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University of Kentucky

LEXINGTON, KY.

1957-58 General Catalog

Announcements 1958-59

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Vol. 50 May, 1958 No. 5

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Robert R. Martin, Superintendent of Public Instruction
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H. Clyde Lewis, M.A., Director of Ashland Center

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Doris M. Seward, M.A., Ph.D., Dean of Women

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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

Jacob Robert Meadow, M.A., Ph.D., Assistant Dean, 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

Hugh Bruce Price, M.A., Ph.D., Acting Dean of the College of Agriculture and Home Economics, Director of the Experiment Station and of Agricultural Extension, 1957-58

Maurice Stanley Wall, M.S. in Ed., Ed.D., Associate Dean, College of Agriculture and Home Economics

William Albert Seay, M.S., Ph.D., Vice Director, Experiment Station

Robert Ezekiel Shaver, C.E., Dean of the College of Engineering; Director Engineering Experiment Station

William Lewis Matthews, Jr., A.B., LL.M., S.J.D., Dean, College of Law

Lyman Vernon Ginger, M.A., Ed.D., Dean of the College of Education

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

William Robert Willard, B.S., M.D., Dr.P.H., Dean of the College of Medicine

Richardson Kilbourne Noback, B.S., M.D., Assistant Dean, College of Medicine

Arnold DeWald Albright, M.S., Ph.D., Executive Dean, Extended Programs

Raymon Dudley Johnson, M.A. in Ed., Ed.D., Associate Dean, Extended Programs

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

* On leave 1957-58.

Publicati
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PUBLICATIONS AND SOURCES OF INFORMATION

Several publications are issued by the University of Kentucky for the pur pose of giving prospective students and other citizens information about th institution. The offices from which publications may be received are liste below.

Bulletin of General Information	University Registrar's Office
General Catalog	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 o University Registrar's Office
Campus View Books	Department of Public Relation
Commerce Bulletin	College of Commerce or University Registrar's Office
Education Bulletin	College of Education, or University Registrar's Office
Engineering Bulletin	College of Engineering or University Registrar's Office
Graduate Bulletin	Graduate School
Law Bulletin	College of Law or University Registrar's Office
Pharmacy Bulletin	College of Pharmacy or University Registrar's Office
Summer Session Announcement	University Registrar's Office
Extension Bulletins	Extended Programs

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 .....Dean of Admissions and Registrar

Living accommodations, student help, social affairs ..... Dean of Men or Dean of Women

A particular college and its program .....Dean of the College

Graduate work .....Dean of the Graduate School

Summer Session .....Dean of Admissions and Registrar

Class extension and correspondence study ..... Dean of Extended Programs

Agricultural extension .....Director of Agricultural Extension

Facilities for veterans .....University Counseling Office

General information about the University....Director of Public Relations

CALENDAR

1958

July

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

August

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3	4	5	6	7	8	9
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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

September

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

October

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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

November

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16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

December

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21	22	23	24	25	26	27
28	29	30	31			

1959

January

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18	19	20	21	22	23	24
25	26	27	28	29	30	31

February

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15	16	17	18	19	20	21
22	23	24	25	26	27	28

March

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15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

April

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12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

May

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					1	2
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17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

June

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				

1959

July

S	M	T	W	T	F	S
			1	2	3	
5	6	7	8	9	10	1
12	13	14	15	16	17	1
19	20	21	22	23	24	2
26	27	28	29	30	31	

August

S	M	T	W	T	F	S
2	3	4	5	6	7	
9	10	11	12	13	14	1
16	17	18	19	20	21	2
23	24	25	26	27	28	2
30	31					

September

S	M	T	W	T	F	S
		1	2	3	4	
6	7	8	9	10	11	1
13	14	15	16	17	18	1
20	21	22	23	24	25	2
27	28	29	30			

October

S	M	T	W	T	F	S
				1	2	
4	5	6	7	8	9	1
11	12	13	14	15	16	1
18	19	20	21	22	23	2
25	26	27	28	29	30	3

November

S	M	T	W	T	F	S
1	2	3	4	5	6	
8	9	10	11	12	13	1
15	16	17	18	19	20	2
22	23	24	25	26	27	2
29	30					

December

S	M	T	W	T	F	S
		1	2	3	4	
6	7	8	9	10	11	1
13	14	15	16	17	18	1
20	21	22	23	24	25	2
27	28	29	30	31		

June 9

June 10

June 11

June 14

June 21

July 4

August 1

August 2

Sept. 14

1958

Aug. 11

Sept. 14-20

Sept. 14

Sept. 15-17

Sept. 18

Sept. 18-20

Sept. 22

Sept. 27

Oct. 2

Oct. 11

Oct. 17, 18

Nov. 27-D

Dec. 20

Dec. 29

UNIVERSITY CALENDAR FOR THE YEAR 1958-59

(Central Standard Time)

Summer Session 1958

June 9	Monday—Classification tests and physical examinations for all new students.
June 10	Tuesday—7:00 a.m. to 3:00 p.m.—Registration and classification of all students according to an alphabetical schedule.
June 11	Wednesday — Class work begins.
June 14	Saturday — Last date one may enter an organized class for the Summer Session.
June 21	Saturday — Last date one may drop a course without a grade.
July 4	Friday — Independence Day holiday.
August 1	Friday — Summer Session Commencement.
August 2	Saturday Noon — End of Summer Session.
Sept. 14	Sunday—Opening of Fall Semester of 1958-59.

First Semester

1958	
Aug. 11	Last date to submit application and transcripts to Registrar's Office for admission to the Fall Semester of 1958-59.
Sept. 14-20	Sunday through Saturday—Orientation Week for all new students.
Sept. 14	Sunday—President's reception for new students.
Sept. 15-17	Monday, 6:45 a.m. through Wednesday, 4:00 p.m.—Classification tests, physical examinations, and advising of all new students.
Sept. 18	Thursday, 7:00 to 10:00 a.m.—Registration and classification of new freshmen.
Sept. 18-20	Thursday, 12:30 p.m. through Saturday 10:30 a.m.—Registration and classification of all other students according to an alphabetical schedule.
Sept. 22	Monday—Class work begins.
Sept. 27	Saturday—Last date one may enter an organized class for the First Semester.
Oct. 2	Thursday—Last date one may drop a course without a grade.
Oct. 11	Saturday — Last date on which photographs will be taken for ID cards.
Oct. 17, 18	Friday and Saturday — Period for filing applications for degrees.
Nov. 27-Dec. 1	Thursday, 7:00 a.m. to Monday, 7:00 a.m.—Thanksgiving holidays.
Dec. 20	Saturday noon — Christmas holidays begin.
Dec. 29	Last date to submit application and transcripts to Registrar's Office for admission to the Spring Semester of 1958-59.

1959

Jan. 5	Monday, 7:00 a.m.—Christmas holidays end.
Jan. 19-23	Monday through Friday—Final examinations.
Jan. 23	Friday—End of First Semester.
Jan. 26	Monday—All grades due in Registrar's Office by 4:00 p.m.

Second Semester

Jan. 31	Saturday, 6:45 a.m.—Classification tests and physical examinations for all new students.
Feb. 2, 3	Monday, 7:00 a.m. through Tuesday, 3:00 p.m.—Registration and classification of all students according to an alphabetical schedule.
Feb. 4	Wednesday—Class work begins.
Feb. 10	Tuesday—Last date one may enter an organized class for the Second Semester.
Feb. 14	Saturday—Last date one may drop a course without a grade.
Feb. 27-28	Friday and Saturday—Period for filing applications for degrees.
Mar. 26-Apr. 1	Thursday, 7:00 a.m. to Wednesday, 7:00 a.m.—Easter holidays.
May 8	Last date to submit application and transcripts to Registrar's Office for admission to the 1959 Summer Session.
May 11	Monday—Correspondence and Extension grades for seniors due in Registrar's Office by 9:00 a.m.
May 18	Monday—Senior grades and reports of comprehensive examinations due in Registrar's Office by 9:00 a.m.
May 23	Saturday—Alumni Day.
May 24	Sunday—Baccalaureate Services.
May 25	Monday—Ninety-second Annual Commencement.
May 26-30	Tuesday through Saturday—Final examinations.
May 30	Saturday—End of Second Semester.
June 2	Tuesday—All grades due in Registrar's Office by 4:00 p.m.
June 2-6	Tuesday through Saturday—4-H Club Week.

Summer Session 1959

June 8	Monday—Classification tests and physical examinations for all new students.
June 9	Tuesday, 7:00 a.m. to 3:00 p.m.—Registration and classification of all students according to an alphabetical schedule.
June 10	Wednesday—Class work begins.
June 13	Saturday—Last date one may enter an organized class for the Summer Session.
June 20	Saturday—Last date one may drop a course without a grade.
July 4	Saturday—Independence Day holiday.
Aug. 3	Monday—All grades due in Registrar's Office by 4:00 p.m.
Aug. 15	Last date to submit application and transcripts to Registrar's Office for admission to the Fall Semester of 1959-60.
Sept. 13	Sunday—Opening of Fall Semester of 1959-60.

REGISTRATION SCHEDULES FOR 1958-59 (Central Standard Time)

First Semester

September 15-17 Monday, 6:45 a.m. through Wednesday, 4:00 p.m.—Classification tests, physical examinations, and advising of all new students.

September 18 Thursday, 7:00 to 10:00 a.m.—Registration and classification of New Freshmen.

September 18-20 Thursday, 12:30 p.m. through Saturday, 10:30 a.m.—Registration and classification of all other students according to the alphabetical schedule below:

Thursday Afternoon

12:30-1:20 — A through Brow
1:30-2:20 — Brox through Cuni
2:30-3:00 — Miscellaneous
A through Cuni

Friday Afternoon

12:30-1:20 — Kirl through Meu (Incl Mc)
1:30-2:20 — Mev through Prie
2:30-3:00 — Miscellaneous
A through Prie

Friday Forenoon

7:00- 7:50 — Cunj through Fulz
8:00- 8:50 — Fum through Hess
9:00- 9:50 — Hest through Kirk
10:00-10:30 — Miscellaneous
A through Kirk

Saturday Forenoon

7:00- 7:50 — Prif through Siz
8:00- 8:50 — Sj through Vanc
9:00- 9:50 — Vand through Z
10:00-10:30 — Miscellaneous
A through Z

September 22 Monday—Class work begins.

September 27 Saturday—Last date one may enroll for the First Semester.

Second Semester

January 31 Saturday, 6:45 a.m.—Classification tests and physical examinations for all new students.

February 2, 3 Monday, 7:00 a.m. through Tuesday, 3:00 p.m.—Registration and classification of all students according to the alphabetical schedule

Monday Forenoon

7:00- 7:50 — Kirl through Meu (Incl Mc)
8:00- 8:50 — Mev through Prie
9:00- 9:50 — Prif through Siz
10:00-10:30 — Miscellaneous Kirl through Siz

Tuesday Forenoon

7:00- 7:50 — A through Brow
8:00- 8:50 — Brox through Cuni
9:00- 9:50 — Cunj through Fulz
10:00-10:30 — Miscellaneous Kirl through Z and A through Fulz

Monday Afternoon

12:30-1:20 — Sj through Vanc
1:30-2:20 — Vand through Z
2:30-3:00 — Miscellaneous Kirl through Z

Tuesday Afternoon

12:30-1:20 — Fum through Hess
1:30-2:20 — Hest through Kirk
2:30-3:00 — Miscellaneous A through Z

February 4 — Wednesday — Class work begins.

February 10 — Tuesday — Last date one may enroll for the Second Semeste

Summer Session 1959

June 8 — Monday—Classification tests and physical examinations fo all new students.

June 9 — Tuesday—Registration and classification of all students ac cording to the alphabetical schedule below:

Tuesday Forenoon

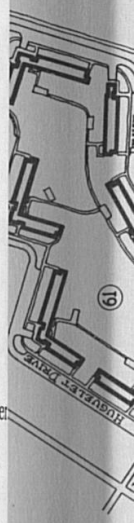
7:00- 7:50 — A through Cuni
8:00- 8:50 — Cunj through Hess
9:00- 9:50 — Hest through Meu (Incl Mc)
10:00-10:30 — Miscellaneous A through Meu (Incl Mc)

Tuesday Afternoon

12:30-1:20 — Mev through Siz
1:30-2:20 — Sj through Z
2:30-3:00 — Miscellaneous A through Z

June 10 — Wednesday—Class work begins.

June 13 — Saturday—Last date one may enroll for the full Summer Session.



Main Campus, University of Kentucky
Lexington
1957

Main Campus, University of Kentucky

Lexington
1957

Scale in Feet
200 100 0 200 400 600 800

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

Area of the main campus at Lexington, including the original Experiment Station Farm---706 acres.

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 College of Medicine, the Graduate School, and Extended Programs.

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 Service, the Radio Studios, the Home Study Program, the Extension Class Program, the Evening Class Program, the University Centers, Community Services, the Audio Visual Services, 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, and Workshops and Conferences.

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 Bar Association, the American Association of Collegiate 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 Engineer's Council for Professional Development, the American

Chemical Society, the American Association of Colleges of Pharmacy, American Council on Pharmaceutical Education, the American Associatio Colleges for Teacher Education, and the National University Extension Ass tion. The University's Department of Social Work is a constituent memb the Council on Social Work Education.

ADMISSION TO THE UNIVERSITY

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

Applications for admission to the University should be made to the versity Registrar on forms furnished by the Registrar's Office. In order fo application to be considered these forms must be received in the Regist Office at least 30 days prior to the opening of the term in which the stu desires to enroll. In addition to the application form, official transcripts of school credits and of work done in other colleges or universities should be mitted before the dates given above. All admissions, including those to professional schools and the Graduate School, must be passed on by Registrar's Office. Students who come to the University without having their admission approved do so at their own risk. The University classifica tests must be taken by new undergraduate students before they can registered for classes.

Admission to the Freshman Class

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

Resident students

Applicants who are graduates of accredited high schools will be admi to the University on certificate, provided they have at least fifteen units of ceptable high school work. A unit represents the study of any subject fo school year of at least thirty-two weeks, with five recitation periods a we each of at least forty-five minutes in length, or the equivalent thereof. Dou periods are required in shop, drawing, typewriting, and all other courses wh demand no out-of-class preparation. One unit is the minimum credit accep in any foreign language, and one-half unit the minimum in any other subj

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

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

Non-resident students

Any student who graduates in the lower one-half of his high-school cl may be refused admission.

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 2.0 or an average of C in all previous college work. The student whose standing is below 2.0, 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 not more than half 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 2.0 (C average) 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.

Readmission

Any former student, graduate or undergraduate, who has been out of school for a semester or more, should obtain an application for readmission from the Registrar's Office. This application, together with a transcript of any additional work taken elsewhere, should be returned to the Registrar at least 30 days prior to the semester in which the student desires to enroll.

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 2.5 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 audi
Other persons should apply to the Registrar's Office for admission. No cr
can be given for a class audited, nor is the student permitted an examinat
for credit. No instructor is authorized to admit an auditor to any of his cla
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
the general admission requirements of the University outlined on the preced
pages.

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

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

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

College of Law. An applicant for admission to the College of Law m
be at least eighteen years of age and have had the standard high school cou
that will satisfy the general requirements for admission to the University.
addition, three years of college credit (90 semester hours, at least 6 of wh
must be in English and not more than 9 of which may be in nontheory cours
constitute the normal admission requirement. Any applicant who seeks to en
should communicate well in advance with the Registrar's Office in order t
the Registrar may evaluate the individual's credentials. An academic standi
of at least 2.3 or the equivalent for all pre-law college work is required.
ception to this rule may be made only upon compliance with the polic
described under "Admission of Regular Students" on page 122.

While there is no prescribed pre-law curriculum, other than as set fo
above, prospective law students are advised in their own interest to plan th
pre-law work so as to qualify for some academic degree in addition to the p
fessional degree of Bachelor of Laws. Thus, they should read the requireme
of the combined Arts-Law curriculum on page 55, and the combined Co
merce-Law curriculum on page 148, as well as the description of these p
grams on page 125.

College of Education. Admission to this college is governed by the g
eral admission requirements of the University outlined on the preceding pag
In order to transfer to the College of Education from another institution
from another college of the University, a student must have a standing of
or higher.

College of Commerce. Requirements for admission to the College of Co
merce as a freshman, or with advanced standing, or as a special student,
the same as those outlined in the *General Catalog* of the University. Stude
whose scores rank in the lower fourth on the University classification tests w

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.

College of Medicine. Requirements for admission to the College of Medicine will include satisfactory completion of at least three years of training in a college or university of recognized standing. It is recommended that premedical training include course work in biology, chemistry (general and organic), physics, English composition, mathematics, psychology and the social sciences. Majors in the humanities and social and psychological sciences will be given equal consideration with those in chemistry, physics, or biology. Personality qualifications and breadth of professional training will be considered as well as a demonstration of academic competence.

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 country. The table on p. 20 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 Central Kentucky Concert-Lecture programs, use of the Library and Student Union building, a discount on admissions to the Guignol Theatre, and a subscription to "The Kentucky Kernel," the student newspaper. The University reserves the right to change the amount of any fee at any time.*

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.

SCHEDULE OF REGISTRATION AND INCIDENTAL FEES

FOR ONE SEMESTER

Classification	Kentucky Students	Out-of-State Students
Full-time Students:		
All Colleges except Law and Medicine	$80.00	$180.00
College of Law	85.00	190.00
College of Medicine	To be determined	
Part-time Students	Per Semester Hour	Per Semester Hour
All Undergraduate Colleges except Law	7.00	15.00
College of Law	11.00	24.00
Graduate School	9.00	20.00

FOR THE SUMMER SESSION

Full-time Students		
All Colleges except Law and Medicine	40.00	90.00
College of Law	42.50	95.00
College of Medicine	To be determined	
Part-time Students	Per Semester Hour	Per Semester Hour
All Undergraduate Colleges except Law	7.00	15.00
College of Law	11.00	24.00
Graduate School	9.00	20.00

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

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. 162. 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 or more half-hour lessons per week
5.25 per semester for each half-hour lesson per week for each student in Applied Music who is not regularly enrolled in the University. This is in addition to the usual charge for individual lessons.

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, applicable to students working off campus. A co-op student may, if he so desires, pay a fee of $12.50 and receive the regular University ID card.

English:

.15 per week 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-f

3.50 per course for field work in Geology 10a, 14a-d, and 107a-f

2.00 for field work in Geology 10b

.75 per course for field work in Geology 50a, 50b, 3 and 12a

Physical Education:

$ 2.00 per semester for locker fee for Activity Course

28.00 per semester for horseback riding

4.00 per semester for locker fee for swimming

35.00 per inter-session for P.E. 81**

Psychology:

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

Deposit for Military Uniform

Each student taking military science or air science makes a deposit of $25.00. This deposit is retained by the University from year to year until the student finishes his military or air science requirement or the student permanently leaves the University. This deposit is then returned after clothing and equipment account has been verified for any loss or damage.

Deposit for University Band

Each member of the University Band is required to make a deposit of $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 $7.00 per semester hour; undergraduate extension classes, $7.00 per semester hour for Kentucky students and $15.00 per semester hour for out-of-state students. Graduate extension classes are $9.00 per semester hour for Kentucky students and $20.00 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. Any student withdrawing from the University must turn in his ID card to the Registrar

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* Camp expenses not included.

** Includes room and board at Camp Robinson.

this is not done at the time of withdrawal, the student will be charged for the use of the ID card until such time as it is turned in.

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.

SEMESTER EXPENSES FOR A FULL TIME STUDENT

Expenses Payable to the University (at time of Registration)

Fees	Kentucky Student	Out-of-State Student
All colleges except Law and Medicine	$80.00	$180.00
College of Law	85.00	190.00
College of Medicine—To be determined		

Room and Board in Residence Halls

Men — $255.00 to $275.00 (does not include noon lunches or Sunday meals)**

Women — $270.00 (excluding cooperative houses). Rate includes three meals daily for Jewell, Patterson, and Boyd Halls; two meals (not lunch) in Holmes Hall, Keeneland Hall and the graduate houses.**

Miscellaneous Charges. See "Fees for Graduation and Special Privileges", Page 21; "Special Fees", Page 21; and "Deposits", pages 22, 23, 25.

Personal Expenses (not payable to the University)

Books and Supplies. Range from $40.00 up, depending on the student's schedule of classes for the semester.

Laundry. Laundry facilities are provided in all residence halls and the cost is nominal.

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

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

RESIDENCE HALLS FOR WOMEN

The University of Kentucky maintains five large residence halls for women housing approximately 1,000 students. Six small residence units house 90 women. Three of these are reserved for graduate women. The residence halls are under the supervision of the Dean of Women and the Director of Residence Halls, assisted by a head resident in each unit.

All freshman women are required to live in the residence halls unless residing with relatives in town. Upperclasswomen may reside in sorority houses, but permission will not be granted for women to live in private homes in town unless all residence facilities are reserved to capacity.

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. A reservation will not be made until the application is returned with a deposit of $20.00. While students are assigned to residence units according

** Where the noon meals are not included in the charge for room and board, the student should allow approximately $100.00 for noon lunches and Sunday meals.

to classification, preference in placement is determined by the dates of a tion and deposit. This deposit is kept on file while students are in resi and is refunded at termination of residence, unless forfeited because authorized withdrawal or failure to cancel room reservation within the sp time. Charges for damages to room or for loss of key are deducted fr deposit before refund is made. A room reservation may be canceled wi deposit refunded if notification of the cancellation is received by the D Women one calendar month previous to the first day of the opening freshman residence hall; after that date the deposit is forfeited.

Admission to the University by the Registrar's Office does not co an application for admission to the residence halls, and does not res room. Likewise, an application for a room does not constitute an appl for admission to the University.

The cost of room and three meals daily for women in Jewell, Boyd Patterson Halls and the smaller housing units is $270.00 a semester, p at the beginning of each semester. All students accommodated in these will take their meals in the Jewell and Boyd Halls dining room. All st living at other halls will have their meals served in the University mons in the Student Union Building. These students will pay $270.0 semester for room, breakfast, and dinner. They take their noon day where they wish. Dillard House is a semi-cooperative house. Students at Dillard House pay $235.00 per semester and will take their three daily in the Jewell and Boyd Halls dining room. The University reserv right to change these rates at any time. Checks should be made paya the University of Kentucky.

Refunds on room and board will not be made after the twelfth wee semester. A student withdrawing during the first twelve weeks will withheld 8% of the total semester fee for each week or fraction thereo ing which she was in residence. Refunds on room and board will not be for temporary absence from the residence halls. A student must wit officially in the Office of the Dean of Women to be eligible for a refu room and board.

The University maintains one cooperative house accommodating 20 w and one semi-cooperative house accommodating approximately 30 wome dents. Application for a reservation in the cooperative houses should be to the Office of the Dean of Women. Applicants are selected by the Co tive House Committee on the basis of scholastic records and recommend A high scholastic average must be maintained to continue residence in operative house.

Ten national sororities accommodating approximately 375 stude residence have chapter houses on the campus of the University of Kentu

RESIDENCE HALLS FOR MEN

The University operates five permanent residence halls for men. All freshmen and sophomores are required to reside in the residence halls accommodations are available. Freshmen and sophomores desiring t outside the residence halls must have special permission of the Dean of unless they are married, permanent residents of Lexington, or commuting their permanent residence outside the city.

All students living in men's residence halls are provided breakfast and ner in Donovan Hall Cafeteria Monday through Saturday. The cost is inc in the fees for room and board at the time of registering. All stu may take their noonday and Sunday meals where they wish. Stu

ving in the dormitory who are fraternity pledges may receive permission o take the noon meals at the Donovan Hall cafeteria in place of dinner, iving them the privilege of taking the evening meal at the fraternity house. oom rates per semester in the men's halls range from $70.00 to $100.00, epending upon the type and location of the accommodations. Students moving to the residence halls in the middle of the semester will be charged on a rorated basis for the remaining time in the semester. The University reserves he right to change rates for room and board at any time.

To reserve a room in the halls it is necessary to secure an application blank om the Office of the Dean of Men and return it to that office with a deposit f $20.00. This application does not automatically reserve a room. The deposit ill be returned if notice of cancellation is given ten days before the opening f the semester. Admission to the University by the Registrar's Office does not onstitute an application for admission to the residence halls, and does not serve a room. Likewise, an application for a room does not constitute an pplication for admission to the University.

Refunds on room and board will not be made after the twelfth week of a mester. A student withdrawing during the first twelve weeks will have with-eld 8% of the total semester fee for each week or fraction thereof during hich he was in residence. Refunds on room and board will not be made for mporary absence from the residence halls. A student must withdraw officially the office of the Dean of Men to be eligible for a refund on room and board.

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

HOUSING FOR MARRIED STUDENTS

The University operates a new housing project for married students to ac-mmodate 450 families in 237 efficiency and 213 one-bedroom apartments. he efficiency apartment rents for $62.50 per month; the one-bedroom apart-ent, $72.50 per month. Rentals include furnishings adequate to basic living, tilities, and maintenance.

To apply for a housing unit, communicate with the Office of the Dean of en for general information and an application blank. No deposit is required ith the application, but a $25.00 deposit is required when the applicant is ssigned and accepts an apartment. Only full-time, married male students of he University and their immediate families are eligible for the apartments. ssignment of apartments is made on a priority basis which is established by he date the application is received in the Office of the Dean of Men. The Uni-ersity reserves the right to change rental rates at any time it is deemed ecessary to the welfare of the projects.

STUDENT MOTOR VEHICLES

All students registered as freshmen and sophomores at the University, gardless of the number of years they have attended college, and all students a academic or disciplinary probation are forbidden to possess and operate otor vehicles while attending the University unless given special permission y the Dean of Men. This regulation applies to the University environment cluding the campus, the city of Lexington, and the greater Fayette County ea. Students in the above categories must not bring motor vehicles to the niversity at any time without permission.

OPPORTUNITIES FOR FINANCIAL HELP

Self-Help. Many students pay a portion of their expenses at the University rough part-time employment within the institution or outside. While the

Y.M.C.A., the Dean of Women, and the Dean of Men render all assi possible in helping students to obtain part-time employment, positions c always be found for all who need such help. It is advised that no st attempt entire self-support, and *all new students are urged to come pre to meet their expenses in full for at least one semester.* The student who be partially self-supporting should seek help from his advisor in adjusti study load to the end that his employment will not prevent him from o ing the largest benefit from his courses.

Loan Funds, Scholarships, and Fellowships. To the greatest extent ble, financial assistance is rendered worthy students through loan fund through scholarships and fellowships. In some cases aid in the form of sc ships or fellowships is limited to students enrolled in a particular college partment. In other cases it is available to any student qualifying. A numb prizes and awards are offered to students who do exceptional work, usuall particular department or college.

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

SPECIAL SERVICES FOR THE STUDENT

The Dean of Men and the Dean of Women

The Dean of Men and the Dean of Women assist students with their lems and aid them in their adjustment to college life. Their offices serve general clearing house for matters pertaining to the welfare of all stu The Dean of Men and the Dean of Women seek at all times to help student gain his maximum academic and personal development through no interesting, and appropriate activities.

University Health Service

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

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

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

University Counseling and Testing Services

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

Counseling. The University Counseling Service offers counseling in main areas: Academic Counseling—help in selecting the proper courses of s in improving reading ability and in establishing effective study methods; V tional Counseling—determining the profession or occupation for which the dent is best fitted; and Personal Adjustment Counseling—developing an effe

rsonality, helping the student overcome difficulties in social adjustment, worry
l feelings of inadequacy, nervousness, difficulties caused by uncertainties of
ns and purposes and other personal problems.

Often difficulties in the foregoing areas result in a student not doing his
t work and being placed upon academic probation. Counselors may help
se students in a variety of ways. As a result of such help the student may
able to utilize his assets more effectively.

The required freshman placement and classification examinations and apti-
le, achievement, and interest tests usually provide the starting point of such
nseling. Additional psychological tests of special aptitude, interest, and
rsonality may be recommended by trained staff counselors who interpret the
ults of such tests to the students in one or more private interviews.

Testing. The University Testing Service, Room 303, Administration Build-
, acts as a testing center for the administration of various standardized tests,
., Graduate Record Examination, Medical Aptitude Test, National Teachers
amination and the like. All placement and classification tests administered
new and transfer students are given under the supervision of this office. The
gistration of entering students is not complete until the student has taken the
quired entrance test battery.

The University Testing Service is authorized by the Kentucky Association
Colleges and Secondary Schools to operate the Kentucky Cooperative Coun-
ling and Testing Service.

VETERAN AFFAIRS

The University Counseling Service coordinates veteran affairs between the
iversity and the Veterans Administration. The following paragraphs sum-
arize the policies respecting the veteran who wishes to begin or to continue
s education at the University.

Where the Veteran Should Report. The veteran should report to the Uni-
rsity Counseling Office, Room 204, Administration Building, which has been
signated as the receiving center for veterans wishing to enter or re-enter the
iversity of Kentucky. Here the applicant will be given information about
plying for federal benefits, and general guidance with respect to vocational
portunities, courses of study, etc. From this office he will be referred for
rther assistance to other persons as the individual case requires.

What the Veteran Should Bring With Him.

1. The credentials necessary for admission to the University as described
der the heading "Admission to the University" in this Bulletin.

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

3. Sufficient funds to provide subsistence for two months.

Application for Benefits Under Public Laws 610, 894, *and* 550. Under
blic Laws 610 and 894 provision has been made for vocational education or
aining to overcome handicaps suffered as a result of service-connected dis-
bilities. In order to qualify for such rehabilitation aid, the veteran must have
stained an injury or other disability which will qualify him for a pension or
sability compensation. A veteran who is interested in applying for educa-
nal benefits under Public Law 610 or 894 should seek information from the

nearest office of the Veterans' Administration prior to the date for enrol at the University.

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

Veterans who plan to enter the University of Kentucky under Public 550 (Korean GI Bill) should apply to their nearest V.A. Office for a Certi of Education and Training. This should be done prior to registration d the University of Kentucky. The Certificate of Education and Train evidence of entitlement to educational benefits under Public Law 55 should be presented to the University Counseling Office at the time of e ment. Since Public Law 550 provides that all benefits be paid directly t veteran, the veteran must arrange for payment of his own fees just as any veteran would do.

WAR ORPHANS EDUCATION PROGRAM. All persons eligible u this program should read the general instructions for veterans and follow specific instructions for veterans applying under Public Law 550 as desc above.

WHAT IS EXPECTED OF THE STUDENT

The University has adopted certain rules and regulations and has certain provisions designed to bring about the best adjustment between th stitution and the student and to insure the fullest development of the l intellectually, spiritually, and physically. Registration by a student carries it the obligation to cooperate to the fullest extent in observing the regula and traditions of the institution, in making the most of the state's invest 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 o University, but only the most important of those relating to studies, exam tions, attendance, and discipline.

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

A student with a standing of 3.0 or more for the preceding seme or a beginning freshman ranking in the upper 25 per cent on the Unive classification tests, may carry extra work with the approval of his dean, vided that the amount of extra work shall in no case exceed two semester h or the total load exceed twenty-three semester hours.

