utilization, and economics of nonmetallic minerals, and product specifications. Clay, limestone, asbestos, refractories, etc. will be studied. Lecture and recitation, three hours.

500-1, 2, 3 THESIS. (0) I, II, S — Staff

COLLEGE OF LAW

Elvis J. Stahr, Jr., Willburt D. Ham, Alfred B. McEwen, W. L. Matthews, Jr., Roy Moreland, Paul Oberst, Frank Hall Randall, William Lewis Roberts, Dorothy Salmon, and Frederick W. Whiteside, Jr.

(All courses are lecture and recitation unless otherwise noted.)

Firse Year Subjects

ORIENTATION FOR LAW STUDY. (No credit) I, II — Staff
Lectures by faculty on various basic topics. Required of all new students.

101a, b CONTRACTS I-II. (3 ea.) I, II — Ham
Patterson and Goble's Cases (3rd ed.).
Formation of contracts, offer, acceptance, consideration. Statute of Frauds, parol evidence rule, contracts for benefit of third persons, assignments, performance of contracts, express and implied conditions, impossibility of performance, discharge and illegal contracts.

102a, b TORTS I-II. (3 ea.) I, II — Oberst
Thurston and Seavey's Cases.
Intentional torts and defenses, negligence, causation, duties of occupants of land and manufacturers and vendors of chattels, contributory negligence, strict liability, deceit, defamation, malicious prosecution, interference with advantageous relations.

103 PROPERTY I-II. (4) I, II — Matthews
Casner and Leach's Cases.
Basic course in property: possession, gifts, bona fide purchasers of personalty. Estates, uses, easements, and rights incident to ownership.

106a, b PLEADINGS I-II. (3, 2) I, II — McEwen
Keigwin's Cases on Common Law Pleadings. (2nd ed.)
Brown, Vestal and Ladd, Cases and Materials on Pleading and Procedure.
Pleading I: Common law forms, theory of the case, composition of pleadings, demurrer, aider, duplicity, traverses, pleas, motions.
Pleading II: Code pleading. Claims, answers, objection and correction of pleadings, parties and joinders of actions.

107a CRIMINAL LAW. (2) II — Moreland
Hall and Glueck's Cases on Criminal Law and Its Enforcement.
Jurisdiction; the criminal act, complete and incomplete; criminal intent, actual and constructive; duress and mistake of fact, of law; justification; parties in crime; crimes against the person; and crimes against property.

107b CRIMINAL PROCEDURE. (2) II — Moreland
Hall and Glueck's Cases on Criminal Law and Its Enforcement.
Arrest, preliminary examination, bail, methods of prosecution, the grand jury, indictment and information, arraignment and pleas, nolle prosequi and motions to quash, trial and verdict, motions after trial.

144 LEGAL BIBILOGRAPHY. (1) I, II — Salmon
Price and Bitner, Effective Legal Research.
Practical problems in the use of statutes, reports, digests, encyclopedias, annotated cases, citation books, periodicals, reference tables, and indices.

148 DOMESTIC RELATIONS. (2) II — Whiteside
Compton's Cases.
Contracts to marry; the marriage status; annulment, divorce and separation; parent and child; infants and incompetent persons.

185 LEGAL METHOD. (2) I — Stahr
Dowling, Patterson and Powell, Materials for Legal Method (2nd ed.).
An introductory course for first year Law students, covering the sources and forms of American law, the authoritative hierarchy of tribunals, the coordination of judge-made and statute law, legal reasoning in judicial precedents, the law as a system etc.

Second Year Subjects

120 TRIAL PROCEDURE. (4) II — Stahr
Hays' Cases on Civil Procedure.
Venue, service of summons, provisional remedies, discovery and pretrial practice, summary judgment, trials, verdict, judgment and appeals, including final judgment rule, and appeal practice; *res judicata*; correction of judgments; extraordinary remedies.

122 PROPERTY III. (3) I — Matthews
Casner and Leach's Cases.
Titles and conveyancing. Adverse possession; prescription; accretion; dedication; mode of conveyance at common law, under Statute of Uses, and modern statutes; easements by implication; estates; covenants for title; estoppel by deed, and priorities.

123 NEGOTIABLE INSTRUMENTS. (3) I — Stahr and Ham
Britton's Cases on Bills and Notes (4th ed.).
A general study of the law of bills and notes following the Uniform Negotiable Instruments Law, including: operative facts of negotiability; transfer; holders in due course; defenses; the liability of primary and secondary parties.

124 EVIDENCE. (4) II — McEwen
Morgan and Maguire's Cases (3rd ed.).
Rules of admissibility, real, circumstantial, testimonial and documentary evidence, witnesses, hearsay rule and its exceptions, procedure of admissibility, law and fact, judge and jury, burden of proof and presumption, judicial notice, and parol evidence rule.

161 CONSTITUTIONAL LAW. (4) I, II — Oberst
Dowling's Cases. (4th ed.)
Judicial review, relationships in the federal system, powers of Congress, powers of the President, powers of the states. Due process, procedural and substantive; obligation of contract, equal protection, civil rights, privileges, and immunities.

163 WILLS AND THE ADMINISTRATION OF ESTATES. (2) II — Whiteside
Mechem and Atkinson's Cases. (3rd ed.)
Descent and distribution, the making and revocation of wills, probate and administration.

191a, b EQUITY I-II. (4, 2) I, II — Moreland
Chafee and Simpson's Cases. (3rd ed.)
The traditional Equity materials.

196 AGENCY AND PARTNERSHIP. (3) II — Ham
Steffen's Cases on Agency (2nd ed.).
Study of traditional agency materials; nature of partnership, characteristics of partnership property, dissolution, distinction between partnership and other forms of unincorporated business associations.

Third and Fourth Year Subjects

125 PRACTICE COURT. (1) I — McEwen
Busch's Law and Tactics in Jury Trials (students' ed.).
This course, conducted mainly under the Kentucky code (but treated to give a fair understanding of like work in other states) is designed to fit students for actual court practice following training in substantive law.

162 PROPERTY IV (Future Interests). (3) II — Matthews
Simes' Cases (2nd ed.).
Types of future interests; construction problems; limitations to classes, rule against perpetuities, illegal restraints and conditions.

164 CONFLICT OF LAWS. (3) I — Moreland and McEwen
Cheatham, Dowling, and Goodrich's Cases (3rd ed.).
Nature of the subject, penal laws, procedure, judgments, domicile, capacity, form, particular subjects, litigation, family law, inheritance, foreign administrators.

165 TRUSTS. (3) I — Matthews
Scott's Cases (4th ed.).
Uses and Statute of Uses; trusts creation; elements; transfer of beneficiary's interest; administration, termination, and modification; charitable trusts; resulting and constructive trusts; powers.

166 SALES. (3) II — Ham
Vold's Cases (2nd ed.).
Time of transfer of title, future goods, fungible goods, seller's lien, stoppage in transitu, cash sales, conditional sales, documents of title, trust receipts, warranties, remedies of seller, remedies of buyer.

170 THE LEGAL PROFESSION. (2) I — Matthews
Cheatham's Cases and Materials.
A study of professional problems including: ethics, discipline, unauthorized practice. duty to court and client, bar admission and organization.

172a-h LEGAL RESEARCH AND WRITING. (2 ea.) I, II, S — Staff
Independent study of legal problems under faculty supervision, and supervised training in legal writing.

180 LABOR LAW. (2) I — Stahr
Smith's Cases and Materials (2nd ed.).
History, organization, and structure of American labor unions; obligations and prerogatives of employers; questions of representation; privileges and obligations of unions; collective bargaining and dispute settlement.

184 KENTUCKY PRACTICE. (No credit) 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.

187 CORPORATIONS. (3) I — Ham
Dodd and Baker's Cases (2nd ed.).
Characteristic features of a private corporation, the entity concept and its disregard; method of formation; defectively formed corporations; structure of management; problems of control; scope of corporate activities; powers, duties, and responsibilities of directors; stockholders' derivative suits.

188 CORPORATION FINANCE LAW. (2) II — Ham
Dodd and Baker's Cases on Corporations (2nd ed.).
Study of the corporate capital structure; promotion; payment for shares and valuation of property exchanged; dividends; treasury stock; reduction in capital; organic changes.

189 INCOME TAXATION. (3) II — Whiteside
Griswold's Cases on Federal Taxation (3rd ed.).
Problems in federal and state income taxation.

Elective Subjects Open to Second, Third and Fourth Year Students

142 WORKMEN'S COMPENSATION. (2) II — Moreland and Stahr
Selected materials, including Kentucky Workmen's Compensation Decisions and the Kentucky Workmen's Compensation Act.
Common law background, employers' liability acts, safety regulations, workmen's compensation acts generally, the Kentucky act, coverage and procedure.

145 INSURANCE. (2) II — Whiteside and Ham
Goble's Cases 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.

147 RESTITUTION. (2) II — Oberst
Woodruff's Cases.
Restitution at law for mistake, duress and undue influence, illegality, impossibility, benefits received without contracts.

150 PUBLIC UTILITIES. (3) S — Moreland
Robinson's Cases (2nd ed.).
Nature and scope of public utility concept—historical and modern; methods of determining rate base; reasonable rates; duty to serve—extent.

152 OIL AND GAS. (2) S — Moreland
Kulp's Cases (3rd ed.).
Oil and gas leases—infants, married women, life tenants, and others as parties; the granting clause—lessee's interest, lessee's right to ejectment; the habendum clause—duration of lease; etc.

154 DAMAGES. (2) II — McEwen and Oberst
McCormick's Cases.
Nature of damages ,avoidable consequences, counsel fees, certainty, compensation, damage for non-pecuniary injuries, interest, damages for death, and eminent domain.

167 ADMINISTRATIVE LAW. (3) II — Oberst
Gellhorn's Cases (3rd ed.).
Establishment of administrative tribunals, limits on discretion. Notice and hearing, orders, methods of judicial relief, scope of judicial review.

173 FEDERAL JURISDICTION AND PROCEDURE. (3) I — McEwen
Dobie and Ladd's Cases (Forrester's ed.).
Diversity of citizenship, jurisdictional amount, venue, concurrent jurisdiction, original and appellate jurisdiction, procedure in federal courts.

176 TRADE REGULATION. (3) I — Oberst
Oppenheim's Cases.
Unfair competition in promoting sales, obstruction of access to markets, price practices and price policies, combination and monopoly, anti-trust laws.

177 STATUTORY INTERPRETATION. (2) S — Staff
de Sloovere's Cases.
The process of interpretation, subject matter and purpose of the statute, content, associate words, extrinsic aids, relation to other statutes and to the common law.

178 CREDITORS' RIGHTS. (3) I — Whiteside
Hanna and McLachlan's Cases (4th ed.).
Enforcement of judgments; fraudulent conveyances; general assignments; creditors' agreements; receiverships; bankruptcy, assets, and distribution.

179 LEGISLATION. (3) I — Ham
Nutting and Elliott's Cases.
Nature and scope of legislative power; organization of legislative bodies; legislative process; legislation and the courts: interpretation of statutes.

181a, b LAW JOURNAL NOTE EDITING. (2) I, II — Staff
This course, required of all senior members of Law Journal staff, consists of study and criticism of the notes and comments prepared for publication by the student editors of the Law Journal.

183 LANDLORD AND TENANT. (2) II — Matthews
Casner and Leach's Cases.
Characteristics of leases; creation of relationship of landlord and tenant; covenants implied in lease; restrictions on lessee's use of property; transfers by lessor and lessee; rent; taxes; repairs; and termination of relationship.

186 LOCAL GOVERNMENT LAW. (2) II — Stahr
Fordham's Local Government Law.
Legislative control over municipal corporations; municipal powers—in general; licenses and franchises; appropriation of municipal funds; municipal contracts, indebtedness, torts, property, special assessments.

190 ESTATE, INHERITANCE AND GIFT TAXATION. (2) S — Whiteside
Griswold's Cases on Federal Taxation (3rd ed.).
Problems in state and federal estate, inheritance and gift taxation, with some attention to estate planning.

193 SURETYSHIP. (2) II — Oberst
Durfee's Cases on Security.
Pledges, suretyship rights, suretyship defenses, Statute of Frauds.

194 MORTGAGES. (2) I — Matthews
Durfee's Cases on Security (Vol. I).
Creation, assignment, priority, foreclosure, redemption.

195 INTERNATIONAL LEGISLATION. (2) II
Seminar. A course for second and third year law students on the development and codification of international law. History of codification; promotion of codification under League of Nations and United Nations; international law and war criminal trials; genocide pact; Universal Declaration and Covenant of Human Rights and other similar topics. Political Science 150, International Law, recommended as prerequisite.

COLLEGE OF EDUCATION

DIVISION OF ADMINISTRATION

Robert L. Hopper, Leo M. Chamberlain, Frank G. Dickey, May K. Duncan, C. Howard Eckel, Fred E. Harris, and L. E. Meece.

101 SCHOOL ORGANIZATION. (3) I, II, S — Eckel
Scope and general character of the American public school system and organizational and administrative problems as they relate to the work of the classroom teacher.

198 THE ADMINISTRATION OF PUPIL PERSONNEL. (3) S — Hopper
Administrative problems relating to child accounting, including school census, attendance records and reports, social and economic factors affecting school attendance, and duties and responsibilities of school and non-school personnel and agencies.

202 LOCAL SCHOOL ADMINISTRATION. (3) I, II, S — Meece
The organization, management, and control of a local school system, including such problems as federal, state, and local relationships, board of education, pupil personnel, employed personnel, public relations, finance and business management, and school services.

203 CONSTITUTIONAL AND LEGAL BASIS OF PUBLIC SCHOOL ADMINISTRATION. (3) II, S — Meece
A study of court decisions to discover the legal principles involved in practical problems of school administration. *Prereq: Education 202, 213, or 232.*

207 SCHOOL BUILDINGS AND EQUIPMENT. (3) — Hopper
Measurement and evaluation of existing school building facilities, planning new buildings, determining suitable equipment, and financing the building program. *Prereq: Education 202 or its equivalent.*

209a, b INTERNSHIP IN EDUCATIONAL ADMINISTRATION. (3, 3) I, II, S — Hopper
Field experiences are provided for prospective administrators under the cooperative supervision of University personnel and principals, supervisors, and superintendents in Kentucky public school systems.

210a, b INDEPENDENT WORK IN SCHOOL ADMINISTRATION. (3, 3) I, II, S — Staff
Includes research on a practical problem in school administration. Open only to students with at least one semester of graduate work in education. Approval of instructor necessary before registration.

213 STATE SCHOOL SUPERVISION. (3) S — Meece
Organization, administration, and control of education at the state level, including state-federal and state-local school relationships, state support, control of the material environment, training and certification of teachers, teachers' contracts, tenure, retirement.

221a, b SEMINAR IN ADMINISTRATION. (3 ea.) II, S — Meece and Hopper
A critical study of selected problems in school administration. The course is designed primarily for students who have had some administrative experience. *Prereq: Education 202 and 225.*

229 THE ELEMENTARY PRINCIPAL. (3) I, S — Duncan and Harris
Problems involved in the organization and administration of a modern elementary school.

231 BUSINESS ADMINISTRATION AND FINANCE OF PUBLIC EDUCATION. (3) II, S — Meece
A course for prospective superintendents. Emphasizes school support, including state, local, and federal revenues; budgetary policy; procedures for purchasing, accounting, and reporting costs; management of funds, property, equipment, and supplies; payroll procedures, records and reports.

232 HIGH SCHOOL ADMINISTRATION. (3) I, II, S — Hopper
This course deals with organization, administration, and probems of the modern secondary schools, including such specific problems as school staff, program of studies, records and reports, school-community relationships, school plant, finance, and scheduling.

233 THE ADMINISTRATION OF THE TEACHING PERSONNEL. (3) Hopper
The course emphasizes principles and practices in teacher preparation, selection, and placement. Includes a study of salaries, tenure, retirement, teaching loads, sick leave, personnel records, and teacher participation in school administration problems.

238 TRENDS IN HIGHER EDUCATION. (3) Dickey and Chamberlain
A survey of modern tendencies in higher education: scope and development, objectives, organization, administration, curricula, finance, faculty and student personnel. Designed primarily for prospective college administrators, teachers, and registrars.

276 ADMINISTRATIVE PROBLEMS IN TODAY'S EDUCATION. (3) Meece
A study of present-day administrative problems. The course is designed to be of assistance particularly to superintendents.

290a, b TECHNIQUE AND PROFESSIONAL WORK OF THE REGISTRAR.
(3, 3) I, II, S (Not offered 1953-54)
A comprehensive study of the work of the registrar in institutions of higher education, including the history, literature, and prseent-day tendencies; rules of the University; recommendations of the American Association of Collegiate Registrars.

301a, b RESEARCH PROBLEMS IN EDUCATIONAL ADMINISTRATION.
(3, 3) I, II, S Meece and Hopper
An independent research course for the study of special problems in educational administration. *Prereq: One year of graduate work.*

321a, b RESEARCH PROBLEMS IN HIGHER EDUCATION.
(3, 3) I, II, S Dickey and Chamberlain
An independent research course for the study of special problems in higher education. *Prereq: One year of graduate work.*

DIVISION OF FOUNDATIONS OF EDUCATION

Ellis F. Hartford, Leslie Martin, Helen Reed, Martha Shipman, Herbert Sorenson, and R. M. Van Horne.

35 INTRODUCTION TO EDUCATION. (2) I, II Van Horne
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. *Prereq: One course in 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.

132a, b INTERGROUP RELATIONS. (3 ea.) S
Analysis of relationships between groups which differ in religious, ethnic, or sociocultural backgrounds; the development of educational and social techniques for reduction of tensions. (Same as Sociology 132a, b.)

147 THE SECONDARY SCHOOL PUPIL. (2) II, S Sorenson, Reed, and Van Horne
The psychology of the pupil in junior and senior high school. *Prereq: One course in Psychology.*

148 EDUCATIONAL PSYCHOLOGY. (3) I, II, S Sorenson
Application of psychology to the problems of learning and teaching.

151 THE TEACHING OF HIGHER LEVEL STUDY SKILLS. (3) I, S Sorenson
A course designed to demonstrate the teaching of study skills (including remedial work) in secondary schools. One approach to teaching these skills will include the study problems of college students.

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. *Prereq: twelve semester hours in education.*

201 FOUNDATIONS IN EDUCATION. (5) I, S Hartford and Sorenson
An intensive study in various fields which contribute to the development of educational theory and practice.

205 REVIEW OF CURRENT EDUCATIONAL LITERATURE. (3) II, S Hartford
An extensive study of current educational literature as found in educational periodicals. *Prereq: twelve 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 great educators to acquaint the student with their major contributions to society and education.

220 COMPARATIVE EDUCATION. (3) II Hartford
Comparisons of modern national systems of education.

222 METHODOLOGY OF EDUCATIONAL RESEARCH. (3) II 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. *Prereq: twelve 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 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
A course in sociological foundations of education.

237a, b INDEPENDENT WORK IN HISTORY OF EDUCATION.
(3, 3) I, II, S Hartford
Independent work problems and topics for advanced students in history of education.

241a, b SEMINAR IN FOUNDATIONS OF EDUCATION. (3, 3) S Hartford
A critical study of selected problems in the foundation of education areas.

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 twelve 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 psychological theories and research applicable to educational practices. *Prereq: One year of Psychology.*

225a, b GUIDANCE AND COUNSELING IN TODAY'S SCHOOLS. (3, 3) S Martin
A course for those concerned with an effective program of guidance; 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 and Martin
An independent work course for students who have done a minimum of twelve semester hours of graduate work including Education 122, 147, or 254.

260 PROBLEMS IN EDUCATIONAL SOCIOLOGY. (3) S Hartford
An advanced course in the application of sociological findings to education including consideration of Southern regional problems and potentialities. *Prereq: twelve semester hours of graduate work including Education 230 or equivalent.*

275 ADVANCED PROBLEMS IN PHILOSOPHY OF EDUCATION. (3) Hartford
A critical study of philosophical problems which relate to present-day education. *Prereq: Teaching experience and six semester hours in philosophy of education.*

DIVISION OF INSTRUCTION AND PLACEMENT

Lyman V. Ginger, Estelle Adams, Harold Adams, Grace Anderson, Ramona Apker, Olive Barrett, Anna Bruce Boone, Vivian Burke, Alma Carl, Louis Clifton, Frank G. Dickey, Dorothy Dohoney, May K. Duncan, Stella Gilb, Ruth Haines, Fred E. Harris, D. C. Kemper, Phyllis Kloecker, Howard Lusk, David McMurtry, William McKenney, James T. Moore, Vernon Musselman, Ruth Stallings Osborne, Anna B. Peck, Leon Porter, Helen Reed, King Richeson, Margaret Roser, Martha Shipman, Elizabeth Taylor, Lois Lynn Van Meter, Mary West, and J. W. Worrel

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. (3) 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. (3) 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 applinaces. 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 subjects, 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
A study of advanced problems of interest to business teachers such as testing in business subjects, guidance, job studies, placement and follow-up, equipment, and supervision.

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 businss 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
Consideration of the problems pertaining to the teaching of business subjects at the college level. Consideration is also given to the development of curricula to meet teacher certification requirements in various states.