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

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

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

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

1.4 for students who have been in college for two semesters or less
1.6 for students who have been in college for more than two but not more than four full semesters
1.8 for students who have been in college more than four semesters (Summer Session counts as one-half semester)

Probation shall continue until the student attains the scholastic standing ecified above. Any student failing to meet the minimum standards specified r two consecutive semesters or terms shall be dropped from the University. ach college shall submit to the Office of the Registrar a complete list of stu- nts placed upon probation or dropped from the University, within two weeks ter the dean of the college receives the grade reports from the Registrar at e close of each semester or term.

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

The dean of a college may recommend to the committee that a student ho has been dropped from any college be readmitted to the University either ith or without probation. The committee shall review the case and take propriate action. If readmitted, the student shall enroll in the college mak- g the recommendation.

Any student dropped a second time shall not be readmitted to the Uni- rsity.

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

Poor Work in English. Any instructor who finds the written work of any udent seriously defective in its English is expected to report the case, to- ther with specimen papers, to the dean of the student's college. A committee mposed of this dean and the Head of the Department of English shall have wer to require additional work in composition without credit. This remedial ork shall begin not later than the following semester and shall continue until e committee is satisfied with the student's proficiency. When a student is quired to do this additional work, the committee will report this requirement the University Registrar, who will indicate the fact on the student's record.

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

Unsatisfactory Scholarship and Attendance. A student who is doing unsat- factory 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 s vision of his dean. If after a suitable length of time it becomes apparent no improvement is being made, the student may be dropped from the co on recommendation of the dean to the Registrar.

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

Classification. A student in any college except Law shall be classified sophomore, junior, or senior, when he has within 10 credits of the norm quirement and a standing of 2.0. However, no student may be classified sophomore until he has had college residence of at least two semesters nor 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 pleted 24 or more credits and as a third year student when he has comp 50 or more credits. He shall not, however, be classified as a second year dent until he has been in residence at least two semesters, nor as a third student until he has been in residence at least three semesters.

Classification of Transfer Students. A student who transfers to the versity as a junior and ranks in the lowest quarter on the entrance tests wi classified as a junior conditionally. The continuance of junior classification depend on the student's making a standing of 2.0 or more, on his first se ter's work.

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

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

Under certain conditions, up to six of the credits and nine weeks o residence required for any master's degree may be satisfied by extension co given in person by University of Kentucky instructors. (Students who regis before February, 1952, may count up to one-third of the requirements). graduate credit is given for courses taken by correspondence.

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

A minimum of thirty of the last thirty-six credits presented for an u graduate degree must be completed in residence (exclusive of credit b tension and special examination).

Ashland and Northern Centers. Undergraduate work may be taken a Centers for residence credit under the following conditions:

A maximum of sixty-four semester hours, taken at the Centers, may be applied toward an undergraduate degree.

Students who transfer to the Centers 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 Centers 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 Centers, 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 Centers 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.

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.

A student absent from the last session of any class before a holiday or the first session after a holiday shall have a penalty of one credit per class missed added to his requirements for graduation. Such absences shall be reported to the Dean of the College in which the student is enrolled who, in turn, shall report to the Registrar all penalties assessed. Only the Dean of the College may waive this regulation for justifiable reasons. The Registrar shall record all such penalties on the student's permanent record.

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 3.4 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 institution.

The Marking System. Results of work will be recorded in the Regist 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 (not to be given to a student whose work is below passi
X — Absent from examination.
WP — Withdrew, passing.
WF — Withdrew, failing.
S — Satisfactory work in progress (graduate independent work courses o

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

A grade of I (incomplete) means that some relatively small part of work remains undone, because of sickness or other reason satisfactory to instructor. This work must be completed within one month after the stu re-enters the University if credit for the course is to be gained. The Grad 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 mo after the student re-enters the University.

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

Standing is understood to be the ratio of the number of points ga to the number of credits attempted. In computing standings for all Univer purposes a WF, an I, or an X shall be treated as an E and a WP shall ignored. However, an I, X, WF or E grade will not be counted in comput standing if the student has repeated the course and made a passing grade, will an I or X be counted in computing probation standing for a student who sickness or like reason obviously could not have received any other mark.

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

A mark once reported to the Registrar's Office shall not be changed ex when the instructor states that an error has been made or that an injus 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 a standing of 2.0—computed in accordance with the regulations governing standing. 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.

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 on other official University records. 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 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 156.

Commencement Honors. Students are graduated "With High Distinction" who attain a standing of 3.6 or higher for at least three years of residence work.

Students are graduated "With Distinction" who attain a standing of up to 3.6 for at least three years of residence work.

A student who does only two years at the University may receive the propriate commencement honors if he attains a standing of .2 greater than above. The amount of credit is the basis of determining the two years' 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 conferred upon the student who, in addition to having completed the requ ments for the degree, shall have, (1) attained high standing in his major ject; (2) passed with distinction a thorough, comprehensive examination in major subject; (3) been recommended for the said degree by the faculty of department in which his major work was done and by the dean of his col Students majoring in those departments that require the final comprehe 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 mas degree when he has completed the requirements of the second curriculum. total work for both degrees shall consist of not less than two semesters of dence and two semesters of credit beyond that of the first degree. With approval of his dean, the student may pursue the work in the two curr simultaneously, but two degrees will not be granted at the same commence

OPPORTUNITIES OUTSIDE THE CLASSROOM

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

Special Cultural Opportunities

Central Kentucky Concert and Lecture Series. These programs are ranged through the cooperation of the University with the Central Kent Concert Association and the Lexington Public Forum and are open to all dents who have paid the full time fee. The program for 1957-58 includes:

October 19 — Boston Symphony

October 30 — Justice William O. Douglas

November 18 — Black Watch Band and Pipers of Ireland

November 25 — Ballet Russe de Monte Carlo

December 10 — Dr. Ralph Lapp

January 10 — Jerome Hines, Bass-baritone

February 11 — Vincent Price

February 19 — Roberta Peters, Soprano

March 18 — James Reston

March 28 — Glenn Gould, Pianist

April 10 — Robert Wagner Chorale

April 15 — International Opera Company

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 1957-58 follows:

Nathaniel Patch, Pianist
Robert Perry, Cellist
University Orchestra
Kenneth Wright-Nathaniel Patch, Violin, Piano
Phyllis Jenness, Contralto
University Band
University Choristers
Men & Women's Glee Clubs
University Chorus
Howard Karp, Pianist
James King, Tenor
University Orchestra
Opera Workshop
University Band
Pan American Concert
Arnold Blackburn, Organist
Men & Women's Glee Clubs
University Band
University Chorus
Baccalaureate
Commencement

University Art Gallery. A series of changing exhibitions is presented each year in the University Art Gallery under the direction of the Department of Art. These exhibitions include paintings, drawings, prints and sculpture by major masters of the past and present, work by contemporary artists of the region, and an Annual Student Exhibition. Major exhibitions which were held in 1957 include:

Southeastern University Collections: American paintings from the collections of Southeastern Colleges.

Twentieth Century Watercolors: Lent by Solomon R. Guggenheim Museum.

New Talent, USA: Important painters selected for exhibition by the American Federation of Arts.

Leonardo da Vinci: Models and drawings of Leonardo's inventions, circulated by International Business Machines Corporation.

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

Other Opportunities. The Y.M.C.A. and Y.W.C.A. sponsor a series o formal discussions in the Student Union, the men's dormitories, the wo dormitories, and in the various fraternities and sororities. The Cosmopo Club, composed of students and faculty from foreign countries and the U States, seeks to promote international good will and world brotherhood th social, educational and cultural programs. Departmental clubs add effec to the cultural life of the University.

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

Religious Life

The University, because it is distinctly interested in the religious li students, encourages them to participate regularly in the worship of the ch of their choice and to affiliate themselves with such student religious grou may be provided. On the campus the Young Men's Christian Association the Young Women's Christian Association are active student-led organiza each with a full-time director. The Y.M.C.A. has a half-time assistant wo with freshmen in the dormitories. Frequently great spiritual leaders are br to the University to speak.

Through the existence of student groups representing most major bra of Jewish and Christian Faiths, spiritual growth may be nourished. The a ties of these groups are coordinated through the Interfaith Council. Most stu religious groups furnish trained personnel who are sympathetic counselors who are actively interested in the student's lives.

The Phalanx Fraternity, and the *Dutch Lunch Club* are other stu 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 ac ties outside of his college studies. He may engage in newspaper work in nection with the student paper. If he is interested in dramatics he has opportunity of taking part in plays presented in a real theater and under petent direction. Through cooperation with the Student Government Ass tion, the student in maintaining the integrity and honor of the campus an the student body will be training himself for future leadership. He may and participate in various recreational, social, and cultural activities by be ing a member of one of the Student Union Interest Groups. The fo member of the Hi-Y Club or of the Y-Teens finds a welcome in the Unive Y.M.C.A. or Y.W.C.A. The student can enter into the management of va enterprises, participate in debating and in oratorical contests, take par athletics, become a member of the orchestra, band, or glee club, and g social affairs sponsored by the University and by various organizations. T

opportunity at the University for the student to exercise his many interests ot only in hard work with his studies but in activities which bring him in ontact with his fellow students.

Intramural Sports. The Department of Physical Education conducts an xtensive system of Intramurals for all men and women students. The men's rogram includes such sports as touch football, basketball, track, volleyball, oftball, tennis, golf, wrestling, fencing, handball, badminton, swimming, and ross country. The woman's program, set up by the Women's Athletic Associaion, offers such activities as hockey, basketball, volleyball, softball, swimming, ennis, archery, golf, badminton, fencing, and camping trips. The intramural rogram affords an excellent opportunity for young men and women to exerience the fun of friendly competition and to enjoy the pleasures of healthful ocial situations. Such clubs as the U. K. Troupers (show group), Tau Sigma modern dance club), and Blue Marlins (swim club) are sponsored by the)epartment for students who wish to participate in clubs that present perormances for various school, university and civic groups. These clubs are rganized and conducted by the student members and are open to beginners s well as accomplished performers.

Student Publications. The students of the University of Kentucky, through he School of Journalism, publish a newspaper, *The Kentucky Kernel.* This aper is ably edited and ranks high among college publications. The stuents also issue a year book known as *The Kentuckian,* which reached its fiftyecond year of continuous publication in 1957. The annual contains a list of rganizations, pictures of the senior class, and the usual features found in colege year books. Both of these publications have had a long history. *The K-Book* s published each fall for new students by a student staff under the supervision f the Department of Public Relations. Of the seventy law reviews published y the nation's law schools, the *Kentucky Law Journal* is the tenth oldest. 'ublication has been continuous since 1912. Four issues are published annually y the College of Law. The *Journal* is edited by a Student Editorial Board nder the supervision of a Faculty Editor. A quarterly magazine, *The Kenucky Engineer,* is published by the College of Engineering.

Student Organizations. The University approves a number of stu organizations. A list of these follows·

Honor Societies

Alpha Lambda Delta (Freshman women)
Alpha Zeta (Agriculture—men)
Beta Gamma Sigma (Commerce)
Gamma Sigma Delta (Agriculture)
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)
Links of the Laurel Chain
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)
Phi Alpha Theta (History)
Phi Epsilon Phi (Botany)
Pi Tau Sigma (Mechanical Engineering)
Sigma Gamma Epsilon (Geology)
Theta Sigma Phi (Journalism)

Professional Societies

Alpha Chi Sigma (Chemistry)
Arnold Air Society
Art Club
Beta Alpha Psi (Accounting)
Block and Bridle (Animal Husbandry)
Delta Sigma Pi (Commerce)
Gamma Theta Upsilon (Geogra
Pershing Rifles (Military)
Phi Alpha Delta (Law)
Phi Beta (Music-Speech-Art women)
Phi Delta Chi (Pharmacy)
Phi Delta Kappa (Educatio men)
Phi Delta Phi (Law)
Phi Mu Alpha (Music — men
Phi Sigma Iota (Romance Languages)
Scabbard and Blade (Militar
Sigma Delta Chi (Journalism

Clubs and Societies

Agricultural Economics Club
Agronomy Club
Alma Magna Mater
American Chemical Society (Student Affiliate)
American Institute of Electr Engineers
American Institute of Mining Metallurgical Engineers
American Society of Civil Engineers
American Society of Mechani Engineers
Bacteriological Society
Baptist Student Union
Blue Marlin Swimming Club
Campus League of Women Voters
Canterbury Club
Circle K Club
College Chamber of Commer
Cosmopolitan Club
Dairy Club
Delta Pi Epsilon (Business Education)
Dutch Lunch Club
English 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.
Newman Club
Patterson Literary Society
Phalanx Fraternity
Philosophy Club
Pitkin Club
Poultry Club
Pryor Premedical Society
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 of Kentucky Student Branch of the Institute of Aeronautical Sciences
University Weightlifting Club
Wesley Foundation
Young Democratic Club
Zoology Club

Administration and Service Organizations

Agricultural Council
Alpha Phi Omega (Boy Scouts)
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 1957-58 are as follows: President Robert H. Hillenmeyer, '43; Vice President, Richard E. Cooper, '38; Director of Alumni Affairs, Helen G. King, '25; and Treasurer, Bernie A. Shively, '36.

THE PLANT OF THE UNIVERSITY

The University of Kentucky is a small city in itself. It has its own p office, bookstore, radio station, newspaper, printing plant, theatre, police fo cafeterias, and hospital. The University community, including students, fac and staff members, and their families, numbers about 15,000.

There are more than 60 major buildings on the 706-acre main campu Lexington. The campus farm contains over 500 acres and the principal Exp ment Station Farm, located just north of Lexington and including historic C stream Farm, has 1,150 acres. Sub-experiment stations at Princeton and Qui sand contain 600 and 200 acres respectively, and a forest reserve at Quicks includes 14,800 acres. The University's Eden Shale Farm in Owen Cou has 900 acres, and 140-acre and 400-acre farms in Woodford and Me Counties are under long-term lease.

The Northern Kentucky Center, offering two years of college work, located in Covington.

Locations of campus buildings are shown on the map near the front this publication. Following is a list of the major buildings, with brief enume tions of the services housed in them.

Administration Building. In this building are located the offices of t President, the Vice-President of the University, the Vice-President (Busin Administration), the Comptroller, the Dean of Men, the Dean of Wom the Dean of Admissions and Registrar, the Department of Public Relatio the Director of Counseling (including veterans' affairs), the Director of Te ing, the Kentucky Research Foundation, and the Placement Service.

Agriculture Building. The offices of the Associate Dean of the College Agriculture and Home Economics are located in this building. The remain of the building furnishes classroom and laboratory space for the departme of Agricultural Entomology, Agronomy, Agricultural Economics, Horticultu and Markets and Rural Finance.

Agricultural Experiment Station. (Scoville Hall) In the Agricultural E periment Station are located the offices of the Dean of the College of Ag culture and Home Economics and Director of Agricultural Extension, and th of associate directors. The building also houses the offices, laboratories, a research facilities for agronomy, chemistry, entomology and botany, agric tural economics, rural sociology, fertilizer, feed, and seed control, and agric tural extension.

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

Anderson Hall. This quadrangle, made up of several rather distinct uni houses the offices of the Dean of the College of Engineering, the Engineeri Library, and the departments of Mechanical, Electrical, Civil, and Mining a Metallurgical Engineering.

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

Barker Hall. This building houses the Buell Armory, the offices, classroom and storerooms of the Military and Air Science Departments, the rifle rang the women's gymnasium, and the Division of Physical Education for Wome

Bowman Hall. This is a residence hall for men, providing recreational space and lobby facilities for the men's residence hall group. It houses approximately 141 students.

Boyd Hall. This is a residence hall for women, housing approximately 142 students.

Bradley Hall. This is a residence hall for men, housing approximately 158 students.

Breckinridge Hall. Breckinridge is also a residence hall for men, housing approximately 169 students.

Andrew Carnegie Building. This building, which now houses the exhibits and study collections of the Museum of Anthropology, was originally the main library and was given to the University by Andrew Carnegie.

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 Wenner-Gren Aeronautical Laboratory, 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.

Cooperstown. This housing project, consisting of 330 apartments in several buildings, is the University housing project for married students. The buildings are named for Kentucky authors and literary figures.

Dairy Center. This building contains milking stalls for forty cows, a milk room, maternity pens, calf pens, silos, and a feed storage loft.

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

Donovan Hall. This is a residence hall for men, completed in 1955. It houses 350 students and contains a cafeteria seating 400 and several private dining rooms.

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

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

Euclid Avenue Classroom Building. This building houses the Uni States Geological Survey offices and drafting rooms, the office of the Dep ment of Air Science of the Reserve Officers Training Corps, and classro facilities for the Department of Physical Education and the College of C merce.

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

Farm Service Building. This building houses the farm maintenance dep ment, the animal nutrition laboratory, various storage rooms, and shops repair and storage of farm machinery and equipment.

Fine Arts Building. This building houses the departments of Art, Mu Dramatics, and Speech. A feature of the building is the air-conditioned Guig Theatre seating approximately 425 persons.

Food Storage Building. This building provides warehouse space for University food service units, complete facilities for processing of meats fresh vegetables, and storage of frozen foods.

Football Dressing Rooms. This building, located at the football prac field, contains shower rooms, locker rooms, equipment room, trainer's ro and lecture room for football teams.

Frazee Hall. Frazee Hall houses the Extended Programs and the Dep ment of History.

The W. D. Funkhouser Biological Sciences Building. This building hou the departments of Anatomy and Physiology, Bacteriology, Botany, and Zoolo The Biological Sciences Library is also located here.

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

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

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

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

Holmes Hall. This is a residence hall for women, activated in 1958. houses approximately 300 students and contains a formal reception room, recreation room, and a sun deck.

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

Jewell Hall. This is an addition to Boyd Hall, and is the third unit of t residence halls for women housing approximately 137 students.

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

Keeneland Hall. This is a residence hall for women students, completed 1955. It houses 300 students and contains a formal reception room, a recr tional lounge, a snack bar, and a sun deck.

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, housing approximately 100 students.

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 storage 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 chemical laboratory designed for analytical investigations of coals and ores, and a laboratory for chemical 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 Mathem and Astronomy.

Patterson Hall. This building is a residence hall for women, housing proximately 150 students.

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

Pharmacy Building. This building, erected in 1956-57, houses the Co of Pharmacy.

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

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

Shawneetown. This is a University housing project, consisting of apartments in six buildings, for faculty and married students.

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

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

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

Student Union Building. This building is the center for student activi In addition to the lounges, ballroom, restaurants, recreation rooms, and ass bly rooms the building houses offices for the Director, the Program Direc the Alumni Association, the Y.M.C.A. and the Y.W.C.A.

W. S. Taylor Education Building. In addition to the University Element and High Schools, this building houses the office of the Dean of the Colleg Education, the Bureau of School Service, and classrooms for college cou in education.

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

Wenner-Gren Aeronautical Research Laboratory. This laboratory is signed for aircraft engine testing.

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

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

Additional permanent buildings include the cooperative houses for wom students, two small dormitories for football players, fraternity and soro houses, residences, horticultural greenhouses, agronomy greenhouses, barns, storage buildings.

PART II

EDUCATIONAL OPPORTUNITIES AT THE UNIVERSITY OF KENTUCKY

DEGREES AND CURRICULA

For instructional purposes the University is organized into a Colleg Arts and Sciences, a College of Agriculture and Home Economics, a Co of Engineering, a College of Law, a College of Education, a College of C merce, a College of Pharmacy, a College of Medicine, a Graduate School the Extended Programs. Instruction is given in each college or school thr two semesters of approximately eighteen weeks each, and, with the excep of the College of Pharmacy, a summer session of eight weeks. In genera opportunities afforded by the above divisions are indicated by the follo degrees which are conferred upon students who complete the prescribed grams 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 Agricultural Engineering
Bachelor of Science in Home Economics

College of Engineering

Bachelor of Science in Agricultural Engineering
Bachelor of Science in Chemical Engineering
Bachelor of Science in Civil Engineering
Bachelor of Science in Electrical Engineering
Bachelor of Science in Mechanical Engineering
Bachelor of Science in Metallurgical Engineering
Bachelor of Science in Mining Engineering

College of Law

Bachelor of Laws

College of Education

Bachelor of Arts in Education

College of Commerce

Bachelor of Science in Commerce

College of Pharmacy

Bachelor of Science in Pharmacy

Extended Programs

Courses and degrees offered in the colleges

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 Agricultural Engineering
Master of Science in Home Economics

Master of Science in Civil Engineering
Master of Science in Electrical Engineering
Master of Science in Mechanical Engineering
Master of Science in Metallurgical Engineering
Master of Science in Mining Engineering
Chemical Engineer
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
Specialist in Education

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, agricultural engineering, agricultural extension and vocational agriculture, agronomy, animal husbandry, dairy production, dairy manufacturing, poultry husbandry, horticulture and ornamental horticulture. There are preprofessional programs for students who plan to study 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, food and equipment demonstration; clothing, costume design, textiles and interior decoration, home economics extension, institution management, or vocational home economics.

College of Engineering. In the College of Engineering the student may pursue any one of the following curricula: a general curriculum in agricultural engineering, a general curriculum in chemical engineering, 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 me-

chanical engineering curriculum with emphasis on aeronautical engineeri mechanical engineering curriculum with emphasis on industrial engineeri curriculum in metallurgical engineering, and a curriculum in mining neering.

College of Law. In the College of Law the student may complete year program leading to the degree of Bachelor of Laws or he may compl six-year program leading (1) to the degrees of Bachelor of Science in merce and Bachelor of Laws, or (2) to the degrees of Bachelor of Arts Bachelor of Laws.

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

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

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

College of Medicine. The College of Medicine will offer a four curriculum leading to the degree of Doctor of Medicine. Post doctoral trai at the interne and residency level will also be provided. Long range plan the Medical Center include programs of instruction in dentistry, nursing, ce of the fields associated with medicine, and graduate programs in the medical sciences.

Extended Programs. Through Extended Programs, the University m its instructional and research facilities available to the citizens of the s These programs include the University Centers at Covington and Ashl extension classes in many communities, adult evening classes, and works and conferences for business and professional groups. Graduate classes ta by University faculty members are offered at the Centers by extension. tended Programs also provides audio-visual services through a training pro and a large film library serving the entire state, community services thr clubs and other community groups, and an annual program of high sc drama, speech, and music festivals sponsored by the Kentucky Interscho League.

Graduate School. Graduate courses are available in all colleges and partments. The degree of Doctor of Philosophy is offered with major wor the following departments: Agricultural Economics, Animal Industry, Bac ology, Chemistry, Education, Economics, English, History, Mathematics, sics, Psychology, Political Science, Guidance and Counseling, and in the bined fields of Sociology and Rural Sociology. Minor work may be carri any department offering graduate courses. The Doctor of Education and D 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; 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 Literatures; 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 con-

sulted before any changes are made in the schedule of classes the stude taking. The adviser in general holds personal conferences with each ad and makes recommendations to the proper university official with referen living conditions, class schedules, etc. A freshman may upon the recomm tion of the adviser be permitted to carry above a normal academic load.

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

Probation Students. Students placed on academic probation by the D of the college are urged to utilize the services of the University Couns Office. The parent is notified at the beginning of the probation period. Du the semester the student is interviewed and every attempt is made to deter his difficulty. The attitude of the college toward probation students is they need assistance and with the co-operation of the parents the colleg tempts to fulfill this need.

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

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

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

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

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

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

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

Degrees. The College offers courses leading to the following degr Bachelor of Arts, Bachelor of Science, Bachelor of Arts in Journalism, Bach of Science in Industrial Chemistry, Bachelor of Music, and Bachelor of Sci in Medical Technology. In all cases the student is responsible for the mee 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 t of 128 credits (exclusive of the required physical education) and 256 po that is, a standing of 2.0. With the required physical education, a stude required to complete 130 credits and 260 points. In the departments of A omy and Physiology, Ancient Languages, Anthropology, Art, Botany, E nomics, Geology, Journalism, Modern Foreign Languages, Music, Philoso Physical Education, Psychology, Radio Arts, Social Work, Sociology Zoology, he must pass a final comprehensive examination on his m subject. The Political Science department requires a senior thesis. A Top 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.
Physical Education, 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; Anthropology 2, Introduction to Cultural Anthropology.

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 or 25, 2; 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 wo either one or two departments in order to satisfy the physical sc group requirement. The student may choose six or more credits the following courses: Astronomy 51a, b; Chemistry 1a, b, 4 Geology 50a, b, 14a, b, c, d, 20a, b (with 50a, b), 3, 14a, b, (with 3), 53; Mathematics 5, 17, 18, 19; Physics, 1a, b, 3a, b, 4 51a, b.

Total number of credits required in Lower Division: 66

The normal load per semester is 16 credits plus Physical Education

Rules and Procedures

1. Superior Students: Entering freshmen, in the upper twenty-five cent of the classification scale, as determined by University of tucky classification tests, may substitute other courses in the group those courses which are set up especially to satisfy group requirem Other students, with a standing of 3.0, may be granted the same p lege.
2. The requirements in whole or in part for English, for General Hyg and for any of the Groups under Section II, may be satisfied wi credit by passing a departmental proficiency examination.
3. A student deficient in English, as indicated by the freshman tes advised to take English D (with no credit) in his first semester, the regular freshman English course in his second and third semes 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 Divi at least 40 credits in a Field of Concentration. These 40 credits are t elected subject to the approval of his adviser and the dean of the college, must be in courses not open to freshmen. Courses outside of the formal of concentration may be included in the required 40 credits on approval of adviser and the dean. If the student elects a generically related field h required to gain at least 15 of his required 40 credits in a department wh he chooses as his major. At least 14 credits in the field of concentration m be outside the major department. The college recognizes two types of Fi 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 sub matter:

1. **Literature, Philosophy, and the Arts**
   This field includes Ancient Languages and Literatures; Art; English, Spe and Dramatics; Journalism; Library Science; Modern Foreign Langua and Literatures; Music; Philosophy; and Radio Arts.

2. **Social Studies**
   This field includes Anthropology, Archaeology, Commerce, Econom Education, Geography, History, Law, Philosophy, Political Science, P chology (social phases), Social Work, and Sociology.

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

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, Nursing, Public Health, Physical Education, Psychology (biological phases), and Zoology.

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

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

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

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

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

Topically Related Fields

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

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

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

Tutorial Work and Comprehensive Examinations

Students majoring in the departments of Anatomy and Physiology, Ancient Languages, Anthropology, Art, Botany, Economics, Geology, Journalism, Modern Foreign Languages, Music, Philosophy, Physical Education, Psychol-

ogy, Radio Arts, Social Work, Sociology and Zoology will be require schedule tutorial or seminar courses as specified by their major depart and to take final comprehensive examinations covering their major work. ing the comprehensive examinations is a prerequisite for graduation for students in these departments. If a student fails to graduate because of f in this examination, he may be given another examination when his majo partment 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 be conferred upon the student who, in addition to having completed th quirements for the degree, shall have (1) attained high standing in his subject (2) passed with distinction a thorough, comprehensive examinati his major subject (3) been recommended for the said degree by the fa of the department in which his major work was done. Students majori those departments that require the final comprehensive examination are matically candidates for department honors.

Independent Work Courses

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

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

Classification in Foreign Languages

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

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

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

Electives in Other Colleges

The student is permitted to elect and count toward graduation co in the other colleges of the University, not to exceed 30 credits. Credi the other colleges gained during the junior and senior years may, if not ope freshmen, be counted on major and field requirements. However, electi

law courses by Arts and Sciences students is limited by the following regulations:

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

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

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

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

Residence Requirements

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

Extension and Special Examination

A maximum of 32 credits, taken by extension, special examination, or both, may be counted toward the baccalaureate 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 2.0 or more, before transferring to the professional school. For Arts-Law or Arts-Engineering he should have 100 credits plus physical education, with a standing of 2.3 on all work attempted, before transferring to either Law College or Engineering College.*

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

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

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

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

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

PRE-MEDICAL COURSES

The College of Arts and Sciences offers work preparatory for the study medicine in compliance with the minimum entrance requirements of the Am ican Medical Association and the Association of American Medical Colleg However, most medical schools require considerably more than these minim 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, spend three years at the University before transferring to medical school and obta ing the A.B. or B.S. degree after the first year's work in medical school. (S page 55 of this bulletin.)

The student who completes a four years' course of study and there obtains his degree will have time to meet the requirements for entrance to medical schools. Opportunity is thus afforded for a broader background in t natural sciences, social studies, and humanities, which will be of advanta both in medical school and in later life. The student may elect any field of co centration and may major in any department of the field which he desires.

The number of students applying annually for admission to medical co leges exceeds the number which can be admitted. Boards of admission co sequently fill their quotas from those who are best prepared, or who have h three or four years of college work, or even a college degree. Furthermor these boards seldom select a student who does not have a satisfactory standi 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 so, and if you are capable of demonstrating this by successfully and satisfa torily completing your college courses. An applicant for entrance to medic school should have at least a 2.5 standing.

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

3. The College of Arts and Sciences has a faculty committee, known the "Premedical Advisory and Recommendation Committee," the purpose

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 years' Pre-Medical curriculum which more than meets the pre-dental requirements specified by the Dental Education Council of America. With the two years' curriculum, entrance may be gained to all 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. 55.

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

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

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

Two years of Foreign Language in college are recommended, or the equivalent in high school, although a few medical schools require none or only one year. If the student is a candidate for the A.B. or B.S., 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.

°° Under certain conditions, Economics 51 and 52, Principles of Economics, can be used for this requirement.

† Choice depending on length of preparatory course desired.

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

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

PRE-LAW COURSES

Three years of college credit (exclusive of certain specified courses) wi minimum standing of 2.3 on all work attempted normally will be required admission to the College of Law. Students expecting to enter the Colleg Law later are advised to lay special emphasis on English, history, econo political science, and psychology and should read carefully page 123.

PRE-PHARMACY

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

FIRST SEMESTER	Crs.	SECOND SEMESTER	Cr
Chem. 1a—General Chemistry	5	Chem. 1b—General Chemistry	5
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Math. 5 or 17—College Algebra	3	Zool. 1—General Zoology	4
Bot. 1—Gen. Botany	4	Math. 18—Plane Trigonometry	3
Mil. or Air Science	2	Mil or Air Science	2
Physical Education	1	Physical Education	1

THIRD SEMESTER	Crs.	FOURTH SEMESTER	Cr
Phys. 1a—Gen. Physics	5	Phys. 1b—Gen. Physics	5
Chem. 22—Anal. Chem.	5	Humanities	3
Humanities	2	Electives	9
Mil. or Air Science	2	Mil. or Air Science	2
Electives	4		

Total Semester hours of credit required, 72.

ARTS-FORESTRY DEGREE

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

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

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

Candidates for the forestry program should indicate to the Dean of

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

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 w he completes the course or leaves school.