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 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
A course designed to aid in developing skills and techniques essential to improving automotive and pedestrian safety. Psycho-physical tests, classroom work, behind-the-wheel driving, and other basic safety education are presented.

127 THE ELEMENTARY CURRICULUM. (3)
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.

175j MODERN EDUCATIONAL PROBLEMS. (3)
A brief survey of some of the problems in modern education.

186 VISUAL TEACHING. (3) I, II, S Richeson
A course in methods and techniques of visual instruction. Emphasis is on the effective use of films, film strips, pictures, maps, graphs, slides, field trips, by means of lesson plans. Surveys are made of visual materials.

206 PROBLEMS OF COLLEGE TEACHING. (3)
Methods commonly used in college teaching, bases for measuring instruction, marking systems, qualifications for college teaching, and efforts being made to improve college instruction.

224 ORGANIZATION AND SUPERVISION OF STUDENT TEACHING. (3) S Ginger
A course designed for teachers preparing to become supervising teachers. The basic principles apply to both elementary and secondary education. Includes a presentation of the experiences deemed important in developing students into effective teachers.

225 SUPERVISION OF INSTRUCTION. (3) II, S Adams
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. (3) I Musselman
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) II Musselman
The selection of materials in the elementary and secondary fields, types of units used in modern instruction, and the various educational agencies that may be used to make the school a real community center.

245 ORGANIZATION OF AUDIO-VISUAL AIDS. (3) II Richeson
Operation of an audio-visual program consdering budgeting, training of personnel, duties of staff, sources of materials, and use of equipment. Previews are made of many audio-visual materials.

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 EXTRA-CURRICULAR ACTIVITIES. (3) S Ginger
The underlying principles and common practices of the co-curricular activities programs as developed in public schools. Home room activities, assembly programs, and clubs are the three major sections of the course; other activities included when necessary.

292a, b FIELD PROBLEMS IN CURRICULUM SUPERVISION.
(3, 3) I, II Dickey and Adams
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 Dickey and Adams
An independent research course. Students confer individually with the instructor. *Prereq: One year of graduate work.*

Elementary Education

20 ARTS AND CRAFTS IN THE ELEMENTARY SCHOOL. (2) I Haines
Designed to give experiences with materials for arts and crafts related to classroom activities such as the playhouse, panoramas, diaramas, puppet shows, friezes, mural painting, map making, booklets, and colonial crafts.

42 TEACHING ARITHMETIC IN THE ELEMENTARY SCHOOL. (3) II Harris
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 Moore and Harris
Objectives and point of view in elementary education developed by reading and observing children in modern school. Major emphasis on social studies units and communication skills. Role of the teacher and organization of modern classroom.

110 ADVANCED ARTS AND CRAFTS 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 an elementary school. Actual work with children in all learning situations is the basic part of the course.

141 PROBLEMS IN DIAGNOSTIC AND REMEDIAL READING. (3) Duncan
Prevention, diagnosis, and corrective measures for reading difficulties. Study of investigations and literature in this field.

172 THE TEACHING OF READING. (3) II Duncan
A study of major factors in learning to read. Objectives, readiness, abilities needed for silent and oral reading. Methods of word attack, diagnostic and corrective techniques. Testing and materials for each level.

173 CHILDREN'S LITERATURE. (3) II Duncan
Planned to acquaint students with literature for children, kindergarten through grade 8. Review of interests at different ages. Discussion of types of literature – folklore, modern fairy tales, myths and legends, realistic stories, biography, and poetry.

174 TEACHING IN THE KINDERGARTEN. (3) I Burke
The nature, development, and education of the child of kindergarten age. Organization, equipment,, curriculum, and procedures used with children of this age. Regular periods are scheduled for observing and participating in the kindergarten.

196 SCIENCE IN THE ELEMENTARY SCHOOL. (3) I Moore
A background of elementary science usable with children in the first six grades. Includes planning unis 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, Harris, and Moore
Recent research and modern trends in teaching the skills and content subjects in the elementary school. Planned for supervisors, superintendents, principals, and teachers for better understanding of a modern elementary school.

215a, b INDEPENDENT WORK IN ELEMENTARY EDUCATION. (2, 2) I, II Duncan, Harris, and Moore
An independent work course for students who have done a minimum of twelve semester hours of graduate work including Education 212 or 229.

239 A SURVEY OF RESEARCH IN HUMAN DEVELOPMENT AND EDUCATION. (4) II Harris
A study of the research and principles of education and allied fields which are appropriate to a consideration of education as a developmental process. *Prereq: Masters degree or by permission.*

308a, b RESEARCH PROBLEMS IN ELEMENTARY EDUCATION. (3, 3) I, II Duncan, Harris, and Moore
An independent research course. Students confer individually with the instructor. *Prereq: One year of graduate work.*

Music Education

242 ADMINISTRATION AND SUPERVISION OF PUBLIC SCHOOL MUSIC. (3) Worrel
A study of current trends in school music, curricula, testing programs, and other supervisory procedures.

243 ADVANCED METHODS AND MATERIALS IN MUSIC EDUCATION. (2) Worrel
Survey and evaluation of new public school music methods and materials.

244 HISTORY AND PHILOSOPHY OF MUSIC EDUCATION. (2) Worrel
A course designed to acquaint the student with the historical developments and basic philosophies in public school music.

Secondary Education

105 FUNDAMENTALS OF SECONDARY EDUCATION. (3) I, II, S Reed and Shipman
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 THE TEACHING OF READING IN THE JUNIOR AND SENIOR HIGH SCHOOL. (2) Duncan
Diagnosis and corrective measures for junior and senior high schools. Study of plans of organizing a corrective program and suitable materials.

142 STUDENT TEACHING IN ART. (8) I, II Haines
Designed to give the student practical experience through observation, planning, teaching, and evaluating procedures. The student works with children on all grade levels under the guidance of the supervising teacher.

153 STUDENT TEACHING IN ENGLISH. (9) I, II, S Anderson, Carl, and Dohoney
Observation and practice in teaching high school English. Included are objectives and content of English courses in high school, planning and methods of teaching, testing, textbook analysis, audio-visual material and equipment, and safety education.

154 STUDENT TEACHING IN LANGUAGES. (9) I, II, S West
Aims and objectives, courses of study, materials, methods, and testing in French, Spanish, and Latin. Includes observation and practice in the content field, safety education, audio-visual aids, and planning conferences with the supervising teacher.

155 STUDENT TEACHING IN THE SCIENCES. (9) I, II, S Kemper and Richeson
Aims and objectives, courses of study, methods, tests, equipment, general science, biology, physics, and chemistry. The course includes observation and practice, safety education, audio-visual aids, and planning conferences with the supervising teacher.

156 STUDENT TEACHING IN MATHEMATICS. (9) I, II, S Porter
Aims and objectives, courses of study, materials, methods, and testing in algebra, geometry, and trigonometry. Includes observation and practice in the content field, safety education, audio-visual aids, and planning conferences with the supervising teacher.

157 STUDENT TEACHING IN THE SOCIAL STUDIES.
(9) I, II, S Peck, Carl, and Dohoney
Includes a study of the development and present status of social studies programs, classroom methods and activities, teaching materials, testing and evaluation, professional aids to teachers, safety education, and observation and participation in actual classroom experiences.

169a, b STUDENT TEACHING IN PHYSICAL EDUCATION.
(4, 4) I, II Gilb and Clay
For students who expect to teach and who meet the requirements for a major in physical education. Experience in working with children in physical education activities comprises basic part of course. Safety education also included.

177a, b STUDENT TEACHING IN MUSIC. (4, 4) I, II Osborne and McKenney
A course planned for teachers who expect to become either instructors or supervisors of music in the public schools. Observation, teaching, work on research problems, and conferences with the supervising teacher included.

193 STUDENT TEACHING IN BUSINESS EDUCATION. (9) I, II, S McMurtry
Student teaching in business subjects such as general business, shorthand, typewriting, and bookkeeping. Observation and practice in the content field. Safety education, audio-visual aids, and planning conferences with the supervising teacher.

214 THE SECONDARY SCHOOL. (3) I, II, S Adams
A course designed to acquaint the secondary teacher and the administrator with the nature and function of the secondary school.

248a, b INDEPENDENT WORK IN SECONDARY EDUCATION.
(3, 3) I, II, S Dickey, Ginger, and Adams
An independent work course for students who have done a minimum of twelve 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. *Prereq: One year of graduate work.*

DIVISION OF VOCATIONAL EDUCATION

Carsie Hammonds, Ruth Averitt, W. Maurice Baker, Harold Binkley, Glenwood Creech, William Judge, Charles O. Neel, Ethel L. Parker, Evangeline Smith, Ruth Sneed, William Roy Tabb, J. P. Truitt, Harlan Veal, Maurice Stanley Wall, and Charles V. Youmans.

Agricultural Education

179 DETERMINING CONTENT IN VOCATIONAL AGRICULTURE. (3) S Hammonds and Supervising Teachers
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, Wall, and Supervising Teachers
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, Binkley, Wall, and Supervising Teachers
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, Binkley, Tabb, and Wall
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. *Prereq: 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, Tabb, and Wall
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 Wall
Content and method of teaching young-farmer courses in vocational agriculture.

289a, b RESEARCH IN AGRICULTURAL EDUCATION. (3, 3) I, II, S Hammonds, Tabb, and Wall
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. *Prereq: Education 112 and 128.*

116 PROBLEMS OF THE COORDINATOR IN DISTRIBUTIVE EDUCATION. (3) I, II, S Baker
Class work on problems of the coordinator of a high-school program in distributive education, including selecting students for the program, placing students in stores, rating students, use of advisory committee, and over-all planning.

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. *Prereq: Home Economics 26, 27, and 61; Education 147.*

162 STUDENT TEACHING IN HOME ECONOMICS. (9) I, II Parker, Averitt, and Smith
Practical application of methods in teaching various phases of home economics. *Prereq: Education 160.*

165 ADULT EDUCATION IN HOME ECONOMICS. (3) I, II, S Parker, Averitt, and Smith
Problems in teaching vocational homemaking in day, part-time, and evening schools. *Prereq: 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. *Prereq: 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. *Prereq: Education 160 and 162; experience in teaching.*

264 MODERN TRENDS IN HOME ECONOMICS EDUCATION. (3) I, S Parker
A basic course for students in home economics education. The course includes the development of home economics education and modern trends in curriculum, methods of teaching, and evaluation.

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 SUPERVIION IN HOME ECONOMICS EDUCATION. (3) I, II Parker
This course includes practice in teaching for observation by others, student teaching, and school visiting. *Prereq: Two years of teaching experience and Education 261.*

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. *Prereq: 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. *Prereq: Teaching experience.*

Industrial Education

71 TRADE ANALYSIS. (2) S Youmans
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 Youmans
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) Youmans
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 Youmans
Selecting and arranging course material in trade and industrial subjects. Preparation of instruction and check sheets with emphasis on their uses. *Prereq: Education 71.*

83 PRINCIPLES OF TRADE TEACHING. (2) I, II, S Youmans
This course deals with the fundamentals of learning and teaching that have special significance in trade and technical subjects.

123 VOCATIONAL GUIDANCE. (2) I, II, S Youmans
Course content includes units on aims and purposes, individual inventory, and counseling techniques. Emphasis is placed on occupational information and guidance, placement, follow-up, and organization and administration of a guidance program.

134 ORGANIZATION AND OPERATION OF PART-TIME AND EVENING CLASSES. (2) I, II, S Youmans
A course for administrators, coordinators, and teachers in part-time and evening industrial education. Covers the duties of a coordinator in cooperative training programs.

136 SURVEYS IN INDUSTRIAL EDUCATION. (2) I, II, S Youmans
This course deals with the basic methods and techniques used in making a survey to determine the needs for trade and industrial education. Emphasis is placed on gathering, evaluating, and interpreting the data.

137 SPECIAL PROBLEMS IN INDUSTRIAL EDUCATION. (2) I, II, S Youmans
The supervised study of approved problems in industrial education on a research basis.

143 MODERN INDUSTRIAL ANALYSIS. (2) I, II, S Youmans
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 Youmans
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.

Vocational Education

211 THE ADMINISTRATION OF VOCATIONAL EDUCATION. (3) I, II Hammonds and Dickey
A course designed for superintendents, high-school principals, and other administrators. Its purpose is to train for administering and supervising vocational education in schools.

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.

286a, b SEMINAR IN VOCATIONAL EDUCATION. (2, 2) I, II, S Hammonds, Parker, and Baker
A critical study of selected problems in vocational education. The course is open only to students with experience in the field.

COLLEGE OF COMMERCE

Cecil C. Carpenter, Wendell Everett Beals, Lucian Carter, Virgil Christian, Robert H. Cojeen, Frank G. Coolsen, 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, Walter H. Pearce, Frank D. Peterson, Ralph R. Pickett, Eldred C. Speck, Rodman Sullivan, Ruth E. Thomas, and William Allen Tolman.

ECONOMICS

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 rational 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; lab, four hours a week.

51 PRINCIPLES OF ECONOMICS. (3) I — Hargreaves and others
An introductory course: The Theory of Income and Employment and Value Theory. *Not open to freshmen.*

52 PRINCIPLES OF ECONOMICS. (3) II — Hargreaves and others
The major emphasis is on distribution theory and public policy. *Prereq: Econ. 51.*

102 LABOR ECONOMICS. (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. *Prereq: Econ. 52.*

103 TRANSPORTATION. (3) I — Sullivan
Railways, waterways, highways, and airways. Rates, service, management, and regulation. *Prereq: Econ. 52.*

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. *Prereq: Econ. 52.*

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. *Prereq: Econ. 52.*

107 STATISTICAL METHOD. (3) I — Christian
Introduction to the sources of business data, the use of calculating machinery, tabulation, simple charts and graphs, the average, dispersion, correlation, and the 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. *Prereq: Econ. 52 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 propety 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, contractural labor, et cetera. *Prereq: Econ. 2 or consent of instructor.*

126 ECONOMICS OF PUBLIC UTILITIES. (3) II Haynes
Growth and development of public utilities; valuation; rate-making; financing, the holding company, regulations, current problems, and accounting. *Prereq: Econ. 52.*

127 INTERNATIONAL ECONOMICS. (3) II Sullivan
Free trade, protectionism, preferential tariffs, colonial tariff policies, dumping, commercial treaties, control of raw materials, and the movement of capital, international debts, and reparation. *Prereq: Econ. 52.*

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. *Prereq: Econ. 52.*

134 ADVANCED ECONOMIC HISTORY OF THE UNITED STATES. (3) II Jennings
Population, growth, immigration, territorial expansion, agriculture, manufactures, tariff, labor, industrial combinations, commerce, transportation facilities, money and banking, and conservation.

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. *Prereq: 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. *Prereq: Econ. 2 or consent of instructor.*

153 THE ECONOMICS OF CONSUMPTION. (2) II Sullivan
The place of consumption in economic theory; the institutional background of our consumer habits; sources of information on consumption; and government regulation of consumer standards.

154 URBAN REAL ESTATE. (3) II Pickett
Urban land economics; the real estate business; essentials of real estate law and contracts; financing of real estate transactions, property valuation and appraisal, the management of real estate properties. *Prereq: Econ. 52.*

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; union-management cooperation. *Prereq: Econ. 52.*

160 BUSINESS COMBINATIONS. (2) II Massie
Forms of combination; the problem of monopoly; federal and state anti-trust legislation and court decisions. *Prereq: Econ. 52.*

165 COMPARATIVE ECONOMIC SYSTEMS. (3) I Masten
A study of capitalism, socialism, fascism, communism, and cooperation, with attention to current experiments in economic planning. *Prereq: Econ. 52.*

166 PERSONNEL PROBLEMS. (2) II Carter
A case course in the problems of supervision of employees, and the personnel policies which promote productive efficiency. *Prereq: Econ. 155.*

167 TUTORIAL WORK IN ECONOMICS. (1) I, II Carter
Open only to Arts and Sciences majors.

200 BUSINESS ECONOMICS. (3) I Sullivan
The interrelations of economic laws with the social, political and legal framework of business, especially from the point of view of the industry and of the firm.

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. *Prereq: Econ. 52.*

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 — Massie
The place of statistics in research method, the theory of statistical averages, the application of advanced statistical methods to economic data, and the testing of economic theory. *Prereq: An elementary course in statistics.*

211 ADVANCED MONEY AND BANKING. (3) II — Masten
A theoretical study of contemporary money and banking institutions with emphasis on central bank functions.

212a-f RESEARCH PROBLEMS IN ECONOMICS. (1 ea.) I, II — Staff
Students confer individually with the instructor.

218a, b ECONOMIC THEORY. (3, 3) II — Haynes
An intensive course covering the whole field of contemporary economic theory and the various analytical techniques used therein. *Prereq: Econ. 52.*

255 ADVANCED PERSONNEL MANAGEMENT. (3) II — Carter
A critical examination of the principles, methods, policies and procedures related to the effective utilization of human resources in business concerns, consideration being given to mutual relationships.

256 RESEARCH AND REPORT WRITING. (3) II — Haynes
Investigations of business problems; sources, procedures, analysis, and presentation.

285 GOVERNMENT FINANCE ADMINISTRATION. (3) II — Martin
Government budget, accounting, debt, purchasing, treasury, revenue, and auditing administration are examined; illustrations are drawn from federal, state, and local experience. Each student makes a special report on finance-management or experience.

COMMERCE

6 SECRETARIAL ACCOUNTING. (3) II — Thomas
A continuation of the practice afforded in Commerce 7a; also a study of accounting systems for the professions, small business, and institutions in which the secretary ordinarily keeps the records. *Prereq: Commerce 7a.*

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; lab, four hours a week.

13a SECRETARIAL PRACTICE, SHORTHAND. (3) I, II, S — Humphreys and Thomas
The theory of Gregg shorthand with sufficient practice to develop skill in writing. Emphasis is placed upon a good foundation for transcription. Credit for this course will not be given until 13b is completed. *Prereq. or 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 approximately 100 words a minute in dictation. Transcription is introduced and developed to a usable skill. *Prereq: Commerce 13a or its equivalent.*

14a ADVANCED SECRETARIAL PRACTICE. (3) I, II, S Humphreys and Thomas
This course continues the transcription of shorthand notes and develops secretarial proficiency. Dictation speed of approximately 120 words a minute is reached. *Prereq: Commerce 13b, 17b or their equivalent.*

14b ADVANCED SECRETARIAL PRACTICE. (3) I, II, S Humphreys and Thomas
A continuation of Commerce 14a with special emphasis on secretarial duties and traits. A speed of 140 words a minute in dictation and of 40 to 50 words a minute in transcription is developed. *Prereq: Commerce 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. *Prereq. 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. *Prereq: 17a.*

19 OFFICE APPLIANCES AND PROCEDURES. (3) I, II, S Speck
Operation and care of dictating, duplicating, addressing, and calculating machines and other appliances; the general principles, procedures, and systems of filing. *Prereq: Commerce 17a.*

60 PRINCIPLES OF MARKETING. (3) I, II Coolsen
The general store, chain store, department store, and mail order house. Market finance, market risk, market news, competition and prices, market price, unfair competition, and the cost of marketing. *Prereq: Econ. 52.*

61 MARKETING MANAGEMENT. (3) II Coolsen
The literature and problems in the retail distribution of consumers' goods, wholesale distribution of consumers' goods, industrial goods, sales organizations, sales promotion and advertising, and price policies. *Prereq: Commerce 60.*

62 PRINCIPLES OF ADVERTISING. (3) I, II McIntyre
The function of advertising in its relation to the broad field of marketing. The scope and organization of advertising and its economic implications. Advertising media and various testing devices are examined. *Prereq: Commerce 60.*

63 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. *Prereq: Econ. 52.*

96a INTERMEDIATE ACCOUNTING. (3) I Cojeen and Grady
Detailed study of valuation procedures for asset and liability items. Principles of financial statement arrangement and content. Corporation formation, and treatment of capital stock and surplus items. *Prereq: Commerce 7b.*

96b INTERMEDIATE ACCOUNTING. (3) II Cojeen and Grady
Statements from incomplete data, comparative statements, partnerships, installment sales, consignments and agency and branch accounting. Application of funds statements. *Prereq: 96a.*

101a-c SECRETARIAL JOB TRAINING. (1 ea.) I, II Thomas
This course is designed to provide laboratory and office experience for senior secretarial students. *Prereq: Commerce 14b.*

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. *Prereq: Commerce 96b.*

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. *Prereq: two 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. *Prereq: Commerce 96b.*

117 CORPORATION FINANCE. (3) I, II — Pickett
Principles concerning the issue of securities, the management of the corporate income, the disbursement of dividends, the creation of sinking funds, and reorganization procedure. *Prereq: Econ. 52 and Commerce 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 businesses. *Prereq: Commerce 7b.*

119 RETAIL MERCHANDISING. (3) II — McIntyre
Selecting a business location, internal layout, departmentalization, merchandising control, store policies toward the public, training and management of personnel, and related subjects. *Prereq: Commerce 60.*

128 ADVANCED COST ACCOUNTING. (3) II — Beals
The use of standard costs, estimated cost systems and procedures, non-manufacturing costs, budgetary control, and management uses of cost data. *Prereq: Commerce 118.*

129 CREDIT AND STATEMENT ANALYSIS. (2) I — Haun and Beals
The theory underlying credit-granting, credit administration, and analysis and interpretation of financial statements. *Prereq: Commerce 7a.*

131 INVESTMENTS. (3) II — Pickett
Analysis of corporation statements for investment purposes, the security market, market influences on security prices, effect of interest changes on security prices, and the development of investment programs. *Prereq: Econ. 105 and Commerce 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. *Prereq: Commerce 96b.*

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. *Prereq: Commerce 96b.*

136 SALES MANAGEMENT. (3) I — McIntyre
The case method is used, supplemented with outside reading and written reports. *Prereq: Commerce 60. Open only to seniors in the College of Commerce.*

137 INDUSTRIAL MANAGEMENT. (3) I, II — Carter and Haynes
Management of manufacturing operations including organization theory, physical aspects of the plant, quality control, time and motion study, production control, industrial safety and industrial relations. *Open to juniors.*

138 CASES IN MANAGEMENT. (3) II — Haynes
Emphasizes production, plant layout, wage payments, personnel management, production control, and related problems. *Prereq: Commerce 137.*

139 INDUSTRIAL PURCHASING. (3) II — Coolsen
Organization of purchasing; relations with other departments; qualifications and training of buyers. Purchasing procedures; sources of supply; price negotiation; stores control; value analysis. *Prereq: Econ. 52.*

140 PROBLEMS IN ADVERTISING. (2) I — McIntyre
A study of specific problems confronted by the marketing executive in the use of advertising as a selling tool, and of the general economic effects of advertising. *Prereq: Commerce 62.*

141 INDUSTRIAL MARKETING. (3) I — Coolsen
The marketing of goods for business consumption. The structure of the industrial market with special problems in marketing raw materials, parts and machinery relative to manufacturing, agricultural, mining, construction and other industries. *Prereq: Econ. 52.*

143 LIFE INSURANCE. (3) I — Hargreaves
Economics of life insurance, organization and control, special forms of life insurance, and fundamental principles of rate-making. *Pereq: Econ. 52.*

144 PROPERTY AND CASUALTY INSURANCE. (3) II — Pickett
Public control; nature of contracts; analysis of reserve functions, and rate-making processes. *Prereq: Econ. 52.*

145 OFFICE MANAGEMENT. (3) II — Speck
Planning and scheduling of work; employment procedures; supervision of employees, re-training, promotion, and equipment.

146 SPECIALIZED ACCOUNTING PROBLEMS. (3) II Grady
Accounting records for consolidations and mergers, preparation of consolidated statements. Insolvency and receivership records and statements. Accounting for estates and trusts. *Prereq: Commerce 96b.*

149 MARKET RESEARCH. (3) II Coolsen
Training in the application of scientific method to research in fields of marketing. A major marketing investigation will be conducted by the class. *Prereq: Commerce 60 and a course in statistics.*

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 GOVERNMENT ACCOUNTING. (2) II Beals
The requirement of adequate accounting systems for various governmental units, including the recording of usual transactions and the form and content of reports. *Prereq: Commerce 7b.*

162 SMALL BUSINESS OPERATION. (2) II Massie
Application of management principles and techniques to the special problems of establishing and operating a small business enterprise. *Prereq: Senior standing in the College of Commerce.*

171 STATISTICAL QUALITY CONTROL. (2) I Christian
Elementary probability theoory, control charts, acceptance sampling plans including single, double and sequential sampling.

172 SAMPLING TECHNIQUES. (2) II Christian
Application of sampling theory and significance testing in economic research, practical problems in sample design.

177a COLLEGE BUSINESS MANAGEMENT. (2) Peterson
Elements of management, organization, budgetary procedure, financial accounting, procurement techniques and property management as applied in the business administration of colleges.

177b COLLEGE BUSINESS MANAGEMENT. (2) Peterson
Elements of personnel management, public relations, investments and finance as related to college business management.

217 CORPORATE FINANCIAL POLICY. (3) I Pickett
A study of financial management from the viewpoint of the corporate financial officer. Problems of planning the capital structure, issuing securities, the management of working capital, and policies with reference to reserve, surplus, and dividends.

222 TAX ACCOUNTING PROBLEMS. (3) II Haun
Advanced tax accounting problems of a complex nature involved in income taxes, gift taxes, and death taxes under the federal and state laws. *Prereq: Commerce 133.*

237 ADVANCED BUSINESS MANAGEMENT. (3) II Haynes
A functional study of business management. Control devices and procedures for carrying out and testing policies.

260 ADVANCED MARKETING MANAGEMENT. (3) II Coolsen
A critical study of significant trends, controversial issues and advanced techniques in the fields of marketing.

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 and James W. Miles.

31a ORGANIC PHARMACEUTICAL CHEMISTRY. (5) I Miles
A comprehensive course in the preparation and properties of aliphatic compounds with emphasis on those compounds which are related to pharmacy. Lecture, three hours; lab, six hours. *Prereq: Chemistry 1a and 1b.*

31b ORGANIC PHARMACEUTICAL CHEMISTRY. (5) II Miles
A course similar to Chemistry 31a in which the aromatic compounds are studied. Official products are emphasized in their proper sequence as the course progresses. Lecture, three hours; lab, six hours. *Prereq: Chemistry 31a.*

32 INORGANIC PHARMACEUTICAL CHEMISTRY. (2) I, II Staff
A review of inorganic chemistry in which a comprehensive study is made of the physical and chemical properties of all official inorganic chemicals. Lecture, two hours. *Prereq: Chemistry 1a and 1b.*

33 QUANTITATIVE PHARMACEUTICAL ANALYSIS. (4) I, II Miles
This course includes a study of the fundamental theory and methods of gravimetric and volumetric analysis. The laboratory work consists of assays selected from the USP and NF. Lecture, two hours; lab, six hours. *Prereq: Chemistry 1a and 1b.*

*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; lab, four hours. *Prereq: Chemistry 31a and 31b.*

*101b ADVANCED ORGANIC PHARMACEUTICAL CHEMISTRY. (3) II Gillis
A continuation of Chemistry 101a. Lecture, one hour; lab, four hours. *Prereq: Chemistry 31a and 31b.*

102 BIOCHEMISTRY. (4) I, II Gillis
Chemistry of carbohydrates, lipids, proteins, enzymes, and vitamins in relation to physiological processes. Special reference is made to compounds used in pharmacy. Included is practice in the use of the polarimeter, refractometer, colorimeter, and Westphal balance. Lecture, two hours; lab, six hours. *Prereq: Chemistry 31a and 31b.*

103a ADVANCED QUANTITATIVE PHARMACEUTICAL CHEMISTRY. (3) I Gillis
Chemistry and assay of medicinal products, including newer synthetics, fixed oils, volatile oils, alkaloids, vitamons, and enzymes. Laboratory exercises selected on basis of application to pharmaceutical products. Lecture, one hour; lab, six hours. *Prereq: Chemistry 33 and Chemistry 102.*

103b ADVANCED QUANTITATIVE PHARMACEUTICAL CHEMISTRY. (3) II Gillis
Continuation of Chemistry 103a. Lecture, one hour; lab, six hours. *Prereq: Chemistry 103a.*

PHARMACY

Arthur C. Glasser, Jesse Y. Hubbard, Charles T. Lesshafft, Jr., W. F. Rehberg, D. H. Robinson, Abraham E. Slesser, and William L. Vollmer.

21 THEORETICAL PHARMACY. (4) I Glasser
A study of the fundamental principles and processes used in pharmacy and the development of proper pharmaceutical technique in the laboratory. Lecture, three hours; lab, three hours.

24a PHARMACEUTICAL PREPARATIONS. (4) II Glasser
A critical study of each official preparation and the development of techniques used in small scale production of typical examples of each class of official preparations. Lecture, three hours; lab, three hours. *Prereq: Pharmacy 21.*

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* May be elected only by permission of instructor and with consent of the Dean. Hours to be arranged.

24b PHARMACEUTICAL PREPARATIONS. (4) I Rehberg
A continuation of Pharmacy 24a. Lecture, two hours; lab, six hours. *Prereq: Pharmacy 24a.*

25 PHARMACEUTICAL ECONOMICS. (2) I, II Hubbard
Production, distribution, and consumption of drug products; grouping of products; distribution of profits; purchasing channels; purchasing and selling problems; types of wholesale and retail distributors; meeting competition; joint buying; classification of pharmacies; interdependence of businesses. Lecture, two hours.

26 PHARMACEUTICAL CALCULATIONS. (3) I, II Rehberg
A systematic study of arithmetical problems encountered in pharmacy. Lecture, three hours.

27 INTRODUCTORY DISPENSING. (4) I Rehberg
Introduction to the principles and problems of prescription dispensing. The student learns techniques and manipulations which are to be more extensively covered in the advanced dispensing course. Lecture, two hours; lab, six hours. *Prereq: Pharmacy 24b.*

31a DRUG STORE MANAGEMENT. (2) I Robinson
A course in the principles of drug store accounting with practice in selected problems. Advertising, display, buying, selling, profits, layout, stock control, and taxation are covered. Lecture, two hours.

31b DRUG STORE MANAGEMENT. (2) II Robinson
A continuation of 31a. Lecture, two hours.

35a PHARMACY LAW. (3) I Hubbard
Business law; food; drug and cosmetic laws; narcotic and poison laws; liquor and beverage laws; postal regulations; pharmacy laws; fair trade laws; social security; taxes; license; sanitation laws; court decisions relative to pharmacy. Lecture, three hours.

35b PHARMACY LAW. (3) II Hubbard
A continuation of Pharmacy 35a. Lecture, three hours. *Prereq: Pharmacy 35a.*

111a DISPENSING PHARMACY. (4) I Slesser
The application of fundamental pharmaceutical principles and techniques to the compounding of the various types of preparations encountered on prescriptions. Practical methods for insuring qualitative and quantitative accuracy are stressed. Lecture, two hours; lab, six hours. *Prereq: Pharmacy 27.*

111b DISPENSING PHARMACY. (4) II Slesser
Methods of detecting and handling common types of prescription incompatibilities. Film studies of projected handwritten prescriptions selected from current drug store files. Methods of prescription pricing. Lecture, two hours; lab, six hours. *Prereq: Pharmacy 111a.*

122 U.S.P. & N. F. DRUGS. (3) I Glasser
A study of the official drugs with special attention to chemical drugs. Emphasis is given to synonyms, proprietaries of like composition, uses, dosage and common compounding incompatibilities. Lecture, three hours. *Prereq: Pharmacy 24b.*

123 MODERN DRUGS. (3) II Glasser
A comprehensive comparative study of the newer drugs used in pharmacy. Their uses, chemistry, and proprietary forms of administration are considered. Lecture. three hours. *Prereq: Pharmacy 122.*

130 MANUFACTURING PHARMACY. (3) I, II Rehberg and Vollmer
Methods of larger scale manufacture of compressed tablets, solutions, mixtures, ointments and creams, and suppositories. The use and care of equipment involved. Field trips to medium-sized pharmaceutical manufacturing concerns. Lecture, two hours; lab, three hours. Admission: By special permission of department head.

MATERIA MEDICA

Richard M. Doughty, Earl P. Slone, Charles Tucker, and Charles A. Walton.

11a PHYSIOLOGY AND PHARMACODYNAMICS. (3) I Walton
Basic human anatomy and physiology with primary emphasis on the functioning of the nervous, muscular, endocrine, digestive, genito-urinary, respiratory, lymphatic, circulatory, and reproductive systems, including the pharmacodynamics of typical drugs effective on these systems. Lecture, two hours; lab, two hours.

11b PHYSIOLOGY AND PHARMACODYNAMICS. (3) II Walton
A continuation of MM 11a. Lecture, two hours; lab, two hours. *Prereq: MM 11a.*

27a PHARMACOGNOSY. (3) I — Doughty
A study of official and non-official drugs of vegetable and animal origin. Macroscopic and microscopic examinations are made. Newer drugs and synthetics related to natural products are included. Lecture, two hours; lab, three hours. *Prereq: Chemistry 31a, b and Botany 1 or Zoology 1.*

27b PHARMACOGNOSY. (3) II — Doughty
A continuation of Materia Medica 27a. Lecture, two hours; lab, three hours. *Prereq: MM 27a.*

31a MICROBIOLOGY. (3) I — Doughty
Primarily an introduction to the fundamentals of general bacteriology. Includes lecture and laboratory studies on morphology, physiology, cultivation, identification and influences of bacteria. Lecture, two hours; lab, two hours.

31b MICROBIOLOGY. (3) I — Doughty
A continuation of Materia Medica 31a. Practical application of bacteriological principles especially as related to pharmacy and medicine. Special consideration is given biological products. Lecture, two hours; lab, two hours. *Prereq: Materia Medica 31a.*

33 HYGIENE AND PUBLIC HEALTH. (2) I, II — Tucker
A study of various public health agencies and their functions, and the relationship of the pharmacist to them and to the public. Special consideration is given diseases and conditions constituting major health problems. Lecture, two hours.

138a PHARMACOLOGY AND TOXICOLOGY. (5) I — Walton
A presentation of the pharmacodynamic actions, modes of administration, toxic manifestations of drugs, and the relationship of pharmacodynamic action to therapeutic use. Lecture, four hours; lab, two hours. *Prereq: Materia Medica 11a, b, and Chemistry 102.*

138b PHARMACOLOGY AND TOXICOLOGY. (5) II — Walton
A continuation of 138a. Presenting to the student emergency treatment in cases of acute poisoning and mechanical injury. Standard first aid methods are demonstrated. Acute and chronic poisoning by noxious agents and application of remedial measures are discussed. Lecture, four hours; lab, two hours. *Prereq: Materia Medica 138a.*

PART IV

SPECIAL SERVICES OF THE UNIVERSITY

SPECIAL SERVICES OF THE UNIVERSITY

The major function of the University is that of instruction, but 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 of 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 22, 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 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. This department also furnishes all campus classes with projection services without charge. Projection services are provided for clubs, and honorary and social groups on the campus at a nominal fee. 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 complementary to that done individually by other members of 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, the Agricultural and Industrial Development Board, 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 and 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, the United Nations and the Specialized Agencies, 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 in the Department of Sociology extends an advisory service for Kentucky communities, especally to citizens wishing to undertake community development or community improvement projects. Upon invitation from a representative and responsible community group the Bureau of Community Service furnishes technical assistance for exploring community problems and resources. Reconnaissance interviews with residents together

with facts available from other sources are used in preparing reports that become the basis for local planning and for consultation with specialists in many fields at the University. Illustrations of services rendered are given in the *Kentucky Community Series* of reports available from the Bureau of Community Service on request.

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 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 the University of Kentucky.

CHILD GUIDANCE SERVICE

The Child Guidance Service offered at the University, through the cooperation of the Lexington Community Chest, provides expert psychological diagnosis and recommendations regarding personality difficulties and mental development for children or others brought to it by the schools, welfare organizations, juvenile court, and parent. 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 two-fold function of informing residents of Kentucky and elsewhere of the many activities of the University of Kentucky, and of endeavoring to encourage people to take advantage of the services the institution offers. Public relations activities are carried out by means of newspapers, magazines, special publications, radio and tele-

vision, exhibits, films, and school contacts. All general, agricultural, and sports publicity of the University is directed 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.

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, Secondary, and Elementary 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 a 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.

Research under the direction of the Station covers a variety of fields and is done in the Civil, Electrical, General, Mechanical, and Mining and Metallurgical Departments. Included under these are the Aeronautical Research Laboratory, the Coal Laboratory, and the Highway Materials Research Laboratory.

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.

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.

KENTUCKY 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 discussed 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, legal scholars and judges. Publication has been continuous since 1912.

PUBLIC SERVICE INSTITUTES

The University promotes, organizes, and administers short institutes or study courses for various groups of public officials and persons interested in public issues.

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.

SOCIAL RESEARCH CONSULTATION SERVICE

The Social Research Consultation Service of the Department of Sociology makes available the advisory services of its staff members for sociological research and by special arrangement provides technical personnel and facilities for certain investigations. To plan, conduct, and interpret a survey calls for technical skills for which trained supervisory personnel is needed, and it is the purpose of the Social Research Consultation Service to meet such needs as they confront communities and groups in the state.

SPEECH CORRECTION CLINIC

A clinic for the correction of speech disorders, such as stuttering and retarded speech development, is operated by the Department of Psychology. The services of this clinic are available to university students, students and teachers in public schools, and to other interested persons.

One of the major enterprises of this clinic is the operation of the Speech Correction School, which provides regular classroom work for several children who are being treated for speech disorders. This school is supported jointly by the Lexington Junior League and the University of Kentucky.

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. The Bureau is now coordinated with and at the University Placement Service (see below). All correspondence should be directed to that office.

UNIVERSITY PLACEMENT SERVICE

In order to facilitate contacts between employers and students seeking employment, the University has established a central placement office on the main floor of the Administration Building, Room 107.

Students, especially seniors and graduate students, are eligible by matriculation for enrollment in this office. The office maintains contacts with the employing agencies of business concerns, schools, and government services. It facilitates personal interviews by maintaining reception and interview rooms. In addition, it acts as an available liaison unit for students, employers, and the other existing placement services on campus.

All students of the University desirous of employment, as well as alumni seeking re-employment, may request registration by writing or contacting the Secretary, University Placement Service, Administration Building. The service is without cost to the student.

UNIVERSITY OF KENTUCKY PRESS

The purpose of the University of Kentucky Press is to make available in published form the results of signficant scholarly study and research, with particular emphasis on works by members of the University faculty and works about Kentucky and its region.

The University Press is maintained by a grant from the Haggin Fund, an appropriation from the general fund of the University, and revenues derived from the sale of books. It is the responsibility of the director, who is assisted by an advisory committee appointed by the President of the University, to select the works to be published by the University Press and to direct the editing, production, and distribution of these works.

The director of the University Press is also charged with supervision of the Kernel Press.

THE UNIVERSITY LIBRARIES

The University Libraries, which comprise the central library and all departmental, division and collegiate collections, located in other buildings on the campus, contain over 600,000 volumes. These libraries receive regularly more than 3,000 titles of periodicals and are a depository for all U. S. Government publications.

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

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

PART V

THE ACADEMIC AND ADMINISTRATIVE STAFF OF THE UNIVERSITY

THE ACADEMIC AND ADMINISTRATIVE STAFF

Able, Robert Lowry, B.S., First Lieutenant, U.S. Air Force, Assistant Professor of Air Science and Tactics
Adams, Elias Golden, B.S. in Agr., Assistant in Animal Husbandry
Adams, Estelle, M.A., Second Grade, University School
Adams, Harold Plank, M.A., Ed.D., Associate Professor of Education; Assistant Director of the Bureau of School Service
Adams, Leslie Keene, LL.B., Supervisor of Electrical Engineering Laboratories
*Adams, Perry Ronald, A.B. in Music, M.A., Part-time Instructor in Music; Music, University School
Adams, Staley Fields, M.S. in C.E., Assistant Professor of Applied Mechanics
Adler, Jacob Henry, M.A., Ph.D., Assistant Professor of English
Albro, Clarence Hal, Jr., M.A., Part-time Instructor in Modern Foreign Languages
Allen, Harry Raymond, M.A., Chief Chemist in Charge of Fertilizer Analysis
Allen, Richard Sweetnam, M.S., Professor of Anatomy and Psysiology, Head of the Department of Anatomy and Psysiology
Allen, Stephen Quince, B.S. in Agr., Assistant Economist
Allen, William Ray, M.A., Ph.D., Professor of Zoology; Curator of Zoological Museum
Allison, Nathan Breckinridge, M.A., Ph.D., Associate Professor of Electrical Engineering
Ames, Donald Paul, Ph.D., Assistant Professor of Chemistry
Amyx, Clifford, M.A., Associate Professor of Art
Anderson, Charles Arnold, M.A., Ph.D., Professor of Sociology
Anderson, Charles Herbert, Professor of Engineering Design, Special Assignment
Anderson, Grace, M.A., English, University School
Anderson, Josiah Everett, Inspector of Feed and Fertilizer
*Anderson, Ronald Eugene, M.S., Ph.D., Assistant Professor of Agronomy; Assistant Agronomist
Anderson, Thelma Scott, Assistant Chemist, Feed and Fertilizer
Anderson, Walter Sewell, M.A., Professor of Genetics, Special Assignment
Apker, Ramona, B.S., Third Grade, University School
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
Atkinson, William Offutt, M.S., Assistant Agronomist
Averitt, Ruth, M.S. in Ed., Home Economics, Lafayette School
*Bach, Hager W., M.A., Instructor in Political Science
Baker, Merl, M.S. in M.E., Ph.D., Part-time Associate Professor of Mechanical Engineering
Baker, Walter Maurice, M.A., Associate Professor of Education; Head of the Department of Distributive and Industrial Education
Ball, Chester Ray, A.B., Assistant Chemist
Ball, William Blackwell, A.B., In Charge of Service Office, Agricultural Experiment Station
Barber, Harold John, Head Herdsman

* See appended list of changes of status, p. 359.