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

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

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

Advanced Course. The elective advanced course of two years, inclu attendance at one Summer Training Unit for all students and the Flight Tr ing Program for qualified personnel is offered to students who have b recommended by the President of the University and the Professor of Air ence for further training. Recommendations for this course will be limited those students who have manifested special interest and demonstrated ab during the basic course, and who desire to pursue the course to complet 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 co missions in the Regular Air Force. Those who desire pilot or other techn 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 purpos making them of educational value and at the same time, providing a preli nary training in the theoretical aspects for those students who plan to stu for advanced degrees in Anatomy, Physiology, or related subjects.

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

Students of Anthropology, Art, Agriculture (Animal Husbandry, Ani Pathology, Genetics, Home Economics), Education, and Sociology will h 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	Bact. 52—Prin. of Bact.	4
or		or	
Zool. 157b—Adv. Vertebrate Zoology	4	Psych. 113—Psych. of Learning	4
Eng. 3a—Survey of Eng. Lit.	3	Eng. 3b—Survey of Eng. Lit.	3

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
Anat. & Phys. 109—Cellular Physiology	3	Anat. & Phys. 105—Architecture of Human Skeleton	4
Bot. 130—Intro. to Heredity	3	Psych. 104—Social Psych.	3
or		Electives in philosophy, economics or social studies	6
Anat. & Phys. 106—Intro. to Endocrinology	3		
Chem. 143—Physical Chem.	5		

ANCIENT LANGUAGES AND LITERATURES

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

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

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

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

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

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

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

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

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

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

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

The emphasis in this department will be threefold:

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

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

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

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

ANTHROPOLOGY

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

While many of the Department's advanced courses are planned for dents interested in professional training, the introductory courses Anthropol 1 and 2 should be of much wider interest. They survey the entire field, show the relations between all the facets of human activity, throughout ma long occupation of the earth. These courses emphasize the essential unity mankind and furnish a basis for further work in many different fields of social and biological sciences. In addition, properly qualified students in ot departments will find the advanced courses sufficiently broad in scope to be value to them. Anthropology 142, Culture and Personality, is of particu interest to Psychology majors.

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

The Museum of Anthropology has a series of public exhibits on the p history of Kentucky and a number of study exhibits which are correlated w the teaching program. In addition, the extensive collections of artifacts a skeletal remains from prehistoric sites in Kentucky provide varied opportuni for advanced research problems, especially in archaeology and physical anth pology.

ART

As a department within the College of Arts and Sciences, the Departm of Art is concerned that its majors shall have a liberal education. Hence, students in art are grounded in the accepted foundations of a liberal educati science, social studies, language and the humanities. This kind of educati should result in a command of ideas and a mastery of skills which will affo

graduates the possibility of creative action through life. A departmental faculty of professional artists and scholars is dedicated to these purposes.

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

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

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

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

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

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

BACTERIOLOGY

The Department of Bacteriology, since it is a part of a curriculum devoted to the liberal arts, offers courses for students who wish to learn about microbes, their effects on human and animal health, and their use as tools in many industries, as well as for students who wish to make microbiology their profession. The non-professional student becomes acquainted with many fundamental biological principles through the study of living things seen only with the microscope. For the professional student the department affords opportunity to

gain the A.B. or B.S. degree with bacteriology as a major, and it also provid curriculum in Medical Technology. In addition, the department offers the degree in the various fields of bacteriology, and the Ph.D. degree in the of morphology and physiology of microorganisms, immunology and sero and public health bacteriology.

The Degree of B.S. in Medical Technology

The University of Kentucky, in affiliation with the Good Samaritan pital, is registered, through the Department of Bacteriology, as an appr school for the training of medical technologists by the Board of Registry o American Society of Clinical Pathologists, and by the Council on Me Education and Hospitals of the American Medical Association.

The Medical Technology curriculum may function as a pre-medical riculum since it includes all the requirements of the American Medical Ass tion and the Association of American Medical Colleges for entrance to Cla medical schools, provided the student has a reading knowledge of a for language.

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

FRESHMAN YEAR

First Semester	Crs.	Second Semester	Cr.
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	Cr.
Zoology 27	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	Cr.
Zoology 101	4	Zoology 104	3
Bacteriology 103	4	Bacteriology 125	5
Foreign Lang.	3	Foreign Lang.	3
Bacteriology 110a	3	Bacteriology 110b	3
Anatomy & Phys. 10	5	Zoology 106	4
	19		18

SENIOR YEAR

First Semester	Crs.	Second Semester	Cr.
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 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 2.0 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 Science (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	3	Physics 3b	3
Physics 4a	2	Physics 4b	2
Humanities—Elec.	2	Engineering Drawing 2	1
	16-18		15-1

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	3
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 cr

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

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

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

ECONOMICS

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

The student wishing to major in economics will be guided by an advi 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 t needs of other departments and colleges, most of them are designed to m the undergraduate and graduate needs of those who may wish to specialize English, Speech, and the Dramatic Arts.

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

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

GEOGRAPHY

The need for well-trained personnel in the field of Geography has become increasingly apparent. At the present time three major fields of activity utilize the services of competent professional geographers: Education (Elementary, Secondary, and Collegiate), Government (National, State, and City), and Business (Trade, Transportation, Publishing). The Department of Geography is prepared to offer necessary training to students for these economic activities.

In addition to the training of professional geographers, the Department of Geography contributes directly to the fulfillment of the College of Arts and Sciences requirement in Social Studies (Geography 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 which contribute importantly toward a liberal education.

A foundation in all phases of Geography is required of all department majors seeking a career in the field. For those who do not wish to become professional geographers, a major in Geography may be arranged. (See Catalog of Courses.)

GEOLOGY

The demand for the professional geologist comes from the need for geological guidance in the exploitation of the nation's mineral wealth. Its relation to mining and to oil and gas exploration is such that geological services are indispensable to companies engaged in developing this mineral resource. Opportunities are also open with state and federal geological surveys, in museum work, and in college teaching. The Department of Geology is prepared to equip men and women for such work.

The George W. Pirtle Fellowship:

A grant of $500 a year is given by George W. Pirtle to a graduate student in geology upon the recommendation of the faculty of the Department of Geology. The award is made upon the basis of need and promise of future achievement in the geological field. Mr. Pirtle has set up this grant in appreciation of the training he received in the Geology Department and is given in honor of Dr. A. C. McFarlan.

The recipient shall write a thesis based on field work. Mr. Pirtle was first student to obtain the Master's Degree from the University with a majo Geology.

Applications for this grant should be directed to the Head, Departmen Geology.

List of Courses for Professional Training in Geology

FRESHMAN YEAR

Geology 50a, b—Outlines of Geology .....
Geology 20a—Lab Work in Elementary Geology .....

SOPHOMORE YEAR

Geology 60a, b—General Geology .....
Geology 10a, b—Field Geology .....
Geology 61a, b—Mineralogy .....

JUNIOR YEAR

Geology 107a, b—Advanced Field Geology .....
Geology 101a, b—Paleontology .....
Geology 112—Economic Geology .....
Geology 118a, 119a—Field Work in Regional Geology (Summer) .....

SENIOR YEAR

Geology 129—Elem. Petrology .....
Geology 130—Elementary Structural Geology .....
Geology 107c, d—Adv. Field Geology .....
Geology 127—Petroleum Geology .....
Geology 126a, b—Seminar .....
Geology 135—Adv. Prin. of Geology .....

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. I planned, however, to give the necessary background for professional wo For a less professional major, courses in other fields may be substituted ex for those prerequisite to required courses in Geology. For mineral reso work attention is called to courses in Mining and Metallurgy. For paleo logical work take Zoology 7a, b. For later training in geo-physical meth add calculus and substitute Physics 3a, b, and 4a, b, for a second year Chemistry. For combination engineering and geology, consult Mr. Stokley.

HISTORY

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

For a Department of History to render effective service to its stude

* Required work in other sciences indicated by asterisks.

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.

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. Students working toward the bachelor's degree either in the College of Education or the College of Arts and Sciences may qualify for a certificate in school librarianship in Kentucky by completing a prescribed 18-hour minor in Library Science. The undergraduate curriculum includes nine hours of basic foundation for graduate work and gives students majoring in other fields opportunities to take related courses in Library Science.

The *graduate curriculum* is designed for majors in Library Science and leads to a master's degree. It is open to non-majors on the approval of the Head of the Department. In general, the graduate courses are designed to train for the more responsible positions in librarianship.

Requirements for the Masters Degree

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

Undergraduate preparation should include academic rather than pr sional courses. Languages are considered basic for those interested in co or university library work. Subject to the recommendation of the Head o Department, the preliminary core of nine semester hours in Library Sci may be taken during the first semester of the graduate program; compar work taken elsewhere may reduce this requirement.

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

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

Professional Curriculum in Library Science

UNDERGRADUATE COURSES

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

GRADUATE COURSES

Course No.	Title	Crs.
201a-d	Problems in Library Science	1 ea.
212	The Public Library	3
213	Problems in School Library Service	3
214	The College and University Library	3
227	Problems in Reading for Children and Young People	3
229	Advanced Cataloging and Classification	3
232	Library Work with Children	3
233	Subject Bibliography	3
235	Government Publications	3
242	History of Books	3
250	Adult Reading Guidance	3
252	Advanced Book Selection	3
254	Seminar	3
287	Nonbook Materials	3

MATHEMATICS AND ASTRONOMY

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

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

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

Third: It provides the prospective elementary school teacher with courses planned to furnish the special and desirable background training he needs for teaching the introductory concepts. The prospective secondary school teacher will find courses suitable to his needs on the undergraduate and graduate level. The inservice teacher will find specially selected topics to fit the needs in this area.

Fourth: It provides courses for those who wish to specialize in mathematics. Courses are offered in algebra, analysis, geometry, statistics and applied mathematics, topology, and various courses in numerical analysis and computer techniques being directly applicable to the electronic computer field. Courses at the advanced levels, leading to the M.A. Degree and the Ph.D. Degree, are offered for the research specialist and/or college teacher.

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

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

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 stu a training which will be as valuable to him in his industrial or profes career as it would be should the nation call upon him to act as a lead its defense forces.

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

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

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

Uniform Equipment. Government uniforms and equipment are furni the University for issue to basic students without cost to the individual. basic student is required to make a deposit of $25.00 with the Comptrol the University to cover the cost of any lost or damaged articles. If no clot is lost or damaged, the entire sum is refunded to the student when he c pletes the course or leaves school.

Advanced students will obtain uniforms through a commutation of forms system. The University acts as the agent of the advanced course stu in whose behalf commutation of uniform is drawn, and purchases a uniform the advanced student with the allowance received. This uniform becomes property of the student only after fulfillment of the advanced course com and, as such, is his sole responsibility to maintain and keep. Advanced co students are required to deposit $25.00 with the Comptroller of the Univer prior to receipt of the Uniform. Refund of this deposit, during the period tween academic years, is governed by the same rules as for the basic studen

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

Basic Course. The military department offers a two years' basic co in military science and tactics. The basic course in military or air scienc required of all male freshmen and sophomores who are citizens of the U States, and who conform to the physical requirements as prescribed by Department of Defense for units of the Reserve Officers' Training C Credit in the required two years' elementary course in military or air sci may be given for three months' service in the United States or allied mil naval, or air force. This credit will not necessarily admit the student to vanced military or air science. Students who have had previous military t ing or service may be assigned to advanced classes in ROTC in accord with their knowledge of military subjects. Nonveterans who have equivalent of the basic military science requirement in their previous tra may be exempted by the Professor of Military Science and Tactics from requirement, or from part of the requirement.

The successful completion of the basic course in military or air science prerequisite for graduation in the University.

Advanced Course. The advanced course of two years, including a six-weeks summer encampment at the conclusion of the junior (M S III) year, is offered to students who have successfully completed the basic course, and who have been recommended by the President of the University and the Professor of Military Science and Tactics for further training. Recommendations for this course will be limited to those students who have manifested special interest and demonstrated ability during the basic course, and who meet other standards, with a view to qualifying for a commission in the United States Army Reserve. An advanced course student, who makes and maintains a minimum graduation point standing of 2.5 and meets other standards, may be designated a Distinguished Military Student which makes him eligible to apply for a commission in the Regular Army. A Distinguished Military Student may be designated a Distinguished Military Graduate upon his being awarded a baccalaureate degree, provided he continues to meet the required standards.

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 French, German, or Spanish. On the graduate level, the Department offers advanced work in the literature and philology of each of these three languages, leading at present to the Master of Arts degree.

As a branch of the liberal arts curriculum, one of the fundamental aims of language study must be to broaden and deepen our acquaintance with the world about us by presenting new aspects of its culture and a more intimate knowledge of its peoples through the medium of foreign languages and literatures. In addition, the Department provides training for those interested in entering the diplomatic and various other Government services where knowledge of foreign languages is required; it offers specialized preparation to prospective high school and college language teachers; it furnishes graduate and science students with the training necessary to use foreign language books and periodicals for reference and research.

MUSIC

The music department provides the opportunity for cultural and professional growth through intensive music study and participation, and presents a varied series of musical programs of cultural value to the entire university community.

A student whose prime interest is music may work toward the Bachelor of Music degree in Applied Music or Music Education, or the Bachelor of Arts degree. The courses of study leading to the Bachelor of Music degree are designed for those who plan to be professional performing musicians or school music teachers, and presume a considerable amount of musical experience on the pre-college level. The Bachelor of Arts degree with a major in music is a general cultural degree with emphasis in music, allowing more time during the Junior and Senior years for the election of courses in related and other subject matter fields. All degrees offered by the Department of Music demand the fulfillment of the basic lower division course requirements of the College of Arts and Sciences as listed on page 51, in the belief that the ideas and concepts derived from such study are essential to the happiness and well-being of every individual.

Departmental Facilities

The University provides one of the most modern and adequately equip Fine Arts buildings in the South. The music facilities include well lig sound proofed, air conditioned classrooms, rehearsal halls, teaching stu listening cubicles, a departmental library, and 44 practice rooms includi two-manual practice pipe organs. In the building there are two auditori seating approximately 500 and 120. Radio, recording, and broadcasting fa ties are available for instructional purposes and performances. There is a Holtkamp pipe organ in Memorial Hall for teaching and concert purposes.

Scholarships

The department offers a limited number of grants-in-aid consisting waiver of $66.75 in fees each semester. These grants are awarded on the b of scholastic standing, character, musical ability, and need.

Approximately $300.00 is available each year from the McCracken M Scholarship Fund for Kentucky students with exceptional musical talent.

The Junior-League Award in Music Education of approximately $20 is awarded to a Junior or Senior in the department each year on the basi scholarship, character, and prospective success in the field of music teaching

For further information or application write to the Head of the Dep ment of Music.

University Bands

The University has three bands: the famous Marching 100, the Symph Band, and the AFROTC Band. The Marching 100 performs at athletic ev and other campus and community activities. The Symphonic Band is a con organization which performs the finest of concert band literature in a serie programs on campus, and makes one concert tour each year. The Air F Band is a regular part of the AFROTC program at the University.

University Choral Ensembles

For those students interested in singing, there are four choral organi tions on campus: the Men's Glee Club, Women's Glee Club, the Chorist a select mixed choir, and the University Chorus of approximately 150 memb These organizations are open to every University student by permission of respective directors.

University Symphony Orchestra

The *University Symphony Orchestra* is a student, faculty, and civic m sical organization, and presents standard symphonic literature regularly in c cert. Admission to the orchestra is arranged by consultation with the directo

Participation in Musical Organizations

No student is permitted to participate in the orchestra, concert band, clubs, or other musical organizations unless all eligibility requirements for ex curricular activities are met.

Special Fees

Special fees for applied music lessons are listed on page 21.

Curriculum Leading to the Degree of Bachelor of Music

The following sequences are offered:

Recital Attendance

All students are required during each semester of residence to atten certain percentage of the departmental recitals as directed and posted e semester by the department.

MUSIC EDUCATION

FRESHMAN	1st Sem. Crs.	2d Sem. Crs.
Applied Major	2	2
Secondary Applied	1-2	1-2
Ensemble	1	1
Music 11a, b	2	2
Foreign Language	3	3
English 1a, b	3	3
Social Studies & Psychology 1	3	4
Physical Education	1	1
[2]Military or Air Science	(2)	(2)
	16-17	17-18

SOPHOMORE	1st Sem. Crs.	2d Sem. Crs.
Applied Major	2	2
Secondary Applied	1-2	1-2
Ensemble	1	1
[3]Music 51a, b	2	2
Music 52a, b	2	2
Music 19a, b	2	2
Humanities	2	4
Social Studies	3	—
Biological Science	—	3
Hygiene 9	2	—
Military or Air Science	(2)	(2)
	17-18	17-18

JUNIOR	1st Sem. Crs.	2d Sem. Crs.
Applied Major	2	2
Secondary Applied	1-2	0-1
Music 53a, b	2	2
Education C44 and 148	3	3
Ensemble	1	1
Music 121 and 116a	2	2
Music 129a, b	3	3
Music 130	—	3
Music 131 and 132	2	2
	16-17	18-19

SENIOR	1st Sem. Crs.	2d Sem. Crs.
Applied Major	2	2
Secondary Applied	0-2	0-1
Education 177a, b	4	4
Education 105	3	—
[4]Physical Science	3	3
Ensemble	1	1
Music 145	—	1
Music 116b or 115	2	—
Music 133	—	3
Elective	2	—
	17-19	14-15

MINIMUM CREDITS – 137

For all footnotes see p. 77.

APPLIED MUSIC

Voice

FRESHMAN	1st Sem. Crs.	2d Sem. Crs.
Music C17a, b	3	3
Music C15a, b	1	1
Ensemble	1	1
Music 11a, b	2	2
English 1a, b	3	3
Foreign Language	3	3
Biological Science	3	3
Physical Education	1	1
[2]Military or Air Science	(2)	(2)
	17-19	17-19

SOPHOMORE	1st Sem. Crs.	2d Sem. Crs.
Music C17c, d	3	3
Music C15c, d	1	1
Ensemble	1	1
[3]Music 51a, b	2	2
Music 52a, b	2	2
Humanities	2	2
Music 19a, b	2	2
Foreign Language	3	3
Military or Air Science	(2)	(2)
	16-18	16-18

JUNIOR	1st Sem. Crs.	2d Sem. Crs.
Music C17e, f	3	3
Music 53a, b	2	2
Social Studies	3	3
Hygiene 9	2	—
Humanities	—	2
Music 131 and 132	2	2
Electives	6	6
	18	18

SENIOR	1st Sem. Crs.	2d Sem. Crs.
Music C17g, h	3	3
Music 102	2	—
Music 107	—	3
Music 133	—	3
Music 113a, b	2	2
Music 123	2	—
[4]Physical Science	3	3
Electives	3	2
Recital	—	—
	15	16

MINIMUM CREDITS – 133

For all footnotes see p. 77.

Piano

FRESHMAN

	1st Sem. Crs.	2d Sem. Crs.
Music C15a, b	3	3
Music 11a, b	2	2
Ensemble	1	1
English 1a, b	3	3
Foreign Language	3	3
Social Studies	3	3
Physical Education	1	1
[2]Military or Air Science	(2)	(2)
	16-18	16-18

SOPHOMORE

	1st Sem. Crs.	2d Sem. Cr
Music C15c, d	3	
[3]Music 51a, b	2	
Music 52a, b	2	
Ensemble	1	
Music 19a, b	2	
Humanities	2	
Biological Science	3	
Hygiene 9	2	
Military or Air Science	(2)	(2
	17-19	17-19

JUNIOR

	1st Sem. Crs.	2d Sem. Crs.
Music C15e, f	3	3
Music 53a, b	2	2
Ensemble	1	1
[4]Physical Science	3	3
Music 131 and 132	2	2
Electives	6	6
	17	17

SENIOR

	1st Sem. Crs.	2d Sem. Cr
Music C15g, h	3	
Music 113a, b	2	
Ensemble	1	
Music 106a, b	2	
Music 133	—	
Music 123	2	
Electives	6	
Recital	—	
	16	17

MINIMUM CREDITS – 133

For all footnotes see p. 77.

Organ

FRESHMAN

	1st Sem. Crs.	2d Sem. Crs.
Music C18a, b	3	3
Music C15a, b	1	1
Music 11a, b	2	2
Ensemble	1	1
English 1a, b	3	3
Foreign Language	3	3
Social Studies	3	3
Physical Education	1	1
[2]Military or Air Science	(2)	(2)
	17-19	17-19

SOPHOMORE

	1st Sem. Crs.	2d Sem. Cr
Music C18c, d	3	
Music C15c, d	1	
[3]Music 51a, b	2	
Music 52a, b	2	
Ensemble	1	
Music 19a, b	2	
Humanities	2	
Biological Science	3	
Military or Air Science	(2)	(2
	16-18	16-18

JUNIOR

	1st Sem. Crs.	2d Sem. Crs.
Music C18e, f	3	3
Music 53a, b	2	2
Humanities	2	—
Hygiene 9	—	2
[4]Physical Science	3	3
Music 131 and 132	2	2
Electives	6	6
	18	18

SENIOR

	1st Sem. Crs.	2d Sem. Cr
Music C18g, h	3	
Music 113a, b	2	
Music 108a, b	2	
Music 133	—	
Music 123	2	
Electives	6	
Recital	—	
	15	16

MINIMUM CREDITS – 133

For all footnotes see p. 77.

Orchestral Instrument

FRESHMAN	1st Sem. Crs.	2d Sem. Crs.
Applied Major	3	3
Secondary Applied	1	1
Music 11a, b	2	2
Ensemble	1	1
English 1a, b	3	3
Foreign Language	3	3
Social Studies	3	3
Physical Education	1	1
[2]Military or Air Science	(2)	(2)
	17-19	17-19

SOPHOMORE	1st Sem. Crs.	2d Sem. Crs.
Applied Major	3	3
Secondary Applied	1	1
[3]Music 51a, b	2	2
Music 52a, b	2	2
Ensemble	1	1
Humanities	2	2
Biological Science	3	3
Music 19a, b	2	2
Military or Air Science	(2)	(2)
	16-18	16-18

JUNIOR	1st Sem. Crs.	2d Sem. Crs.
Applied Major	3	3
Music 53a, b	2	2
Humanities	2	—
Hygiene 9	—	2
Physical Science	3	3
Music 121 and 116a	2	2
Music 131 and 132	2	2
Electives	4	4
	18	18

SENIOR	1st Sem. Crs.	2d Sem. Crs.
Applied Major	3	3
Music 113a, b	2	2
Music 133	—	3
Music 123	2	—
Electives	8	8
Recital	—	—
	15	16

MINIMUM CREDITS — 133

For all footnotes see p. 77.

Bachelor of Arts Degree with a Major in Music

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

Music Requirements for a Major in Music

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

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

Theory 11a, b; 19a, b; 51a, b; 52a, b
Applied Music — 4 to 8 semester hours

Upper Division Music Requirements: A minimum of 20 semester hours of advanced work in music in accordance with the student's particular interest and as directed by the Music Department.

Notes

1. A total of 10 credits in secondary applied subjects must be elected.
2. Required of all able-bodied male freshmen and sophomores who are citizens of the United States.
3. Must be taken concurrently with 52a, b.
4. Must satisfy lower division requirement.

NURSING

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

The College affords preliminary work for nurses. This covers ana and physiology, bacteriology, chemistry, hygiene and sanitation, psychol and sociology. Nutrition and cooking are offered in the College of Agricu and Home Economics. Students who complete this work ordinarily gain c for it in civil hospitals to which they are admitted. No general statement be made as to this, however. The student should take the question up the hospital schools under consideration. For further information consult Dean of the College.

PHILOSOPHY

Philosophy is today, as it has been in the past, a pursuit of an u standing of the most basic traits of the universe and of man and his activ While each of the special sciences examines a limited sphere, philosophy st for inclusive vision. Also it seeks clear definition of the fundamental mean that underlie the various fields of human knowledge and practice. Stand present in man's knowing and acting are studied in logic, theory of knowl and ethics. Historical courses survey the development of the most ge thought patterns of successive epochs. Such systematic courses as metaph and philosophy of religion discuss ideas bearing on the nature and organ tion of the universe.

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

PHYSICAL EDUCATION

Required Physical Education

All students (except veterans who have had three or more month military service; students who have successfully completed two semester physical education at another college or university; students who have ent the university with a Junior standing or above, or following their twenty birthday; and students who are excused by the University physician medical reasons) must successfully complete two semesters of physical ed

tion. Insofar as their schedules and health status (as determined by a physical examination upon entrance) permit, students may select the courses which include the activities they wish to learn, or in which they wish to participate.

Physical Education courses offer one credit hour, and are organized in such a manner as to teach two activities each semester. Students (except those exempt) are required to complete sucessfully two semesters of physical education. After students have completed their physical education requirements they are encouraged to enroll in additional service classes for credit or as auditors.

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

1. Teach students activities which may serve as a recreational pursuit during leisure time.
2. Provide the students with a means of regulated and supervised physical exercise.
3. Develop a sane and intelligent attitude toward the need for and benefits of well-regulated physical activity.

A standard uniform is required of all students. The cost of this ranges from $5.00 to $12.00. A locker fee of $2.00 per semester is charged each student which includes towel service, soap, locker rental, and the privilege of using the equipment and facilities of the Department of Physical Education during non-class periods. The swimming fee is $4.00 per semester and includes locker rental.

Intramurals

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

Professional Physical Education

The majority of students selecting Physical Education as a major do so because they expect to enter this field as teachers or as coaches Since our students come from widely different backgrounds inside the state and from outside of Kentucky an effort is made to gear the program to their individual needs, backgrounds, and future requirements. To this end opportunities for varying extents of concentration in the major field and in minor fields within limitations of University and College policy are offered for the guidance of and selection by the student. Requirements in the fields of English, the Basic Sciences, Social Studies, Nutrition, Psychology and (for the teacher) in Education are outlined to accompany work in the major field. The student may receive the degree through the College of Arts and Sciences or through the College of Education. All physical education majors are required to enroll in Physical Education 81, Camp Leadership, offered at Camp Robinson during inter-session, at the end of the Sophomore year, and in Physical Education 61, Field Trip, scheduled in the spring of the Junior year.

Topical Fields

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

PHYSICS

The objectives of the Department of Physics are:

1. To provide instruction to the end that a student, regardless of his spe interests, may acquire a general understanding and appreciation physics.
2. To provide a complete undergraduate curriculum with sufficient el ticity so that a graduate with a major in physics may teach in s ondary schools, go on to greater specialization in physics; or use major as a strong foundation for vocations.
3. To provide graduate instruction and modern facilities for research 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	2
	17		17

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)	3	Physics 3b (General)	3
Physics 4a (Gen. Lab.)	2	Physics 4b (Gen. Lab.)	2
Biological Sciences	3	Biological Sciences	3
†Foreign Languages	3	†Foreign Languages	3
	17		17

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 achieve examination has been passed, or the second year of a language with a C grade or be 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.

Public Service Courses

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

Students interested in entering the Federal Civil Service through the usual channel of the Federal Service Entrance Examination find a variety of types of preparation acceptable. For the Junior Management Assistant Examination, a course in public administration is essential. For the general part of this examination, a broad background in political science and the related fields of social sciences will be helpful. For those desiring to enter specialized fields of the public service in federal, state, or local government, combinations of courses across departmental lines can be arranged to supply the technical training required.

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, or clinical psychology. A program in counseling psychology is operated jointly with the College of Education. In cooperation with the Veterans Administration and the Kentucky Department of Mental Health, the Psychology Department offers graduate training in clinical psychology leading to the Ph.D. degree. Students in these programs usually have part-time assignments in hospitals or clinics in the Veterans Administration or Department of Mental Health. Various other means of securing practical training in clinical psychology are afforded by other hospitals and clinics in the locality.

The Department operates a speech clinic and an audiology clinic. Diagnosis and corrective therapy is provided for children and adults with speech and hearing disorders, and training is offered in the techniques of speech correction and clinical audiology.

RADIO ARTS

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

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

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

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

Courses for Majoring in Radio Arts

Open to Freshmen

Radio Arts 1a, 1b—Radio Today .....

Open to Sophomores

Radio Arts 2a—Radio Announcing .....
Radio Arts 3—Studio Operations .....

Open to Juniors and Seniors

Radio Arts 101—Radio Regulations .....
Radio Arts 102—Advanced Radio Announcing .....
Radio Arts 105a—Radio Script Writing .....
Radio Arts 103—Radio and Television Advertising .....
Radio Arts 106a—Radio Production .....
Radio Arts 106b—Radio Production .....
Radio Arts 110—Pro-Seminar in Radio .....
Radio Arts 111—Cinematography .....

Note: Radio Arts majors must take 1a and 1b as prerequisites for all other Arts courses.

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 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 courses and other training offered in Sociology supplement the work of the allied social sciences and have an important part in a broad liberal education. Basic courses dealing with the fundamental processes of group relationships, social organization, and social behavior are the foundation for more advanced courses in social analysis and research. Training is offered in the recognized specialties, including criminology, the family, community organization, and rural sociology.

An undergraduate major in Sociology is particularly useful to persons planning to enter such fields as law, social work, industrial relations, the ministry, high school social science teaching, and various positions in public and governmental agencies. Every effort is made to guide students toward a broad training in the social sciences and general education. Persons who aspire to professional positions in Sociology and Applied Fields may expect to take postgraduate training. The graduate training program in Sociology and Rural Sociology offers the M.A. and Ph.D. degrees and prepares students for college teaching, social science analyst positions in government agencies and research organizations, and positions in community development, human relations agencies, criminology and delinquency control, and the like.

The department's Bureau of Community Service conducts research and offers advisory service and survey assistance to local communities of the state. Through the activities of the Bureau students are provided field experience in research.

ZOOLOGY

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

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

Courses are offered which lead to a major in zoology with emphas such sub-divisions of zoology as ecology, entomology, evolution, gene limnology, parasitology, embryology and vertebrate zoology. The proper bination of these courses enables a student to obtain the A.B. or B.S. de with zoology as a major. The department also offers the M.S. and the degree in these various fields of zoology.

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

SCHOOL OF JOURNALISM

The School of Journalism is one of the 45 members of The American sociation of Schools and Departments of Journalism. Since 1931 the school been accredited and has been a member of the Association which is compo of the leading schools of journalism in the United States.

General reference materials, representative daily newspapers, and re nized trade journals of the publishing industry are available in the school the general library are hundreds of volumes dealing with all phases of the c munications industry.

A daily 10-hour teletype service of the Associated Press supplies la news dispatches for students and provides laboratory materials for news edi and radio news writing. The school, which supervises student publica activities, has standard equipment to print a modern community newsp and to provide high-grade commercial job printing for the campus. In extensive plant is a type laboratory for instruction in typography, maka photography, and the mechanics of publishing and advertising.

Various campus-based publications, such as the Kentucky Kernel (stud newspaper), The Kentuckian (student yearbook), The Kentucky Press (offi publication of The Kentucky Press Association, which maintains its state he quarters in the school), and The KHSPA News (bulletin of the Kentu High School Press Association), present opportunities for student practica the publication field.