Barber, William Jackson, M.S. in M.E., Assistant Professor of Applied Mechanics
Barbour, Roger William, Ph.D., Assistant Professor of Zoology
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
Barnes, Phillip Homer, B.M., Part-time Instructor in Music
Barnett, Brinkley, B.M.E., Associate Professor of Electrical Engineering
*Barnhart, Charles Elmer, M.S., Assistant Professor of Animal Husbandry; Assistant in Animal Husbandry
Barnhart, C. Raymond, M.A., Associate Professor of Art
Barrett, Olive, M.A. in Ed., Fifth Grade, University School
Bartlett, Marian, B.S., Field Agent in Home Management
*Baskett, Virginia Stuart, M.A., Instructor in Mathematics
Bastin, Garland Mixon, M.S., Field Agent in Dairy
*Bauder, Ward W., M.S., Ph.D., Professor of Rural Sociology; Rural Sociologist
Baugh, Lucy Gaines., B.S., Seed Analyst, Entomology and Botany
Baulch, Walter Monroe, B.S. in M.E., Part-time Instructor in Physics, Northern Kentucky Extension Center
Baxter, Denver Olen, M.S., Field Agent in Agricultural Engineering
Beals, Wendell Everett, M.B.A., C.P.A., Associate Professor of Accounting
Bean, Frank, M.A. in Ed., Editorial Associate, Bureau of School Service
*Beaty, Betty, M.A. in Ed., Third Grade, University School
*Beavers, Robert G., B.S., M.E., Supervisor of Aeronautical Research Laboratory
Beck, Carl Ernest, M.S., Assistant Professor of Pharmacy
*Beebe, Morris Wilson, M.S., Part-time Associate Professor of Metallurgical Engineering
Beers, Bernice Vansickle, A.B., Instructor in Home Economics
Beers, Howard Wayland, M.S., Ph.D., Professor of Sociology; Head of the Departments of Sociology and Rural Sociology; Rural Sociologist, Experiment Station
Begin, John Joseph, M.S., Assistant in Poultry Husbandry
*Bell, Emily Janè, M.S., Instructor in Bacteriology
Bentley, Leora, B.S., Instructor in Home Economics
Best, Harry, LL.B., M.A., Ph.D., LL.D., Professor of Sociology, Special Assignment
Bevins, Cephas Edward, M.A. in Ed., Part-time Instructor in Mathematics
Bevins, James Curtis, M.A., Graduate Assistant, Bureau of School Service
Bigge, Adolph Edmund, M.A., Ph.D., Professor of German, Head of the Department of Modern Foreign Languages and Literatures
Bills, Robert Edgar, M.A., Ed.D., Associate Professor of Psychology
Binger, Norman Henry, M.A., Ph.D., Assistant Professor of German
Binkley, Harold, B.S. in Agr., M.S. in Ed., Instructor in Agricultural Education
Binkley, Wendell Chester, M.S. in Agr., Assistant Economist in Agricultural Marketing
*Bjork, C. Kenneth, M.A., Part-time Instructor in Chemistry
Black, Ben Wather, M.A., Ph.D., Instructor in English
Black, Rodney Elmer, M.S., Ph.D., Associate Professor of Chemistry
Blackburn, Arnold, M.M., Associate Professor of Music

* See appended list of changes of status, p. 359.

*Blanchet, Rose Marie, B.S. in Chem., Assistant Chemist, Feed and Fertilizer
Blanton, Patricia, A.B., Speech Therapist in Speech and Hearing Clinic
Blanton, Richard, M.A., Ph.D., Part-time Instructor in Psychology
Blythe, David Knox, M.C.E., Assistant Professor of Civil Engineering
Blyton, Gifford, M.A., Ph.D., Associate Professor of Speech
Boggess, Robert Layman, B.S. in E.E., Instructor in Electrical Engineering
Bondurant, John Harvey, M.S., Ph.D., Associate Professor of Agricultural Economics; Economist
Bone, Marshall Baker, Lieutenant Colonel, U. S. Air Force, Associate Professor of Air Science and Tactics
Boone, Anna Bruce, M.A., Fourth Grade, University School
Bortner, Charles Eugene, M.S. in Agr., Agronomist
Boughton, Bessie M., A.B., B.S., Cataloger, University Library
Boyarsky, Louis L., M.S., Ph.D., Associate Professor of Anatomy and Physiology
Boyd, Earl Neal, M.S., Ph.D., Instructor in Dairying; Superintendent of Creamery
*Boyd, Joseph Aubrey, M.S. in E.E., Assistant Professor of Electrical Engineering
*Boyd, Louis Jefferson, M.S. in Agr., Field Agent in Dairying
Boyd, Paul Prentice, M.A., Ph.D., LL.D., Professor of Mathematics, Special Assignment; Formerly Dean, College of Arts and Sciences
Boyden, Ruth, M.A., Assistant in Home Economics Research
Bradford, Lawrence Allen, M.S. in Ed., Professor of Farm Economics
Bradley, Margaret Virginia Lutz, B.S. in Mus., M.S., Instructor in Music
Brady, George Keyports, M.A., Ph.D., Professor of English
Brauer, Alfred Charles, M.A., Ph.D., Professor of Zoology
*Briggs, Wallace Neal, M.A., Assistant Professor of English; Director of Guignol Theatre
*Brong, Roscoe, M.A., Part-time Instructor in Ancient Languages and Literatures
Brooks, Jesse Byron, B.S. in Agr., Assistant Professor of Agricultural Engineering
Brower, Frank, M.S., Part-time Instructor in Chemistry
Brown, Allen Bischoff, M.A., Ph.D., Instructor in English
Brown, Anne Lee, M.S. in P.H., Assistant Professor of Nursing, Head of the Department of Nursing
Brown, Aubrey J., M.S., Ph.D., Professor of Agricultural Marketing, Head of the Department of Agricultural Economics
Brown, Evelyn West, B.S., Assistant Bacteriologist
Brown, James Stephen, M.A., Ph.D., Assistant Professor of Rural Sociology; Associate Rural Sociologist
Brown, Joe Beckham, B.S. in Agr., Inspector in Creamery License Section
Brown, Linwood Arnold, Pharm.D., Ph.G., Pharm. Chem., Chief Chemist and Director of Laboratories, Public Service Laboratories
Brown, Marion Clay, M.A., Assistant Professor of Mathematics; Acting Head of the Department of Mathematics, 1953-54
*Brown, Ralph C., Jr., M.S., Part-time Instructor in Mathematics
Brown, Ross Gardner, Jr., M.S., D.V.M., Associate Professor of Veterinary Science; Veterinarian
Brown, William Randall, M.A., Ph.D., Professor of Geology
*Brubaker, Nora Esther, M.A., Instructor in English
Bryan, Robert Armstead, M.A., Part-time Instructor in English

* See appended list of changes of status, p. 359.

*Bryant, Paul William, A.B., Head Football Coach; Lecturer, Department of Physical Education
Bryant, Thomson Ripley, M.S. in Agr., Associate Director of Agricultural Experiment Station
Buck, Charles Frank, M.S., Ph.D., Assistant Professor of Animal Husbandry; Assistant Animal Husbandman
Buckner, Garrett Davis, Ph.D., Chemist in Charge of Animal Nutrition Section
Buckner, Robert Cecil, M.S. in Agr., Assistant Agronomist
*Buldra, Frank J., Master Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Bull, Jacqueline Page, A.B., Ph.D., Head of Archives Department, University Library
Bureau, Ernest Adolphe, Ph.B., B.S. in E.E., E.E., Professor of Electrical Engineering, Special Assignment; Formerly Head of the Department of Electrical Engineering
Burke, Vivian, M.A. in Ed., Kindergarten, University School
*Burkett, Bernard J., A.B., Major, U. S. Air Force, Associate Professor of Air Science and Tactics
Burnette, Howard Walker, M.S., Instructor in Mathematics
Bush, Linville John, M.S., Field Agent in Dairying
Button, Myra Janet, M.A., Field Agent in Home Economics
Byers, George Boyd, M.S. in Agr., Ph.D., Economist, Agricultural Economics
Byrd, David Shelton, B.S., Part-time Instructor in Chemistry
Cadle, David Dean, M.A., Part-time Instructor in English
Caldwell, Lee Syers, M.A., Part-time Instructor in Psychology
Caldwell, Lowry McReynolds, B.S. in Agr., Assistant Superintendent, Western Kentucky Experiment Sub-Station
Callihan, Anne Worthington, A.B., Assistant Professor of Art, Special Assignment
Calvin, James Sutherland, M.A., Ph.D., Professor of Psychology, Head of the Department of Psychology
Card, Dana George, M.S., Ph.D., Professor of Agricultural Economics; Associate Economist in Agricultural Prices
Carl, Alma V., M.A. in Ed., Seventh Grade, University School
Carpenter, Cecil Clayton, M.S., Ph.D., Professor of Economics; Dean of the College of Commerce
Capenter, John Melvin, M.A., Ph.D., Professor of Zoology, Head of the Department of Zoology
Carr, James Donald, Staff Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Carr, Martha Geraldine, M.A., Ed.D., Professor of Physical Education
Carr, Wilbert Lester, M.A., LL.D., Visiting Professor of Ancient Languages and Literatures
Carrel, William Joseph, C.E., Professor of Structural Engineering, Special Assignment
Carson, Mary Ruth, M.S., Assistant Professor of Physical Education
*Carter, Carroll Sparks, E.M., Professor of Mining Engineering
Carter, James Lee, Jr., B.S. in C.E., Instructor in Engineering Drawing
Carter, Lucian Hugh, M.A., Ph.D., Professor of Economics
Carter, Willis Merle, M.E. in M.E., Ph.D., Professor of Machine Design
Cason, Forrest Adair, Staff Sergeant, U. S. Air Force, Instructor in Air Science and Tactics

* See appended list of changes of status, p. 359.

Cass, Norma Beatrice, B.S., M.A. in L.S., Head of Reference Department, University Library
Cathey, Joseph Burton, Jr., M.S., Assistant Geologist, Kentucky Geological Survey, Department of Geology
Caudill, Paul Roy, B.S., Part-time Instructor in Chemistry
Challener, Robert B., M.F.A., Assistant Professor of English; Acting Director of the Guignol Theatre
Chamberlain, Leo Martin, M.A., Ph.D., LL.D., Vice President of the University
Chambers, Alvin Lee, C.E., Associate Professor of Testing Materials
Chambers, John Sharpe, M.S., M.D., F.A.C.P., Professor of Hygiene and Public Health, Head of the Department of Hygiene and Public Health; Director of University Health Service
Chaplin, Carl Edward, M.S., Assistant Horticulturist
Chapman, Richard Alexander, Ph.D., Part-time Assistant Professor of Botany; Associate Plant Pathologist
Cheek, Frank Jacobs, Jr., A.B., C.E., M.S., Professor of Sanitary Engineering
Christian, Virgil Langdon, Jr., B.S. in Com.; M.S., Instructor in Economics
Clark, Carl McKinley, M.S., Assistant Professor of Agricultural Economics; Associate Economist
Clark, Harold Brown, Ph.D., Assistant Professor of Agricultural Marketing
Clark, Iris Frances, M.S. in H.E., Assistant Professor of Home Economics
Clark, Robert Lee, B.S., Part-time Instructor in Physical Education
Clark, Thomas Dionysius, M.A., Ph.D., Litt.D., Distinguished Professor of History; Head of the Department of History
Clay, Maurice A., M.A., Instructor in Physical Education
Clemmons, Anne McAdams, M.S. in H.E., Assistant Professor of Home Economics
Clifton, Donald F., Assistant Professor of Metallurgical Engineering
Clifton, Louis, M.A., Professor in University Extension, Director of University Extension; Professor of Education
Cochran, Lewis Wellington, M.S., Ph.D., Assistant Professor of Physics
Cogswell, Theodore Rose, M.A., Instructor in English
Cojeen, Robert Henry, M.B.A., Associate Professor of Accounting
Coleman, Amoss Lee, M.A., Ph.D., Associate Professor of Sociology; Associate Rural Sociologist
*Collier, Blanton Long, M.A., Head Football Coach; Lecturer in Physical Education
*Collier, Everett R., Master Sergeant, U. S. Army; Instructor in Military Science and Tactics
Cone, Carl Bruce, M.A., Ph.D., Associate Professor of History
Conway, Forrest, A.B., M.M., Instructor in Music
Cooke, Arthur Louis, M.A., Ph.D., Professor of English
Coolsen, Frank Gordon, M.S., Associate Professor of Marketing
Cooper, Thomas Poe, B.S. in Agr., D.Sc., LL.D., Professor of Agricultural Economics, Special Assignment; Formerly Dean of the College of Agriculture and Home Economics and Director of the Agricultural Experiment Station and Agricultural Extension
Corder, George Delbert, M.S. in Agr., Field Agent in Agronomy
Cornelison, Joseph Boggs, B.S., Part-time Instructor in Mathematics
Cornwell, Ozni Harrison, Visiting Lecturer, Department of Political Science
*Couey, John Edward, M.S., Field Agent in Dairying

* See appended list of changes of status, p. 359.

Cowling, Vincent Frederick, Ph.D., Associate Professor of Mathematics
Crabb, Alfred Leland, Jr., M.A., Instructor in English
*Crawford, James Allen, B.S. in C.E., Instructor in Civil Engineering
Creech, Glenwood, M.S., Research Specialist in Vocational Education
Criswell, James Ernest, M.S. in Agr., Assistant in Farm Management
Croft, Lysle Warrick, M.A., Ph.D., Part-time Associate Professor of Psychology; Director of University Personnel Office
Cronin, Michael Thomas, M.S., Ph.D., M.R.C.V.S., Bacteriologist
Crouse, Charles Stevens, E.M., Professor of Metallurgical Engineering, Head of the Department of Mining and Metallurgical Engineering
*Cullis, Lela W., Part-time Instructor in Music; Special Assignment
Culton, Thomas Grover, M.S. in Agr., Ph.D., Assistant in Poultry Husbandry
Cunningham, Ann Elizabeth, Laboratory Assistant in Agronomy
Curnutt, Vivian Lee, M.A., Field Agent in Home Economics
Curtis, Fred Carl, M.S. in C.E., Research Engineer in the Department of Mechanical Engineering
Cutler, John Levi, M.A., Ph.D., Assistant Professor of English
*Damron, Rediford, M.A., Eighth Grade, University School
Daniel, Ed F., M.S. in Agr., Field Agent in Farm Management
Dantzler, Lehre Livingston, M.A., Litt.D., Professor of Philology, Special Assignment
Davenport, Oscar Malcolm, M.S., Associate Professor of Forestry; In Charge of Forestry Section
*Davis, Edward G., B.S., Colonel, U. S. Air Force, Professor of Air Science and Tactics, Head of the Department of Air Science and Tactics
Davis, Paul Whitman, Jr., B.S., Part-time Instructor in Chemistry
Dawson, Lyle Ramsay, M.S., Ph.D., Professor of Physical Chemistry, Head of the Department of Chemistry
DeBoer, Jesse, M.A., Ph.D., Associate Professor of Philosophy
Debski, Joseph, B.S. in Agr., Assistant Field Agent in Poultry Improvement
Deen, Encil, B.S. in Agr., Seed Technologist, Entomology and Botany
Denbo, Bruce Frederick, M.A., Director of University Press
Diachun, Stephen, M.S., Ph.D., Associate Professor of Plant Pathology; Plant Pathologist
Dicken, John Columbus, B.S. in Agr., Assistant Agronomist
Dickey, Frank Graves, M.A., Ed.D., Professor of Education; Dean of the College of Education
Didlake, Mary LeGrand, M.S., Associate Entomologist and Botanist, Special Assignment
Diehl, Charles Franklin, M.A., Ph.D., Associate Professor of Psychology
Dilly, Mary E., Registrar Emeritus, College of Pharmacy
Dimmick, Graham Bennett, M.A., Ph.D., Professor of Psychology
*Dimock, William Wallace, D.V.M., Professor of Veterinary Science, Special Assignment; Formerly Veterinarian
DiStefano, Leo, Master Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Dohoney, Dorothy, M.A., Eighth Grade, University School
Doll, Eugene Carter, M.S., Ph.D., Assistant Agronomist
Doll, Elvis Roger, M.A., D.V.M., Veterinarian
Donovan, Herman Lee, M.A., Ph.D., LL.D., President of the University
Doughty, Richard Morrison, B.S., Instructor in Materia Medica
Downer, Betty Jane, M.S., Assistant Professor of Home Economics

* See appended list of changes of status, p. 359.

Downing, Harold Hardesty, B.C.E., M.S., Ph.D., Professor of Mathematics and Astronomy
Drenan, James Warner, Ph.D., Assistant Professor of Chemistry
Drencho, John, B.S., Part-time Instructor in Chemistry
Drencho, Peter, B.S., Part-time Instructor in Chemistry
Drennon, Herbert Neil, Ph.D., Assistant Professor of Political Science, Acting Head of the Department of Political Science, second semester 1953-54
Drudge, Junior Harold, D.V.M., Sc.D., Parasitologist, Animal Pathology
Dudley, Arthur L., Captain, U. S. Army, Assistant Professor of Military Science and Tactics
Dudley, E. Jean, M.A., Part-time Instructor in Art, Northern Kentucky Extension Center
Duncan, May Kenney, M.A., Professor of Elementary Education
Duncan, Robert Carlisle, Jr., B.S. in Met.E., Supervisor of Metallurgical Engineering Laboratories
Dunn, Keller Johnson, M.A., Part-time Instructor in English; Administrative Assistant, Department of University Extension
Dunning, Mose West, Jr., M.S. in Agr., Field Agent in Cream Grading
Dutt, Ray Horn, M.S., Ph.D., Associate Animal Husbandman
Eaton, William Clement, M.A., Ph.D., Professor of History
Eaves, James Clifton, M.A., Ph.D., Professor of Mathematics, Head of the Department of Mathematics and Astronomy
Eckard, Robert LeRoy, Jr., B.S., First Lieutenant, U. S. Air Force, Assistant Professor of Air Science and Tactics
Eckel, Charles Howard, M.A., Ed.D., Associate Professor of Education
Edney, James Marion, M.S., Assistant Professor of Zoology
Edwards, Ogden Frazelle, M.S., Ph.D., Associate Professor of Bacteriology
Elliott, Kenneth W., M.A., Assistant Editor of the University Press
Elliott, Norris Raymond, B.S. in Hort., Professor of Horticulture; Field Agent in Landscape
Elliott, William J., M.A., Instructor in Chemistry, Northern Kentucky Extension Center
Ellis, Herman Adam, M.A., Assistant Professor of Economics
Elliston, Pauline Howard, Assistant in Service Office, Agricultural Experiment Station
Elsey, Edward Everett, M.E., Professor of Engineering Research
Emmert, Emery Myers, M.S., Ph.D., Professor of Horticulture; Associate in Horticulture
England, James Merton, M.A., Ph.D., Associate Professor of History; Editorial Associate, University of Kentucky Press
*Epsie, David A., B.S., Visiting Instructor, Department of Political Science
Erikson, Statie Estelle, Ph.D., Professor of Home Economics, Director of the School of Home Economics
Erwin, Carlos Clifton, M.S.A., Ph.D., Assistant Economist in Agricultural Marketing
Essene, Frank J., Ph.D., Associate Professor of Anthropology
Estes, Betsy Worth, M.A., Ph.D., Assistant Professor of Psychology
*Estes, Reedus Ray, M.S., Ph.D., Assistant Professor of Chemistry
*Etheredge, Theron Theo, M.A., Graduate Assistant, Bureau of School Service
*Evans, Alvin Eleazar, M.A., Ph.D., J.D., Professor of Law, Special Assignment; Formerly Dean of the College of Law
Evans, Mary Louise, M.S. in L.S., Librarian, College of Education Library

* See appended list of changes of status, p. 359.