Upper division students are active in the free lance field, making sale 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 Art Journalism is divided into four sequences to facilitate specialization by the dent in the junior and senior years. These sequences are: The General Editor

The Community-Publishing, Advertising, and Radio-Journalism. All sequences, except Advertising, are fully accredited by the American Council on Education for Journalism. All sequences, providing a wide range of elective courses to be chosen under the guidance of a professional adviser, have as their aim a liberal education joined with professional training for men and women seeking careers in the various phases of journalism, advertising, publishing, and radio-journalism.

Pre-Journalism Requirements: Satisfaction of lower division requirements of the College of Arts and Sciences, and 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 67 (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 educa credits.

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

Electives taken in freshman and sophomore years cannot be used to satisfy elect 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 of the College
Hugh Bruce Price, M.A., Ph.D., Acting Dean of the College, 1957-58
Stanley Wall, M.S., Ed.D., Associate Dean of the College
Abby Marlatt, B.S., Ph.D., Director of the School of Home Economics

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 equipm are essential for good instruction in agriculture and home economics. In a tion to the general University buildings the College of Agriculture and Ho Economics has several buildings devoted specifically to the work of the vari departments. The Agriculture Building houses the office of the dean, the d partment of horticulture with its student laboratories, the section of fores classrooms for agricultural economics and rural sociology, and laboratories the use of students in crops, soils, and agricultural entomology. The Tho Poe Cooper Dairy Products Building has modern, well equipped laborato for work in dairy manufacturing, incubation, nutrition, and genetics. T Stock Judging Pavilion has classrooms and an arena for livestock judging a other phases of work in animal industry. The Agricultural Engineering Build has shops, classrooms, and laboratories for tractors, stationary engines, and m chinery, as well as a commodious drawing room. The W. W. Dimock Anim Pathology Building has classrooms and laboratories of the most modern type the study of animal diseases. Several classes in agricultural economics meet this building. The Tobacco Laboratory is well equipped for the study of pl diseases. In the Edward James Wilford Meats Laboratory are modern freez lockers, a sales room and rooms for slaughtering, cutting, and curing meat. T Experiment Station Building contains no classrooms, but offices of several mem bers of the teaching staff are located there. The Livestock Arena, constructed 1954, is used for shows, sales, classes in light horse husbandry, and farm mee ings.

The Home Economics Building is modern and equipped with classro and laboratory fixtures of the latest design. In addition to offices and cla rooms the building contains laboratories for foods, clothing, nutrition, dietet experimental cookery, costume design, and interior decoration. Two hou management houses and a child-care center are located near the Home Ec nomics Building. The University cafeterias are used as laboratories for st dents in institution economics.

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

Admission. Requirements for admission to the College of Agriculture a Home Economics, as a freshman, or with advanced standing, or as a spec student, are the same as those outlined on the preceding pages for admissi to the University.

REQUIREMENTS FOR GRADUATION IN AGRICULTURE

To receive the degree Bachelor of Science in Agriculture a student is r quired to gain a total of 140 semester credits and 280 points. These repres the minimum requirements for graduation. There are eleven curricula in ag culture and completion of the requirements of any one of these leads to t degree. In all cases the student is responsible for meeting the requirem for graduation.

The Curriculum in General Agriculture is for students desiring a bro educational background in agriculture.

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

The Curriculum in Agricultural Engineering is for students desiring to prepare themselves for the application of engineering science to the problems of agriculture.

The Curriculum in Agricultural Extension and Vocational Agriculture is designed primarily for students preparing to engage in educational activities with rural people.

The Curriculum in Agronomy is for students whose major interests are in soils, crops, and plant diseases.

The Curriculum in Animal Husbandry is for students whose major interests are concerned with production of cattle, sheep and swine, or with meats, or with animal nutrition.

The Curriculum in Dairy Production is for students interested in all phases of dairying other than manufacturing.

The Curriculum in Dairy Manufacturing is for students interested in various phases of the processing of milk.

The Curriculum in Poultry Husbandry is for students interested in poultry and egg production or other phases of the poultry industry.

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

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

Faculty advisers are appointed by the Associate Dean and the Department Heads to help students with problems such as choice of a curriculum, preparation of class schedules, choice of elective courses, and employment.

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 or 18 credits per semester; the maximum load is 23 credits; the minimum load for a full-time student is 12 credits.

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

The Curriculum in General Agriculture is for students desiring a broad background education in agriculture.

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 5, Introd. to Agron.	3	Agr. Ec. 1, Agricul. Econ.	3
A. I. 1, Farm Livest Prod, or A. I. 21, Fund. of Dairying,or A. I. 41, Farm Poultry Prod.	3	A. I. 1, Farm Livest Prod. or A. I. 21, Fund. of Dairying,or A. I. 41, Farm Poultry Prod.	3
Eng. 1a, English Composition	3	Bot. 1, General Botany	4
*Math. 5 or 17, Col. Algebra	5 or 3	Eng. 1b, English Composition	3
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	17 or 15		16

* Those scoring H on the Kentucky classification test in mathematics must first take Mathematics 1.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 6, Prin. of Field Cr. Prod.	3	A. I. 1, Farm Livestock Prod., or A. I. 21, Fund. of Dairying,or A. I. 41, Farm Poultry Prod.	3
Hort. 1, General Horticulture	3	Chem. 1b or 4b, Genl. Chem.	5 or 4
Chem. 1a or 4a, Genl. Chem.	5 or 4	Phys. 8, General Physics	4
Econ. 51, Prin. of Econ.	3	Zool. 1, Prin. of An. Biol.	4
Geol. 3, Elem. Geology	3	Military or Air Science	2
Military or Air Science	2		
	19 or 18		18 or 17

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Ec. 100, Agr. Marketing	3	A. I. 81, Feeds & Feeding	4
Agron. 61, Soils	4	Agr. Ec. 110, Farm Management	3
Agr. Engr. 15, Mech. of Farmstead	3	Bact. 52, Prin. of Bacteriology	4
R. S. 10, Introd. to Rur. Soc.	3	Jour. 10, Survey of Journ.	3
Chem. 37, Organic Chemistry	4	Eng. 6, Essen. of Speech	3
	17		17

SENIOR YEAR

History 4b, Modern Europe since Fr. Revolution, or History 5b, Hist. of U. S. since 1865, or History 40, Hist. of Kentucky	3
Electives	32

Summary of General Curriculum

Prescribed courses in agriculture	41
Prescribed courses, non-agriculture	63 to 70
Electives in agriculture	19
Electives	10 to 17
Total required for graduation	140

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

The Curriculum in Agricultural Economics provides opportunity for students to specialize in (1) farm management as training for farming, commercial farm management, farm credit and farm appraisal, (2) marketing as training for work in the purchase, grading, processing and sale of farm products, the purchase and sale of farm supplies, both in the organized trades and in the farmer cooperatives and (3) study as preparation for work leading to agricultural economics research and college teaching. With appropriate electives this curriculum also prepares a student for work as a county agricultural agent.

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Course		Course	
*Agr. Econ. 1, Agr. Economics	3	*Agr. Econ. 1, Agr. Economics	3
Bot. 25, Plant Biology	3	Agron. 5, Introd. to Agron.	3
Eng. 1a, English Comp.	3	Chem. 4a, Genl. Chem.	4
Econ. 3, Econ. Hist. of U. S.	3	Eng. 1b, English Comp.	3
Math. 17, College Algebra	3	Geog. 10, Econ. Geography Survey	3
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	15 or 18		16 or 19

* May be taken either semester.

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Course		Course	
A. I. 1, Farm Livestock Prod.	3	Agron. 61, Soils	4
Chem. 4b, Genl. Chem.	4	A. I. 61, Genetics	3
Econ. 51, Prin. of Econ.	3	A. I. 81, Feeds and Feeding	4
Eng. 30, Business English	2	R. S. 10, Introd. to Rural Soc.	3
Zool. 1, Prin. of An Biol.	4	Com. 7a, Prin. of Accounting	4
Military or Air Science	2	Military or Air Science	2
	18		20

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Course		Course	
Agr. Ec. 100, Agr. Marketing	3	Agr. Ec. 115, Farm Accounting, or Com. 7b. Prin. of Accounting	2 or 4
Agr. Ec. 110, Farm Management	3		
Agr. Ec. 130, Agr. Statistics	3		
Agr. Ec. 150, Agr. Prices	3	Agr. Ec. 140, Agr. Policy	3
Com. 109a, Business Law	3	Agr. Ec. 145, Land Economics	3
Electives	2	Bact. 52, Prin. of Bacteriology	4
		Electives	4
	17		16 or 18

SENIOR YEAR

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

Summary of the Agricultural Economics Curriculum

Required courses in agriculture	41-43
Required courses in other colleges	56-60
Electives in agriculture (54 credits required)	11-13
Electives in Group A	12
Electives	14-18
Total	140

* The Group A electives 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.

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

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Course		Course	
Agr. Engr. 1a—The Engr. Profession	0	Agr. Engr. 1b—The Engr. Profession	0
Eng. 1a—English Comp.	3	Eng. 1b—Eng. Comp.	3
Math. 17—College Algebra	3	Math. 19—Plane Analytic Geometry	3
Math. 18—Plane Trigonometry	3	M. E. 5—Slide Rule	1
Chem. 2a—Gen. Chem. for Engrs.	4	Chem. 2b—Gen. Chem. for Engrs.	4
E. D. 1a—Elem. Engr. Drawing	2	E. D. 1b—Descriptive Geometry	2
Military or Air Science	2	Agron. 5—Intro. to Agronomy	3
Physical Education	1	Military or Air Science	2
		Physical Education	1
	18		19

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Engr. 2a—The Engr. Profession	0	Agr. Engr. 2b—The Engr. Profession	0
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Phys. 3a—General College Physics	3	Phys. 3b—Gen. College Physics	3
Phys. 4a—Physics Laboratory	2	Phys. 4b—Physics Laboratory	2
C. E. 12—Plane Surveying	2	A. M. 3—Statics	3
M. E. 15a—Manufacturing Processes	2	Agron. 61—Soils	4
A. I. 1—Fm. Livestock Prod. *or*	3	Military or Air Science	2
A I. 21—Fund. of Dairying	3		
Military or Air Science	2		
	18		18

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Engr. 3a—The Engr. Profession	0	Agr. Engr. 3b—The Engr. Profession	0
A. M. 100—Strength of Materials	4	Applied Mech. 4—Dynamics	2
C. E. 81—Testing Materials	1	M. E. 134—Elem. of Engr. Thermodyn	3
Agr. Engr. 20—Farm Machinery	3	Agr. Engr. 6—Machine & Struct. Prac.	2
Agr. Econ. 1—Agri. Economics	3	Agr. Engr. 121a—Fm. Bldgs. & Eq.	4
Geol. 12a—Elem. Geol. for Engrs.	3	Geog. 10—Economic Geog. Surv.	3
*Elective	3	*Elective	3
	17		17

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Engr. 4a—The Engr. Profession	0	Agr. Engr. 4b—The Engr. Profession	0
Agr. Engr. 120—Agr. Tractor Power	3	Agr. Engr. 122a—Soil & Water Cons. Engr.	4
E. E. 101—Fund of Elec. Machinery	3	Agr. Engr. 124—Elec. in Agr.	3
M. E. 107—Fluid Mechanics *or*	4	Agr. Econ. 110—Farm Management	3
C. E. 120—Hydraulics *and*	2	English 6—Essentials of Speech	3
C. E. 123—Hydraulics Laboratory	1	Hist. 5b—History of U.S. since 1865	3
Econ. 51—Prin. of Economics	3	*Elective	3
English 30—Business English	2		
*Elective	3		
	18 or 17		19

* All electives selected must have the approval of the Head of the Department.

Suggested technical electives. (For non-technical electives see catalogue statement on Options and Electives):

Agr. Engr. 121b, 122b	E. A. 102	Agr. Ext. 101
Arch. Engr. 7a	A. M. 2	Agron. 111, 114, 120
C. E. 107, 110a, 126, 171a, 175	Met. E. 37	A. I. 81
E. E. 105a, 105b, 107R, 107L	Com. 109a	R. S. 10
M. E. 100a, 109, 116, 129, 141a		

Curriculum in Agricultural Extension and Vocational Agriculture Leading to the Degree of Bachelor of Science in Agriculture

The Curriculum in Agricultural Extension and Vocational Agriculture is designed marily for students who plan to enter an occupation involving educational activities rural people. Students desiring to qualify for teaching Vocational Agriculture or for cultural Extension are advised to follow this curriculum.

A student electing this curriculum will be assigned an adviser from either the staff Agricultural Education or Agricultural Extension. At the beginning of the senior year should have an adviser in the field in which he hopes to secure employment.

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 5, Introd. to Agronomy	3	Agr. Ec. 1, Agricul. Economics	3
A. I. 1, Farm Livest Prod.	3	A. I. 21, Fund. of Dairying, or }	3
Eng. 1a, Eng. Composition	3	A. I. 41, Farm Poultry Prod. }	
*Math. 5 or 17, Col. Algebra	5 or 3	Bot. 1, General Botany	4
Military or Air Science	2	Eng. 1b, Eng. Composition	3
Physical Education	1	L. S. 25, Use of Library	1
		Military or Air Science	2
		Physical Education	1
	17 or 15		17

* Those scoring H on the Kentucky classification test in mathematics must first t Mathematics 1.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 6, Prin. of Field Cr. Prod.	3	A. I. 21, Fund. of Dairying, or A. I. 41, Farm Poultry Prod.	3
Agr. Engr. 15, Mech. of Farmstead	3	A. I. 61, Genetics	3
Hort. 1, Genl. Hort.	3	R. S. 10, Introd. to Rur. Soc.	3
Chem. 1a or 4a, Genl. Chem.	5 or 4	Chem. 1b or 4b, Genl. Chem.	5 or 4
Econ. 51, Prin. of Economics	3	Eng. 6, Essen. of Speech	3
Military or Air Science	2	Military or Air Science	2
	19 or 18		19 or 18

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 61, Soils	4	Agr. Econ. 110, Farm Management	3
Agr. Econ. 100, Agr. Marketing	3	Agron. 141, Plant Pathology	3
A. I. 81, Feeds & Feeding	4	Hist. 5b, Hist .of U.S. since 1865, or Hist. 132, Hist. of Am. Agricul. Econ. 3, Econ. Hist. of U. S.	3
Bact. 52, Prin. of Bacteriology	4		
*Electives	3	*Electives	8
	18		17

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Ent. 102, Econ. Entomol, or Agr. Ent. 103, Econ. Entomol, or Agr. Ent. 104, Econ. Entomol.	3	Electives (Primarily courses in methods, as approved by the major advisers.)	18
	15		
	18		

* For those students who plan to qualify for teaching Vocational Agriculture, electives should include Agricultural Engineering 17a or 17b, and at least one of the following courses: Agronomy 101, Pasture Prod. and Management, Agronomy 111, Soil Conservation, Agronomy 114, Fertilizers and Soil Fertility, and Agronomy 120, Soil Physics.

* For those students who plan to qualify for positions in Agricultural Extension, electives should include the following courses: Animal Pathology 51, Animal Hygiene, Agronomy 101, Pasture Prod. and Management, and Agricultural Extension 101, Principles of Agricultural Extension.

For students who plan to qualify for teaching Vocational Agriculture, Agricultural Education 181, Teaching Vocational Agriculture, Agr. Ed. 179, Determining Content in Vocational Agriculture, and Agr. Ed. 182, Adult-Farmer Schools and Young-Farmer Courses in Agriculture are required.

* All electives are subject to approval by the adviser in the vocational area for which the student is preparing.

Summary

Prescribed courses in agriculture	50
Prescribed non-agriculture	45-52
Electives in agriculture	10
Total required for graduation	140

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

The Curriculum in Agronomy is designed to accomplish the following objectives:

1. To prepare undergraduate students for such occupations as farming; commercial seed production or processing; agricultural extension and teaching; soil conservation; production and distribution of fertilizers, pesticides, etc.; and other occupations for which agronomic training is essential.

2. To prepare undergraduate students for graduate study essential for careers in research or college teaching in Agronomy or Plant Pathology.

A student may, with the approval of his adviser, substitute certain courses for those specified in this curriculum.

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Agron. 5, Introd. to Agron.	3	Agr. Econ. 1, Agricul. Econ., or Econ. 51, Prin. of Economics	3
Bot. 1, General Botany	4	Agron. 6, Prin. of Field Cr. Prod.	3
Eng. 1a, English Composition	3	Hort. 1, Genl. Hort.	3
°Math. 5 or 17, Col. Algebra	5 or 3	Eng. 1b, English Composition	3
Military or Air Science	2	Geol. 3, Elem. Geology	3
Physical Education	1	Military or Air Sciences	2
		Physical Education	1
	18 or 16		18

° Those scoring H on the Kentucky classification test in mathematics must first t Mathematics 1.

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
A. I. 1, Farm Livestock Prod.	3	Agron. 61, Soils	4
Agr. Engr. 15, Mech. of Farmstead	3	A. I. 81, Feeds and Feeding	4
R. S. 10, Introd. to Rural Sociology	3	Chem. 1b or 4b, Genl. Chem.	5 or 4
Chem. 1a or 4a, Genl. Chem.	5 or 4	Eng. 6, Essen. of Speech or Eng. 60, Advanced Composition	3
Jour. 10, Survey of Journ.	3	Military or Air Science	2
Military or Air Science	2		
	19 or 18		18 or 17

JUNIOR YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
A. I. 61, Genetics, or Bot. 130, Introd. to Heredity	3	Agron. 141, Plant Pathology	3
Bact. 52, Prin. of Bacteriology	4	Electives	14 to 16
Electives	10 to 12		
	17 to 19		17 to 19

SENIOR YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Electives	17 to 20	Electives	17 to 20

Electives are subject to the approval of the adviser and must include: (1) at leas hours selected from chemistry, physics, mathematics, geology and botany; (2) and 15 ditional hours in agronomy.

Total required for graduation 140

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

The Curriculum in Animal Husbandry is designed to train students in:

(1) the production of beef cattle, sheep and swine
(2) technical phases of animal nutrition
(3) processing of meat, and the meat industry
(4) animal improvement

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Agron. 5, Introd. to Agron.	3	°°A. I. 21, Fund. of Dairying, or A. I. 41, Farm Poultry Prod.	3
A. I. 1, Farm Livestock Prod.	3	Bot. 1, Genl. Botany	4
Eng. 1a, English Comp.	3	Eng. 1b, English Composition	3
°Math. 5 or 17, Col. Algebra	5 or 3	Zool. 1, Prin. of An. Biology	4
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	17 or 15		18

° Those scoring H on the Kentucky classification test in Mathematics must first t Mathematics 1.

°° For those students expecting to enter extension work both A. I. 21 and A. I. are recommended.

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Course		Course	
Agron. 6, Prin. of Crop Prod.	3	A. I. 6, Fm. Butch & Meat Cur, or A. I. 7, Sel., Eval. & Use of Meats	4 or 3
Agr. Ec. 1, Agr. Economics	3	A. I. 81, Feeds & Feeding	4
A. I. 9, Breeds of Livestock	3	Chem. 1b or 4b, Genl. Chem.	5 or 4
A. I. 61, Genetics	3	Econ. 51, Prin. of Econ.	3
Chem. 1a or 4a, Genl. Chem.	5 or 4	Military or Air Science	2
Military or Air Science	2		
	19 or 18		18 or 16

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Course		Course	
Agron. 61, Soils	4	Agr. Ec. 100, Agricul. Marketing	3
A. P. 51, Animal Hygiene or A. P. 101, Anat. & Physiol. Dom. An.	3	A. I. 2, Livestock Judging	3
		A. I. 100, Animal Breeding	3
Chem. 37, Organic Chem.	4	Agr. Engr. 15, Mech. of Farmstead	3
Eng. 6, Essen. of Speech	3	Bact. 52, Prin. of Bacteriology	4
Electives	4	Electives	3
	18		19

SENIOR YEAR

	Crs.
A. I. 104, Sheep Production	3
A. I. 105, Beef Production	3
A. I. 106, Pork Production	3
A. I. 107, An. Husb. Seminar	1
A. I. 181, Prin. of An Nutrition	3
Agr. Econ. 110, Farm Management	3
Jour. 10, Survey of Journalism	3
Electives	9 to 17

Summary

Prescribed agriculture	63-64 hours
Prescribed non-agriculture	53-60 hours
Electives	16-24 hours
Total required for graduation	140

Curriculum in Dairy Production Leading to the Degree Bachelor of Science in Agriculture

The Curriculum in Dairy Production is designed to train students who plan to enter an occupation requiring knowledge pertaining to all phases of dairying other than dairy manufacturing. The completion of this curriculum will prepare students for such occupations as: farming, agricultural extension, dairy herdsmen, artificial breeding, fieldmen and salesmanship positions for which animal training is essential.

A student interested in this curriculum should make such his selection as early in his college work as possible but he may transfer from another curriculum after the sophomore year with the loss of little if any credit.

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Course		Course	
A. I. 21, Fund. of Dairying	3	Agr. Ec. 1, Agricul. Economics	3
Chem. 1a or 4a, Genl. Chem.	5 or 4	Chem. 1b or 4b, Genl. Chem.	5 or 4
Eng. 1a, Eng. Composition	3	Eng. 1b, Eng. Composition	3
°Math. 5 or 17, Col. Algebra	5 or 3	Zool. 1, Prin. of An. Biology	4
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	19 or 16		19 or 18

° Those scoring H on the Kentucky classification test in mathematics must first take Mathematics 1.

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Agron. 5, Introd. to Agron.	3	Agron. 6, Prin. of Field Cr. Prod.	3
A. I. 1, Farm Livestock Prod. or A. I. 41, Farm Poultry Prod.	3	A. I. 1, Farm Livestock Prod. or A. I. 41, Farm Poultry Prod.	3
Agr. Engr. 15, Mech. of Farmstead	3	A. I. 81, Feeds and Feeding	4
Bot. 1, General Botany	4	Econ. 51, Prin. of Econ.	3
Eng. 6, The Essen. of Speech	3	Hist. 4a, Mod. Eur. to Fr. Revo. or	
Military or Air Science	2	Hist. 5b, Hist. of U.S. since 1865 or Hist. 40, Hist. of Ky.	3
		Military or Air Science	2
	18		18

JUNIOR YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Agron. 61, Soils	4	Agron. 101, Pasture Prod. & Mgt.	3
Agr. Ec. 100, Agr. Marketing	3	A. I. 23, Jdg. Dairy Cattle	3
A. I. 61, Genetics	3	Bact. 52, Prin. of Bacteriology	4
An. Path. 51, Animal Hygiene	3	Jour. 10, Survey of Journalism	3
Chem. 37, Organic Chem.	4	Elective	3
	17		16

SENIOR YEAR

	Crs.
A. I. 121, Dairy Cattle Feeding & Mgt.	3
Agr. Ec. 110, Farm Management	3
An. Path. 101, Anat. & Physiol. of Dom. Animals	3
A. I. 139a, b Dairy Seminar	2
A. I. 123, Dairy Bacteriology	2
A. I. 120, Dairy Cattle Breeding	3
A. I. 132, Reproduction in Dairy Cattle	2
Electives	15 or 19
	33 or 37

Summary of Dairy Production Curriculum

Prescribed courses in agriculture	62
Prescribed courses in non-agriculture	56 to 63
Electives	15 to 22
Total required for graduation	140

Curriculum in Poultry Husbandry Leading to the Degree Bachelor of Science in Agriculture

The Curriculum in Poultry Husbandry is designed to train students for various phases of poultry production and management and also for service in allied industries.

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Agron. 5, Introd. to Agron.	3	Agr. Ec. 1, Agricultural Econ.	3
A. I. 1, Farm Livestock Prod., or A. I. 21, Fund. of Dairying, or A. I. 41, Farm Poultry Prod.	3	A. I. 1, Farm Livestock Prod., or A. I. 21, Fund. of Dairying, or A. I. 41, Farm Poultry Prod.	3
Eng. 1a, English Comp.	3	Bot. 1, Genl. Botany	4
*Math. 5 or 17, Col. Algebra	5 or 3	Eng. 1b, English Comp.	3
Military or Air Science	2	Military or Air Science	1
Physical Education	1	Physical Education	
	17 or 15		17

* Those scoring H on the Kentucky classification test in Mathematics must first take Mathematics 1.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 6, Prin. of Crop Prod.	3	A. I. 1, Farm Livestock Prod., or	3
Hort. 1, Genl. Hort.	3	A. I. 21, Fund. of Dairying, or	
Chem. 1a or 4a, Genl. Chem.	5 or 4	A. I. 41, Farm Poultry Prod.	
Econ. 51, Prin. of Econ.	3	Chem. 1b or 4b, Genl. Chem.	5 or 4
Geol. 3, Elem. Geology	3	Physics 8, Genl. Physics, or	4 or 3
Military or Air Science	2	Agr. Engr. 15, Mech. of F'mstead	
		Zool. 1, Prin. of An. Biology	4
		Military or Air Science	2
	19 or 18		18 or 16

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Ent. 1, Agr. Entomology	3	Agr. Ec. 100, Agricul. Marketing	3
Agron. 61, Soils	4	Agr. Ec. 110, Farm Management	3
A. I. 61, Genetics	3	A. I. 43, Hatchery Management	3
A. I. 141, Adv. Poultry Prod.	3	A. I. 44, Poultry Judging	3
Chem. 37, Organic Chem.	4	A. I. 147, Poultry Nutrition	3
		Bact. 52, Prin. of Bacteriology	4
	17		19

SENIOR YEAR

	Crs.
A. I. 140, Poultry Breeding	3
A. I. 142, Mktg. & Processing Poultry Products	2
A. I. 145, Adv. Poultry Judging	3
Agr. Engr. 17a, Farm Shop	3

Summary of Poultry Curriculum

Prescribed courses in agriculture	60 to 63
Prescribed courses, non-agriculture	50 to 58
Electives	19 to 30
Total required for graduation	140

Curriculum in Dairy Manufacturing Leading to the Degree Bachelor of Science in Agriculture

All students in Dairy Manufacturing will follow the same outline of study for the first two years. The first year coincides with that recommended for Dairy Production majors. By the end of his sophomore year each student will be expected to select a field of concentration from one of the following:

Division 1—*General.* For students who wish to prepare for positions directly involving processing operations in dairy plants; also suggested for students who are interested in dairy plant field work and certain types of government positions. (First-semester juniors who are undecided regarding their area of concentration will begin in Division 1.)

Division 2—*Laboratory and Research.* Training in this division is recommended for students desiring employment in quality control or research laboratories, as regulatory officials, or who plan to take advanced work after obtaining the undergraduate degree.

Division 3—*Administration.* Suggested for students who wish to prepare for managerial positions, for personnel, sales, and merchandising work, and for general business administration in dairy plants, government agencies, and various commercial organizations, where a knowledge of both dairy manufacturing and business practices is desirable.

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 21, Fund. of Dairying	3	Agr. Ec. 1, Agricultural Econ.	3
Eng. 1a, English Composition	3	Chem. 4b, General Chemistry	4
*Math. 5, College Algebra	5	Eng. 1b, English Composition	3
**Chem. 4a, Gen. Chem.	4	Zool. 1, Prin. of An. Biology	4
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	18		18

* Math. 17 may be taken as an alternative; those scoring H on the Kentucky classification test in Mathematics must first take Math. 1.

** Chem. 1a and 1b may be taken as alternates.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Ent. 3, Econ. Ent.: Hshl. Ins.	2	Eng. 60, Advanced Composition, or / Eng. 30, Business English	3 or 2
Bact. 52, Prin. of Bacteriology	4	Econ. 3, Economic Hist. of U. S.	3
Chem. 37, Organic Chem.	4	Agr. Engr. 17b, Farm Shop	3
Econ. 51, Prin. of Econ.	3	A. I. 24, Dairy Plant Testing Methods	3
Math. 4, Elem. Theory Statis.	3	Psych. 1, Intro. to Psychology	4
Military or Air Science	2	Military or Air Science	2
	18		18 or 17

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 22, Jdg. Dairy Products	2	Agr. Ec. 100, Agr. Marketing	3
A. I. 123, Dairy Bacteriology	2	A. I. 135, Dairy Processing & Plant Management	6
A. I. 124, Dairy Bact. Lab.	2	Com. 7a, Prin. of Accounting	4
Eng. 6, Essen. of Speech	3	Electives	4 or 5
Phys. 1a, Gen. Elem. Phys., or / Phys. 8, Genl. Phys.	5 or 4		
Soc. 106, Prin. of Soc.	3		
Electives	none or 1		
	18 or 17		17 or 18

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 139a, Dairy Seminar	1	Agr. Engr. 102, Dairy Equipment	2
Electives	15	Electives	14
	16		16

Total required for graduation .....140 credits

Divisional Options

Each student will be required to take A. I. 30, Approved Dairy Practice (1 cr.), a minimum of 6 hours of Group A electives (See footnote, p. 91 Group A electives), and certain other courses (Group 1) which will be determined by the division in which he concentrates. Group II courses are electives and, as such, could be replaced by other courses upon approval the student's faculty adviser. It is felt, however, that at least a major portion of the electives should be chosen from this group.

Division 1—General*

Group I
- A. I. 121, Dairy Cattle Feeding and Management (3)
- A. I. 134, Prin. of Dairy Technology (4)
- Hyg. 1, Personal & Community Health (1)

Group II (22 Hrs.)
- A. I. 127, Surv. of the Dairy Industry
- A. I. 129a, Special Prob. in Dairying
- Phys. 1b, General Elem. Physics (5)
- Econ. 52, Principles of Economics (3)
- Psych. 2, Applied Psychology (3)
- Psych. 104, Social Psychology (3)
- Psych. 127, Introd. to Industrial Psych.
- Pol. Sci. 51, American Government
- Com. 137, Industrial Management (3)

* Students training for positions as dairy plant fieldmen should elect at least one additional course in Dairy Production.

Division 2—Laboratory and Research

Group I
A.I. 134, Prin. of Dairy Technology (4)
Chem. 22, Analytical Chemistry (5)
Hyg. 1, Personal & Community Health (1)
A. I. 121, Dairy Cattle, Feeding & Mgt. (3)

Group II (16 Hrs.)
A. I. 127, Surv. of the Dairy Industry (3)
A. I. 129a, Special Prob. in Dairying (3)
Math. 18, Plane Trigonometry (3)
Math. 19, Plane Analytical Geometry (3)
Com. 171, Statistical Quality Control (2)
Phys. 1b, Gen. Elem. Physics (5)
Chem. 143, Physical Chemistry (5)
Bact. 104, Applied Bacteriology (2)
P. S. 51, American Government (3)

Division 3—Administration

Group I
A. I. 134, Prin. of Dairy Technology (4)
Agr. Ec. 103, Mktg. Livestock and Livestock Products (2)
Hyg. 1, Personal and Community Health (1)
A. I. 121, Dairy Cattle Feeding and Mgt. (3)
Eng. 30, Business English (2), or, Eng. 60, Adv. Composition (3)
Econ. 52, Prin. of Economics (3)

Group II
A. I. 127, Surv. of the Dairy Industry (3)
A. I. 129a, Special Prob. in Dairying (3)
Com. 60, Principles of Marketing (3)
Com. 62, Principles of Advertising (3)
Com. 63, Salesmanship (2)
Jour. 114, Newspaper Advg. and Promotion (3)
Jour. 115, Advg. Typography and Layout (3)
Jour. 118, Public Relations (3)
Psych. 2, Applied Psychology (3)
Com. 61, Marketing Management (3)
P. S. 51, American Government (3)
Com. 7b, Principles of Accounting (4)
Com. 145, Office Management (3)
Com. 156, Business Reports (2)
Com. 137, Industrial Management (3)
Econ. 102, Labor Economics (3)
Jour. 10, Survey of Journalism (3)

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

The Curriculum in Horticulture is designed for students interested in applied phases of fruit and vegetable production and also for those preparing for further professional training in these areas.

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 5, Introd. to Agron.	3	Agr. Ec. 1, Agricultural Economics	3
Bot. 1, General Botany	4	Agr. Ent. 1, Agricul. Entomology	3
Eng. 1a, English Comp.	3	Hort. 1, Genl. Hort.	3
Math. 1, Basic Math., or Math. 5 or 17, Col. Algebra	3 (5 or 3 cr.)	Eng. 1b, English Comp.	3
		L. S. 25, Use of the Library	1
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	18 or 16		16

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Engr. 15, Mech. of Farmstead	3	Agron. 61, Soils	4
Chem. 1a or 4a, Genl. Chem.	5 or 4	Chem. 1b or 4b, Genl. Chem.	5 or 4
Econ. 51, Prin. of Economics	3	Eng. 6, Essen. of Speech	3
Geol. 3, Elem. Geology	3	Journ. 10, Survey of Journ.	3
Military or Air Science	2	Zool. 1, Prin. of An. Biology	4
Electives	3		
	19 or 18		19 or 18

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 141, Plant Pathology	3	Agr. Ec. 100, Agricul. Marketing	3
Chem. 37, Organic Chemistry	4	Bact. 52, Prin. of Bacteriology	4
Electives	10	Electives	10
	17		17

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 21, Fund. of Dairying	3	Agr. Ec. 1, Agricultural Econ.	3
Eng. 1a, English Composition	3	Chem. 4b, General Chemistry	4
*Math. 5, College Algebra	5	Eng. 1b, English Composition	3
**Chem. 4a, Gen. Chem.	4	Zool. 1, Prin. of An. Biology	4
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	18		18

* Math. 17 may be taken as an alternative; those scoring H on the Kentucky classification test in Mathematics must first take Math. 1.

** Chem. 1a and 1b may be taken as alternates.

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Ent. 3, Econ. Ent.: Hshl. Ins.	2	Eng. 60, Advanced Composition, or / Eng. 30, Business English	3 or 2
Bact. 52, Prin. of Bacteriology	4	Econ. 3, Economic Hist. of U. S.	3
Chem. 37, Organic Chem.	4	Agr. Engr. 17b, Farm Shop	3
Econ. 51, Prin. of Econ.	3	A. I. 24, Dairy Plant Testing Methods	3
Math. 4, Elem. Theory Statis.	3	Psych. 1, Intro. to Psychology	4
Military or Air Science	2	Military or Air Science	2
	18		18 or 17

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 22, Jdg. Dairy Products	2	Agr. Ec. 100, Agr. Marketing	3
A. I. 123, Dairy Bacteriology	2	A. I. 135, Dairy Processing & Plant Management	6
A. I. 124, Dairy Bact. Lab.	2	Com. 7a, Prin. of Accounting	4
Eng. 6, Essen. of Speech	3	Electives	4 or 5
Phys. 1a, Gen. Elem. Phys., or / Phys. 8, Genl. Phys.	5 or 4		
Soc. 106, Prin. of Soc.	3		
Electives	none or 1		
	18 or 17		17 or 18

SENIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
A. I. 139a, Dairy Seminar	1	Agr. Engr. 102, Dairy Equipment	2
Electives	15	Electives	14
	16		16

Total required for graduation .....140 credits

Divisional Options

Each student will be required to take A. I. 30, Approved Dairy Practices (1 cr.), a minimum of 6 hours of Group A electives (See footnote, p. 91 Group A electives), and certain other courses (Group 1) which will be determined by the division in which he concentrates. Group II courses are electives and, as such, could be replaced by other courses upon approval the student's faculty adviser. It is felt, however, that at least a major portion of the electives should be chosen from this group.

Division 1—General*

Group I
- A. I. 121, Dairy Cattle Feeding and Management (3)
- A. I. 134, Prin. of Dairy Technology (4)
- Hyg. 1, Personal & Community Health (1)

Group II (22 Hrs.)
- A. I. 127, Surv. of the Dairy Industry
- A. I. 129a, Special Prob. in Dairying
- Phys. 1b, General Elem. Physics (5)
- Econ. 52, Principles of Economics (3)
- Psych. 2, Applied Psychology (3)
- Psych. 104, Social Psychology (3)
- Psych. 127, Introd. to Industrial Psych.
- Pol. Sci. 51, American Government
- Com. 137, Industrial Management (3)

* Students training for positions as dairy plant fieldmen should elect at least one additional course in Dairy Production.

Division 2—Laboratory and Research

Group I
A.I. 134, Prin. of Dairy Technology (4)
Chem. 22, Analytical Chemistry (5)
Hyg. 1, Personal & Community Health (1)
A. I. 121, Dairy Cattle, Feeding & Mgt. (3)

Group II (16 Hrs.)
A. I. 127, Surv. of the Dairy Industry (3)
A. I. 129a, Special Prob. in Dairying (3)
Math. 18, Plane Trigonometry (3)
Math. 19, Plane Analytical Geometry (3)
Com. 171, Statistical Quality Control (2)
Phys. 1b, Gen. Elem. Physics (5)
Chem. 143, Physical Chemistry (5)
Bact. 104, Applied Bacteriology (2)
P. S. 51, American Government (3)

Division 3—Administration

Group I
A. I. 134, Prin. of Dairy Technology (4)
Agr. Ec. 103, Mktg. Livestock and Livestock Products (2)
Hyg. 1, Personal and Community Health (1)
A. I. 121, Dairy Cattle Feeding and Mgt. (3)
Eng. 30, Business English (2), or, } 3 or 2
Eng. 60, Adv. Composition (3) }
Econ. 52, Prin. of Economics (3)

Group II
A. I. 127, Surv. of the Dairy Industry (3)
A. I. 129a, Special Prob. in Dairying (3)
Com. 60, Principles of Marketing (3)
Com. 62, Principles of Advertising (3)
Com. 63, Salesmanship (2)
Jour. 114, Newspaper Advg. and Promotion (3)
Jour. 115, Advg. Typography and Layout (3)
Jour. 118, Public Relations (3)
Psych. 2, Applied Psychology (3)
Com. 61, Marketing Management (3)
P. S. 51, American Government (3)
Com. 7b, Principles of Accounting (4)
Com. 145, Office Management (3)
Com. 156, Business Reports (2)
Com. 137, Industrial Management (3)
Econ. 102, Labor Economics (3)
Jour. 10, Survey of Journalism (3)

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

The Curriculum in Horticulture is designed for students interested in applied phases of fruit and vegetable production and also for those preparing for further professional training in these areas.

FRESHMAN YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 5, Introd. to Agron.	3	Agr. Ec. 1, Agricultural Economics	3
Bot. 1, General Botany	4	Agr. Ent. 1, Agricul. Entomology	3
Eng. 1a, English Comp.	3	Hort. 1, Genl. Hort.	3
Math. 1, Basic Math., or Math. 5 or 17, Col. Algebra	3 (5 or 3 cr.)	Eng. 1b, English Comp.	3
		L. S. 25, Use of the Library	1
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	18 or 16		16

SOPHOMORE YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agr. Engr. 15, Mech. of Farmstead	3	Agron. 61, Soils	4
Chem. 1a or 4a, Genl. Chem.	5 or 4	Chem. 1b or 4b, Genl. Chem.	5 or 4
Econ. 51, Prin. of Economics	3	Eng. 6, Essen. of Speech	3
Geol. 3, Elem. Geology	3	Journ. 10, Survey of Journ.	3
Military or Air Science	2	Zool. 1, Prin. of An. Biology	4
Electives	3		
	19 or 18		19 or 18

JUNIOR YEAR

FIRST SEMESTER		SECOND SEMESTER	
Course	Crs.	Course	Crs.
Agron. 141, Plant Pathology	3	Agr. Ec. 100, Agricul. Marketing	3
Chem. 37, Organic Chemistry	4	Bact. 52, Prin. of Bacteriology	4
Electives	10	Electives	10
	17		17

SENIOR YEAR
(Electives 34 hrs.)
Electives in Junior and Senior Years—54 hours.
Minimum option requirement in Horticulture in Junior and Senior Years
(courses in Pomology and Vegetable Gardening—14 hrs.)

Summary

	Crs.
Prescribed agriculture	25
Prescribed non-agriculture	56-63
Required Horticulture for option	14
Electives in agriculture (including horticulture option)	21
Electives (subject to approval of adviser)	31-38
Total required for graduation	140

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

The Curriculum in Ornamental Horticulture is designed for students interested in landscape and floriculture. It provides the basic training for this form of specialization on both the applied and professional levels.

FRESHMAN YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Agr. Ent. 1, Agricul. Entomol.	3	Hort. 1, General Horticulture	3
Art 61, Drawing	2	Art Elective	3
Bot. 1, Genl. Botany	4	Bot. 2, Plant Kingdom	3
Eng. 1a, English Comp.	3	Eng. 1b, English Comp.	3
Engr. Dr. 2, Mech. Drawing	1	Math. 1, Basic Math., or	3
Military or Air Science	2	Math. 5 or 17, Col. Algebra	5 or 3
Physical Education	1	Military or Air Science	2
		Physical Education	1
	16		20 or 18

SOPHOMORE YEAR

FIRST SEMESTER Course	Crs.	SECOND SEMESTER Course	Crs.
Agr. Ec. 1, Agricul. Economics	3	Agron. 61, Soils	4
Agron. 5, Introd. to Agron.	3	Hort. 22, Elem. Floriculture	2
Chem. 4a, Genl. Chem.	4	Chem. 4b, Genl. Chem.	4
Geol. 3, Elem. Geology	3	Econ. 51, Prin. of Econ.	3
Military or Air Science	2	Military or Air Science	2
Electives	2	Electives	3
	17		18

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. 124a-c, Special Problems in Ornamental Hort.	9
Hort. 125, Plants and Planting Material	2
Electives in Agriculture	9
Electives	29
Total	140

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
En. Dr. 1a—Elem. Engr. Draw.	2	Econ. 51, Prin. of Economics	3
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
	17		17

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 a stipulated amount per student per year through the Southern Regional Education Board to the institution.

Applicants for admission to the Veterinary School at Auburn must have a grade point average of 2.25 on all courses attempted, and also a 2.25 standing on all required courses. They must be bona fide residents of Kentucky. A grade of D on any required course will not be accepted. The Committee on Admissions of the School of Veterinary Medicine may require a personal interview with any applicant and may also require an examination on any required course. If admitted, Kentucky students have the same status as Alabama students; they do not pay out-of-state tuition.

Inquiries should be addressed to the Committee on Regional Veterinary Training, Dr. F. E. Hull, Chairman, University of Kentucky, Lexington. Admission to the School of Veterinary Medicine must be gained by making formal application through the committee not less than three months in advance of the entrance date. Applications will be considered only from students who submit evidence of satisfactory completion of all requirements. Students will be admitted at the beginning of the fall quarter only.

Students who do not enter the Alabama Veterinary School after the c pletion of the two-year pre-veterinary program may continue in the Univer for the third year of study and may then be accepted by the Alabama Sch Such students will be awarded the degree Bachelor of Science in Agricul after one year of study in Alabama if they complete the prescribed 30 seme credits required in the first year of the veterinary curriculum with a stand of 2 according to the University of Kentucky grade-point system.

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

FIRST YEAR

First Semester	Crs.	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.	1
		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 Chem classification tests will be required to pass Mathematics 1 with a grade of C be scheduling algebra and chemistry.

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

°°° Requirement may be satisfied by either one semester of Medical Terminolog two semesters of Modern Foreign Language.

THIRD YEAR

First Semester	Crs.	Second Semester	Crs.
Agr. Econ. 1—Agr. Econ.	3	A. I. 21—Fund. of Dairying	3
Agron. 5, Introd. to Agron.	3	A. I. 61—Genetics	3
Agron. 61, Soils	4	Econ. 51—Prin. of Econ.	3
Agr. Engr. 15—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
	19		17

FOURTH YEAR

(At Alabama Polytechnic Institute—Standing of 2 Required)

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

Graduate Work

The departments in the college offer graduate work leading to the foll ing advanced degrees in the Graduate School:

1. Master of Science in Agriculture with a major in any department section other than Agricultural Entomology or Animal Pathology.

2. Doctor of Philosophy in the Departments of Animal Industry, Agricultural Economics, and Rural Sociology.

Short Courses

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

Farm and Home Convention

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

REQUIREMENTS FOR GRADUATION IN HOME ECONOMICS

To receive the degree Bachelor of Science in Home Economics a student is required to gain a total of 136 semester credits and 272 points. These represent the minimum requirements for graduation. There are seven curricula in home economics and a student who completes the requirements of any one of these qualifies for the degree. In all cases the student is responsible for meeting requirements for graduation.

Home Economics offers education for home and family living in a contemporary society. It includes liberalizing courses in the arts, humanities, and sciences as well as technical education in the subject matter of the profession. The student in home economics receives the type of education which gives an understanding of citizenship in a community and responsibility in the family. Home economics also provides education for some of the professions that deal with the home and family living. To that end, curricula are planned to serve as guides for major emphasis in specialized fields of work.

Faculty advisers are appointed by the Director of the School of Home Economics to assist students with their academic problems. These include choice of a curriculum, selection of elective courses, preparation of class schedules, and problems of employment. The normal academic load is 17 credits 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 18 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. 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

The general curriculum constitutes a core curriculum, and courses listed are required in all curricula.

FRESHMAN AND SOPHOMORE YEARS

	Crs.
General	
A. & P. 5—Elementary Physiology	3
Art 34—Forms of Art	2
Art 62—Basic Design, or	
Humanities D—Art: The Renaissance to the Present	2
Chem. 4a, b—General Chemistry for Students in Agriculture & Home Ec.	8
Econ. 51—Principles of Economics	3
*English 1a, b—English Composition	6
History	3
Journalism or English (Speech)	3
**Math. 1—Basic Mathematics, or Math. 5 or 17, or elective	3 or (3
Physical Education	2
Physics 51a, or b—Introduction to Physics or	3 or
Physics 8—General Physics for Students in Agriculture & Home Ec.	(4)
Psych. 1—Introduction to Psychology	4
Rural Soc. 10—Introduction to Rural Sociology or	
Soc. 3a, or b—Societies Around the World	3
	45 to (4

* The requirement in whole or in part for English 1a and 1b may be satisfied with credit by passing a departmental proficiency examination. It is recommended that stude deficient in English, as indicated by the freshman tests, take English D (with no cre before taking English 1a.

** Students deficient in mathematics, as indicated by the freshman tests, are requ to pass Mathematics 1 with a grade of C before taking Chemistry.

Home Economics

	Crs.
H. E. 5—Foods	4
H. E. 6—Foods	3
H. E. 25—Textiles	2
H. E. 26—Clothing Selection & Costume Design	3
H. E. 51—Health of the Family	3
H. E. 52—Introduction to Child Development	4
H. E. 61—Housing	4
	23

JUNIOR AND SENIOR YEARS

	Crs.
Home Economics	
H. E. 11—Foods and Nutrition	3
H. E. 102—Dietetics	3
H. E. 129—Interior Design	3
H. E. 154—Family Living	4
H. E. 161—Consumer Problems	3
H. E. 162a, b—Home Management	5
Home Economics electives	18
Area electives	20
Free electives	9
	68

Total required for graduation

Summary

Core Courses		89
General Education	45	
Home Economics	44	
Home Economics Electives		18
General Electives		29
Total required for graduation		136

General Electives are to be chosen with assistance of the student's advis The following areas are recommended.

Agricultural Extension
Anthropology
Art
Bacteriology
Chemistry
History
Horticulture
Journalism
Library Science
Physical Education

Commerce
Education
English
Agricultural Engineering
Psychology
Radio Arts
Sociology
Zoology

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) Food and Equipment Demonstration; (4) Home Economics Extension; (5) Institution Management; and (6) Vocational Home Economics, (teaching).

The electives should be chosen in accordance with a definite plan, and students should consult with their advisors concerning both Home Economics electives and general electives. The courses from which Home Economics electives are to be chosen appear under each major field.

Curriculum in Child Development and Family Living Leading to the Degree Bachelor of Science in Home Economics

This curriculum prepares a student for homemaking, nursery school teaching fellowships, or future specialization in the field of child development and family living.

	Crs.
Core courses (see general curriculum)	89
Home Economics electives	18
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
General electives	29
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.
Core courses (see general curriculum)	89
Home Economics electives (starred courses are required for clothing majors)	18
*H. E. 27—Clothing Construction	4
*H. E. 28—Clothing and Pattern Designing	3
*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 Design	2
H. E. 155—The Child and His Clothing	3
H. E. 128a-c—Special Problems	6
H. E. 136a-c—Special Problems	6
General electives	29
Total	136

Curriculum in Food and Equipment Demonstration Leading to the Degree Bachelor of Science in Home Economics

This curriculum prepares the student for commercial demonstration position or for experimental work in foods and equipment.

	Crs.
Core courses (see general curriculum)	89
Home Economics electives (starred courses are required for majors in Food and Equipment Demonstration)	18
°H. E. 168—Household Equipment	3
°H. E. 105a—Experimental Cookery	3
H. E. 115a—Foods for Special Occasions	3
°H. E. 170—Demonstration Techniques	3
H. E. 114—Food Preservation	3
H. E. 103—Community Nutrition	3
H. E. 41—Institution Marketing	3
H. E. 73—Farm Home Problems	4
H. E. 42—Institution Foods	4
General electives	29
	136

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

	Crs.
Core Courses (see general curriculum)	89
Home Economics Electives (starred courses are required)	18
H. E. 27—Clothing Construction	4
H. E. 28—Clothing and Pattern Designing	3
°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. 152—Child Care and Development	3
H. E. 175—Rural Community Analysis	3
General electives	29
Total	136

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

	Crs.
Core courses (see general curriculum)	89
Home Economics electives (starred courses are required)	18
°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	4
°H. E. 112—Nutrition in Disease	2
H. E. 114—Food Preservation	3
H. E. 140—The School Lunch	3
°H. E. 141—Institution Org. and Mgt.	3
°H. E. 143—Institution Equip.	3
H. E. 149a, c—Special Problems	6
General electives, include Chem. 37, Bact. 52, a course in accounting, Ed. 160	29
Total	136

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

	Crs.
Core courses (see general curriculum)	89
Home Economics electives (starred courses are required for certification)	18
°H. E. 27—Clothing Construction	4
°H. E. 28—Clothing and Pattern Design	3
†°H. E. 130—Interior Decoration Projects	2
H. E. 103—Community Nutrition	3
H. E. 105a-b—Experimental Cookery	3
H. E. 114—Food Preservation	3
H. E. 115—Food for Special Occasions	3
H. E. 127—Advanced Clothing	3
H. E. 137—Tailoring	2
H. E. 140—School Lunch	3
H. E. 152—Child Care & Devel.	3
H. E. 168—Household Equipment	3
General electives (all courses are required for certification)	29
History, political science, language, mathematics or music	3
Education 101 or C147	3
Education 160	3
†Education 162	9
†Education 165	3
Bact. 52	4
Total required for graduation	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

Robert Ezekiel Shaver, 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 resources through organized research and through consultation with industry.

Students receive training in the fundamental and applied sciences in preparation for careers in their chosen branches of engineering. They receive instruction intended to develop a strong professional consciousness and they are encouraged to broaden their education by including courses in the fields of the humanities and social sciences as a part of their elective work.

The College endeavors to keep before its students the latest developments in science with a practical engineering approach to new problems, and promotes engineering research which deals with basic knowledge put to useful purposes. Students are trained to meet the high standards of ethics required of the professional engineer and to appreciate the moral responsibility of the engineer for the effects caused by the uses or misuses of his scientific inventions.

The physical plant consists of Anderson Hall, the Mining, Aeronautical, Highway, and Coal Research Laboratories; and also a temporary classroom and laboratory building. The College is engaged in a number of research projects and students interested in such investigations will have ample opportunity to engage in work along the lines of their special fields of interest.

Admission. On entering the College of Engineering, each student must select the curricula in which he expects to do his major work and register in the appropriate department. In addition to meeting the general requirements for admission to the University, the applicant for admission to the freshman class of the College of Engineering shall include in high school credits one unit of plane geometry and one and one-half units of algebra. It is recommended that the student offer one-half unit in solid geometry, otherwise this subject will be added to the requirements of the freshman year.

Students who have had sufficient mathematics in high school and who score high on the classification test may, by special examination, be excused from College Algebra and Trigonometry and begin their college mathematics with Plane Analytic Geometry.

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 Agricultural Engineering

Bachelor of Science in Chemical Engineering

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. In general the non-technical electives shall be selected from the following fields:—history, economics, government, literature, sociology, philosophy, psychology, and fine arts.

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

Students who can meet the requirements and so desire, may register, pay a suitable fee and enter the program. They will be permitted to alternate on the 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 seven branches of engineering a student must meet the following requirements:

(a) Complete a minimum of 130 semester hours with a standing of 1 exclusive of the basic work in Military Science and Physical Education.

(b) Complete the curriculum of the department in which he is taki his major work.

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

Master of Science in Agricultural Engineering
Master of Science in Civil Engineering
Master of Science in Electrical Engineering
Master of Science in Mechanical Engineering
Master of Science in Metallurgical Engineering
Master of Science in Mining Engineering
Doctor of Engineering (Physical Metallurgy)

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

Ch.E. (Chemical Engineer)
C.E. (Civil Engineer)
E.E. (Electrical Engineer)
M.E. (Mechanical Engineer)
Met.E. (Metallurgical Engineer)
E.M. (Mining Engineer)

A student intending to pursue graduate work in another institution shou inform himself regarding the requirements for entrance to that particular insti tution and plan his undergraduate work accordingly.

For further information regarding graduate work, see the graduate scho section of this bulletin.

Curriculum Leading to the Degree of Bachelor of Science in Agricultural Engineer

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Agr. Engr. 1a—The Engr. Profession	0	Agr. Engr. 1b—The Engr. Profession	0
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	M. E. 5—Slide Rule	1
Chem. 2a—Gen. Chem. for Engrs.	4	Chem. 2b—Gen. Chem. for Engrs.	4
E. D. 1a—Elem. Engr. Drawing	2	E. D. 1b—Descriptive Geometry	2
Military or Air Science	2	Agron. 5—Intro. to Agronomy	3
Physical Education	1	Military or Air Science	2
		Physical Education	1
	18		19

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Agr. Engr. 2a—The Engr. Profession	0	Agr. Engr. 2b—The Engr. Profession	0
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Phys. 3a—General College Physics	3	Phys. 3b—General College Physics	3
Phys. 4a—Physics Laboratory	2	Phys. 4b—Physics Laboratory	2
C. E. 12—Plane Surveying	2	A. M. 3—Statics	3
M. E. 15a—Manufacturing Processes	2	Agron. 61—Soils	4
A. I. 1—Fm. Livestock Prod. *or*	3	Military or Air Science	2
A. I. 21—Farm Dairying	3		
Military or Air Science	2		
	18		18

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Agr. Engr. 3a—The Engr. Profession	0	Agr. Engr. 3b—The Engr. Profession	0
A. M. 100—Strength of Materials	4	Applied Mech. 4—Dynamics	2
C. E. 81—Testing Materials	1	M. E. 134—Elem. of Engr. Thermodyn	3
Agr. Engr. 20—Farm Machinery	3	Agr. Engr. 6—Machine & Struct. Prac.	2
Agr. Econ. 1—Agr. Economics	3	Agr. Engr. 121a—Fm. Bldgs. & Eq.	4
Geol. 12a—Elem. Geol. for Engrs.	3	Geog. 10—Econ. Geography Surv.	3
°Elective	3	°Elective	3
	17		17

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Agr. Engr. 4a—The Engr. Profession	0	Agr. Engr. 4b—The Engr. Profession	0
Agr. Engr. 120—Agr. Tractor Power	3	Agr. Engr. 122a—Soil & Water Cons. Engr.	4
E. E. 101—Fund of Elec. Machinery	3	Agr. Engr. 124—Electricity in Agr.	3
M. E. 107—Fluid Mechanics *or*	4	Agr. Econ. 110—Farm Management	3
C. E. 120—Hydraulics *and*	2	English 6—Essentials of Speech	3
C. E. 123—Hydraulics Laboratory	1	Hist. 5b—History of U.S. since 1865	3
Econ. 51—Prin. of Economics	3	°Elective	3
English 30—Business English	2		
°Elective	3		
	18 or 17		19

° All electives selected must have the approval of the Head of the Department. A list of suggested electives is maintained by the Department.

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

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Ch. E. 1a—The Engr. Profession	0	Ch. E. 1b—The Engr. Profession	0
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Chem. 1a—General Chemistry	5	Chem. 1b—General Chemistry	5
Math. 17—College Algebra	3	Math. 19—Plane Analytic Geometry	3
Math. 18—Plane Trigonometry	3	Met. E. 27—Gen. Elem. Metallurgy	3
E. D. 1a—Elementary Engr. Draw.	2	Military or Air Science	2
Military or Air Science	2	Physical Education	1
Physical Education	1	Elective	2
	19		19

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Ch. E. 2a—The Engr. Profession	0	Ch. E. 2b—The Engr. Profession	0
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Phys. 3a—General College Physics	3	Phys. 3b—General College Physics	3
Phys. 4a—Physics Laboratory	2	Phys. 4b—Physics Laboratory	2
Chem. 22—Analytical Chemistry	5	Ch. E. 21—Chemical Engineering Calculations	4
Military or Air Science	2	Military or Air Science	2
Econ. 51—Principles of Economics	3	A. M. 3—Statics	3
	19		18

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Cr
Ch. E. 3a—The Engr. Profession	0	Ch. E. 3b—The Engr. Profession	
Chem. 130a—Organic Chemistry	5	Chem. 130b—Organic Chemistry	
Chem. 140a—Physical Chemistry	3	Chem. 140b—Physical Chemistry	
Chem. 144a—Physical Chem. Lab.	2	Chem. 144b—Physical Chem. Lab.	
Ch. E. 101a—Unit Operations	3	Ch. E. 101b—Unit Operations	
A. M. 100—Strength of Materials	4	Ch. E. 104a—Unit Operations Lab.	
*Non-technical Elective	3	*Non-technical Elective	
	20		1

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Cr
Ch. E. 4a—The Engr. Profession	0	Ch. E. 4b—The Engr. Profession	
Ch. E. 107a—Chemical Engineering Processes	3	Ch. E. 107b—Chemical Engineering Processes	
Ch.E. 104b—Unit Operations Lab.	2	Phys. 155a—Fundamental Atomic and Nuclear Physics	
Ch. E. 110—Chemical Engineering Thermodynamics	3	*Non-technical Elective	
E. E. 105a—Electrical Engineering Circuits and Machinery	3	E. E. 105b—Electrical Engineering Circuits and Machinery	
*Non-technical Elective	3	*Non-technical Elective	
*Technical Elective	3	*Technical Elective	
Ch. E. 175a—Seminar	1	Ch. E. 175b—Seminar	
	18		1

* All electives selected must have the approval of the Head of the Department.

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

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Cr
Civil Engr. 1a—The Engineering Profession	0	Civil Engr. 1b—The Engineering Profession	
English 1a—English Composition	3	Civil Engr. 5—Civil Engineering Problems	
Math. 17—College Algebra	3	English 1b—English Composition	
Math. 18—Plane Trigonometry	3	Math. 19—Plane Analytic Geometry	
Chem. 2a—General Chemistry for Engineers	4	Chem. 2b—General Chemistry for Engineers	
Engr. Draw. 1a—Elementary Engineering Drawing	2	Engr. Draw. 1b—Descriptive Geometry	
Military or Air Science	2	Civil Engr. 12—Plane Surveying	
Physical Education	1	Military or Air Science	
		Physical Education	
	18		1

OPTION ONE

General Civil Engineering

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Cr
Civil Engr. 2a—The Engineering Profession	0	Civil Engr. 2b—The Engineering Profession	
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	
Physics 3a—General College Physics	3	Physics 3b—General College Physics	
Physics 4a—Physics Laboratory	2	Physics 4b—Physics Laboratory	
Civil Engr. 16a—Route Surveying	2	Applied Mech. 3—Statics	
Civil Engr. 18—Mapping and Topographic Drawing	2	Military or Air Science	
Military or Air Science	2	*Non-technical Elective	
*Non-technical Elective	3		
	18		1

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Civil Engr. 3a—The Engineering Profession	0	Civil Engr. 3b—The Engineering Profession	0
Applied Mech. 100—Strength of Materials	4	Applied Mech. 4—Dynamics	2
Civil Engr. 81—Testing Materials	1	Geology 12b—Elementary Geology for Engineers	3
Elec. Engr. 101—Fundamentals of Electrical Machinery	3	Mech. Engr. 134—Elements of Engineering Thermodynamics	3
Geology 12a—Elementary Geology for Engineers	3	Civil Engr. 107—Soil Mechanics	3
Civil Engr. 171a—Theory of Structures	3	Civil Engr. 171b—Theory of Structures	3
*Non-technical Elective	3	Civil Engr. 173a—Steel Structures	3
		*Non-technical Elective	2
	17		19

SUMMER TERM

Surveying Camp—4 weeks

	Crs.
Civil Engr. 15—General Surveying	3
Civil Engr. 16b—Route Surveying	2
	5

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Civil Engr. 4a—The Engineering Profession	0	Civil Engr. 4b—The Engineering Profession	0
Arch. Engr. 7a—Building Construction	3	Engr. Adm. 102—Engineering Administration	3
Civil Engr. 110a—Reinforced Concrete	3	Civil Engr. 23—Seminar	1
Civil Engr. 120—Hydraulics	2	Civil Engr. 110b—Reinforced Concrete	2
Civil Engr. 123—Hydraulics Laboratory	1	Civil Engr. 130b—Highway Engineering	3
Civil Engr. 130a—Highway Engineering	3	Civil Engr. 151—Water Supply and Waterworks	2
Civil Engr. 49—Railway Construction and Maintenance *or* Civil Engr. 175—Timber Structures	2	Civil Engr. 152—Sewers and Sewage Disposal	2
Civil Engr. 173b—Steel Structures	2	Civil Engr. 159—Design and Operation of Waterworks and Sewers	2
*Non-technical Elective	3	*Non-technical Elective	3
	19		18

* See statement on Options and Electives.