Fallis, Robert White, Assistant Basteriologist, Public Service Laboratories
Farmer, Merl Lee, M.S., Assistant Professor of Commerce, Northern Kentucky Extension Center
*Farney, George Kenneth, M.S., Part-time Instructor in Physics
Farquhar, Edward Franklin, M.A., Professor of Literature, Special Assignment
Farris, Elgan Brooks, C.E., Chief Engineer, Department of Maintenance and Operations
*Farris, Hansford White, M.A., M.S., Assistant Professor of Electrical Engineering
Farris, Jacob Duncan, M.A., M.D., Part-time Professor of Hygiene and Public Health; Physician, University Health Service
Faust, George Patterson, M.A., Ph.D., Associate Professor of English, Director of Freshman English
*Fawzy, Abdel Monem, M.S., Research Assistant, Bureau of Business Research
Fergus, Ernest Newton, M.S., Ph.D., Professor of Farm Crops; Agronomist in Charge of Pastures and Forage Crop Investigations
Field, Thomas Parry, M.A., Ph.D., Associate Professor of Geography
*Fink, Jane Christy, M.A., Assistant Professor of Physical Education
Fish, Ernest Ellsworth, M.S., Field Agent in 4-H Club Work
Fisher, Irving Sanborn, M.A., Ph.D., Assistant Professor of Geology
*Flowers, Kenneth Estel, B.S. in Agr., Assistant Agronomist
Floyd, Robert Joseph, M.S., Assistant Geologist, Kentucky Geological Survey, Department of Geology
Fogel, Herbert Lawrence, B.S. in E.E., Instructor in Electrical Engineering
Ford, Elizabeth Elliott, B.S., Technician in Animal Husbandry
Ford, Robert Harvey, B.S. in Agr., In Charge of Radio, Department of Public Information and Educational Aids
Fortenbery, Blumie White, B.S. in Agr., Field Agent in Agronomy
Foster, James Douglas, M.S. in Agr., Inspector in Charge of Creamery License Section
*Foster, John Wood, M.S., Field Agent in Dairying
*Foster, Samuel J., Master Sergeant, U. S. Army, Instructor in Military Science and Tactics
Freels, Pauline, M.S. in H.E., Instructor in Home Economics
Freeman, Joe Frank, M.S. in Agr., Associate Agronomist; Superintendent of Experiment Station Farm
Freeman, Theodore Russell, M.S., Ph.D., Professor of Dairy Manufacturing; Dairy Technologist
*Fryxell, Donald R., M.A., Part-time Instructor in English
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Gard, Oliver William, B.S. in M.E., M.S. in I.E., Assistant Professor of Mechanical Engineering
Gardner, John Samuel, M.A., M.S., Field Agent in Horticulture
Garrigus, Wesley Patterson, M.S., Ph.D., Professor of Animal Husbandry; Head, Animal Husbandry Section; Chairman, Animal Industry Group; Associate Director of Agricultural Experiment Station
Garside, Matthew Stanley, B.S., Field Agent in 4-H Club Work
Gault, Lelah Vaughn, B.S. in H.E., Assistant Chemist, Feed and Fertilizer
Gentry, Dorothy Elizabeth, B.S. in H.E., Field Agent in 4-H Club Work

* See appended list of changes of status, p. 359.

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
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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
Gilliam, William D., Jr., M.A., Ph.D., Associate Professor of History
Gillis, Ewen, M.S., Ph.D., R.Ph., Professor of Pharmaceutical Chemistry, Head of the Department of Pharmaceutical Chemistry
Gillis, Ezra L, A.B., Director, Bureau of Source Materials in Higher Education
Ginger, Lyman Vernon, M.A., Ed.D., Professor of Education; Chairman of the Division of Instruction and Placement; Director of the University School
Ginocchio, Oleva Louise, Administative Assistant, Special Assignment, Agricultural Experiment Station
Givens, Montgomery Douglas, B.S., Captain, U. S. Air Force, Assistant Professor of Air Science and Tactics
Gladden, James Walter, M.Ed., Ph.D., Associate Professor of Sociology
Glasser, Arthur C., Ph.D., R.Ph., Associate Professor of Pharmacy
*Godfrey, Robert G., M.A., Part-time Instructor in English
*Goldstone, Richard H., M.A., Instructor in English, Northern Kentucky Extension Center
Gooch, Ernest D., Jr., M.S. in Agr., Assistant Economist in Agricultural Marketing
Good, Edwin Stanton, M.S., Professor of Animal Husbandry, Special Assignment
Goodman, Adolph Winkler, Ph.D., Associate Professor of Mathematics
Gordon, George S., Sergeant, First Class, U. S. Army, Instructor in Military Science and Tactics
Graddy, Ivan Clay, M.S. in Agr., Assistant State Agent, County Agent Work
Grady, Russell Shelby, M.S., C.P.A., Associate Professor of Accounting
Graham, James Bernard, M.A., Graduate Assistant, Bureau of School Service
Graham, James Hiram, C.E., Professor of Engineering, Special Assignment; Formerly Dean of the College of Engineering
Graham, Peter John, M.A.Sc., Assistant Professor of Electrical Engineering
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*Graves, Richard Hardin, M.S., Part-time Instructor in Chemistry
Gray, William Arthur, B.S. in C.E., M.Arch., Part-time Assistant Professor of Architectural Engineering
Grebstein, Sheldon Norman, M.A., Instructor in English
Green, Anne Guerrant, M.A., Assistant Professor of Art
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Griffith, Robert Bell, M.S. in Agr., Ph.D., Assistant Agronomist
*Grissom, Eugene E., B.S.Mus., M.F.A., Instructor in Art
Guenther, Ruth Margaret, M.A., Assistant Professor of Home Economics
Gulley, Margaret Josephine, B.S. in H.E., Field Agent in 4-H Club Work
*Guthrie, Albert Bertram, Jr., A.B., Litt.D., Lecturer in Creative Writing
Haak, Pearl Jones, B.S. in H.E., Field Agent in Home Economics
Hackensmith, Charles William, M.A., Ph.D., Professor of Physical Education

* See appended list of changes of status, p. 339.

Hagman, Ida Catherine, M.A., Field Agent in Home Economics
Hahn, Thomas Marshall, Jr., Ph.D., Professor of Physics
Haines, Ruth, M.A., Art, University School
Hall, Barbara, M.A., Secretary, Young Women's Christian Association
Halladay, Robert, M.S., Part-time Instructor in Physics
Hallock, Stuart Wendell, M.S., Instructor in Radio Arts, Production Supervisor
Halyard, Camille Henderson, M.A., Instructor in Radio Arts, Acting Head of the Department of Radio Arts
Ham, Willburt Dunn, B.S., LL.M., Professor of Law; Acting Dean, College of Law, Summer Session, 1953
Hamilton, James Lewis, M.S. in Agr., Assistant Agronomist
Hamilton, Orlie Durand, Supervisor, Agricultural Sales Room
Hamilton, William Brooks, M.S., Ph.D., Professor of Hygiene and Public Health; Bacteriologist for University Health Service
Hammaker, Elwood Meacham, Ph.D., Associate Professor of Chemistry
Hammond, Joseph Pershing, M.S. in Met.E., D. of E., Associate Professor of Metallurgical Engineering
*Hammond, Nell Weatherly, B.S., Assistant Instructor in Home Economics
Hammonds, Carsie, M.A. in Ed., Ph.D., Professor of Agricultural Education; Chairman of the Division of Vocational Education; Head of the Department of Agricultural Education
*Hanau, Richard, M.S., Ph.D., Associate Professor of Physics
Hankins, Thomas Lee, M.S., Associate Professor of Education; Director of the Northern Kentucky Extension Center
Hanson, Mary Elizabeth, A.B., B.S. in L.S., Head of Serials Department, University Library
Hargreaves, Herbert Walter, M.A., Ph.D., Professor of Economics
Harned, Jesse Hewitt, A.B., Seed Analyst, Entomology and Botany
Harris, Charles Edgar, B.S. in Agr., Field Agent in Poultry
Harris, Fred Earl, M.S., Ed.D., Professor of Elementary Education; Head of the Department of Elementary Education
Harris, Leila Gott, M.A., Instructor in English
Harrison, John Scovill, B.S. in Agr., Assistant Agronomist
Harrison, Lura Claude, A.B., M.T., (A.S.C.P.), Part-time Instructor in Bacteriology
Hart, Ruby Evans, M.A., Assistant in University Extension
Hartford, Ellis Ford, M.A., Ed.D., Professor of Education; Chairman of the Division of Foundations of Education
Hartshorn, William Davis, Staff Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
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Hatch, Maurice Addison, M.A., Ph.D., Assistant Professor of English
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Haun, Robert Dee, M.A., J.D., C.P.A., Professor of Accounting
Hauser, Robert Emanuel, B.S., Assistant Geologist, Kentucky Geological Survey, Department of Geology
Hawkins, Robert Dawson, M.E., M.S., Professor of Applied Mechanics; Head of the Department of General Engineering
Hazelrigg, Matthew Sullavan, Jr., M.A., Instructor in English

* See appended list of changes of status, p. 359.

Haynes, William Warren, M.B.A., D.C.S., Associate Professor of Economics
*Hegeman, Daniel VanBrunt, Ph.D., Professor of German Language and Literature
Heinz, Wilbur August, M.S.P.H., Associate Professor of Hygiene and Public Health
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Helton, Stella Elizabeth, M.S., Assistant Professor of Home Economics
Henderson, John T., B.S., Captain, U. S. Army, Assistant Professor of Military Science and Tactics
Henning, Alda Martha, B.S., Assistant State Leader of Home Demonstration Agents
Henrickson, Carl Ernest, M.S., Ph.D., Assistant Professor of Botany
Henry, Amanda Helen, B.S., Assistant in Animal Nutrition, Animal Husbandry
Hensley, Claude Everett, B.S., Nursery and Seed Inspector, Entomology and Botany
Henson, Lawrence, M.S. in Agr., Associate Agronomist; Associate Plant Pathologist
Hernandez, Juan Eduardo, M.A., Ph.D., Associate Professor of Romance Languages
Herron, James Watt, M.S., Ph.D., Assistant Botanist, Entomology and Botany
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Hoffman, Clinton Kelly, C.E., Associate Professor of Engineering Drawing
Holladay, Robert D., Part-time Instructor in Physics
Holmes, Elwyn Spruiell, B.S. in A.E., Extension Agricultural Engineer
Holmes, Sarah Bennett, M.A., Part-time Associate Professor of Sociology; Dean of Women
Hopkins, James Franklin, M.A., Ph.D., Associate Professor of History
Hopper, Ray Clifford, B.S. in Agr., Field Agent in Animal Husbandry
Hopper, Robert Luther, M.Ed., Ph.D., Professor of Education; Chairman of the Division of Educational Administration; Chairman of the Division of School Services
Horine, John Sherman, M.E., Professor of Engineering Drawing and Coordinator for Engineering Freshmen
*Horlacher, Levi Jackson, M.S., Professor of Animal Husbandry; Associate Dean, College of Agriculture and Home Economics
Hornbeck, Benn Lee, B.S. in For., Forester
Horsfield, Margaret Bennett, M.A., Diplome d'Etudes, Francaises de l'Universite de Montpelier, Assistant Professor of Romance Languages, Special Assignment
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Howard, Noel Judson, B.S. in Agr., Inspector, Feed and Fertilizer
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Hubbard, Jesse Young, Ph.C., LL.B., R.Ph., Lecturer in Pharmaceutical Jurisprudence
Hughes, James Walker, M.A., Instructor in Sociology
Hulette, Neville Mastin, Inspector, Feed and Fertilizer
Hull, Floyd Edgar, D.V.M., Professor of Veterinary Science; Head of the Department of Animal Pathology

* See appended list of changes of status, p. 359.

Humeston, Edward Judson, Jr., M.A., Ph.D., Professor of Library Science, Head of the Department of Library Science
Humphrey, James Ellison, B.S. in Agr., Field Agent in Poultry
Humphreys, Margaret Bell, M.A., Assistant Professor of Commerce
Humphries, James Charles, M.S., Ph.D., Professor of Bacteriology
Hungate, William C., Jr., Lieutenant Colonel, U. S. Army, Assistant Professor of Military Science and Tactics
*Hunt, Helen Key, Laboratory Technician, Dairy
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Imlay, Florence Alberta, M.A., Field Agent in Home Economics
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Jackopin, Leroy, B.S., Part-time Instructor in Chemistry
Jackson, William Edward, Jr., B.S. in For., F.Engr., Field Agent in Forestry
Jacobs, Robert DuRene, M.A., Ph.D., Instructor in English
Jacobsen, Lynn, M.S., Ph.D., Assistant Professor of Geology
Jacobson, Daniel, M.A., Instructor in Geography
James, Eloise Eubank, B.S., Assistant Instructor in Home Economics
Jansen, William Hugh, Ph.D., Assistant Professor of English
Jennings, Walter Wilson, M.A., Ph.D., Professor of Economics
Jensen, Harald Rudolph, M.S., Ph.D., Associate Professor of Agricultural Economics; Associate Economist
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Jett, Louise Monroe, A.B., Assistant Chemist
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Johnson, Edward Marshall, Ph.D., Plant Pathologist
Johnson, Ernst Vern, M.F.A., Part-time Associate Professor of Architectural Engineering
*Johnson, Glenn Leroy, M.A., Ph.D., Professor of Agricultural Economics; Agricultural Economist
Johnson, Helen Letitia, Laboratory Technician, Dairy Section
Johnson, James Richard, B.M.E., Professor of Applied Mechanics, Special Assignment
Johnson, John Lang, A.B., Research Associate, Bureau of Business Research
Johnson, Orinne, B.S. in H.E., Assistant in Public Information and Educational Aids, Agricultural Extension Division
Johnson, Ray Smith, Maintenance Supervisor, Mechanical Engineering Laboratory
Johnson, Raymon Dudley, M.A. in Ed., Ed.D., Assistant Director of University Extension; Assistant Professor of Education
Jones, Carl Wilfred, B.S. in Agr., Field Agent in 4-H Club Work
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*Jones, Joseph Hardy, Jr., M.A., Community Analyst, Department of Sociology
Jones, Kenneth H., B.M., Instructor in Music (Band), Northern Kentucky Extension Center

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* See appended list of changes of status, p. 359.

Jones, Roger Walter, Superintendent, Robinson Experiment Substation, Quicksand, Kentucky
Jones, Sadocie Connelle, M.S., Soil Technologist, Special Assignment
Jones, Theodore Tolman, M.A., Ph.D., Professor of Ancient Languages, Special Assignment; Dean of Men Emeritus
*Jones, William Bristow, M.A., LL.D., Visiting Lecturer in English
Judge, William, M.A. in Ed., Agriculture, Lafayette School
Kammerer, Gladys Marie, M.A., Ph.D., Associate Professor of Political Science
Kaplan, Sidney Joseph, M.A., Ph.D., Instructor in Sociology
Karraker, Perry Elmer, M.A., Professor of Soils; Agronomist in Soil Technology
Karsner, Milo Gist, A.B. in Ed., M.S., Ph.D., Assistant Professor of Physical Education
Katterjohn, Catherine Lynn, A.B., B.S., in L.S., Serials Cataloger, University Library
Kauffman, Earl, Jr., M.A., Ed.D., Associate Professor of Physical Education
Keenan, Boyd R., A.B. in Journ., News Editor, Department of Public Relations
Kelley, James Byron, B.S. in A.E., B.S. in M.E., Professor of Agricultural Engineering; In Charge of Section of Agricultural Engineering
Kelley, Miriam J., B.S., Field Agent in Marketing
Kemp, James Dillon, M.S., Ph.D., Assistant Professor of Animal Husbandry
Kemper, Durbin Collins, M.A., Science, University School
Kemper, Katherine Hammack, A.B., Secretary, University Placement Service
Kendall, Thomas Alexander, M.E., Research Analyst in Department of Mining and Metallurgical Engineering
Kennard, Clifford deBock, Pattern Maker and Foundry Technician
Kern, Bernard Donald, M.S., Ph.D., Assistant Professor of Physics
Kilpatrick, Elmer James, M.S. in Agr., Assistant State Agent, County Agent Work
King, Helen Galvin, A.B., Executive Secretary, Alumni Association
King, James Ambrose, B.M., M.A., Instructor in Music
King, Margaret Isadora, A.B., B.S., University Librarian, Special Assignment
Kinney, Edmund J., B.S. in Agr., Professor of Agronomy, Special Assignment
Kinney, Gordon James, M.M., Associate Professor of Music
Kirwan, Albert Dennis, M.A., LL.B., Ph.D., Part-time Associate Professor of History; Dean of Students
Kiviniemi, Aimo Justus, B.S. in Mus.Ed., M.A., Associate Professor of Music
*Klinker, John Edward, Ph.D., Assistant Professor of Horticulture; Associate Horticulturist
Kloecker, Phyllis, A.B. in Ed., Hygiene and Physical Education, University School
Knight, Grant Cochran, M.A., Litt.D., Distinguished Professor of English
Knight, Herschel Oscar, B.S. in M.E., Instructor in Mechanical Engineering
Koles, Joseph Edward, B.S., Part-time Instructor in Chemistry
Koppius, Otto Townsend., Ph.D., Professor of Physics
Korpics, Charles John, B.S., Part-time Instructor in Chemistry
Kraehe, Enno Edward, M.A., Ph.D., Associate Professor of History
*Krueger, Jack Neil, M.S.A.E., Research Agricultural Engineer
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
*Lafferty, Donald Lee, M.S., Part-time Instructor in Physics

* See appended list of changes of status, p. 359.

*Lafferty, Jeanne Payne, M.A., Part-time Instructor in English
Lamarsh, John Raymond, Ph.D., Assistant Professor of Physics
Lancaster, Harry Current, M.A., Assistant Basketball Coach
Lange, Karl Otto, M.E., D.Eng., Associate Professor of Mechanical Engineering
Larson, Robert Sherman, A.B., Colonel, U. S. Air Force, Professor of Air Science and Tactics, Head of the Department of Air Science and Tactics
Lassiter, Charles Albert, M.S., Ph.D., Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman
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Laytham, Mary Hopper, M.A., Instructor in Music, Northern Kentucky Extension Center
Lecky, Emma Lou, A.B., M.S. in L.S., Instructor in Library Science
Lee, Barney Edward, Master Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Leggett, James Llewellyn, Jr., M.S. in C.E., Ph.D., Associate Professor of Civil Engineering
Leland, Stanley Edward, M.S., Ph.D., Associate Parasitologist
Leonard, Lyle Brown, B.S. in Agr., Field Agent in Soil Conservation
Leser, Tadeusz, M.E., Ph.D., Assistant Professor of Mathematics
Lesshafft, Charles Thomas, Jr., B.S., R.Ph., Assistant Professor of Pharmacy
Lewis, Chester Arthur, B.J., Editor, Agricultural Extension Division
*Lewis, Gordon F., M.A., Community Analyst, Department of Sociology
Lewis, Homer Collier, M.B.A., LL.B., Associate Professor of Commerce
Lewis, Lovaine Carol, M.A., Part-time Instructor in Physical Education
Lewis, Mildred Sinclair, B.S. in Mus., M.A., Associate Professor of Music
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Ligon, Moses Edward, M.A., LL.D., Professor of Education, Special Assignment
Link, Harold Forest, M.S. in Agr., Assistant State Agent, County Agent Work
Link, Leo Aloysius, B.S. in Agr., Assistant Agronomist
Linville, Dorothy C., A.B., Admissions Officer
*Litteral, Elmer, B.S., Part-time Instructor in Chemistry
Litton, Christopher Columbus, M.S. in Agr., Assistant Agronomist
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Lockyer, Charles, M.A., Research Associate, Bureau of Business Research
Logan, Lulie Elizabeth, A.B., Assistant State Leader of Home Demonstration Agents
Long, Robert Allen, M.S., Assistant Professor of Animal Husbandry; Field Agent in Animal Husbandry
Longino, Thomas D., B.S., Captain, U. S. Army, Assistant Professor of Military Science and Tactics
*Loren, Parke Burr, M.S. in Ed., Visiting Instructor in Education
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Lunde, Robert Gerhard, M.A., Associate Professor of History
Lusk, Howard D., M.A., Sixth Grade, University School
Lutz, Warren William, B.M., M.A., Instructor in Music
McCauley, Joseph Ardery, B.J., M.A. in Ed., Assistant Professor of Journalism

* See appended list of changes of status, p. 359.

*McClain, Beryl Thomas, M.S. in Agr., Assistant in Animal Husbandry
McCloy, Shelby Thomas, A.B. (Oxon)., Ph.D., Professor of History
McConnell, Jean Marie, B.S. in Mus.Ed., Part-time Instructor in Music, Northern Kentucky Extension Center
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McDaniel, Alice Marrs, A.B. in Ed., Seed Analyst, Entomology and Botany
McDowell, Marion Sill, M.A., Assistant Professor of Home Economics
McEwen, Alfred Buffin, M.S., LL.B., S.J.D., Professor of Law
McFarlan, Arthur Crane, Ph.D., Professor of Geology, Head of the Department of Geology; Director of Kentucky Geological Survey
McFarland, Frank Theodore, M.S., Ph.D., Research Professor of Botany, Special Assignment
McGrain, Preston, M.A., Assistant State Geologist, Kentucky Geological Survey, Department of Geology
McGuire, Henry Sanders, Jr., B.S. in Med. Tech., Assistant Bacteriologist, Public Service Laboratories
McHargue, James Spencer, M.S., Ph.D., D.Sc., Research Chemist, Agronomy, Special Assignment
McInteer, Berthus Boston, M.S., Ph.D., Associate Professor of Botany
McIntyre, Robson Duncan, M.S. in Com., Professor of Marketing
McKenney, Garnett Jennings, B.S. in Agr., Field Agent in 4-H Club Work
McKenney, William A., M.A. in Ed., Music, University School
*McKitrick, John Leslie, B.S. in Agr., Extension Agricultural Engineer
McLaughlin, Marguerite, A.B., Assistant Professor of Journalism, Special Assignment
McQuown, O. Ruth, M.A., Research Associate, Bureau of Government Research, Department of Political Science
McMurtry, David Cornelius, M.A., Business Education, University School
Mackey, Everette, B.S. in Agr., Field Agent in Egg Marketing
MacLaury, Donald Wayne, M.S., Associate in Poultry Husbandry
Magill, Wilbur William, B.S. in Agr., Field Agent in Horticulture
Mahan, Charles Alfred, M.S. in Agr., State Agent, County Agent Work
Mainous, Joseph, B.S., Part-time Instructor in Speech, Department of English, Speech, and Dramatic Arts
Mandia, James William, M.S., Assistant Bacteriologist, Animal Pathology
Maney, Charles Thomas, B.S. in E.E., M.S., Assistant Professor of Electrical Engineering
Mangelsen, Fritz, Superintendent of Machine Shop
*Marek, Joseph Camille, M.A., Part-time Instructor in Romance Languages
Margulis, Harold R., B.S., Instructor in Pharmacy
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Marshall, Maurice Keith, B.S., Ae.E., B.S.M.E., Instructor in Mechanical Engineering
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Martin, James Walter, M.A., Distinguished Professor of Economics; Director of Bureau of Business Research

* See appended list of changes of status, p. 359.

Martin, Joseph Cephus, Master Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Martin, Laura Katherine, M.A., Associate Professor of Library Science
Martin, Leslie Leon, M.S., Ph.D., Part-time Associate Professor of Education; Assistant Director for Counseling, University Personnel Office
Marsh, Culpepper Paul, M.S., Assistant Rural Sociologist
*Marvin, Karen Kennedy, B.S. in H.E., Assistant Instructor, Nursery School
*Masaitis, Ceslovas, M.A., Instructor in Mathematics
Massey, Herbert, M.S., Ph.D., Assistant Agronomist
Massie, Ira Evan, B.S., Field Agent in Agronomy
*Massie, Joseph Logan, M.A., Assistant Professor of Economics
Masten, John Talbot, M.S., Ph.D., Associate Professor of Economics
Mathews, Robert, Chief Inspector and Administrative Assistant, Feed and Fertilizer
Matthews, William Lewis, Jr., A.B., LL.M., S.J.D., Professor of Law
Maxwell, Elmer Stephens, M.D., Part-time Professor of Clinical Pathology, Department of Bactheriology
Maxwell, Robert Sidney, M.A., Ph.D., Assistant Professor of History
*Mayes, Charles R., M.A., Instructor in History
*Meacham, Lomon D., Master Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Meader, Arthur Lloyd, A.B., Assistant Chemist, Special Assignment, Public Service Laboratories
Meadow, Jacob Robert, M.A., Ph.D., Professor of Industrial Chemistry; Director of Freshman Instruction
Meece, Leonard Ephraim, M.A., Ph.D., Professor of Education
Mellenbruch, Parl Leslie, M.A., Ph.D., Associate Professor of Psychology
Melzer, John Henry, M.A., Ph.D., Associate Professor of Philosophy
Meyers, Ernest, M.A., Ph.D., Assistant Professor of Psychology
Midkiff, Valva C., M.S., Assistant Chemist, Feed and Fertilizer
Miles, James William, M.S., Ph.D., Associate Professor of Pharmaceutical Chemistry
Miller, Harold Franklin, B.S. in Agr., Associate Agronomist
Miller, Larry B., M.B.A., Assistant Professor of Accounting, Northern Kentucky Extension Center
Miller, Richard Clarence, M.S. in Agr., Field Agent in Animal Husbandry
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Mills, Robert Lee, M.A., Ed.D., University Registrar
Milton, Mary Page, A.B., University Recorder
Minton, Willard Hamilton, M.S., Assistant Economist
Mitchell, John Richard, A.B., Assistant Professor of Chemistry
Mockler, Richard Calvin, M.S., Ph.D., Assistant Professor of Physics
Moles, Hazel J., A.B., Teacher, Speech Correction School, Department of Psychology
Monroe, Dougald McDougald, Jr., M.A., Instructor in English
Monroe, Jack Jagers, Ph.D., Practicum Supervisor, Department of Psychology
Monroe, Zelma, A.B., B.S., Assistant State Leader of Home Demonstration Agents
*Montgomery, Ford McRae, M.M., Assistant Professor of Music
Mooney, Robert Newman, M.A., Instructor in Greek and Latin
*Moore, Arthur Keister, M.A., Ph.D., Associate Professor of English
*Moore, Cordell B., M.S., Instructor in Mathematics

* See appended list of changes of status, p. 359.

Moore, James T., Jr., M.A., Ed.D., Assistant Professor of Elementary Education
Moore, Mildred Allen, A.B., M.S. in L.S., Librarian, College of Engineering
Moore, William McKinley, M.A., Ph.D., Associate Professor of Journalism
Moores, Maple, Assistant Registrar
Moran, Alice Barbara, M.S., Associate Bacteriologist, Animal Pathology
Moreland, Roy, A.B., LL.B., J.D., S.J.D., Professor of Law
Morris, Harold Clifford, M.S., M.B., R.Ph., M.D., Associate Professor of Pharmacology
Morrison, Henry Bartlett, M.S., Ph.D., Professor of Dairying; Dairy Manufacturer
Morton, Margaret Eve., A.B., Seed Analyst, Entomology and Botany
Mory, Samuel Albert, Jr., C.E., Professor of Structural Engineering
*Mount, Charles M., Jr., B.S., Colonel, U. S. Army, Professor of Military Science and Tactics, Head of the Department of Military Science and Tactics
Mullins, Noah Walker, Visiting Lecturer, Department of Political Science
Munro, George Stevenson, A.B., Part-time Instructor in English
*Muntz, James Harlan, M.S., Assistant Agronomist
Musselman, Vernon Armor, Ed.M., Ed.D., Professor of Education, Head of the Department of Business Education
*Myers, William Stoll, Jr., A.B., Research Associate, Bureau of Business Research
Neel, Charles O., M.S. in Ed., Agriculture, Nicholasville High School
Nelson, Ralph A., B.S., County Forestry Assistant, Agricultural Extension Division
Nelson, Vincent Edward, Ph.D., Professor of Geology
*Nesius, Ernest Joseph, M.S. in Agr., Ph.D., Economist in Farm Economics
Newbury, Edward Lee, M.A., Assistant Professor of Psychology
Newman, James, B.S., Field Agent in Forestry
Noble, Milton, B.S., Forester
*Noe, James Thomas Cotton, M.A., Litt.D., Professor of Education, Special Assignment
Noll, Dolores Louise, A.B., Part-time Instructor in English
Nollau, Louis Edward, M.E., Professor of Engineering Drawing, Special Assignment
Norman, Clair A., Master Sergeant, U. S. Army, Instructor in Military Science and Tactics
North, Robert Davidson, M.A., Ph.D., Part-time Assistant Professor of Psychology; Assistant Director for Testing, University Personnel Office
Nosow, Edmund, M.S., Assistant Geologist, Kentucky Geological Survey, Department of Geology
Oberst, Paul, A.B., LL.M., Professor of Law
Olds, Durward, D.V.M., Associate Professor of Dairy Husbandry; Associate Dairy Husbandman
Oliver, Barbara Ann, B.S. in Home Ec., Field Agent in 4-H Club Work
Olney, Albert Jackson, M.H., M.S., Professor of Horticulture, Head of the Department of Horticulture
Oppenheim, Adele Swing, A.B., Part-time Instructor in English
*Osborn, Scott C., M.A., Part-time Instructor in English
Osborne, Ruth Stallings, M.A., Music, University School
*Ott, Joseph W., Technical Sergeant, U. S. Air Force, Instructor in Air Science and Tactics

* See appended list of changes of status, p. 359.

Overfield, James, M.S., Assistant in Animal Husbandry, Western Kentucky Substation
Overly, Dorothy Newton, M.A., Ph.D., Instructor in English and Modern Languages, Northern Kentucky Extension Center
*Panzera, Pete, M.S., Part-time Instructor in Chemistry
Pappenheim, Albert, M.A., Rabbi, Part-time Instructor in Hebrew
Parker, Ethel Lee, M.A., Ph.D., Professor of Home Economics Education, Head of the Department of Home Economics Education
Parsons, George Lawrence, Technical Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Patch, Nathaniel Maxwell, M.M., Associate Professor of Music
Patterson, John Miles, Ph.D., Instructor in Chemistry
Pattie, Frank Acklen, M.A., Ph.D., Professor of Psychology
Payne, Bruce R., II, A.B., Captain, U. S. Army, Assistant Professor of Military Science and Tactics
Peak, Bart Nixon, A.B., LL.B., Executive Secretary, University Young Men's Christian Association
Pearce, Walter H., M.A., Assistant Professor of Economics
Pearson, James Leslie, M.S., Assistant Economist
Peck, Anna Browning, M.A., Social Sciences, University School
Pelfrey, Charles Junior, M.A., Part-time Instructor in English
*Pell, William L., M.S., Ph.D., Professor of Mathematics and Astronomy, Head of the Department of Mathematics and Astronomy
Pence, Sallie Elizabeth, M.A., Ph.D., Associate Professor of Mathematics
Pendley, Laurence Chester, M.S. in C.E., Assistant Professor of Civil Engineering
Penrod, Estel Burdell, M.S., M.M.E., Professor of Mechanical Engineering, Head of the Department of Mechanical Engineering
Perbix, Joyce A., M.S., Instructor in Physical Education
Perkins, James Robert, M.S., Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman
*Peter, Alfred Meredith, M.S., D.Sc., Professor of Soil Technology, Special Assignment
Peterson, Frank Dewey, A.B., LL.D., University Comptroller
Pfennigwerth, Paul Leroy, M.E., Instructor in Mechanical Engineering
Phillips, Carroll Davidson, M.S., Ph.D., Economist in Agricultural Marketing
*Phillips, B. S., Field Agent
Pickett, Ralph Russell, M.A., Ph.D., Professor of Economics
*Pinney, Paul Martin, B.S. in Com., Assistant in Service Office, Agricultural Experiment Station
*Pirri, Irma Deane, M.A., Assistant Professor of Social Work
Plucknett, William K., Ph.D., Associate Professor of Chemistry
Plummer, Leonard Niel, M.A., Ph.D., Professor of Journalism, Director of the School of Journalism
*Poole, James Lee, Jr., A.B., Assistant in Visual Aids, Agricultural Experiment Station
Popeo, Constance Annette, M.S. in Soc. Serv., Instructor in Social Work
Porter, Leon, M.A., Mathematics, University School
Portmann, Victor Rowe, B.J., Assistant Professor of Journalism
*Poste, Leslie Irlyn, A.B., B.S., F.L.A., Professor of Library Science, Head of the Department of Library Science

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* See appended list of changes of status, p. 359.

Poundstone, Albert Bruce, M.S. in Agr., Head of the Department of Feed and Fertilizer
Press, Oscar Leonard, M.A., Instructor in Radio Arts; Program Supervisor
Price, Hugh Bruce, M.A., Ph.D., Professor of Agricultural Economics; Agricultural Economist; Acting Head of the Department of Agronomy, 1953-54
Price, Robert Newton, B.S. in Chem., Assistant Chemist, Feed and Fertilizer
Price, Vandilla, A.B. in H.E., Assistant State Leader of Home Demonstration Agents
Price, Walter Allen, M.S., Professor of Entomology, Head of the Department of Entomology and Botany
Prindl, Frank Joseph, M.M., Assistant Professor of Music
*Prinz, Robert John, M.M.E., Instructor in Music
Pryor, Joseph William, M.D., Professor of Anatomy and Physiology, Special Assignment
Rabin, Marvin J., A.B. in Ed., M.M., Assistant Professor of Music
Ramsey, Ralph John, M.A., Field Agent in Rural Sociology
Randall, Frank Hall, A.B., LL.B., S.J.D., Professor of Law, Special Assignment
Rankin, Robert M., A.B., Instructor in Journalism, Northern Kentucky Extension Center
Rannells, Edward Warder, M.A., Professor of Art
Rasor, Robert, M.D., Psychiatric Consultant, Department of Psychology
*Ratliff, Clay Wade, B.S. in Agr., Assistant Inspector, Feed and Fertilizer
*Raulin, Ernest C., B.S., Major, U. S. Army, Assistant Professor of Military Science and Tactics
*Rayburn, Louis Alfred, M.S., Part-time Instructor in Physics
Rea, John Alexander, M.A., Instructor in Modern Foreign Languages
Reading, Carolyn, A.B., B.S., Head, Acquisition Department, University Library
Redman, John, M.S. in Agr., Ph.D., Associate Professor of Farm Economics; Associate Economist in Farm Economics
Reece, Alfred Marion, Jr., M.A., Assistant Professor of Physical Education; Swimming Coach
*Reed, Helen Miriam, M.A., Instructor in Education
Reeves, John Estill, M.A., Assistant Professor of Political Science
Rehberg, William F., M.S. in Pharm., R.Ph., Assistant Professor of Pharmacy
*Reid, David Alexander, M.S., Associate Agronomist
*Reithel, Robert J., B.S., Instructor in Physics
*Reynolds, Opal Lee, M.A. in Ed., First Grade, University School
Rhodes, Ernest Lloyd, M.A., Instructor in English; Technical Director of Guignol Theatre
*Richards, Mabel Grace, A.B., Assistant Bacteriologist, Animal Pathology
Richeson, King, M.A. in Ed., Biology, Hygiene, and Physical Education, University School
Riley, Herbert Parkes, M.A., Ph.D., Professor of Botany, Head of the Department of Botany
Riley, John I., Chief Warrant Officer, U. S. Army, Assistant Adjutant, Military Science and Tactics
Ripy, Sara Louise, M.A., Instructor in Mathematics
Roberts, Amster Dudley, M.A., Ph.D., Consultant, Department of Psychology
Roberts, George, M.S., Professor of Agronomy, Special Assignment
Roberts, John Bissell, M.S. in Agr., Assistant Professor of Agricultural Marketing; Economist in Agricultural Marketing

* See appended list of changes of status, p. 359.

Roberts, William Lewis, M.A., J.D., S.J.D., Professor of Law, Special Assignment
Robinson, Don Harry, B.S. in Com., M.B.A., Bursar-Recorder, College of Pharmacy; Lecturer in Pharmaceutical Administration
Robinson, Lolo Lemme, A.B., Assistant Professor of English; Associate Director of Guignol Theatre
Rodriguez, Juan Guadelupe, M.S., Ph.D., Assistant Entomologist, Entomology and Botany
Rogers, Henry Harper, M.A., Ph.D., Colonel, U. S. Army, Professor of Military Science and Tactics, Head of the Department of Military Science and Tactics
Romanowitz, Harry Alex, E.E., M.S., Ph.D., Professor of Electrical Engineering, Head of the Department of Electrical Engineering
*Romein, Tunis, M.A., Ed.D., Part-time Instructor in Education
Rose, Donald Clayton, M.A., Instructor in Mathematics
Roser, Margaret, A.B., M.A., Librarian, University School
Ross, James Pheane, M.S., Field Agent in 4-H Club Work
Rowland, Thomas Sherman, M.S. in Ed., Part-time Instructor in Mathematics
Rudd, Robert William, M.S. in Agr., Ph.D., Associate Professor of Agricultural Marketing; Assistant Economist in Agricultural Marketing
Ruh, Rose Jewel, B.S., Assistant Chemist, Feed and Fertilizer
Runden, John Paul, M.A., Ph.D., Instructor in English
Rupp, Adolph Fred, M.A., Head Basketball Coach; Lecturer, Department of Physical Education
*Ruschell, George, M.B.A., Research Assistant, Bureau of Business Research
Rust, Joseph William, B.S., Instructor in Dairy Husbandry; Superintendent of Dairy Center
Ryan, Jean Lowe, M.S., Part-time Instructor in Physics
Ryen, Kob, M.A., Part-time Instructor in Physical Education
Ryland, Lucian Hobart, M.A., Docteur de l'Universite, Professor of Romance Languages
Salmon, Dorothy, B.S. in Com., LL.B., Assistant Professor of Law; Law Librarian
Sanders, Irwin Taylor, Ph.D., Distinguished Professor of Sociology; Director, Bureau of Community Service; Rural Sociologist
Scheidenhelm, Elmer Christian, M.S., Field Agent in Dairying
Scherago, Morris, B.S., D.V.M., Professor of Bacteriology, Head of the Department of Bacteriology
Schick, Blaine Wilhelm, M..A, Assistant Professor of Romance Languages
Schmitz, Betty Lee, Instructor in Commerce, Northern Kentucky Extension Center
Schoolcraft, George Wendell, B.S., Field Agent in Cream Grading
Schwendeman, Joseph Raymond, M.A., Ph.D., Professor of Geography, Head of the Department of Geography
Sears, Paul Gregory, Ph.D., Instructor in Chemistry
Seath, Dwight Moody, M.S., Ph.D., Professor of Dairy Husbandry, Head of Dairy Section
Seaton, Don Cash, M.A., Ed.D., Professor of Physical Education, Head of the Department of Physical Education; Varsity Track Coach
Seay, William Albert, Ph.D., Associate Professor of Soils; Associate Agronomist
Sedbury, Lake G., Master Sergeant, U. S. Army, Instructor in Military Science and Tactics

* See appended list of changes of status, p. 359.

Seeley, Jack Mardis, Master Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Sellards, Henry Grady, B.S. in Agr., Field Agent in Animal Husbandry
Server, Alberta Wilson, M.A., Docteur de l'Universite, Associate Professor of Romance Languages
Settle, Harry W., B.S., Assistant Geologist, Kentucky Geological Survey, Department of Geology
Shane, James F., M.S. in Agr., Assistant Agronomist
Shannon, Jasper Berry, M.A., Ph.D., Professor of Political Science
Shannon, John Francis, A.B., Research Assistant, College of Commerce
Shaver, Robert Ezekiel, C.E., Professor of Civil Engineering, Head of the Department of Civil Engineering
Shear, James Algan, M.S., Ph.D., Assistant Professor of Geography
Shedd, Oliver March, M.S., Chemist, Agronomy, Special Assignment
Shine, Hill, M.A., Ph.D., Professor of English
Shipman, Martha Virginia, M.A., Instructor in Education
Shively, Bernie Armstead, M.A., Director of Intercollegiate Athletics; Lecturer, Department of Physical Education
*Shock, William Jacob, M.S. in E.E., Assistant Professor of Electrical Engineering
*Shorter, S. A., Master Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Shrader, John Aaron, M.S., Ph.C., Microscopist, Feed and Fertilizer
Shropshire, William Oscar, M.S., Instructor in Physics
Shuffett, Dallas Milton, M.S., Assistant in Agricultural Marketing
Sigafus, Roy Edward, M.S., Ph.D., Assistant Professor of Farm Crops
*Simpson, Randolph, A.B. in Ed., Driver Training Instructor, University School
Sims, Arvy Glenn, B.S. in Agr., Assistant Inspector, Feed and Fertilizer
Skiles, Jonah W. D., M.A., Ph.D., Professor of Ancient Languages and Literatures; Head of the Department of Ancient Languages and Literatures
Slaughter, Susan Kidd, Administrative Assistant, Agricultural Extension
Slesser, Abraham Edward, Ph.D., R.Ph., Professor of Pharmacy, Head of the Department of Pharmacy
Slone, Earl Platt, M.A., R.Ph., Head of the Department of Materia Medica; Dean of the College of Pharmacy
*Smisko, Joe, M.S., Part-time Instructor in Chemistry
Smith, Bernard Mason, M.A., Major, U. S. Air Force, Associate Professor of Air Science and Tactics
Smith, Evangeline, M.A. in Ed., Home Economics, Bryan Station School
*Smith, Frisby, M.A. in Ed., Graduate Assistant, Bureau of School Service
Smith, Gustavus Edward, Ch.E., M.S. in E.E., Instructor in Electrical Engineering
Smith, J. Allan, M.A., Ph.D., Publications Editor and Head of Department of Public Information and Educational Aids, Agricultural Experiment Station and Agricultural Extension
Smith, Paul, M.A., Ph.D., Instructor in English and Speech, Northern Kentucky Extension Center
Smith, Paul Merriman, B.S., Visiting Lecturer, Department of Political Science
*Smith, Richard Campbell, A.B., Instructor in Philosophy
Smith, Walter Thomas, Jr., Ph.D., Associate Professor of Chemistry
Snedegar, William Hurst, Jr., M.S., Part-time Instructor in Physics
Sneed, Ruth, M.S., Assistant Professor of Home Economics Education

* See appended list of changes of status, p. 359.