OPTION TWO

Architectural Engineering

Freshman Year same as Option One.

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Civil Engr. 2a—The Engineering Profession	0	Civil Engr. 2b—The Engineering Profession	0
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Physics 3a—General College Physics	3	Physics 3b—General College Physics	3
Physics 4a—Physics Laboratory	2	Physics 4b—Physics Laboratory	2
Civil Engr. 16a—Route Surveying	2	Applied Mech. 3—Statics	3
Art 11a—Beg. Draw. and Paint.	2	Art 62—Basic Design	2
Military or Air Science	2	Arch. Engr. 1—Architectural Rendering	2
*Non-technical Elective	3	Military or Air Science	2
	18		18

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Civil Engr. 3a—The Engineering Profession	0	Civil Engr. 3b—The Engineering Profession	0
Applied Mech. 100—Strength of Materials	4	Civil Engr. 171b—Theory of Structures	3
Civil Engr. 81—Testing Materials	1	Civil Engr. 173a—Steel Structures	3
Civil Engr. 171a—Theory of Structures	3	Arch. Engr. 7b—Building Construction	3
Arch. Engr. 7a—Building Construction	3	Arch. Engr. 4b—Architectural Design	3
Arch. Engr. 4a—Architectural Design	3	Art 145b—History of Architecture	2
Art 145a—History of Architecture	2	Elec. Engr. 101—Fundamentals of Electrical Machinery	3
°Non-technical Elective	2	Applied Mech. 4—Dynamics	3
	18		18

SUMMER TERM

Surveying Camp—4 weeks

	Crs.
Civil Engr. 15—General Surveying	3
Civil Engr. 16b—Route Surveying	2
	5

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Civil Engr. 4a—The Engineering Profession	0	Civil Engr. 4b—The Engineering Profession	0
Civil Engr. 110a—Reinforced Concrete	3	Civil Engr. 110b—Reinforced Concrete	3
Civil Engr. 120—Hydraulics	2	Civil Engr. 173b—Steel Structures	3
Civil Engr. 123—Hydraulics Lab.	1	Civil Engr. 23—Seminar	1
Arch. Engr. 6a—Advanced Architectural Design	4	Engr. Adm. 102—Engineering Administration	3
Mech. Engr. 141a—Mechanical and Electrical Equipment for Bldgs.	3	Mech. Engr. 141b—Mechanical and Electrical Equipment for Bldgs.	3
F. P. & S. F. 101a—Fire Protection and Safety Engineering	2	Arch. Engr. 6b—Advanced Architectural Design	4
°Non-technical Elective	3	Econ. 51—Principles of Economics	3
	18		18

° See statement on Options and Electives.

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

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Elec. Engr. 1a—The Engineering Profession	0	Elec. Engr. 1b—The Engineering Profession	0
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—General Chemistry for Engineers	4
Chem. 2a—General Chemistry for Engineers	4	°Non-technical Elective	3
Engr. Draw. 1a—Elementary Engineering Drawing	2	Military or Air Science	1
Military or Air Science	2	Physical Education	1
Physical Education	1	Elective	3
	18		18

SOPHOMORE YEAR

FIRST SEMESTER	Crs.
Elec. Engr. 2a—The Engineering Profession	0
Physics 3a—General College Physics	3
Physics 4a—General College Physics Laboratory	2
Math. 20a—Differential Calculus	4
English 50—Composition for Technical Students	3
Elec. Engr. 11—Electrical Laboratory	1
Mech. Engr. 15a—Manufacturing Processes	2
Military or Air Science	2
	17

SECOND SEMESTER	Crs.
Elec. Engr. 2b—The Engineering Profession	0
Physics 3b—General College Physics	3
Physics 4b—General College Physics Laboratory	2
Math. 20b—Integral Calculus	4
Applied Mech. 3—Statics	3
Elec. Engr. 21R—Principles of Electrical Engineering	3
Elec. Engr. 21L—Principles of Electrical Engineering Laboratory	1
Military or Air Science	2
	18

JUNIOR YEAR

FIRST SEMESTER	Crs.
Elec. Engr. 3a—The Engineering Profession	0
Elec. Engr. 114R—Alternating Current Circuits	3
Elec. Engr. 114L—Alternating Current Circuits Laboratory	1
Met. Engr. 26—Engineering Metallurgy	3
Math. 35—Differential Equations	2
Applied Mech. 100—Strength of Materials	4
Mech. Engr. 134—Elements of Engineering Thermodynamics	3
°Non-technical Elective	3
	19

SECOND SEMESTER	Crs.
Elec. Engr. 3b—The Engineering Profession	0
Elec. Engr. 116R—Alternating Current Machinery	3
Elec. Engr. 116L—Alternating Current Machinery Laboratory	1
Elec. Engr. 120a—Electrical Circuit Analysis	3
Elec. Engr. 161R—Vacuum Tube Electronics	3
Elec. Engr. 161L—Vacuum Tube Electronics Laboratory	1
Applied Mech. 4—Dynamics	2
English 6—Essentials of Speech	3
°Non-technical Elective	3
	19

OPTION ONE

Electronics and Communication Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.
Elec. Engr. 4a—The Engineering Profession	0
Elec. Engr. 151a—Seminar	1
Elec. Engr. 108R—Industrial Electronics	2
Elec. Engr. 108L—Industrial Electronics Laboratory	1
Elec. Engr. 135R—Networks and Lines	3
Elec. Engr. 135L—Networks and Lines Laboratory	1
Elec. Engr. 162R—Radio Circuits	3
Elec. Engr. 162L—Radio Circuits Laboratory	1
Elec. Engr. 120b—Electrical Circuit Analysis and Synthesis	3
°Non-technical Elective	3
	18

SECOND SEMESTER	Crs.
Elec. Engr. 4b—The Engineering Profession	0
Elec. Engr. 151b—Seminar	1
°Elec. Engr. 172R—Automatic Control Systems	3
°Elec. Engr. 172L—Automatic Control Systems Laboratory	1
°Elec. Engr. 164R—Radio and Television Circuits	3
°Elec. Engr. 164L—Radio and Television Circuits Laboratory	1
Elec. Engr. 165—Fields and Waves	3
°°Engr. Adm. 102—Engineering Administration	3
°Non-technical Elective	3
	18

OPTION TWO

Electric Power Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Elec. Engr. 4a—The Engineering Profession	0	Elec. Engr. 4b—The Engineering Profession	0
Elec. Engr. 151a—Seminar	1	Elec. Engr. 151b—Seminar	1
Elec. Engr. 108R—Industrial Electronics	2	°Elec. Engr. 137b—Electric Power Transmission II	3
Elec. Engr. 108L—Industrial Electronics Laboratory	1	°Elec. Engr. 135R—Networks and Lines	3
Elec. Engr. 120b—Electrical Circuit Analysis and Synthesis	3	°Elec. Engr. 135L—Networks and Lines Laboratory	1
Elec. Engr. 123—Electrical Equipment Problems	2	°Elec. Engr. 172R—Automatic Control Systems	3
Elec. Engr. 137a—Electric Power Transmission I	3	°Elec. Engr. 172L—Automatic Control Systems Laboratory	1
°°Engr. Adm. 102—Engineering Administration	3	°Elec. Engr. 165—Fields and Waves	3
°Non-technical Elective	3	Elective	3
	18		18

° Technical electives in advanced mathematics, physics, or electrical engineering may be substituted with the consent of the head of the Electrical Engineering Department.

°° Substitution of Commerce 109a or Commerce 137 for EA 102 may be made with the consent of the head of the Electrical Engineering Department.

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

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Mech. Engr. 1a—The Engineering Profession	0	Mech. Engr. 1b—The Engineering Profession	0
English 1a—English Composition	3	English 1b—English Composition	3
Math. 17—College Algebra	3	Mech. Engr. 5—Slide Rule	1
Math. 18—Plane Trigonometry	3	Math. 19—Plane Analytic Geometry	3
Chem. 2a—General Chemistry for Engineers	4	Chem. 2b—General Chemistry for Engineers	4
Engr. Draw. 1a—Elementary Engineering Drawing	2	Engr. Draw. 1b—Descriptive Geometry	2
Military or Air Science	2	°Geog. 10—Economic Geography Survey	3
Physical Education	1	Military or Air Science	2
		Physical Education	1
	18		19

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Mech. Engr. 2a—The Engineering Profession	0	Mech. Engr. 2b—The Engineering Profession	0
Physics 3a—General College Physics	3	Phys. 3b—General College Physics	3
Physics 4a—Physics Laboratory	2	Physics 4b—Physics Laboratory	2
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Engr. Draw. 18—Advanced Engineering Drawing	2	Mech. Engr. 20—Analysis of Experimental Data	2
Mech. Engr. 15a—Manufacturing Processes	2	Mech. Engr. 15b—Manufacturing Processes	2
°Economics 51—Principles of Economics	3	Applied Mech. 3—Statics	3
Military or Air Science	2	Military or Air Science	2
	18		18

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Mech. Engr. 3a—The Engineering Profession	0	Mech. Engr. 3b—The Engineering Profession	0
Mech. Engr. 104a—Engineering Thermodynamics	3	Mech. Engr. 104b—Engineering Thermodynamics	3
Applied Mech. 2—Mechanisms	3	Mech. Engr. 107—Fluid Mechanics	4
Applied Mech. 7—Dynamics	3	Mech. Engr. 100a—Machine Design	3
Applied Mech. 100—Strength of Materials	4	Mech. Engr. 112—Mechanical Laboratory	2
Math. 35—Differential Equations	2	Met. Engr. 37—Adaptive Metallurgy for Engineers	3
°English 6—Essentials of Speech	3	°Soc. 25—Collective Behavior	3
	18		18

OPTION ONE

Air Conditioning

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Mech. Engr. 4a—The Engineering Profession	0	Mech. Engr. 4b—The Engineering Profession	0
Mech. Engr. 109—Refrigeration	3	Mech. Engr. 113b—Mechanical Laboratory	2
Mech. Engr. 114a—Air Conditioning, Heating and Ventilating	3	Mech. Engr. 114b—Air Conditioning, Heating and Ventilating Design	4
Mech. Engr. 129—Elements of Heat Transfer	3	Mech. Engr. 105—Power Plant Engineering	3
Mech. Engr. 113a—Mechanical Laboratory	2	Applied Mech. 107—Mechanical Vibrations	3
Mech. Engr. 122a—Seminar	1	Elec. Engr. 105b—Electrical Engineering Circuits and Machinery	3
Elec. Engr. 105a—Electrical Engineering Circuits and Machinery	3	Engr. Adm. 102—Engineering Administration *or*	3
Mech. Engr. 100b—Machine Design	3	Chem. 147a—Physical Chemistry for Engineers *or*	4
		Phys. 155a—Fundamental Atomic and Nuclear Physics	3
	18		18 or 19

OPTION TWO

Aeronautical Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Mech. Engr. 4a—The Engineering Profession	0	Mech. Engr. 4b—The Engineering Profession	0
Mech. Engr. 130—Applied Aerodynamics	3	Mech. Engr. 135—Experimental Aerodynamics	3
Mech. Engr. 131a—Airplane Design	3	Mech. Engr. 131b—Airplane Design	3
Mech. Engr. 129—Elements of Heat Transfer	3	*or* Mech. Engr. 105—Power Plant Engineering	3
Mech. Engr. 100b—Machine Design	3	Mech. Engr. 108—Internal Combustion Engines	3
Mech. Engr. 113a—Mechanical Laboratory	2	Mech. Engr. 136—Internal Combustion Engine Laboratory	1
Mech. Engr. 122a—Seminar	1	Mech. Engr. 113b—Mechanical Laboratory	2
Elec. Engr. 105a—Electrical Engineering Circuits and Machinery	3	Applied Mech. 107—Mechanical Vibrations	3
		Elec. Engr. 105b—Electrical Engineering Circuits and Machinery	3
	18		18

OPTION THREE

Industrial Engineering

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Mech. Engr. 4a—The Engineering Profession	0	Mech. Engr. 4b—The Engineering Profession	0
Mech. Engr. 137—Motion and Time Study	4	Mech. Engr. 133—Tool Design	3
Mech. Engr. 138—Production Engineering	3	Mech. Engr. 139—Plant Layout	3
Mech. Engr. 100b—Machine Design	3	Mech. Engr. 113b—Mechanical Laboratory	2
Mech. Engr. 113a—Mechanical Laboratory	2	Mech. Engr. 122a—Seminar	1
Mech. Engr. 129—Elements of Heat Transfer	3	Applied Mech. 107—Mechanical Vibrations	3
Elec. Engr. 105a—Electrical Engineering Circuits and Machinery	3	Elec. Engr. 105b—Electrical Engineering Circuits and Machinery	3
		Engr. Adm. 102—Engineering Administration	3
	18		18

° With the approval of the Head of the Department, other subjects may be substitute

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

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Met. Engr. 1a—The Engineering Profession	0	Met. Engr. 1b—The Engineering Profession	0
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—General Chemistry for Engineers	4
Chem. 2a—General Chemistry for Engineers	4	Met. Engr. 27—General Elementary Metallurgy	3
Engr. Draw. 1a—Elementary Engineering Drawing	2	Military or Air Science	2
Military or Air Science	2	Physical Education	1
Physical Education	1	Elective	2
	18		18

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Met. Engr. 2a—The Engineering Profession	0	Met. Engr. 2b—The Engineering Profession	0
Math. 20a—Differential Calculus	4	Chemistry 22—Analytical Chemistry	5
Physics 3a—General College Physics	3	Math. 20b—Integral Calculus	4
Physics 4a—Physics Laboratory	2	Physics 3b—General College Physics	3
Met. Engr. 33—Extractive Metallurgy	5	Physics 4b—Physics Laboratory	2
°Non-technical Elective	3	°Non-technical Elective	3
Military or Air Science	2	Military or Air Science	2
	19		19

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Met. Engr. 3a—The Engineering Profession	0	Met. Engr. 3b—The Engineering Profession	0
Chemistry 147a—Physical Chemistry for Engineers	4	Chemistry 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	Met. Engr. 166—Minerals Beneficiation	3
Met. Engr. 140—The Science of Metals	3	Met. Engr. 142—Ferrous Metallography and Heat Treatment	3
Econ. 51—Principles of Economics	3	Met. Engr. 60—Metallurgical Laboratory and Shop Practice	3
°Non-technical Elective	3	°Non-technical Elective	3
	19		19

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Met. Engr. 4a—The Engineering Profession	0	Met. Engr. 4b—The Engineering Profession	0
Applied Mech. 3—Statics	3	Applied Mech. 100—Strength of Materials	4
Physics 155a—Fundamental Atomic and Nuclear Physics	3	Met. Engr. 143b—Physics of Metals	3
Met. Engr. 132—Metallurgical Calculations	3	Met. Engr. 175b—Seminar	1
Met. Engr. 175a—Seminar	1	°Non-technical Elective	3
Met. Engr. 143a—Physics of Metals	3	°Technical Elective	3
Met. Engr. 144—Non-Ferrous Metallography and Heat Treatment	3	°Technical Elective	3
°Technical Elective	3		
	19		17

° All electives selected must have the approval of the Head of the Department.

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

FRESHMAN YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Min. Engr. 1a—The Engineering Profession	0	Min. Engr. 1b—The Engineering Profession	0
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—General Chemistry for Engineers	4
Chem. 2a—General Chemistry for Engineers	4	Civil Engr. 12—Plane Surveying	2
Engr. Draw. 1a—Elementary Engineering Drawing	2	Military or Air Science	2
Military or Air Science	2	Physical Education	1
Physical Education	1	Elective	2
	18		17

SOPHOMORE YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Min. Engr. 2a—The Engineering Profession	0	Min. Engr. 2b—The Engineering Profession	0
Math. 20a—Differential Calculus	4	Math. 20b—Integral Calculus	4
Physics 3a—General College Physics	3	Physics 3b—General College Physics	3
Physics 4a—Physics Laboratory	2	Physics 4b—Physics Laboratory	2
Geology 12a—Elementary Geology for Engineers	3	Geology 12b—Elementary Geology for Engineers	3
Min. Engr. 25—Elements of Mine Surveying	2	Chem. 22—Analytical Chemistry	5
°Non-technical Elective	3	Military or Air Science	2
Military or Air Science	2		
	19		19

JUNIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Min. Engr. 3a—The Engineering Profession	0	Min. Engr. 3b—The Engineering Profession	0
Applied Mech. 3—Statics	3	Applied Mech. 100—Strength of Materials	4
Min. Engr. 126—Elements of Mining	3	Met. Engr. 27—General Elementary Metallurgy	3
Elec. Engr. 101—Fundamentals of Electrical Machinery	3	Met. Engr. 166—Minerals Beneficiation	3
Econ. 51—Principles of Economics	3	Elec. Engr. 103—Electrical Laboratory for Mining Engineers	1
Geology 61a—Mineralogy	3	Geology 61b—Mineralogy	3
°Non-technical Elective	3	°Non-technical Elective	3
	18		17

SENIOR YEAR

FIRST SEMESTER	Crs.	SECOND SEMESTER	Crs.
Min. Engr. 4a—The Engineering Profession	0	Min. Engr. 4b—The Engineering Profession	0
Civil Engr. 171a—Theory of Structures	3	Civil Engr. 81—Testing Materials	1
Mech. Engr. 134—Elements of Engineering Thermodynamics	3	Civil Engr. 120—Hydraulics	2
Min. Engr. 130—Mineral Industries Administration	3	Civil Engr. 123—Hydraulics Laboratory	1
Min. Engr. 145—Mining Methods	3	Min. Engr. 132—Mine Rescue Training and First Aid	0
Min. Engr. 175a—Seminar	1	Min. Engr. 136—Mine Ventilation	3
*Non-technical Elective	3	Min. Engr. 137—Mine Plant and Machinery	3
*Technical Elective	3	Min. Engr. 139—Valuation of Mineral Properties	3
		*Non-technical Elective	3
		*Technical Elective	3
	19		19

* All electives selected must have the approval of the Head of the Department.

DEGREES AND CURRICULA IN THE COLLEGE OF LAW

William Lewis Matthews, Jr., A.B., LL.B., LL.M., S.J.D., 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 fifty-five thousand carefully selected volumes. It includes the published reports of all state courts of last resort and the major side bar reports, 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; Session Cases of Scotland; 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, the Journal of Comparative Legislation, Justice of the Peace, Solicitors Journal, and the Australian Law Journal (legal periodicals). Some seven 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 more than two hundred legal periodicals, sixteen of which are from foreign countries, and has more than 4,000 bound volumes of legal periodicals, twenty-two of which are from foreign countries. It also subscribes to U. S. Law Week and to loose-leaf "services" on taxation, labor law, wills, estates and trusts, unemployment insurance and corporations.

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

The Law Building. The College of Law is housed in Lafferty Hall, a w equipped and comparatively new building. It is named for the first De of the College. The building is modern in architecture, being constructed modified classical lines. It contains offices, classrooms, a court room, the L Library, a large, air-conditioned reading room, a student lounge, a semi room, and study rooms, as well as an office for the Kentucky Law Jour The building occupies a beautiful location, across the walk and to the northw of the Margaret I. King Library.

ADMISSION OF REGULAR STUDENTS

For admission to the three-year course in Law leading to the degree Bachelor of Laws, the applicant must present satisfactory evidence of comp tion of a minimum of 90 semester hours of recognized college credit, and academic standing of not less than 2.3 on *all* pre-legal college work (counti A = 4, B = 3, C = 2, D = 1, E = O). At least 6 hours must be in Engli Not more than 9 hours may be in nontheory courses if only 90 hours are offer a minimum of 81 hours of "theory" courses being required in any case.

Exceptions to the requirement of a minimum academic standing of at le 2.3 on *all* pre-law work will be made only on the basis of special showing legal aptitude. An important factor in such showing will be the candida score on the National Law School Admission Test.

Candidates whose standing on all pre-law work is below 2.0 will not considered for admission.

Beginning law students are accepted only for the first semester of t academic year, except that degree-holders may be admitted the second semes as may applicants who have completed the pre-law portion of a "combin curriculum" (see below), and others if they have a pre-law standing of least 2.5 or a high score on the National Law School Admission Test. P spective law students should write the Dean requesting a copy of the Coll of Law bulletin.

Pre-Law Work. In order to meet the requirements for entrance, no spec course is prescribed except six semester hours in English. See statement, p. The credits obtained must be completed in residence and may be taken at t University of Kentucky or at any standard university or college. Not more th ten per cent of the pre-law work necessary for admission may be in no theory courses. Students who expect to study law are advised to consult t College of Law Bulletin where a general statement about Prelegal Study, cluding the importance of a sound background in English, is given. Th who would like special advice concerning their work are invited to communic with the Dean.

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

THE DEGREE OF BACHELOR OF LAWS

Students admitted to the College of Law as regular students will be eligible for the degree of Bachelor of Laws (LL.B.) upon completion of a minimum of three academic years (six semesters) of residence, and 83 semester hours of courses, in the College of Law, with an academic standing of 2.0 or better.

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, some 40 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 have been members of the United States Supreme Court. The students engage in annual series of legal arguments before practicing lawyers 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, some forty years ago, became the first law school in t country to make a Practice Court an integral part of the curriculum. L students act as judges, counsel, witnesses, and jurors, and realistic trials a conducted weekly in the large court room in the Law Building. The tri are open to the student body. Trials are recorded on wire so that critiq may be conducted by the professor with the student lawyers.

SCHOLARSHIPS

A number of cash scholarships, known as the "Kentucky Law Schol ships," have been established by the legal profession in Kentucky. Th Scholarships range in amount from about $150 to more than $500, averag about $300, and will be awarded to beginning and advanced students at t College of Law on the basis of character, academic record, and need. Applic tion forms may be obtained by writing the Dean of the College of Law, a applications should be submitted not later than the month of June.

A number of positions as Law Library assistants are available for secon and third year students having high scholastic standing. $100 to $150 per ye can be earned in these positions through part-time work in the Law Libra

PRIZES

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

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

Each year a prize of $100 is offered by the Lawyers Title Insurance Co poration of Richmond, Virginia, to that senior in the College of Law who h done the best work in Property Law through three years of law school.

Each year two prizes of $50 each are offered by the Louisville Title Insu ance Company to students excelling in title examination.

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

Students in the College of Law are also eligible to compete in certa national legal essay competitions for which substantial cash prizes are award

COURSES OFFERED IN THE COLLEGE OF LAW

FIRST YEAR SUBJECTS

Property I
Pleading I
Contracts I
Torts I
Criminal Law
Legal Bibliography

Property II
Pleading II
Contracts II
Torts II
Criminal Procedure
Legal Method

SECOND YEAR SUBJECTS

Property III
Constitutional Law
Negotiable Instruments
Equity I-II
Evidence
Trial and Appellate Procedure
Seminars in Selected Legal Problems

THIRD YEAR SUBJECTS

Corporations
Practice Court
Legal Research and Writing
Conflict of Laws
The Legal Profession
Trusts
Seminars in Selected Legal Problems
Estate Planning I

ELECTIVE COURSES OPEN TO SECOND AND THIRD YEAR STUDENTS

Agency-Partnership
Domestic Relations
Labor Law
Insurance
Oil and Gas
Administrative Law
Sales
Federal Jurisdiction and Procedure
Trade Regulation
Creditors' Rights
Law Journal Note Editing
Local Government Law
Credit Transactions
Modern Social Legislation
Estate Planning II

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 Science degree requirements are described on page 50, and College of Commerce requirements are described on page 143.

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

Lyman Vernon Ginger, 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 method 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 2.0 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 2.0 in the major, minor, or area of concentration in which the student teaching is to be done.
2. A standing of 2.0 in professional courses.
3. An over-all standing of 2.0 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 consider 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 129, 130, 131, and 132 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 2.5 for the entire college period, but may not have had other courses in education. They take 18 semester hours of work the semester student teaching is done — in agricultural education, which includes student teaching.

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

CERTIFICATION

The University of Kentucky offers curricula for all certificates issued by the State Department of Education on the basis of four years of college education. Upon graduation from the College of Education the student is eligible for either the Provisional High School Certificate or the four-year Provisional Elementary Certificate. In order to obtain the certificate desired, the student must make application to the State Department of Education. 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 18 semester hours in education as prescribed in the state plan for vocational education will be entitled to a state certificate to teach vocational agriculture in the public schools of Kentucky.

Home Economics. The Federal Vocational Education Act of 1917 also provides for the education of teachers of vocational home economics in schools below college level.

Students who complete the work for a bachelor's degree in home economics and who present 18 semester hours in education as prescribed in the state plan for vocational education will be entitled to a state certificate to teach vocational home economics in the public schools in Kentucky.

Industry. The Federal Vocational Education Act of 1917 also provides for the education of teachers for unit-trade and part-time programs in industrial education and for general continuation school classes. The University of Kentucky has been designated as the state institution responsible for the education of teachers for this work.

A five-year program of preparation for educational training directors and other educational training personnel for schools, business, and industry is offered in the College of Education. The last three years of this program are on a "cooperative" basis with students spending alternate semesters at the University and in work-training situations on the job in business or industry.

Distributive Occupations. The George-Barden Act of 1946 provides for the education of teachers of distributive 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 2.0. 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
L.S. 127a	Children's Literature and Related Materials	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	6
Art 10a, b	Public School Art	6
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 1, 11, 111, Astronomy, Botany, Chemistry, Geology, Physics, Zoology)	12
P. E.	Service Courses	2
2. Electives		20

3. Professional Requirements

Educ. 50	Planning a Career in Education	1
Educ. 51	The Teacher in American Schools	2
Educ. 44	Child Development and the Curriculum	6
Educ. 42	Teaching Arithmetic in the Elementary School	3
Educ. 172	The Teaching of Reading	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 or speech and dramatics which shall require 30 credits.

A minor shall consist of 18 credits.

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

Subject fields in which majors may be chosen:

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

Subject fields in which minors may be chosen:

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

Subject fields in which areas of concentration may be chosen:

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

General Requirements	Crs.
English, including composition, literature, and speech	12
Health, Physical Education, and Safety	4
Psychology	7
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, Greek, 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 1, 11, 111, Astronomy, Bacteriology 2a, b, Botany, Chemistry, Geology, Physics, Zoology)

Social Sciences (Anthropology (except 1, 11, 111), 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. 50	1	Educ. 50	1	Educ. 50	1
Educ. 51	2	Educ. 51	2	Educ. 51	2
Educ. 148	3	Educ. 148	3	Educ. 148	3
Educ. C147	3	Educ. 104	3	Educ. C44	3
°Educ. 105	3	Educ. 158a	3	°°P. E. 60	3
°St. Tchg.	9	Educ. 158b	3	Educ. C147	3
		°Educ. 105	3	°Educ. 105	3
		°Educ. 193	9	°St. Tchg.	9

° 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.*

Art

		Crs.
Art 10a	Public School Art	2
Art 34	Forms of Art	2
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 1	Principles of Animal Biology	4
Zoology 11	Nature Study	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. 6	Secretarial Accounting	3
Com. 19	Office Appliances and Procedures	3

Chemistry

Chemistry 1a, b	General Chemistry	10
Chemistry 25a, b	Analytical Chemistry	10
Chemistry 130a, b	Organic Chemistry	10
Chemistry 143	Physical Chemistry	5

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 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	English Literature and or English 4	6
English 60, 101, 102, 180 — Adv. Comp. and Language		3
English 110a or 110b — Shakespeare		3
English 5a, 5b, 123b, 155a, 156a — American Literature		3-6
English 106a, 107a, 124b, 147, 152 — English Literature		3
English 6, 32, 38, 137, 151 — Speech and Dramatic Arts		6

Electives in English from the following: English 80, 104, 105, 106b, 111a, b, 116, 123a, 130a, b, 153, 165.

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-c	French Novel and Drama	9
M.F.L. 5a, b	French Phonetics	6
M.F.L. 3a, b	French Conversation and Composition	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. 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

Music

Music 11a, b	Theory I — Elements of Musical Theory	4
Music 52a, b	Theory II — Aural Theory	4
Music 13a, b	Form and Analysis	4
Music 51a, b	Theory II — Written Theory	4
Music 115a, b or Music 116a, b	Choral Conducting / Instrumental Conducting	4
Music 19a, b	History of Music	6
Music 44a	Methods and Materials in the Elementary Grades	4
Music 44b	Methods and Materials on the Secondary Level	4
Music	Applied	16
Music	Glee Club, Chorus, etc.	2

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
Pol. Sci. 166	The United Nations	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 or English 32	Essentials of Speech / Voice Development	3
English 35 or English 36	Stagecraft / Staging Techniques	3
English 38 or 138	Oral Interpretation	3
English 137 or 157	Methods Courses	3
English 7, 11, 14, 134, 146a, 159, 160, 161, 162, 172		9-12
English 110a, 110b, 116, 145, 153 (Dramatic Lit.)		6-9

Suggested electives outside major: English 4, 2a, 101, 180, 5a, b, 123b, 110a, b, 116, 145, 153.

CURRICULA FOR STANDARD SPECIAL EDUCATION CERTIFICATES

In keeping with the regulations set forth by the State Board of Education, the University of Kentucky offers 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)

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

° Required courses °° Courses open to graduate students only

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 and 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 and the Director of the Division of Education for Handicapped.

* Required courses

RECAPITULATION

General Education	45 semester hours
English	
Social Sciences	
Sciences	
Fine Arts or	
Other Fields approved by the Dean of the College of Education	
Professional Education (see page 129)	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	Moore, Cierley, and Kuhn
Secondary Teachers	
General	Hartford, E. Adams, Sorenson, Van Horne, Reed, Cierley, and Lurry
Agriculture	Hammonds and Binkley
Art	Haines and Wiggs
Business Education	Musselman, Thomas, and Humphreys
Home Economics	Parker and Gorman
Industrial Education	Baker
Music	Lewis, and Worrel
Physical Education	Seaton, Clay, Carr, and Gilb
Elementary Principal	Eckel, Moore, and Fickes
Guidance Counselors	E. Adams and Elton
Secondary Principal	H. Adams Meece, Eckel, and Cierley
Supervisor	H. Adams, Meece, and Ogletree
Attendance Officer	Meece, Eckel, and H. Adams
Superintendent	Meece, Eckel, and Ogletree
Higher Education	Trabue, Meece, and Hartford

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

Plan I

1. A minimum of 24 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 15 credits of graduate work must be in courses numbered 200 or higher.
4. At least 12 semester hours must be outside the field of education. This regulation does not apply to those persons majoring in the field of educational administration. (Note: This requirement is effective for all students entering the Graduate School the second semester 1954-55 or after and for all students after September 1, 1957.)
5. At least 36 weeks of residence must be acquired as a University of Kentucky graduate student.
6. No student may satisfy more than one-half of the residence requirements for advanced degrees by part-time work. This limitation does not apply to intensive courses.
7. The total number of credits presented in education, undergraduate and graduate, must be at least 30 semester hours.
8. A standing of 3.0 (an average of B) or better must be made on all graduate work.
9. Six semester hours (if approved by the graduate adviser) may be completed in off-campus study (that is, extension work). In such case, however, a minimum of 30 weeks of *resident-on-campus* work is required for the Master's degree.
10. 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.
11. All graduate students must meet the requirements for a teaching certificate in Kentucky as established by the State Department of Education of Kentucky. These requirements are outlined under the undergraduate program. If deficiencies are found, they should be overcome before proceeding with graduate work. The work required to overcome these deficiencies is in addition to the minimum graduate requirements for the degree.