Snodgrass, Grace Lee, A.B., Librarian, Agricultural Experiment Station
Snow, Charles Ernest, M.A., Ph.D., Professor of Anthropology, Head of the Department of Anthropology
Sorenson, Herbert, M.A., Ph.D., Distinguished Professor of Educational Psychology
Spalding, Thomas Benedict, B.S., Captain, U. S. Air Force, Assistant Professor of Air Science and Tactics
Spear, Andrew Franklin, Jr., M.S., Instructor in Physics
*Spears, Woodridge, M.A., Instructor in English
Speck, Eldred C., M.A., Ph.D., Assistant Professor of Commerce
Spivey, Herman Everette, M.A., Ph.D., Professor of English; Dean of the Graduate School
Spokes, Ernest Melvern, E.M., M.S. in E.M., Associate Professor of Mining Engineering
Sprague, Richard Howard, M.A., Part-time Instructor in Mathematics
Spurrier, James Farley, B.S. in Agr., Assistant in Animal Husbandry
Stacy, Paul Harold, M.A., Part-time Instructor in English
*Stafford, William T., M.A., Part-time Instructor in English
*Stahr, Elvis Jacob, Jr., M.A., A.B. in Jur., B.C.L., Professor of Law, Dean of the College of Law
Stallard, Frances Miller, M.A., Field Agent in Home Economics
*Stallings, Virginia, M.A., Instructor in Music
Steele, Dewey George, M.S., Ph.D., Professor of Genetics; In Charge of Genetics Section; Acting Associate Dean, College of Agriculture and Home Economics, 1953-54
Steele, Mildred Mae, M.A., Part-time Instructor in English
Stein, Edwin Eugene, M.M., Ph.D., Professor of Music, Head of the Department of Music
Stern, Albert Jay, LL.B., Captain, U. S. Air Force, Assistant Professor of Air Science and Tactics
Sternbergs, Janis, Master in Copper Engraving, Vienna, Austria, Instructor in Art
*Sterrett, Jack Reid, M.A., Ph.D., Associate Professor of Speech
*Stewart, Olus Jesse, M.S., Ph.D., Professor of Analytical Chemistry, Special Assignment
Stewart, Orville Watson, B.S. in M.E., Research Engineer in the Department of Mechanical Engineering
Stille, Janice, M.A., Instructor in Physical Education
Stokes, Granville Woolman, M.S., Ph.D., Assistant Plant Pathologist
Stokley, John Allen, M.S., Instructor in Geology
Stout, Florence Offutt, Professor of Physical Education; Special Assignment
Straus, Erwin William, A.B., M.D., Part-time Lecturer in Psychology
Stroup, Thomas Bradley, M.A., Ph.D., Professor of English
Stutsman, Ellen Butler, A.B., M.S., Head, Catalog Department, University Library
Sullivan, Merrell Rodman, M.A., Ph.D., Professor of Economics
Summers, George Perry, M.S. in Agr., Ph.D., Field Agent in Marketing
Summers, Hollis Spurgeon, M.A., Ph.D., Associate Professor of English
Sundquist, Wesley Burton, B.S., Assistant Economist
Survant, William Gregory, M.S. in Agr., Ph.D., Associate Professor of Soils
*Sutherland, Raymond C., M.A., Part-time Instructor in English
Sutton, Willis Anderson, Jr., M.A., Ph.D., Assistant Professor of Sociology

* See appended list of changes of status, p. 359.

Swift, Roy Erwin, M.S. in E.M., M.S. in Met.E., D.Eng., Associate Professor of Mining Engineering
Swift, William Clement, B.S., Instructor in Mathematics
Tabb, William Roy, M.S. in Ed., Associate Professor of Agricultural Education
Talbert, Charles G., M.A., Ph.D., Instructor in History, Northern Kentucky Extension Center
Tapp, Hambleton, M.A., Ph.D., Part-time Instructor in History; Assistant to the President of the University; Coordinator of the Summer Session; Director of University Placement Service
Taylor, Artie Lee, Reserve Book Librarian, University Library
Taylor, Elizabeth Ellis, A.B., M.A. in Ed., Instructor, University School
Taylor, Norman Linn, M.S., Ph.D., Assistant Agronomist
Taylor, Rhea Alec, M.A., Ph.D., Assistant Professor of History
Taylor, Roberta Seat, M.S., Assistant Professor of Home Economics
Templeton, William Cheky, M.S., Associate Agronomist
Terrell, Daniel Voiers, C.E., Dean of the College of Engineering; Director of the Engineering Experiment Station
Terry, George Sylvester, M.A., Bacteriologist, Public Service Laboratories
*Thaxton, Robert Menges, M.S. in Agr., Assistant Agronomist
Theobald, Beulah, M.A., Visiting Lecturer in Social Work
Thomas, Ruth Edith, M.A., Ph.D., Professor of Commerce
*Thomas, Walter Earl, M.S., Ph.D., Assistant Professor of Animal Husbandry; Assistant in Animal Husbandry
Thompson, Charles, M.S., Ph.D., Assistant Professor of Animal Nutrition; Assistant in Animal Nutrition
*Thompson, James Forrest, M.S., Assistant in Farm Management
Thompson, Lawrence Sidney, M.A., Ph.D., Director of University Libraries
Thompson, Raymond Harris, M.A., Curator of Anthropology Museum; Assistant Professor of Anthropology
*Thornburg, Sidney L., Technical Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
Thorpe, James Franklin, M.E., Instructor in Mechanical Engineering
Threlkeld, Dorothy Elizabeth, B.S. in H.E., Field Agent in Home Economics
Thurston, Richard, Ph.D., Assistant Entomologist, Entomology and Botany
Tickle, Kenneth J., Master Sergeant, U. S. Army, Instructor in Military Science and Tactics
Tilson, Howard Gilbert, M.S. in Agr., Inspector, Entomology and Botany
Todd, Anne Frierson, B.S. in H.E., Seed Analyst, Entomology and Botany
Todd, Jack Rudisill, M.S., Assistant Agronomist
Tolman, William Allan, M.A., Associate Professor of Economics
Townsend, Lee Hill, M.S., Ph.D., Professor of Agricultural Entomology
*Tracy, Leonard G., M.A., Part-time Instructor in English
Trimble, Ernest Greene, Ph.D., Professor of Political Science
Troutman, Edward Cowell, M.S., Assistant in Dairying
*Troutman, Joseph Lawrence, B.S. in Agr., Assistant in Plant Pathology, Agronomy
Truitt, Jack Paschal, M.A., Agriculture, Lafayette High School
Tucker, Charles Elsey, M.S., M.P.H., Lecturer in Hygiene and Public Health, College of Pharmacy
Turner, Mildred S., A.B., Head Resident of Patterson Hall
*Tuthill, James Edward, M.A., Ph.D., Professor of History, Special Assignment

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* See appended list of changes of status, p. 359.

*Tuthill, Richard Lovejoy, M.A., Ed.D., Professor of Geography; Professor of Education; University Registrar
Tuttle, John William, M.S. in Agr., Field Agent in Poultry Improvement
Tuttle, Margaret Helmsing, A.B., B.S. in L.S., Librarian in Charge of Departmental Libraries
Ubben, John Harms, M.A., Ph.D., Assistant Professor of German Language and Literature
Valleau, William Dorney, Ph.D., Distinguished Professor of Plant Pathology; Plant Pathologist
Vanaman, Sherman Benton, Jr., M.S., Part-time Instructor in Mathematics
Vandenbosch, Amry, Ph.D., Distinguished Professor of Political Science, Head of the Department of Political Science
VanHorne, R. M., M.E., Instructor in Education
Vanlandingham, Kenneth Earl, M.A., Ph.D., Assistant Professor of Political Science
Van Meter, Lois Lynn, A.B. in Ed., First Grade, University School
Vaughn, Erle Cleveland, A.B., Field Agent in Improved Seed Production, Entomology and Botany
Veal, Harlan Hale, M.A. in Ed., Agriculture, Versailles High School
Vennes, Leon Angus, M.S., Associate Professor of Marketing; Field Agent in Agricultural Economics
*Vice, Keith Romould, M.S. in Agr., Assistant Economist
Vogel, George Raymond, B.S., Part-time Instructor in Chemistry
Vollmer, William Louis, B.S. in Pharm., Instructor in Pharmacy
Wachs, Elizabeth Faull, Technician in Animal Husbandry
Wagner, George I., A.B., Major, U. S. Army, Assistant Professor of Military Science and Tactics
Wagner, William Frederick, M.S., Ph.D., Associate Professor of Chemistry
Walker, Frank Haff, A.B., Assistant Geologist, Kentucky Geological Survey, Department of Geology
Walker, Thomas Capell, M.A., Ph.D., Associate Professor of Romance Languages
Wall, Bennett Harrison, M.A., Ph.D., Associate Professor of History
Wall, Maurice Stanley, M.S. in Ed., Instructor in Agricultural Education
Wallace, Mary Elizabeth, M.S., Assistant Bacteriologist, Animal Pathology
Waltman, Clair Smith, M.S., Ph.D., Professor of Horticulture; Associate Horticulturist
Walton, Charles Anthony, M.S., R.Ph., Assistant Professor of Materia Medica
Walton, John M., B.S., First Lieutenant, U. S. Army, Assistant Professor of Military Science and Tactics
Walton, Warren Ware, Jr., B.S. in M.E., Instructor in Mechanical Engineering
Ward, James Audley, Ph.D., Professor of Mathematics
Ward, William Smith, M.A., Ph.D., Professor of English, Head of the Department of English, Speech, and Dramatic Arts
*Warren, Emma Sue, B.S. in H.E., Assistant Instructor in Home Economics
Watson, Walter Elbert, M.A., Ph.D., Part-time Lecturer in Psychology
Weatherwax, Robert Stanton, Ph.D., Instructor in Bacteriology
Weaver, Ralph Holder, M.S., Ph.D., Professor of Bacteriology
Webb, Louise Gray, Librarian, College of Engineering, Special Assignment
Webb, William Snyder, M.S., D.Sc., Distinguished Professor of Physics, Professor of Anthropology, Special Assignment
*Webster, Harold D., Ph.D., Assistant Professor of Psychology

* See appended list of changes of status, p. 359.

Weis, Adelia Emily, M.A., Ph.D., Assistant in Home Economics Research
Weismann, Donald Leroy, B.E., Ph.M., Ph.D., Professor of Art, Head of the Department of Art
Welch, Earl George, B.S. in A.E., Field Agent in Agricultural Engineering
Welch, Frank James, M.A., Ph.D., Dean of the College of Agriculture and Home Economics; Director of the Experiment Station; Director of Agricultural Extension
Weldon, Myrtle, M.A., State Leader of Home Demonstration Agents
Wells, John Bond, Jr., M.S., Instructor in Mathematics
West, Mary Lucille, M.A., Languages, University School
Wetzel, Harold Edwin, M.A., B.S. in Soc. Adm., 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
Wheeler, Otis, B.S. in Agr., Assistant Inspector, Feed and Fertilizer
Whitaker, Paul Knowlton, M.A., Ph.D., Professor of German Language and Literature
White, Helen McMichael, B.S., Assistant State Leader of Home Demonstration Agents
White, John Carlisle, M.S., Superintendent of Poultry Farm
White, Martin Marshall, M.A., Ph.D., Professor of Psychology; Dean of the College of Arts and Sciences
Whitehead, Guy., M.A., Instructor in English
Whitehouse, James William, M.S. in Agr., State Leader of 4-H Club Work
Whiteside, Frederick William, Jr., A.B., LL.B., Professor of Law
*Whitten, Joseph Nathaniel, B.S. in L.S., M.S., Instructor in Library Science
Whittenberg, Harry William, B.S. in Agr., Assistant State Agent, County Agent Work
Wiest, Edward, M.A., Ph.D., Professor of Economics, Special Assignment; Formerly Dean of the College of Commerce
Wightman, Ernest Thomas, M.S. in Agr., Associate Professor of Poultry Husbandry, Assistant in Poultry Husbandry
Wild, Raymond Wesley, Ph.M., Director of Public Relations
Wiles, Mabel, Seed Analyst, Entomology and Botany
*Williamson, Charles G., Jr., B.S., Captain, U. S. Army, Assistant Professor of Military Science and Tactics
*Williamson, Glynn, B.S., Field Agent in Dairy
Wills, Glenn E., B.S., Bursar Recorder, Northern Kentucky Extension Center
Wilmore, Helen Mildred, M.S. in H.E., Assistant Professor of Home Economics
Wilson, John Robert, B.S., Part-time Instructor in Chemistry
Wilson, William Clark, B.S. in Agr., Assistant State Agent, County Agent Work
*Winters, Gertrude Picky, A.B., Seed Analyst, Entomology and Botany
*Winters, Howard E., Master Sergeant, U. S. Air Force, Instructor in Air Science and Tactics
*Wofford, Azile May, M.S., Associate Professor of Library Science
Wolford, Richard, B.S., Part-time Instructor in Chemistry
*Wonacott, Eldon D., A.B., Major, U. S. Air Force, Associate Professor of Air Science and Tactics
Woodard, Charles Robert, M.A., Ph.D., Instructor in English
Woolfolk, Patch G., M.S. in Agr., Ph.D., Assistant Professor of Animal Husbandry; Associate in Animal Husbandry
Worrell, John William, B.S. in Mus., M.A., Assistant Professor of Music
Wright, Kenneth Richard, M.A., Ph.D., Professor of Music

* See appended list of changes of status, p. 359.

Wyant, Zae Northrup, M.H.E., M.A., Technician, Animal Pathology
Wyatt, Charles Early, B.S. in Agr., Field Agent in Test Demonstration, Agronomy
*York, Raymond E., Captain, U. S. Air Force, Assistant Professor of Air Science and Tactics
Yost, Francis Lorraine, Ph.D., Professor of Physics, Head of the Department of Physics
Youmans, Charles Vincent, M.S., Instructor in Industrial Education
Young, Earl Robert, M.S. in A.E., Associate Professor of Agricultural Engineering
Young, Harry Maxie, Jr., M.S. in Agr., Field Agent in Agricultural Economics
Zaring, Wilson Miles, M.A., Instructor in Mathematics
Zelzer, Hugo, Ph.D., Visiting Professor of Music
*Zerkle, Zaner, M.A., Part-time Instructor in Music
Zichefoose, Guy, M.C.S., Auditor and Inspector, Agricultural Experiment Station

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* See appended list of changes of status, p. 359.

OFFICE ORGANIZATION AND PERSONNEL

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Hambleton Tapp, M.A., Ph.D., Assistant to the President
Lucy Roberta Hogan, A.B., Secretary
Betsy Frances Paynter, B.S. in Com., Assistant Secretary

Office of Information

Kitty C. King, A.B., Secretary in Charge

OFFICE OF THE VICE PRESIDENT

Leo M. Chamberlain, M.A., Ph.D., LL.D., Vice President of the University
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Martha Featherston, Secretary
John Tyler Gess, B.S. in M.E., Assistant Engineer
Loftus Green, Mechanic
Fleming Butner Griffith, A.B., Accountant
Elizabeth Holsclaw, Clerk-Typist and Relief Telephone Operator
G. C. Jones, Carpenter Foreman
L. D. Kitchen, Electrician, Special Assignment
Clyde Lilly, Chief Clerk
Harold May, Electrician Foreman
Irene Menne, Relief Telephone Operator
Clifton Nelson, Building Superintendent, College of Pharmacy
J. Y. Peck, Chief Engineer, Heating Plant
Laura Shade Ransdell, Clerk-Typist
Carroll Reeves, Night Telephone Operator
William C. Rice, B.S. in C.E., Assistant Engineer
Julius Rominger, Grounds Worker, Special Assignment
Janet Scanlon, Telephone Operator
Carl Stephenson, Plumbing Foreman
Bettie Swope, Chief Telephone Operator
Seth E. Taylor, Supervisor of Janitors, Police, and Trucks
Joe Underwood, Sr., Grounds Foreman
Irene Wells, Telephone Operator
Mason White, Painter-Janitor, College of Pharmacy
James Wood, Painter Foreman

Stenographic Bureau

Ena Jones Whitis, Director
Polly Dickson, Part-time Mimeographer
Mary Johnston, Senior Clerk-Stenographer
Elaine Knutti, Senior Stenographer
Agatha Parks, Clerk-Typist
Frances Sallee, Multilith Operator

University Station

Carrie Bean, Superintendent
Eloise Gray Webb, Assistant Superintendent
Adrain Bradshaw, Clerk
Margaret D. Bradshaw, Clerk
William Ely, Mail Carrier
Sally Lindon, Clerk
Edna Owings, Clerk

Kernel Press

Bruce Frederick Denbo, M.A., Supervisor
Niel Plummer, M.A., Ph.D., Director of Student Publications

William Donald Grote, A.B., Manager of Printing Plant, Assistant Director of Student Publications
Edward L. Swift, Jr., Assistant Manager
Stella Mae Ison, A.B., Bookkeeper-Secretary

Student Union Building

Mackie Rasdall, M.A., Director
Madeline Miller Cook, Hostess
Margaret Bruce Cruise, A.B., Social Director
Margaret Crutcher, Hostess, Special Assignment
Allie Frances Evans, Hostess and Clerk
Anne Jackson, Hostess

Student Union Cafeteria

Marie E. Fortenbery, B.S., A.B., A.D.A., Director
Della Adams, Manager of Wildcat Grill
Elizabeth Angeline Gault, Assistant Director
Loraine Gerard, Bookkeeper
Catherine Hammond, B.S., Dietitian
Mary E. Nooe, Cashier and Inventory Clerk
Grace Stovall Odle, B.S., Party Dietitian
Laurence Wolfe Roberts, Manager of Student Union Grill
Nazadia Sherlock, Payroll Clerk and Cashier
Edith B. Sparks, Manager of Dormitory Grill

Training School Cafeteria

Mary E. Schuck, Director

Campus Book Store

James E. Morris, A.B., Manager
Lloyd Q. Mautz, Assistant Manager
Elizabeth Adams, Clerk
Lavena Kelly, Clerk
Bess Dudley Mayes, Secretary
Mary A. Powell, Clerk

Veterans Housing Project

Stanley Atwood Boles, M.A., Manager
Emilee Howard, Bookkeeper

CHANGES IN STATUS AFFECTING MEMBERS OF THE UNIVERSITY STAFF
1953-54

Abbott, Glenn T., Resigned November 15, 1953
Adams, Perry Ronald, Appointed through 1952-53
Anderson, Ronald Eugene, Resigned February 28, 1954
Anderson, Jane Thatcher, Resigned January 31, 1954
Andrews, Annette, Resigned November 7, 1953
Armstrong, Watson, Resigned January 1, 1953
Atcher, Gertrude Tuttle, Resigned June 30, 1953
Bach, Hager W., Appointed through 1952-53
Baker, Doris Jean, Resigned April 3, 1953
Barnhart, Charles Elmer, On leave March 16-December 31, 1953
Baskett, Virginia Stuart, Appointed through 1952-53
Bauder, Ward W., Resigned January 31, 1953
Beaty, Irene, Resigned November 30, 1953
Beaty, Betty, On leave 1953-54
Beavers, Donna F., Resigned June 30, 1953
Beavers, Robert G., Resigned June 30, 1953
Beebe, Morris Wilson, On leave 1953-54
Bell, Emily Jane, Appointed through 1952-53
Bicknell, Elizabeth Ann, Resigned March 31, 1953
Billington, Mary Elizabeth, Resigned January 31, 1954
Bjork, C. Kenneth, Appointed through 1952-53
Blanchet, Rose Marie, Resigned June 30, 1953
Blevins, Edith, Resigned October 1, 1953
Bobbitt, Mary M., Resigned January 12, 1953
Boyd, Joseph Aubrey, Resigned June 30, 1953
Boyd, Louis Jefferson, Resigned August 31, 1953
Brewer, Juanita Tingle, Resigned June 30, 1953
Briggs, Wallace Neal, On leave 1953-54
Brong, Roscoe, Appointed through 1952-53
Brown, Ralph C., Jr., Resigned September 1, 1953
Brown, Margaret Todd, Resigned June 30, 1953
Brubaker, Nora Esther, Resigned January 31, 1954
Bryant, Paul William, Resigned February, 1954
Buldra, Frank J., Transferred July 2, 1953
Burkett, Bernard J., Transferred June 11, 1953
Bussell, Betty Jo, Resigned October 31, 1953
Carter, Carroll Sparks, Resigned June 30, 1953
Carter, Lelah H., Resigned November 14, 1953
Caywood, Margaret Clubb, Resigned June 1, 1953
Clark, Marie Antoinette, Resigned January 24, 1953
Clark, Nettye, Resigned August 15, 1953
Clem, Nadine, Resigned April 10, 1953
Cloar, Betty Sue, Resigned January 22, 1953
Collier, Blanton Long, Appointed February 10, 1954
Collier, Everett R., Transferred November 1, 1953
Couey, John Edward, Resigned June 30, 1953
Crawford, James Allen, Resigned January 31, 1953
Croghan, Nettie C., Resigned December 31, 1953
Cullis, Lela W., Special Assignment
Damron, Rediford, Resigned September 1, 1953