Plan II

1. A minimum of 30 credits of graduate work must be completed.
2. At least 12 credits of graduate work must be in education.
3. At least 15 credits must be in courses numbered 200 or higher.
4. At least 12 semester hours must be outside the field of education. This regulation does not apply to those persons majoring in the field of educational administration. (Note: This requirement is effective for all students entering the Graduate School the second semester 1954-55 or after and for all students after September 1, 1957.)
5. At least 36 weeks of residence must be acquired as a University of Kentucky graduate student.

6. No student may satisfy more than one-half of the requirements for an advanced degree by part-time work. This limitation does not apply to intensive courses.
7. The total number of credits presented in education, undergraduate and graduate, must be at least 30 semester hours.
8. A standing of 3.0 (an average of B) or better must be made on all graduate work.
9. Six semester hours and nine weeks of residence may be done in extension classes, off-campus study, or independent work courses with the permission of the student's adviser and the Dean of the Graduate School.
10. 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.
11. All graduate students must meet the requirements for a teaching certificate in Kentucky as established by the State Department of Education of Kentucky. These requirements are outlined under the undergraduate program. If deficiencies are found, they should be overcome before proceeding with graduate work. The work required to overcome these deficiencies is in addition to the minimum graduate requirements for the degree.

Suggested Graduate Curricula*

Consult the College of Education bulletin and your College of Education adviser for your final course plan.

		Crs.
For Superintendents		
Ed. 200a, b	Philosophy of Education	3
Ed. 201**	Foundations of 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. 212	The Elementary School	3
Ed. 213	State School Administration	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. 230	Educational Sociology	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. 255a	Guidance and Counseling in Today's Schools	3
Ed. 201**	Foundations of Education	5
For Supervisors		
Ed. 201**	Foundations of Education	5
Ed. 202	Local School 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

** When Ed. 201 cannot be offered, students are advised to substitute Education 230 and Education 254.

For Guidance Counselors

	(Required)	
Ed. 223*	Educational Statistics	3
Ed. 227	Principles of Curriculum Construction	3
Ed. 230	Educational Sociology	3
Ed. 255a, b	Guidance and Counseling in Today's Schools	6
Ed. 311**	Practicum in Counseling Psychology	
	(Electives)	
Ed. 122	Educational Tests and Measurements	3
Ed. 254	Problems in Educational Psychology	3
	(Required)	
Psy. 150	Psychological Testing	3
Psy. 215*	Psychometrics	3
Psy. 226	Psychological Measuring Instruments	3
Psy. 311**	Practicum in Counseling Psychology	3
	(Electives)	
Psy. 114	Abnormal Psychology	3
Psy. 121	Counseling Psychology	3
Psy. 124***	Mental Hygiene	3
Psy. 125	Experimental Child Study	3
Psy. 225***	Practice in Testing: Intelligence Tests	3

For Critic Teachers on the Elementary Level

Ed. 201†	Foundations of 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 of 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
Ed. 232	High School Administration	3

For High School Teachers Majoring in Education

Ed. 201†	Foundations of 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 of 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 of 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 of 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

* Only one required.
** May be scheduled either as Psy. 311 or Ed. 311.
*** Strongly recommended as first electives in Psychology.
All prerequisites must be met.
† When Ed. 201 cannot be offered, students are advised to substitute Ed. 230 and Ed. 254.

For Agricultural Education Majors

Ed. 201	Foundations of Education	5
Ed. 214	The Secondary School	3
Ed. 227	Principles of Curriculum Construction	3
Ed. 280	Method in Teaching Vocational Agriculture	3
Ed. 287b	Selecting Teaching Materials	3
Ed. 287c	Adult-Farmer Schools	3
Ed. 287d	Directing Farm Practice	3
Ed. 287f	Young-Farmer Schools	3

For Home Economics Education Majors

Ed. 261	Supervision in Home Economics Education (For Supervisors of Student Teachers)	3
Ed. 263	Current Problems in Home Economics Education	3
Ed. 264	Modern Trends in Home Economics Education	3
Ed. 268	Home Economics Curriculum Construction	3
Ed. 269	Evaluation in Home Economics Education	3
Ed. 265 or 222	Research in Home Economics Education	3

For Industrial Education Majors

Ed. 171a, b	Principles and Philosophy of Industrial Education .... (each)	3
Ed. 123	Vocational Guidance	3
Ed. 183a, b	Methods in Industrial Education ..... (each)	3
Ed. 134	Organization and Operation of Part-Time and Evening Classes	3
Ed. 214	The Secondary School	3
Ed. 201	Foundations of Education	5
Ed. 232	High School Administration	3
Ed. 227	Principles of Curriculum Construction	3

Graduate Programs Leading to the Doctoral Degree

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

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

College of Education

Bachelor of Arts in Education

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.

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 specialization outlined below. It should be noted that the large amount of elective work allowed in some of the curricula makes it possible to combine a business program with other professional fields or with groups of liberal arts courses.

Admission. To be admitted to the freshman class of the College of Commerce students must meet the general admission requirements of the University.

Students transferring to the College of Commerce from another college on the campus or from another institution must have a scholastic standing of "C" or better.

Student Organization and Placement Activities. The Commerce Employment Association is an aggressive organization and operates under the supervision of a permanent secretary who is a member of the faculty. Its chief purpose is to find employment for graduates and better positions for alumni. It has been very successful.

The College Chamber of Commerce provides opportunity for planning and discussing community programs and in addition sponsors social activities. Its meetings are open to all Commerce students. Beta Alpha Psi, a professional Accounting fraternity, and the Secretarial Club are available to students in these fields.

Beta Gamma Sigma, a national honorary scholarship fraternity, was organized at the University of Kentucky in the spring of 1928. Seniors must rank in the upper ten per cent in scholarship to be eligible for membership.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Science in Commerce is conferred upon students who meet the requirements of any one of the curricula offered by the College of Commerce. The minimum number of semester credits required for graduation is 128 (exclusive of the required Physical Education), except under the Industrial Administration Curriculum, which requires 140 (exclusive of the required Physical Education). With the required Physical Education the student is required to complete 130 credits and 142 credits respectively. The scholarship standing must be at least 2.0. All commerce students are urged to take some foreign language.

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

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 or Mathematics 5, 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 and three courses in other departments	35 or 34
Total	64 130

THE ECONOMICS CURRICULUM

The following program is offered for students wishing to become research economists, economic analysts or graduate students in economics. It is appropriate for those wanting to enter state and federal government service or private industry. It is recommended especially for those wishing to become teachers.

FRESHMAN AND SOPHOMORE YEARS

	Crs.
English 1a and 1b, English Composition	6
Economics 2, Economic History of Europe or Economics 3, Economic History of the United States	3
Economics 4, Resources and Industries or Geography 10, Economic Geography Survey	3
Commerce 7a and 7b, Principles of Accounting	8
Mathematics 17, or Mathematics 5, College Algebra	3
Natural Science, or Mathematics	6
Philosophy	3
History	3
Political Science	3
Psychology or Sociology	6
Economics 51 and 52, Principles of Economics	6
Commerce 60, Principles of Marketing	3
Military or Air Science (Men)	8
Physical Education	2
Electives	2
	65

JUNIOR AND SENIOR YEARS

Economics 102, Labor Economics	3
Economics 104, Public Finance	3
Economics 105, Money and Banking	3
Economics 107, Statistical Method	3
Commerce 109a, Business Law	3
Economics 110, Business Cycles	3
Economics 115, Value and Distribution Theory	3
Economics 127, International Economics or Economics 165, Comparative Economic Systems	3
Economics 186, Economic Research	3
A course in Management	3
An additional course in accounting or statistics	3
Non-Commerce groups, 12 hours in each of 2 departments or 18 hours in 1 department outside the College of Commerce. Courses to be selected upon the recommendation of the department involved and with the approval of the student's faculty adviser	18 or 24
Electives including one course in Economics and Commerce	14 or 8
	65
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, including 3 hrs. in upper division courses outside the College	26	62
Total		130

Suggested electives:
- Economics 103, Transportation (3)
- Agricultural Economics 155, Agriculture and Farm Finance (3)
- 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, including Psychology 1, Introd. to Psych.		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	
Economics 179, Collective Bargaining	2	
Commerce 145, Office Management	3	
Economics 155, Industrial Relations	3	
Psychology 127, Introduction to Industrial Psychology	3	
Electives, including two courses in Commerce	27	64

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	6

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
Total	

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 60, Advanced Composition	3
Art 67, Art in Advertising	2
Commerce 140, Problems in Advertising	2
Electives	19
Total	

Suggested electives:

Journalism 114, Newspaper Advertising & Promotion (3)
Journalism 118, Public Relations (3)
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, including 3 hrs. in upper division courses outside the College	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, including two courses in Commerce	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 or Mathematics 5, 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

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
Total	

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 2.3.

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	
Commerce 60, Principles of Marketing	3	
Military or Air Science (Men)	8	
Physical Education	2	
Commerce 96a and 96b, Intermediate Accounting	6	
Electives including 3 credits in Commerce	15	69

JUNIOR YEAR

Commerce 117, Corporation Finance	3	
Economics 107, Statistical Method	3	
Economics 102, Labor Economics	3	
Economics 104, Public Finance	3	
Economics 105, Money and Banking	3	
Commerce 137, Industrial Management	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 in Commerce	3	33

SENIOR YEAR

First Year courses in College of Law	28
Total	130

Electives:
- English (6)
- Mathematics 15, Mathematics of Finance (3)
- Mathematics 17 or Mathematics 5, 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

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 12)	4

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
Economics 105, Money and Banking *or* Commerce 117, Corporation Finance	3
Commerce 156, Business Reports	2
Economics 107, Statistical Method	3
Commerce 137, Industrial Management	3
Commerce 109a, Business Law	3
Electives including 21 credits outside the College (13 for men)	35
Total	

Suggested electives:

Commerce 7b, Principles of Accounting (4)
Mathematics 17 or Mathematics 5, College Algebra (3)
Mathematics 15, Mathematics of Finance (3)
Commerce 62, Principles of Advertising (3)
Economics 104, Public Finance (3)
Commerce 145, Office Management (3)
Journalism 21, Etymology (3)
English 101, Current English Usage and Grammar (3)
Foreign Language (6)

A MAJOR IN ECONOMICS

Students in the College of Commerce wishing to specialize in economics should enroll in the Economics Curriculum. Or they can enroll in the College of Arts and Sciences and major in economics. Professor J. T. Masten will advise Arts College majors in the selection of courses.

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: 171, Statistical Quality Control, 172, Sampling, and 210 Research Statistics; Psychology 215, Psychometrics; and Agricultural Statistics 1 and 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 t

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. Organized as an outgrowth of the apprentice and preceptorial system, it was operated as a non-profit organization from its inception. On July 1, 1947, the College became one of the divisions of the University of Kentucky. It opened in its new building on the campus in the fall of 1957. This building embodies the latest ideas in arrangement and equipment for the teaching of Pharmacy. It is a highly fire-resistant structure incorporating every new device for the safety, convenience and comfort of the students and staff. The site is sufficiently large to provide space for a drug garden and adequate parking.

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

Placement Activities — In addition to full cooperation with the University Placement Service, the College maintains a complete file for prospective employment. Personnel representatives of the large pharmaceutical houses visit the College twice yearly scheduling interviews with the graduates. Each year the College has a greater demand for its graduates than it can supply.

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

High School Requirements — The most important high school requirement is the student's position in his class. If he is near the top, he has demonstrated his ability to do good work in school. He should be at least in the upper half of his class scholastically, and should have a reputation of good character. It is most essential that he have a good command of the English language, being able to read, speak, and write well. A good understanding of mathematics is most useful, with one or more years of laboratory science, especially chemistry. Foreign languages are not required and Latin is not necessary, but would be most useful.

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

FIRST YEAR

Course	Cr.	Course	Cr.
Chem. 1a—General Chemistry	5	Chem. 1b—General Chemistry	5
Eng. 1a—English Composition	3	Eng. 1b—English Composition	3
Bot. 1—General Botany	4	Zool. 1—General Zoology	4
Math. 5—College Algebra, or Math. 17 College Algebra	3	Math. 18—Trigonometry	3
Military or Air Science	2	Military or Air Science	2
Physical Education	1	Physical Education	1
	18		18

SECOND YEAR

Course	Cr.	Course	Cr.
Physics 1a—General Physics	5	Physics 1b—General Physics	5
Chem. 22—Analytical Chemistry	5	Humanities	2
Humanities	2	Electives	9
Military or Air Science	2	Military or Air Science	2
Electives	4		
	18		18

Total semester hours of credit required, 72.

This preprofessional work may be taken at the University of Kentucky, or at any accredited institution. Those who do their prepharmacy elsewhere should be careful to take courses equivalent to those listed in the table above. The General Chemistry should include qualitative analysis. The electives may include some additional Humanities and may be chosen from such areas as:

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

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

All male freshmen and sophomores who are citizens of the United States, and who conform to the physical requirements as prescribed by the Department of Defense for units of the Reserve Officers' Training Corps are required to take the basic course in Military Science or Air Science. Those who are not physically qualified, those taking prepharmacy at an institution not requiring Military or Air Science, and all women prepharmacy students, must present 8 hours of additional electives in lieu of the Military requirement. All students must demonstrate a minimum proficiency in typing, must offer it as an elective, or must be concurrently registered in an elementary typing course to be eligible to begin the professional program.

REQUIREMENTS FOR GRADUATION

The degree of Bachelor of Science in Pharmacy is offered on completion of a minimum of 172 semester hours of credit, including Military or Air Science and Physical Education, with a quality point standing of 2.0 in a possible 4.0. The prepharmacy program of 72 semester hours is followed by three years of professional training with 100 semester hours of credit for the total of 172.

PROFESSIONAL PROGRAM

THIRD YEAR

Course	Cr.	Course	Cr.
Phar. Chem. 31a—Organic Pharmaceutical Chemistry	5	Phar. Chem. 31b—Organic Pharmaceutical Chemistry	5
M.M. 31a—Biological Pharmaceuticals	3	Phar. 21—Theoretical Pharmacy	4
Phar. 26—Pharmaceutical Calculations°	3	M.M. 31b—Biological Pharmaceuticals	3
Phar. 31—Drug Store Accounting	3	Phar. 32—Drug Store Retailing	3
Phar. 22—Pharmacy Orientation	2	Phar. Chem. 32—Inorganic Pharmaceutical Chemistry°	2
	16		17

FOURTH YEAR

Course	Cr.	Course	Cr.
M.M. 11a—Physiology and Pharmacodynamics	4	M.M. 11b—Physiology and Pharmacodynamics	4
M.M. 27a—Pharmacognosy	3	M.M. 27b—Pharmacognosy	3
Phar. Chem. 102—Biochemistry°	4	Phar. Chem. 103—Drug Assay°	4
Phar. 24a—Pharmaceutical Preparations	4	Phar. 24b—Pharmaceutical Preparations	4
	15		15

FIFTH YEAR

Course	Cr.	Course	Cr.
Phar. Chem. 104a—Chemistry of Medicinal Products	3	Phar. Chem. 104b—Chemistry of Medicinal Products	3
Phar. 111a—Dispensing Pharmacy	5	Phar. 111b—Dispensing Pharmacy	5
M.M. 138a—Pharmacology and Toxicology	5	M.M. 138b—Pharmacology and Toxicology	5
Phar. 122a—Modern Therapeutic Agents	3	Phar. 122b—Modern Therapeutic Agents	3
Professional Elective°	3	Phar. 35—Pharmacy Law°	2
	19		18

° Offered both semesters.

The Professional Elective may be chosen from several areas; Hospital Pharmacy, Manufacturing Pharmacy, Drug Synthesis, Instrumental Methods of Drug Analysis.

STATE BOARD EXAMINATIONS AND EXPERIENCE REQUIREMENTS

In order to qualify for licensure in Kentucky the aspirant should thoroughly familarize himself with the registration specifications. Prior to the passing of the State Pharmacy Board examination, the final step in the licensure requirements, one must complete the curriculum requirements and obtain a degree from an accredited College of Pharmacy. In addition, he must be 21 years of age and must satisfy the internship requirement of fifty-two average work weeks under the direct personal supervision of a registered pharmacist, and present to the State Board of Pharmacy, as a part of his application for the Board examination, a notebook covering the details of his practical training properly certified to by the pharmacists who have supervised his internship. Boards of Pharmacy shall allow credit for claims of internship required under the pharmacy laws provided:

a. The period of internship was earned after graduation from high school.

b. The period of internship was not concurrent with college attendance. (Vacation periods of internship are acceptable in Kentucky but not in most other states. Persons claiming such internship toward their

registration requirements should realize that this makes them ineligible to reciprocate to other states.)

c. The claim is corroborated by records on file in the Board office showing the beginning and the ending of the internship claimed as supplied by the applicant during his training period, and by the pharmacist who supervised the internship during the training period. In every instance the applicant must notify the Board of Pharmacy of the beginning and end of their employment under the supervision of a registered pharmacist within five days of the beginning and ending of such employment. It is also necessary for the pharmacist supervising the internship to notify.

d. The period of internship was earned in a pharmacy acceptable to the Board.

NATIONAL PROFESSIONAL FRATERNITIES

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

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.

The following advanced degrees are conferred by the University:

Master of Arts
Master of Science
Master of Science in Library Science
Master of Science in Public Health
Master of Science in Agriculture
Master of Science in Agricultural Engineering
Master of Science in Home Economics
Master of Science in Civil Engineering
Master of Science in Electrical Engineering
Master of Science in Mechanical Engineering
Master of Science in Metallurgical Engineering
Master of Science in Mining Engineering
Chemical Engineer (Ch.E.)
Civil Engineer (C.E.)
Electrical Engineer (E.E.)
Mechanical Engineer (M.E.)
Metallurgical Engineer (Met.E.)
Mining Engineer (E.M.)
Master of Arts in Education
Master of Science in Education
Master of Business Administration
Master of Music
Doctor of Education (Ed.D.)
Doctor of Engineering (Engr.D.)
Doctor of Philosophy
Specialist in Education

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

The degree Doctor of Engineering is offered in Metallurgical Engineering.

ADMISSION

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

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

The Graduate Record Examination

All students working for graduate degrees must take three parts of the Graduate Record Examination (the Area Tests, the Aptitude Test, and the Advanced Test in the major subject). This should be done during the first term of graduate work.

Application for Full Graduate Standing

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 2.5 (midway between B and C) on a scale of 4.0 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 Area Tests, the Aptitude Test, and the Advanced Test, if there is one, suitable to the student's major); and (3) a B average or better on all the graduate work completed at the University of Kentucky. A student not having a 2.5 average 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 (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 and Short Courses

The normal load of a graduate student during any semester is twelve semester hours if he is working for a master's degree under Plan A, or if he is working for a doctor's degree. In no case may this load for a semester exceed fifteen semester hours. In the summer session the normal load is six hours and the maximum nine. Graduate students serving in the University as assistants or part-time instructors should register for less than the normal load, as determined by their advisers. Persons holding full-time working or professional assignments, whether employed by the University or not, may not take for graduate credit toward a degree in any single semester or term more than 3 or 4 credits. Two short courses of 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, or the equivalent in thesis research. In the summer session the corresponding load is 6 semester hours. Part-time residence during any semester is computed on the basis of one and one-half weeks of residence for each semester hour earned. Part-time students in the summer session receive one and one-half weeks per semester hour except for short courses of less than eight weeks, in which case residence shall not exceed the actual number of weeks involved.

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 $80.00 for residents of Kentucky; $180.00 for non-residents. Part-time graduate students who are legal residents of the state pay $9.00 per semester hour; non-residents pay $20.00 per semester hour. Students carrying full loads in the summer sessions pay one-half the regular semester fee. Those taking less than full loads pay the regular semester credit-hour fee.

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

GENERAL REQUIREMENTS FOR ALL MASTERS' DEGREES

(See also pages 158, 159, and 161 to 165.)

Transfer of Credits

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

Extension and Correspondence Work

Under certain conditions, up to six of the credits and nine weeks of the residence required for any master's degree in course may be satisfied by extension courses given in person by University of Kentucky instructors. No graduate credit is given for courses taken by correspondence.

M.A. or M.S. Degree

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

Courses and Curricula

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

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

All candidates for masters' degrees shall earn at least nine semester hours in courses numbered 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

Credits and Courses

The candidate must complete at least 24 semester hours of graduate course work with a standing of 3.0 (B) or better. At least 9 of these hours (except when excused in rare individual cases by special permission of the Graduate Council) must be in courses limited to graduate students (in courses numbered 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. If these are the same person, the thesis must be signed by another professor in the major department.

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 137 to 141, and General Requirements for all advanced degrees, page 158.

REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN AGRICULTURE, MASTER OF SCIENCE IN AGRICULTURAL ENGINEERING, AND MASTER OF SCIENCE IN HOME ECONOMICS

(See also page 158.)

A student holding a bachelor's degree from a standard agricultural college may obtain the degree of Master of Science in Agriculture or Master of Science in Home Economics by satisfying the following requirements:

1. The completion of 24 semester hours of graduate work with an average standing of 3.0 or better, 36 weeks in residence, and a thesis, or (except in Agricultural Engineering) the completion of 36 semester hours of graduate work with a standing of 3.0 or better, 45 weeks in residence, and no thesis. At least 9 hours must be on the "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 with a Major in Applied Music

A minimum of twenty-four graduate hours.

Eight to twelve graduate hours in Applied Music.

In the event the student is not sufficiently prepared to do graduate work in Applied Music, or if there is a deficiency in repertoire, he must study without credit until fully prepared to do graduate work. Candidates in Applied Music (Voice) must have completed one year of study in each of two modern foreign languages.

Twelve to sixteen hours from at least two of the following: Music literature, music theory, music education, or non-music subjects.

A public recital of music major proportion passed upon by the music faculty and a comprehensive examination in the area of concentration.

Master of Music with a Major 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 page 158.)

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 3.0 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 3.0 or better.
2. No grade below C may be counted.
3. Thirty-six weeks in residence.
4. An acceptable thesis.
5. There is no language requirement for this degree.

REQUIREMENTS FOR ADVANCED DEGREES IN ENGINEERING

Two classes of advanced degrees are offered in the College of Engineering, the masters' degrees and the professional degrees.

THE MASTERS' DEGREES IN ENGINEERING. The master's degree in engineering may be obtained by satisfying the following requirements:

1. Twenty-four semester hours in graduate courses with an average standing of 3.0 or better.
2. No grade below C may be counted.
3. Thirty-six weeks in residence.
4. An acceptable thesis.
5. Two-thirds of the work must be in the major subject.
6. There is no language requirement for these degrees.

The candidate must hold the corresponding Bachelor of Science degree in engineering or the equivalent from this institution or from another engineering school of recognized standing. The degrees offered are Master of Science in Agricultural Engineering, Master of Science in Civil Engineering, Master of Science in Electrical Engineering, Master of Science in Mechanical Engineering, Master of Science in Metallurgical Engineering, and Master of Science in Mining Engineering.

The Professional Degrees in Engineering

The professional degrees of Chemical Engineer (Ch.E.), Civil Engineer (C.E.), Electrical Engineer (E.E.), Mechanical Engineer (M.E.), Metallurgical Engineer (Met.E.), or Mining Engineer (E.M.) will be granted only to graduates of the University of Kentucky, College of Engineering, who present satisfactory evidence of professional work of creditable quality in the engineering fields of their choice, extending over a period of five years, and who submit satisfactory theses as further evidence of their professional attainments.

A candidate holding a master's degree in engineering shall be considered to have fulfilled two years of the five-year requirement for the corresponding professional degree.

An application for a professional degree must be made to the Dean of the Graduate School and have the approval of the director of graduate study in his engineering field not less than one academic year before the degree may be granted.

The Graduate Committee will pass on the qualifications of each applicant. It may, at its discretion, require an oral examination. The applicant is expected to submit a record of his engineering experience, which should include a complete list of his professional engagements, showing in each case the length of time employed and the position held. He should give for reference the names of at least three persons who are familiar with his engineering work. Preferably these persons should be connected with the organizations by whom he has been employed.

A thesis is required of each candidate. It may be in the field of research, design, invention, or engineering processes and methods. It must contain some original thought and be the product of the individual submitting it. Quotations and references with proper credit may be used. In general, the thesis should be of such a nature that it will be of value to the engineering profession.

A candidate holding a bachelor's degree in one field of engineering may apply for a professional degree in another field of engineering if he has attained unusual prominence and success in that field.

Fees

The fees for a professional degree in engineering are $15.00 for registration and $20.00 for graduation.

REQUIREMENTS FOR THE DEGREE DOCTOR OF ENGINEERING

(See page 169.)

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 page 156.

Advisers and the Special Committee

The director of graduate study in the student's major area will be the student's adviser until he has selected his dissertation director and has been accepted by him. When the dissertation director has been chosen, the student's special committee will be set up by the Dean after he has conferred with the student, the director of graduate study, and the dissertation director. This committee

should be set up as soon as the student has adjusted himself to the University environment and has found a suitable dissertation problem. Until the special committee is formed, the director of graduate study will advise the applicant as to his schedule of study, and he must initial each schedule before it is presented to the Dean.

The special committee will consist of the dissertation director as chairman, two or three other members from the major area, and one or two members from the minor academic area — in all, five members. This committee will advise the applicant and will set the requirements which the student must meet before he will be admitted to the final examination.

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 and Student Loads

Every applicant for the degree must select one major area of study and no more than two minor subjects, at least one of which must be outside the major area. The major subject shall be one in which he intends to concentrate his efforts; the minor subjects must be approved by the major area and by the representative of the minor on the special committee.

The applicant's principal work must be in the major 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 above the bachelor's degree (two above the master's, or its residence equivalent) is required for the doctorate. At least two semesters, exclusive of summer sessions, of the required residence above the master's (or its residence equivalent) must be earned at the University of Kentucky in full-time devotion to graduate study or to a combination of graduate study, research, and part-time teaching at the University. "Residence equivalent" to the master's degree is interpreted as thirty-six weeks of official residence. The amount of residence to be transferred on account of prior graduate work at some other institution is determined jointly by the Special Committee, the Registrar, and the Dean of the Graduate School.

A doctoral student's schedule may include an assignment to work on his dissertation, and appropriate residence may be allowed for such study, but in no case shall the residence allowed exceed the number of weeks spent in such dissertation research.

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 year of residence is required after the qualifying examination before the degree is conferred. However, in rare individual cases, if a student has completed his full residence and course requirements and wishes to complete his dissertation in absentia, he may petition the Graduate Council for permission to do this out of residence and without payment of the usual registration fees. Even if such permission is granted, at least a year must elapse between the qualifying examination and the awarding of the degree.

Dissertation

Each candidate must present a dissertation covering his thesis work. This dissertation must give evidence of the candidate's ability to carry on independent investigation and must be satisfactory in style and composition. It must represent a definite contribution to the knowledge of his subject, must be the result of independent work, must include original research, and must in some way add to or otherwise modify what was previously known on the subject. 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 typewritten copies of the dissertation (along with a check for the binding fee) and two typewritten copies of an abstract, usually of not less than 400 words nor more than 600 words, must be presented to the Dean of the Graduate School at least three weeks before the final date on which the Registrar's Office will receive grades of candidates for degrees at the next commence-

ment. An approval sheet signed by a majority of the special committee (including the director of the thesis) must accompany the dissertation. When dissertations are submitted a standard form containing *The Rules for Use of Theses* must be prepared and submitted with the manuscript, before the title page. (See page 161 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 exam-

ining committee shall consist of a minimum of five persons, appointed by the Dean of the Graduate School, after he has conferred with the director of graduate study for the area. (The President of the University and the Dean of the Graduate School are ex-officio members of all examining committees.) The director of graduate study (or his delegate) shall be chairman of the committee. Other members shall include the major professor, a third representative of the department, a representative of the minor, and one member of the Graduate Faculty associated with neither the major nor minor areas. The final examination shall include a defense of the dissertation and shall be as comprehensive in the major and minor areas as the committee desires to make it.

If the student passes this examination, he will be recommended for the degree at the next commencement provided one academic year has elapsed since the qualifying examination.

The completion of three years of residence work confers no right upon the student to be examined.

Recommendation

After the final examination has been passed, the name of the candidate will be presented for recommendation to the Board of Trustees for the degree of Doctor of Philosophy in course.

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 at least one-third of the minimum requirements outside of areas in the College of Education, shall declare at least one area other than Education when their special committees are appointed. Two members shall be chosen from these areas.

The Registrar, the Graduate committee of the College of Education, and the Graduate Dean will evaluate credits and residence to be allowed transfer students. It is understood, however, that the special committee may accept only such courses as fit into the graduate program of the student.

REQUIREMENTS FOR THE DOCTOR OF ENGINEERING DEGREE

These are the same as those for the Doctor of Philosophy degree. (See page 165.)

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* (Area Tests, Aptitude Test, and Advanced Test in your major field), if you have not previously taken this standardized test. Apply at the University Testing Bureau, Personnel Office, Administration Building. Take test at time designated. (*Scores on this test are necessary before admission to full graduate standing.* See page 157 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 Book store Kate Turabian's *A Manual for Writers of Dissertations* and fo

low 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

Haggin Fellowships and Scholarships

These fellowships and scholarships, which were endowed by Margaret Voorhies Haggin in memory of Her Father, George Voorhies, carry a stipend of $750 each (fellowships) and $600 each (scholarships).

Fellows and Scholars are expected to devote their entire time to graduate work, and no teaching or other departmental work may be required of them nor are they permitted to perform any duties for extra pay. Fellows and Scholars must carry a full schedule unless work on a thesis is substituted for part of the load. In this case recommendation must be made by the adviser and approved by the Graduate Council. The award is paid in 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 1 of each year.

Kentucky Research Foundation Fellowships

The Kentucky Research Foundation supports six graduate fellowships of $1200 to $1800 each awarded, without limitation as to the field of specilization, to candidates who possess outstanding personal qualities and professional qualifications. The deadline for submitting applications to the Graduate Office is March 1 of each year.