Davis, Anna Christine, Resigned May 31, 1953
Davis, Edward G., Transferred August 1, 1953
Deaner, Dorothy A., Resigned May 31, 1953
Detmer, Emma L., Resigned July 16, 1953
Dickson, Clesta, Resigned June 30, 1953
Dimock, William Wallace, Died July 23, 1953
Donovan, Marylou Barnette, Resigned January 31, 1953
Ellington, Mary Louise, Transferred to Public Relations, March 31, 1953
Epsie, David A., Resigned February, 1953
Esenbock, Peggy Dolores, Transferred to Bacteriology Department, August 1, 1953
Estes, Reedus Ray, Appointed through June 30, 1953
Etheredge, Theron Theo, Resigned September 1, 1953
Evans, Alvin Eleazer, Died June 17, 1953
Evans, Nila Ray, Resigned December 12, 1953
Evans, Phyllis Jean, Resigned August 25, 1953
Fallis, Betty, Resigned November 28, 1953
Farney, George Kenneth, Transferred to Research Project, September, 1953
Farris, Hansford White, On leave 1953-54
Fawzy, Abdel Monem, Resigned June 30, 1953
Fink, Jane Christy, Resigned June 30, 1953
Flowers, Kenneth Estel, Resigned February 18, 1953
Foster, John Wood, Resigned May 31, 1953
Foster, Samuel J., Transferred January, 1953
Francis, Analie, Resigned September 30, 1953
Fryxell, Donald R., Appointed through June 30, 1953
Godfrey, Robert G., Appointed through 1952-53
Goldstone, Richard H., Appointed through 1952-53
Gover, Mary Louise, Resigned January 31, 1954
Graves, Richard Hardin, Resigned January 31, 1954
Grissom, Eugene E., Appointed through 1952-53
Guthrie, Albert Bertram, Jr., On leave 1953-54
Hammond, Nell Weatherly, Died January 20, 1954
Hanau, Richard, On leave 1953-54
Hatcher, Walter M., Jr., Transferred July 2, 1953
Hedger, Ella Frances, Resigned September 12, 1953
Hegeman, Daniel VanBrunt, On leave, 1953-54
Heizer, Louise Ishmael, Resigned August 31, 1953
Henderson, Mildred, Resigned December 31, 1952
Hilliard, Ruth, Resigned January 27, 1953
Hinds, Doris May, Resigned August 19, 1953
Horlacher, Levi Jackson, On leave 1953-54 (May 12, 1953 through May 31, 1954)
Horton, Mattie M., Resigned September 9, 1953
Houston, Forrest Gish, Resigned June 30, 1953
Howell, Samuel W., Jr., Transferred June, 1953
Humphries, Mary Ruth, Resigned December 24, 1953
Hunt, Helen Key, Resigned June 16, 1953
Irvine, Jessie F., Resigned January 31, 1953
Jenkins, Mary Elizabeth, Resigned September 5, 1953
Johnson, Glenn Leroy, Resigned December 31, 1952
Johnson, Ray Smith, Died February 4, 1953
Jones, Joseph Hardy, Jr., Appointed through 1952-53
Jones, William Bristow, Resigned June 30, 1953

Kayse, E. E., Resigned March 1, 1953
Kirk, Betty Caruthers, Resigned September 16, 1953
Klinker, John Edward, Resigned March 31, 1954
Krebs, Martha Osterman, Resigned April 18, 1953
Krueger, Jack Neil, Resigned December 5, 1953
Lafferty, Donald Lee, Transferred to Research Project, September, 1953
Lafferty, Jeanne Payne, Appointed through 1952-53
Layson, Rowland Chontrelle, Resigned January 31, 1954
Lewis, Gordon F., Appointed through 1952-53
Litteral, Elmer, Appointed through 1952-53
Livesay, Elizabeth Ann, Resigned September 1, 1953
Long, Ruth L., Resigned February 20, 1953
Loren, Parke Burr, Appointed through January, 1954
Lovelady, Venice, Transferred to Home Demonstration Agent, July 1, 1953
McBrayer, Constance B., Resigned March 15, 1953
McClain, Beryl Thomas, Resigned January 10, 1953
McClain, Norma M., Resigned February 28, 1953
McCubbin, William Edward, On leave 1953-54
McDonald, Anna Jane, Resigned May 31, 1953
McKitrick, John Leslie, On leave August 25, 1953 through August 24, 1954
Marek, Joseph Camille, Appointed through 1952-53
Martin, Eugene C., Appointed through January 31, 1954
Marvin, Karen Kennedy, Resigned August 15, 1953
Masaitis, Ceslovas, Resigned August 31, 1953
Massie, Joseph Logan, On leave 1953-54
Mayes, Charles R., Appointed through 1952-53
Mayo, Norma Jean, Resigned April 1, 1953
Meacham, Lomon D., Transferred July 6, 1953
Mills, Kermit Clifford, Transferred from County Agent to Field Agent, August 17, 1953
Minton, Jane Carroll, Resigned September 20, 1953
Mitchell, Josephine Elizabeth, Transferred to English Department, September 1, 1953
Montgomery, Ford McRae, On leave 1953-54
Moore, Arthur Keister, On leave 1953-54
Moore, Cordell B., Appointed through 1952-53
Moore, Joan, Resigned July 18, 1953
Mount, Charles M., Jr., Transferred June, 1953
Moss, Ann Carol, Resigned December 13, 1953
Muntz, James Harlan, Resigned February 7, 1953
Mutran, Peggy Ann, Resigned December 22, 1952
Myers, William Stoll, Resigned June 30, 1953
Nesius, Ernest Joseph, On leave 1953-54 through April 1
Noe, James Thomas Cotton, Died November 9, 1953
Osborn, Scott C., Appointed through January 31, 1953
Ott, Joseph W., Transferred October, 1952
Panzera, Pete, Appointed through June 30, 1953
Panzera, Sarah Henderson, Resigned May 31, 1953
Papania, June Morton, Resigned November 1, 1953
Pell, William L., Resigned June 30, 1953
Peter, Alfred Meredith, Died August 11, 1953
Phillips, B.S., Transferred from County Agent to Field Agent, June 16, 1953
Pinney, Paul Martin, Resigned January 3, 1954
Pirri, Irma Deane, Appointed through August 31, 1953

Poole, James Lee, Jr., Resigned June 27, 1953
Poste, Leslie Irlyn, Resigned August 31, 1953
Prinz, Robert John, Appointed through 1952-53
Ramsey, Mattie Bayne, Resigned March 31, 1953
Ratliff, Clay Wade, Resigned August 11, 1953
Raulin, Ernest C., Transferred Summer, 1953
Rayburn, Louis Alfred, Transferred to Research Project, September, 1953
Reed, Carolyn Hayes, Resigned September 30, 1953
Reed, Helen Miriam, On leave 1953-54
Reid, David Alexander, Resigned December 8, 1953
Reithel, Robert J., Appointed through 1952-53
Reynolds, Opal Lee, Resigned June 30, 1953
Rice, Jean Doris, Resigned January 27, 1953
Rice, Thelma Eggleston, Resigned April 30, 1953
Richards, Mabel Grace, Resigned September 30, 1953
Roe, Ann Hoopes, Resigned August 15, 1953
Romein, Tunis, Resigned June 30, 1953
Ruschell, George, Resigned August 15, 1953
Shock, William Jacob, Resigned August 31, 1953
Shorter, S. A., Transferred June 3, 1953
Simpson, Randolph, Resigned June 30, 1953
Sims, Jean Haywood, Resigned May 31, 1953
Smisko, Joe, Appointed through 1952-53
Smith, Audrey, Appointed through June 30, 1953
Smith, Frisby, Resigned June 30, 1953
Smith, Martha, Resigned October 31, 1953
Smith, Merle Spencer, Resigned October 17, 1953
Smith, Richard Campbell, Appointed through 1952-53
Spears, Woodridge, Appointed through 1952-53
Stafford, William T., Appointed through 1952-53
Stahl, Helen Marie, Resigned April 11, 1953
Stahr, Elvis Jacob, Jr., On leave Summer Session, 1953
Stallings, Virginia, Resigned September 1, 1953
Stephenson, Doris Parsons, Resigned June 30, 1953
Sterrett, Jack Reid, On leave 1st semester, 1953-54
Stewart, Jane Thompson, Resigned April 16, 1953
Stewart, Olus Jesse, Special Assignment February 1, 1954
Sutherland, Raymond C., Appointed through 1952-53
Taylor, Erma Ruth, Resigned August 21, 1953
Thaxton, Robert Menges, Resigned January 31, 1953
Thomas, Walter Earl, Resigned February 28, 1953
Thompson, James Forrest, On leave September 21, 1953 through September 20, 1954
Thornburg, Sidney L., Transferred June, 1953
Tracy, Leonard G., Appointed through 1952-53
Trimble, Maybelle, Resigned August 31, 1953
Troutman, Joseph Lawrence, Resigned August 31, 1953
Tuthill, James Edward, Died January 8, 1954
Tuthill, Richard Lovejoy, Resigned December 31, 1953
Vice, Keith Romould, Resigned February 6, 1953
Voorhies, Jessie, Resigned January 31, 1954
Wallace, Marie P., Resigned January 17, 1953
Wheeler, Patsy Ann, Resigned November 9, 1953
Wheat, May, Special Assignment July 1, 1952

Warren, Emma Sue, Resigned June 6, 1953
Webster, Harold D., Appointed through 1952-53
Whitten, Joseph Nathaniel, Appointed through 1952-53
Williamson, Charles G., Jr., Transferred Summer 1953
Williamson, Glynn, On Military Leave
Winters, Gertrude Picky, Resigned October 20, 1953
Winters, Howard E., Transferred July 9, 1953
Wofford, Azile May, On leave 1st semester, 1953-54
Wonacott, Eldon D., Transferred July 22, 1953
York, Raymond E., Transferred September, 1953
Zerkle, Zaner, Appointed through August 31, 1953
Zierzow, Virginia, Resigned September 30, 1953

UNIVERSITY OF KENTUCKY
ADMINISTRATIVE COMMITTEES[1]

1953-54

Blazer Lectures — T. D. Clark, John Kuiper, S. T. McCloy, R. D. McIntyre, I. T. Sanders, C. E. Snow, Amry Vandenbosch.

Commencement Exercises — Hambleton Tapp, Marie Barkley, Anne W. Callihan, A. L. Cooke, Margaret B. Cruise, N. R. Elliott, E. B. Farris, Jane Haselden, Helen King, Marguerite McLaughlin, R. L. Mills, Mary Page Milton, V. R. Portmann, Colonel H. H. Rogers, B. A. Shively, E. E. Stein, R. L. Tuthill, D. L. Weismann, R. W. Wild.

Foreign Students — A. E. Bigge, G. K. Brady, Statie E. Erikson, Chloe Gifford, W. D. Ham, E. F. Hartford, Jane Haselden, W. W. Haynes, W. H. Jansen, A. D. Kirwan, Dorothy Linville.

Founders Day — M. M. White, L. M. Chamberlain, F. G. Coolsen, C. S. Crouse, E. B. Farris, E. L. Gillis, Camille S. Halyard, J. F. Hopkins, P. E. Karraker, A. J. Kiviniemi, Helen King, Mrs. W. T. Lafferty, Herbert Sorenson, E. J. Stahr, L. S. Thompson, R. W. Wild.

Freshman Week — L. W. Croft, H. P. Adams W. E. Beals, Margaret B. Cruise, W. A. Heinz, Sarah B. Holmes, J. S. Horine, A. D. Kirwan, Dorothy Linville, Dr. Charles McChord, R. L. Mills, R. D. North, B. N. Peak, W. G. Survant, L. S. Thompson, R. L. Tuthill, W. A. Sutton.

Honors Day — H. E. Spivey, C. C. Carpenter, P. P. Boyd, F. G. Dickey, M. A. Hatch, Sarah B. Holmes, Gladys M. Kammerer, A. D. Kirwan, R. D. McIntyre, Maple Moores, Roy Moreland, E. B. Penrod, W. L. Roberts, F. J. Welch, R. W. Wild.

Insurance — R. R. Pickett, W. M. Baker, Harry Best, W. M. Carter, A. B. McEwen, F. D. Peterson, W. A. Price, Morris Scherago, J. B. Shannon, Idie Lee Turner.

Library — H. P. Riley, N. B. Allison, N. H. Binger, L. A. Bradford, J. M. Carpenter, T. D. Clark, L. L. Dantzler, B. F. Denbo, W. C. Eaton, R. S. Grady, T. M. Hahn, R. L. Hopper, E. J. Humeston, Margaret I. King, A. B. McEwen, J. W. Martin, Earl P. Slone.

Non-Resident Fees — R. L. Tuthill, R. L. Mills, W. D. Ham, F. D. Peterson.

Patents — E. N. Fergus, Charles Barkenbus, A. C. Brauer, E. A. Bureau, E. E. Elsey, E. S. Good, Carsie Hammonds, A. C. McFarlan, J. W. Martin, Roy Moreland, H. L. Ryland, D. V. Terrell.

Research Fund — H. E. Spivey, R. E. Black, Gifford Blyton, L. L. Boyarsky, C. C. Carpenter, L. M. Chamberlain, T. P. Cooper, B. F. Denbo, H. H. Downing, H. N. Drennon, F. E. Harris, J. L. Leggett, H. B. Morrison, V. E. Nelson, Paul Oberst, H. P. Riley.

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1 In each instance the first named member is the chairman of the committee. All appointments are effective immediately with the exception noted for the Elections Committee.

Schedule of Classes — O. T. Koppius, W. R. Brown, J. S. Calvin, L. R. Dawson, G. P. Faust, J. L. Massie, R. L. Mills, J. T. Moore, D. C. Seaton, R. E. Shaver, R. L. Tuthill, R. H. Weaver, E. R. Young, F. W. Whiteside.

Scholarships — L. M. Chamberlain, L. W. Croft, J. M. England, Chloe Gifford, L. V. Ginger, Sarah B. Holmes, A. D. Kirwan, F. J. Prindl, E. P. Slone, D. V. Terrell, Ruth E. Thomas, L. H. Townsend, F. W. Whiteside.

Scholarship and Attendance — A. D. Kirwan, C. C. Carpenter, L. W. Croft, F. G. Dickey, Jane Haselden, E. E. Kraehe, H. C. Lewis, H. B. Price, E. J. Stahr, D. G. Steele, D. V. Terrell, M. M. White.

Social Program — Sarah B. Holmes, Martha G. Carr, Margaret B. Cruise, J. W. Gladden, Barbara Hall, T. T. Jones, A. D. Kirwan, B. N. Peak, Mackie Rasdall, E. E. Stein, Margaret Storey, R. A. Taylor.

Student Loans — C. C. Carpenter, Sarah B. Holmes, A. D. Kirwan, R. G. Lunde, George Roberts, Alberta Wilson Server.

University Press — W. S. Webb, H. W. Beers, L. M. Chamberlain, T. D. Clark, E. F. Farquhar, J. P. Hammond, H. W. Hargreaves, R. L. Hopper, W. L. Matthews, F. D. Peterson, L. N. Plummer, H. E. Spivey, Edward Weist.

Veterans Housing — A. D. Kirwan, D. K. Blythe, S. A. Boles, L. W. Croft, E. B. Farris, R. D. Haun, Sarah B. Holmes, S. A. Mory, F. D. Peterson, B. H. Wall, H. E. Wetzel.

COMMITTEES OF THE UNIVERSITY FACULTY
1953-54

Elections — W. L. Matthews, D. G. Card, C. W. Hackensmith, C. E. Hoffman, O. T. Koppius, J. T. Masten, L. E. Meece, J. H. Melzer, E. G. Trimble. (Effective July 1, 1954.)

Planning and Policy — W. S. Ward, Merl Baker, W. P. Garrigus, H. W. Hargreaves, Sarah B. Holmes, V. A. Musselman, Paul Oberst, H. A. Romanowitz.

Rules — R. L. Tuthill, R. L. Mills, A. E. Bigge, L. M. Chamberlain, Jesse DeBoer, Stephen Diachun, H. E. Spivey, E. J. Stahr, M. M. White.

Student Organizations — A. D. Kirwan, Clifford Amyx, Louis Clifton, V. F. Cowling, Sarah B. Holmes, L. C. Pendley, P. K. Whitaker, Helen M. Wilmore.

PART VI

STATISTICAL SUMMARY

Table 1. University Enrollment By Sex, College, and Class For The Year Ending June 30, 1954 Including The Summer Term of 1953

Lexington Campus and Pharmacy

(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	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1056	625	1056	625	1681
Seniors	199	119	136	72	211	..	31	2	81	180	161	30	37	1	..	..	856	404	1260
Juniors	197	137	93	53	147	..	32	1	35	123	147	42	33	5	..	..	684	361	1045
Sophomores	189	188	127	62	285	2	47	1	11	84	124	59	50	4	..	..	833	400	1233
Freshmen	468	248	122	85	371	1	..	..	11	46	209	55	..	..	..	..	1181	435	1616
Specials	35	49	6	7	4	1	..	..	55	32	14	1	..	..	..	..	114	90	204
Auditors	14	15	..	8	..	..	..	..	..	1	21	4	..	..	26	15	61	43	104
Transients	20	121	6	2	6	..	..	..	5	6	3	1	..	..	..	..	40	130	170
Totals	1122	877	490	289	1024	4	110	4	198	472	679	192	120	10	1082	640	4825	2488	7313
																N. E. C.	226	299	525
																Grand Total	5051	2787	7838

Table 2. University Enrollment for The First and Second Semesters of 1953-54 by Sex, College, and Class
Lexington Campus and Pharmacy

(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	..	..	..	..	..	..	..	..	..	..	..	..	..	..	560	246	560	246	806
Seniors	181	105	120	59	189	..	29	2	68	120	147	26	37	4	..	..	771	316	1087
Juniors	194	130	90	53	146	..	32	1	30	100	144	41	33	5	..	..	669	330	999
Sophomores	188	181	126	62	280	2	47	1	11	82	122	59	50	1	..	..	824	388	1212
Freshmen	456	239	120	84	362	1	..	1	11	45	206	54	..	..	..	..	1155	423	1578
Specials	27	36	6	4	3	1	..	..	3	4	13	1	..	..	..	..	52	46	98
Auditors	7	12	..	..	..	..	..	..	..	..	20	2	..	..	4	1	31	15	46
Transients	2	74	6	..	..	..	..	..	4	..	1	..	..	..	..	..	13	74	87
Totals	1055	777	468	262	980	4	108	4	127	351	653	183	120	10	564	247	4075	1838	5913
																N. E. C.	226	299	525
																Grand Total	4301	2137	6438

Table 3. University Enrollment For The First Semester of 1953-54 By Sex, College, and Class
Lexington Campus and Pharmacy

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	..	..	..	..	..	..	..	..	..	..	..	..	..	..	443	151	443	151	594
Seniors	145	99	103	50	152	..	27	2	57	108	115	21	37	1	..	..	636	281	917
Juniors	155	121	88	52	147	..	28	1	24	80	145	35	30	4	..	..	617	293	910
Sophomores	197	182	120	68	273	1	50	1	15	66	111	50	51	5	..	..	817	373	1190
Freshmen	447	251	106	84	359	1	..	..	8	38	141	45	..	..	..	..	1061	419	1480
Specials	20	18	5	4	3	..	..	..	2	1	11	1	..	..	..	..	41	24	65
Auditors	4	7	..	..	1	..	..	..	..	..	20	1	..	..	2	..	27	8	35
Transients	2	62	2	1	..	..	..	..	4	1	1	..	..	..	..	..	9	64	73
Totals	970	740	424	259	935	2	105	4	110	294	544	153	118	10	445	151	3651	1613	5264
																N. E. C.	172	207	379
																Grand Total	3823	1820	5643

Table 4. University Enrollment For The Second Semester of 1953-54 By Sex, College, and Class

Lexington Campus and Pharmacy

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	..	..	..	..	..	..	..	..	..	..	..	..	..	..	415	184	415	184	599
Seniors	152	87	104	48	151	..	19	1	50	97	125	24	37	1	..	..	638	258	896
Juniors	186	125	84	51	138	..	31	1	28	91	130	37	31	4	..	..	628	309	937
Sophomores	169	163	112	55	255	2	41	1	11	78	107	51	44	4	..	..	739	354	1093
Freshmen	381	199	100	79	301	1	..	..	11	40	173	51	..	..	..	..	966	370	1336
Specials	23	25	5	2	2	1	..	..	2	4	5	..	..	..	..	..	37	32	69
Auditors	4	9	..	1	..	..	..	..	..	..	..	1	..	..	5	1	9	12	21
Transients	1	57	5	..	..	..	..	..	1	..	..	..	..	..	..	..	7	57	64
Totals	916	665	410	236	847	4	91	3	103	310	540	164	112	9	420	185	3439	1576	5015
																N. E. C.	147	191	338
																Grand Total	3586	1767	5353

Table 5. University Enrollment For The Summer Term of 1953

By Sex, College, and Class

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	..	..	..	..	..	..	..	..	..	..	..	..	..	..	707	458	707	458	1165
Seniors	66	45	30	28	72	..	13	1	34	92	37	6	..	..	..	..	252	172	424
Juniors	50	27	16	11	66	..	5	..	14	40	39	7	..	..	..	..	190	85	275
Sophomores	53	32	17	4	55	..	3	..	4	4	25	5	..	..	..	..	157	45	202
Freshmen	83	23	13	4	74	..	..	..	2	2	19	4	..	..	..	..	191	33	224
Specials	13	22	2	3	1	..	..	..	56	29	4	..	..	..	..	..	76	54	130
Auditors	7	3	..	8	..	..	..	..	..	1	1	2	..	..	27	14	35	28	63
Transients	19	52	1	2	6	..	..	..	1	6	3	1	..	..	..	..	30	61	91
Totals	291	204	79	60	274	..	21	1	111	174	128	25	..	..	734	472	1638	936	2574

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WHAT IS A UNIVERSITY?

"A University is a place; it is a spirit. It is men of learning; it is a collection of books; it is laboratories where work in science goes forward; it is the source of the teaching of the beauties of literature and the arts; it is the center where ambitious youth gathers to learn; it protects the traditions, honors the new and tests its value; it believes in truth, protests against error and leads men by reason rather than by force."

— McVey.