EXTENDED PROGRAMS

A. D. Albright, M.S., Ph.D., Executive Dean
R. D. Johnson, M.A., Ed.D., Associate Dean

University of Kentucky Extended Programs, successor to the College of Adult and Extension Education, was created in 1957 to further implement the University's programs of service to the citizens of the state. The University's instructional and research facilities are made available to the public through the following programs and services:

Home Study Program. Home Study courses offer opportunity to students who are interested in earning college credit but find it impossible to do so through class work on or off campus. These courses are prepared with the cooperation of the deans of the colleges and members of the cooperating departments of the University. Instructors are appointed upon the recommendation of the respective department heads. Thus a competent staff is insured at all times. Home study courses are especially helpful to those preparing for various vocational fields, teachers who desire to earn or renew a teaching certificate, men and women in military service, and others who wish to improve their educational and cultural background. The Department also offers non-credit courses, courses in high school subjects, and a course in citizenship for aliens.

Extension Class Program. A program of off-campus extension classes is conducted in communities throughout the state. Extension classes, either credit or non-credit, can be established for any interested group. Conferences and workshops conducted off-campus will be organized upon request.

Evening Class Program. Evening class programs on the campus at Lexington and at the University's Centers provide citizens of these communities with an opportunity for continuing education. Instructional staffs are made up of University staff members and qualified business and professional leaders of the community. Offerings include both college credit classes offered under the same conditions as similar daytime classes and non-credit classes designed to meet specific needs of business and professional people and of all persons desiring to broaden their intellectual and cultural horizons.

Workshops and Conferences. In cooperation with the academic Colleges, workshops, conferences, and similar short-course study programs can be organized for business and professional groups.

The teaching staffs of these programs are composed of both University staff members and visiting lecturers and consultants.

The classroom and cafeteria facilities of the University and, when possible, the housing facilities, are available to visitors to the campus participating in these programs.

University Centers. The Northern Center, established in 1948, and the Ashland Center, established in 1957, offer programs designed for high school graduates in those areas who want and should have an opportunity for higher education. These programs are also designed to meet the needs of the thousands of adults who would like to improve themselves in their professions, take

additional courses for cultural reasons, or use their leisure time in a constructive way. Each Center maintains a regular staff and offers a full two-year curriculum. Upper level undergraduate classes and graduate classes taught by University faculty members are offered at the Centers by extension.

Audio-Visual Services. Through Extended Programs the University offers the following audio-visual services: a 16 mm. film library available at non-profit rental fees to schools and community groups and without charge to on-campus classes; an advisory staff to assist school and community groups with problems of procurement, production, selection, and operation of audio-visual equipment and materials; a workshop and information program to acquaint schools with sources, construction, use, and evaluation of instructional materials; preservice training of students through classes, consultative service for Education classes and student teachers, and in-service training of teachers through classes and clinics; a Campus Cinema during spring and fall semesters for University students and the public, and an outdoor Summer Cinema for students and their families on campus.

School Services. A program of high school music festivals is sponsored annually through the Kentucky Interscholastic League. This program includes seven regional and two state festivals with an aggregate of 35,000 students taking part each year.

Other music services include the promotion of all-state music groups, summer music camps, workshops, and clinics, and church and community music conferences. Repertoire lists, music film lists, and general music bulletins are available through a mailing service.

The Kentucky Interscholastic League also sponsors the Kentucky High School Drama and Speech Festivals for the high schools of the state. This program includes regional and state festivals, and speech and drama clinics, workshops, and conferences for teachers and students.

Community Services. Community services are provided to the citizens of the Commonwealth through clubs and other community groups. This office assists in program planning and operates a Package Library Service which has available material on many subjects for discussion groups. It conducts forums and institutes for organizations and agencies requesting them and makes available the services of members of the University staff as lecturers and discussion group leaders.

Separate bulletins describing each of these programs and services are available on request.

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

Air Force Reserve Officers' Training Corps (AFROTC)

Roland W. Boughton, Thomas V. Corbett, Richard M. Dorsey, Charles H. Dunn, John B. Gipson, Albert H. Hutchinson, Jr., Carvel E. Mahaffey, Jr., Kellis D. Moore, William H. McConnell, Robert T. Palmer, Lynn A. Peterson, Milton Roelofs, James J. Romer, Troy F. Spence, Jr., and John D. Watkins.

Air Force ROTC Basic Course

(Freshmen and Sophomores)

(First Year)

10a, b AIR SCIENCE I, ROTC. (2 ea.)
Foundation of Air Power. A general survey of air power designed to provide the student with an understanding of the elements of air power and basic aeronautical science to include: a study of aviation history, basic flight principles, aircraft industries, commercial aviation, military air power, the military instrument of national security, and careers in the USAF. Leadership Laboratory. Three hours per week.

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

(Third Year)

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

35 AFROTC SUMMER TRAINING UNIT. (0) S
Familiarization flying, field exercises, individual weapons, USAF base activities and equipment, and Air Base problems.

(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.*

41 AFROTC FLIGHT INSTRUCTION PROGRAM. (2)
Thirty-five hours of aerial flight instruction, five hours of classroom instruction on Civil Air Regulations. *Prereq: Category 1 Air Science Student, 30a, b.*

ANATOMY AND PHYSIOLOGY

Richard S. Allen, James William Archdeacon, Louis L. Boyarsky, and David L. Lawrence.

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 INTRODUCTION TO 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. (4) I — 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. Lecture, one hour; lab, six hours. *Prereq: Zoology 1.*

5 ELEMENTARY PHYSIOLOGY. (3) I, II, S — Boyarsky
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.*

°6 INTRODUCTION TO ANATOMY. (3) II — Allen
A detailed study of the bones of the human skeleton, arrangement of joints, ligament and muscle attachments. Other major systems will also be studied. Lecture, one hour; lab, four hours.

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; major and standing of 3.0 in the department.*

104a-c 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; major and standing of 3.0 in the department.*

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 and Boyarsky
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.*

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.*

° Open to Freshmen.

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.*

120 PHYSIOLOGY OF EXERCISE. (3) I Jokl
A comprehensive survey of the physiological and clinical aspects of exercise. (Lectures and demonstrations, three hours.) *Prereq: A. & P. 4 and 5 or equivalent; Psychology 1; Instructor's consent.*

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 and Archdeacon
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 ea.) 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.*

210 PRINCIPLES OF PHYSIOLOGY. (3) I, II Staff
A general consideration of the body's various systems. Designed for majors in Physiology, Animal Husbandry, and associated fields. Lectures, two hours; lab, two hours. *Prereq: One year College Chemistry; one year College Physics.*

ANCIENT LANGUAGES AND LITERATURES

Jonah W. D. Skiles, Robert John Buck, Wilbert L. Carr, Theodore Tolman Jones, Joseph R. Rosenbloom, Gene M. Schramm, and Stanley M. Wagner.

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

Note.— 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 — Staff
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 — Staff
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 — Staff
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 — Buck
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 — Buck
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 — Carr
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 — Carr
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 — Skiles
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 — Carr
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.) I, II, S — Carr
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.) I, II, S — Buck
The writing of Latin prose of moderate difficulty. *Prereq: A. L. 3 or consent of instructor.*

121 ROMAN CIVILIZATION. (2) II, S — Skiles
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 — Skiles
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 — Staff
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.*

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* Open to Freshmen.

Greek

*51a BEGINNING GREEK. (3) I Skiles
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.

51b SELECTIONS FROM THE GREEK NEW TESTAMENT. (3) II Skiles
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 any course in classical Greek.

52a, b SELECTIONS FROM GREEK WRITERS. (3 ea.) I, II, S Buck
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 Buck
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 Buck
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 Buck
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 Skiles
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 Staff
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 Buck
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 Buck
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, II, S Skiles
Class and/or individual work. Reading or research in the vocabulary and syntax of the Koine, in the text of the New Testament, and in other fields. *Prereq: Two years of college Greek or consent of instructor.*

Hebrew

*81a BEGINNING HEBREW. (3) II Wagner
Emphasis on learning to read simple Biblical Hebrew prose, with attention to the basic elements of Hebrew grammar.

81b ELEMENTARY HEBREW READING. (3) II Wagner
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 Wagner
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 Wagner
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.*

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

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* Open to Freshmen.

180a ISAIAH. (3) I — Schramm
Selections with attention to the literary, historical, and general cultural background. *Prereq: 82b or consent of instructor.*

180b THE PSALMS. (3) II — Schramm
Selections with attention to poetic form and to historical and general cultural background. *Prereq: 84a or consent of instructor.*

154a, b STUDIES IN SEMITIC PHILOLOGY. (3 ea.) I, II — Staff
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.*

Arabic

*40a BEGINNING ARABIC. (3) I — Schramm
Emphasis on learning to read simple Arabic, with attention to the basic elements of Arabic grammar. Some attention to Islamic civilization. *No prereq.*

40b ELEMENTARY ARABIC READING. (3) II — Schramm
Selections from various prose sources. *Prereq: 40a.*

41a ARABIC CONVERSATION AND COMPOSITION. (1) I — Schramm
Practice in the use of the language. Primarily for those wishing to improve aural-oral ability, but also for those wishing to have additional practice in the language. *No prereq.*

41b ARABIC CONVERSATION AND COMPOSITION. (1) II — Schramm
A continuation of 41a. *Prereq: 41a.*

Classics and Semitics in General

*31 MEDICAL TERMINOLOGY FROM GREEK AND LATIN. (3) II — Skiles
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.

90a, b TUTORIAL SEMINAR. (1 ea.) I, II, S — Staff
Conferences, readings, and reports in preparation for the comprehensive examination. Required of all senior majors in Ancient Languages and Literatures.

122a CLASSICAL EPIC IN ENGLISH TRANSLATION. (3) I — Buck
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 — Buck
Selected tragedies and comedies of both Greek and Roman dramatists. No knowledge of Greek or Latin necessary.

125a, b MIDDLE EASTERN LITERATURE IN ENGLISH TRANSLATION. (3 ea.) I, II — Schramm
Selections from various genres to give the student a basic understanding of Middle Eastern Literature. The material will be drawn from Hebraic, Arabic, Persian, Syriac, Egyptian, Akkadian, Sumerian, Turkish and Hittite sources. Given in English. No knowledge of Middle Eastern language necessary.

151a-h INDEPENDENT WORK IN ANCIENT LANGUAGES. (3 ea.) I, II, S — Staff
Courses to meet the needs of the students will be arranged in various areas of classical philology, e.g., in Greek or Latin writers, in classical civilization, in Greek or Latin linguistics, in various areas of Semitics, etc. *Prereq: Major and a standing of 3.0 in dept.*

200 RESEARCH IN THE TEACHING OF CLASSICAL LANGUAGES. (3) I, II, S — Skiles and Carr
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 — Skiles
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 — Staff
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 Staff
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 A LITERARY GENRE. (3) I, II, S Staff
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

Frank J. Essene, Douglas W. Schwartz, Charles E. Snow, 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 and b; plus a comprehensive examination in the Senior year.

*1 INTRODUCTION TO PHYSICAL ANTHROPOLOGY. (3) I, II, S Snow
Meets Biological Sciences requirements. An outline of the biological aspects of man. Demonstration lectures on man's origin and development, the primates, fossil man, races, race mixture, human biology, and growth.

*2 INTRODUCTION TO CULTURAL ANTHROPOLOGY. (3) II, S Essene
Meets Social Studies requirements. 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 and skeleton from anatomical landmarks with emphasis upon the practical application to human engineering.

60 PRIMITIVE INVENTIONS. (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 3.0 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 Schwartz
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 Schwartz
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 Schwartz
An intensive study of the native American civilizations, their origins, development, and achievements.

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* Open to Freshmen.

115 NORTH AMERICAN ARCHAEOLOGY. (3) I Schwartz
Origin and growth of prehistoric American Indian cultures north of Mexico as revealed by archaeological data.

116 BEGINNINGS OF CIVILIZATION. (3) I Schwartz
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 Schwartz
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 mixture, 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.*

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.

181a-d SPECIAL PROBLEMS. (2 ea.) I, II, S Staff
Designed for upper division students who undertake minor research problems in archaeology, ethnology and physical anthropology in regular consultation with the instructor.

185a DESCRIPTIVE LINGUISTICS I: Morphology Syntax. (3) Faust
An explanation of some of the ways speech-sounds are put together in patterns so as to form languages. (Same as English 185a.) *Prereq: consent of instructor.*

185b DESCRIPTIVE LINGUISTICS II: Phonology; Communication by Language. (3) Faust
An investigation of speech-sounds and systems of speech-sounds. Also, attention to both speech and writing as communication systems. (Same as English 185b.) *Prereq: Anthropology 185a.*

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-d 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.

500-1, 2, 3 THESIS. (0) I, II, S Staff

ART

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

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

Requirements in the Field of Concentration: 40 credits in 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 in Art. Prerequisites: Art 1, 34, 61, 62, 63, and 64a or 64b. *Required:* A minimum of 26 credits of advanced work in Art, including courses 151 and 160a, b, 12 credits in studio courses, 9 credits in the history and theory of art; and a comprehensive examination in the senior year.

Requirements for a Major in Art Education. Prerequisites: Art 1, 10a, 34, 61 and 62. *Required:* A minimum of 18 credits of advanced work in Art, including Art, 155 or 157, and 160a, 9 credits in studio courses, and 6 credits in the history and theory of art; and 22 credits in Education, including Education C44, 105, 110, 142, C147, and 148.

General Courses

°1 INTRODUCTION TO ART. (2) I Staff
Criteria for evaluation of works of art; detailed study and analysis of original works of art: paintings, sculpture, prints, applied design and architecture. Required of and open only to prospective majors in art.

°34 FORMS OF ART. (2) I, II, S Green and Wiggs
Evolution of forms in art; style; relation of styles to cultural context.

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.

Drawing, Painting and Printmaking

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

°51a, b 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 various media. Six studio hours.

°61 BEGINNING DRAWING AND PAINTING. (2) I, II, S Staff
Basic concepts and procedures in drawing and painting. Media: pencil, charcoal, ink, casein and watercolor. Four studio hours; one hour, criticism.

63 INTERMEDIATE DRAWING AND PAINTING. (2) I Staff
Creative representation based upon analytic study of natural forms. Figure, still life and landscape. Media: charcoal, ink, casein and watercolor. Four studio hours; one hour, criticism. *Prereq: 61.*

65a, b INTERMEDIATE PAINTING. (3 ea.) I, II, S Sternbergs and Barnhart
Principles of pictorial structure and composition. Still life and landscape. Medium: oil. *Prereq: 63.*

116a, b PRINTMAKING. (2) I, II Sternbergs
Technical instruction in printmaking processes: lithography, etching, wood cut. Six studio hours. *Prereq: 63.*

° Open to Freshmen.

165a-c ADVANCED PAINTING. (3 ea.) I, II, S — Staff
Individual development in creative painting. *Prereq: 65b.*

177a-d INDEPENDENT WORK: PAINTING, PRINTMAKING. (3 ea.) — Staff
Individual work in drawing, painting and printmaking. *Prereq:* Major and a standing of 3.0 in the department.

267 TRADITIONAL AND EXPERIMENTAL MEDIA IN PAINTING. (3) I, II, S — Staff
A survey of historical and contemporary procedures and materials with sustained problems in mural and easel painting. Preparation of grounds and consideration of permanency in pigments, vehicles and supports. *Prereq: 165b and consent of the instructor.*

Sculpture and Ceramics

64a BEGINNING SCULPTURE. (2) II — Barnhart
Wood carving. Problems of sculptural form and composition. *Prereq: 61, 62.*

64b BEGINNING SCULPTURE. (2) II — Green
Clay modelling. Problems of sculptural form and composition. *Prereq: 61, 62.*

126a, b CERAMICS. (3 ea.) II — Green
The design, construction, glazing and firing of pottery. Nine hours studio work. *Prereq: Art 62 and 64b or consent of instructor.*

Design

°62 BASIC DESIGN. (2) I, II, S — Barnhart and Green
Training in basic design skills. Creative construction in common materials; logical development of unified forms.

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

68a GRAPHIC DESIGN. (2) I, S — Sternbergs
Basic training in the design of printing; lettering; layouts and presentation. Six studio hours. *Prereq: 63.*

68b GRAPHIC DESIGN. (2) II, S — Barnhart
Continuation of 68a. Problems in the design of posters; illustration, etc. Six studio hours. *Prereq: 68a.*

72 INTERMEDIATE DESIGN. (2) I — Barnhart and Green
A limited number of intensive problems in two and three dimensional design; color construction and materials. Solutions of these problems related to practical application in the fields of design. Six hours studio work. *Prereq: Art 62.*

122 ADVANCED DESIGN. (2) II — Barnhart
Special problems in one field or aspect of design. Intensive analysis and sustained creative work in a chosen problem. Six hours studio work. *Prereq: Art 72.*

124 TEXTILE DESIGN. (3) I — Green
Two dimensional design problems with emphasis on color and texture. Experimental weaving and the creation of printed fabrics. Nine hours studio work. *Prereq: Art 62.*

179a-d INDEPENDENT WORK: DESIGN, CONSTRUCTION. (3 ea.) I, II — Staff
Individual research and experimental work in technical and theoretical problems of design. *Prereq: Major and a standing of 3.0 in the department.*

History and Theory of Art

45a 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.

45b HISTORY OF ARCHITECTURE. (2) II — Rannells
A study of architecture in the 19th and 20th centuries.

135 ANCIENT ART. (3) I — Rannells
The art of the ancient cultures of the Mediterranean and West-Asian world through Greek and Roman times. Emphasis on classical art.

° Open to Freshmen.

136 MEDIEVAL ART. (3) II Rannells
The art of Byzantium and the Near East and of the Latin and Germanic cultures in the West; Romanesque and Gothic Art in Northern Europe. Emphasis upon Christian Art.

138 RENAISSANCE ART IN NORTHERN EUROPE. (2) I Rannells
The arts of the Renaissance and Reformation outside Italy from the late middle ages through the sixteenth century. Northern humanism; analyses of style; study of individual masters.

140 RENAISSANCE ART IN ITALY. (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.

141 BAROQUE ART. (3) II Rannells
The arts of the Reformation and Counter-Reformation in Europe from the mid-sixteenth century in Italy through the eighteenth century in France and Germany. The Baroque and Rococo styles; study of individual masters.

142 NINETEENTH CENTURY ART. (3) I Amyx
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.

143 TWENTIETH CENTURY ART. (3) II Amyx
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.

147 ART IN AMERICA. (2) II Amyx
A survey of American architecture, sculpture, painting, illustration, handicrafts, industrial design, etc., from Colonial times to the present.

151 CRITICISM OF ART. (3) I Amyx
History and theory of criticism in the visual arts. Contemporary problems in criticism. Analyses, interpretations, evaluations.

153 AESTHETICS. (3) II 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.

175a-d INDEPENDENT WORK: HISTORY, CRITICISM. (3 ea.) Staff
Individual research: history, criticism, aesthetics, etc. *Prereq: Major and a standing of 3.0 in the department.*

243 STUDIES IN CONTEMPORARY ART. (3) II Amyx
Intensive study of the content of selected 19th and 20th century works. Emphasis, according to works chosen, upon parallels with contemporary theory and procedure in the sciences, psychology and philosophy; consideration of influence from relativism, psychoanalysis, Gestalt psychology, mathematical and social theory. *Prereq: 143 and 151 or 153.*

Art Education

°10a PUBLIC SCHOOL ART. (3) I, II, S Wiggs
Essentials of public school art. The development of vision and art in the child; the major forms of two-dimensional art. Creative problems in drawing and painting. For students in elementary education. Two hours lecture-discussion; four studio hours.

°10b PUBLIC SCHOOL ART. (3) I, II, S Wiggs
Continuation of Art 10a. Emphasis on the three-dimensional forms of art, and the relation of art to visual environment. Creative problems in sculpture and design. For students in elementary education. Two hours lecture-discussion; four studio hours. *Prereq: Art 10a.*

155 ART IN ELEMENTARY SCHOOLS. (2) S Wiggs
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 Rannells and Wiggs
Art for teachers in secondary schools. The literature of art education. Courses of study. Teaching materials. Lectures, conferences, and reports.

° Open to Freshmen.

159 ART EDUCATION WORKSHOP. (1) S Wiggs
Creative problems, lectures and discussion in public school art. Primarily for in-service teachers. Thirty class hours. *Prereq: Art 10a.*

210 SCHOOL AND COMMUNITY ART. (3) I, S Rannells and Wiggs
Analyses of the social function of art; organization of school and community programs in art; case studies of existing programs. Emphasis on relation of school programs to community needs. *Prereq: Art 143, 155 or 157; Sociology 40; Education 227 or 230; or consent of the instructor.*

BACTERIOLOGY

Morris Scherago, Etta W. Best, Ogden F. Edwards, Herbert E. Hall, Margaret Hotchkiss, James C. Humphries, Elmer S. Maxwell, James T. McClellan, R. H. Weaver, and Ralph S. Wiseman.

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 Bacteriology majors. Course 52 or 102 is recommended to fulfill the requirements of students in the College of Agriculture and Home Economics, premedical students, and students in sanitary engineering.

Either courses 2a and 2b or course 52 or 102 is available for students in Education or Commerce, to fulfill the biological sciences group requirement in the College of Arts and Sciences, etc.

Courses 6a and 6b are designed primarily for student nurses but are ope to others.

°2a ELEMENTARY MICROBIOLOGY. (4) I, II Weaver and Wiseman
The fundamental nature of bacteria and other microorganisms. Morphology of microorganisms. Lecture, two hours; lab, four hours.

°2b ELEMENTARY MICROBIOLOGY. (4) I, II Weaver and Wiseman
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 ELEMENTARY MEDICAL MICROBIOLOGY. (4) II Scherago, Edwards, 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. *Prereq: A&P 2; Chemistry 3.*

°6b ELEMENTARY PATHOLOGY. (2) II Scherago, Edwards, 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. *Prereq. or concurrent: Bact. 6a.*

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.*

° Open to Freshmen.

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 or 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, McClellan, 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 3.0 in the department.*

120a, b HOSPITAL LABORATORY PRACTICE. (4, 6) I, II, S Best 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 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.*

° Open to Freshmen.

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. 130b; 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. 130b.*

224 DISINFECTANTS AND ANTIBIOTICS. (3) II, S — Hotchkiss
Chemical agents injurious to microorganisms. Practical applications and methods of testing. Conferences, one hour; lab, four hours. *Prereq: Bact. 2b, or 52 and 104; Chem. 130b.*

226a METABOLISM OF MICROORGANISMS. (4) I — Wiseman
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 — Wiseman
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. 125; 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, b and 4a, b.*

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, Z. B. Carothers, Carl E. Henrickson, Jasper H. B. Garner, Frank T. McFarland, Berthus B. McInteer, and Dale M. Smith.

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) I, II — 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) II — Carothers
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.*

* Open to Freshmen.

Smith
15 LOCAL FLORA. (4) II, S
The identification and recognition of the vascular plants primarily of Kentucky, including an introduction to the use of manuals, herbarium, field study, and the principle of taxonomy. Two lectures and two two-hour labs per week. *Prereq: Botany 1 and 25.*

Smith
19 DENDROLOGY. (2) I, II
Primarily a field course in which a student is taught how to identify and recognize trees by their bark, bud and leaf characters. Summer and winter conditions studied. Two lectures per week. *Prereq: Botany 1 or 25.*

Staff
°25 GENERAL PLANT BIOLOGY. (3) I, II, S
The principles underlying the structure and functions of green plants; reproduction. Three lectures per week.

Riley
40 THE ORIGIN OF CULTIVATED PLANTS. (3) II
Archaeological, historical, and biological evidence for the place and time of origin of many plants useful to man and the relation of these plants to ancient centers of civilization. Three lectures per week.

Henrickson
103 PLANT PHYSIOLOGY. (4) I
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.*

Henrickson
104 PLANT PHYSIOLOGY. (4) II
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.*

Staff
106a-d SPECIAL PROBLEMS. (3 ea.) I, II
Independent work in some phase of advanced Botany. *Prereq: consent of instructor.*

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

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

Staff
115a, b SEMINAR. (1 ea.) I, II
Readings and reports on special topics. Required of all senior botany majors.

Riley
124 ANATOMY OF VASCULAR PLANTS. (4) II
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.*

Garner
125 MYCOLOGY. (4) I
The structure, relations, and physiology of the fungi and their relations with and effects on other plants and animals. Two lecture-discussions and two two-hour lab periods per week. *Prereq: Botany 1 or its equivalent.*

Garner
126 ADVANCED MYCOLOGY. (4) II
Detailed examination of the structure and physiology of specific groups of fungi that are of economic importance. Two lecture-discussions and two two-hour lab periods per week. *Prereq: Botany 125 or its equivalent and consent of instructor.*

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

Riley
130 INTRODUCTION TO HEREDITY. (3) II
The principles of heredity and their physical basis. Three lectures per week. *Prereq: 3 credits in the Biological Sciences.*

Riley
132 GENES AND THEIR ACTION. (3) II
The nature and action of genes. Physiological genetics. Three lectures per week. *Prereq: Botany 130 or equivalent.*

Riley
134 CYTOGENETICS. (3) II
Cytological and genetic evidence for the chromosome theory. Chromosome aberrations and their importance in heredity and evolution. Three lectures per week. Given in alternate years. *Prereq: Botany 129 and 130 or equivalent.*

° Open to Freshmen.

141 PLANT PATHOLOGY. (3) Diachun
Significance, nature, causes, and methods of control of plant diseases. Lectures and discussion, two hours; lab, two hours. *Prereq: Botany 1. (Same as Agronomy 141.)*

151 TAXONOMY OF VASCULAR PLANTS. (4) II Smith
A study of the principles and practices of taxonomy and a detailed consideration of the families of vascular plants. Two lectures and two two-hour labs per week, including field trips. *Prereq: Botany 1 and 2.*

160 PLANT MICROTECHNIQUE. (3) II Staff
The principal methods used in the preparation of permanent slides for the compound microscope. Three three-hour lab periods per week. *Prereq: Six credits of botany.*

206a-d RESEARCH IN PLANT MORPHOLOGY. (4 ea.) Staff
Graduate students prepared for independent work will be assigned to investigations in anatomy, histology, or special morphology of plants.

207a-d RESEARCH IN MYCOLOGY. (4 ea.) 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-d RESEARCH IN PLANT PHYSIOLOGY. (4 ea.) Henrickson
Graduate students with adequate preparation in plant physiology, physics, and chemistry may carry on independent investigations in plant physiology.

213a-d RESEARCH IN SYSTEMATIC BOTANY. (4 ea.) McInteer
Graduate students may carry on independent work that may be used in the preparation of their theses.

215a-d RESEARCH IN CYTOGENETICS. (4 ea.) 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 BIOSYSTEMATICS. (3) I Smith
Principles in the application of data from the fields of ecology, genetics, cytology, morphology, phytogeography, and physiology to the solution of taxonomic problems. Two lectures and one two-hour lab per week. Given in alternate years.

500-1, 2, 3 THESIS. (0) Staff

CHEMISTRY

Lyle R. Dawson, David Ahlgren, Tracy Alexander, Charles Barkenbus, Rodney Black, Willard B. Brown, Forrest C. Burns, Paul R. Caudill, George M. Chapman, John Drenchko, William Elliott, Arthur Fort, Ellwood M. Hammaker, Ralph Hovermale, Jacob R. Meadow, John R. Mitchell, Arthur Nielson, George O'Brien, John M. Patterson, William H. Perry, William K. Plucknett, Shelba J. Proffitt, Kermit Ramey, Hubert Richards, William I. Riggs, Rudolph Schroeder, Harry Smiley, Walter T. Smith, Jr., Kurt Starke, John F. Steinbach, Olus J. Stewart, Arjen Teitsma, Joe W. Vaughn, William F. Wagner, Donald D. Wilson, Richard K. Wolford, Harry P. Woods, and Noble H. Yoshida.

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 2.0 or higher in all chemistry courses.

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

Requirements for the degree, A.B. with a major in Chemistry

Requirements in the Field of Concentration: Forty credits 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, Mathematics 19. *Required:* Chemistry 130a, b, 143 or 140a, b with 144a, b, 188a, b; Physics 1a, b or 3a, b, and 4a, 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 — Steinbach
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.*

101 ORIENTATION IN MODERN CHEMISTRY FOR TEACHERS. (3) S — Staff
A study relating chemistry to the social, economic and political aspects of modern life and examining the work of the chemist. Lectures, reports and discussions, three hours (six hours in summer). *Prereq: employment as high school science teacher.*

110a, b ADVANCED INORGANIC CHEMISTRY. (2, 2) I, II, S — Starke
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 — Starke
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 and 4b.*

141 CHEMICAL THERMODYNAMICS. (3) II — Plucknett
Principles and applications of chemical thermodynamics. Lectures, three hours. *Prereq: Chem. 140b.*

143 PHYSICAL CHEMISTRY. (5) I — Dawson
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; Math. 19.*

144a, b PHYSICAL CHEMISTRY LABORATORY. (2, 2) I, II, S — Staff
Laboratory studies in physical chemistry to accompany 140a, b. Lab, six hours. *Prereq: Quantitative Analysis, Mathematics 20b, Physics 3b and 4b.*

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 Staff
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 and 4b.*

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 — Plucknett
The fabrication of chemical apparatus of glass, metal, and plastics.

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.

190a-d INDEPENDENT WORK IN CHEMISTRY. (3 ea.) — Staff
Prereq: Major and a standing of 3.0 in the department.

215a, b RADIOCHEMISTRY. (2, 2) I, II — Staff
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 — Staff
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 — Dawson
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 — Staff
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 — Dawson
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) — Plucknett
An introduction to quantum mechanics with emphasis on the aspects closely related to chemistry. *Prereq: Chem. 140b and differential equations.*

342 STATISTICAL THERMODYNAMICS. (2) — Plucknett
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 for a Major. Prerequisites: Economics 51 and 52. *Required:* A minimum of 18 credits of advanced work in Economics, including Economics 102, 104, 105, and 115. Tutorial course 167 must be taken in the senior year to prepare for the required comprehensive examination.

List of Courses. Courses that may be used to satisfy the over-all requirements are 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; 154—Urban Real Estate; 155—Industrial Relations; 160—Business Combinations; 165—Comparative Economic Systems; 166—Personnel Problems; 167—Tutorial Work in Economics; 186—Economic Research.

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, Robert K. Billings, Ben W. Black, Gifford Blyton, George K. Brady, Wallace N. Briggs, Barbara L. Burns, Dorothy Cohen, Arthur L. Cooke, Alfred L. Crabb, John L. Cutler, Lehre L. Dantzler, Robert O. Evans, Edward F. Farquhar, George P. Faust, Edward F. Foster, Norman Gelber, Sheldon N. Grebstein, Lelia G. Harris, Maurice A. Hatch, Robert Hazel, Robert D. Jacobs, William H. Jansen, Cheryl Kupper, Malcolm R. McBride, Arthur K. Moore, Jack L. Nelson, Archie B. Rainey, Ernest L. Rhodes, Mary Ellen Rickey, Lolo L. Robinson, Hill Shine, Stella T. Smith, Herman E. Spivey, J. Reid Sterrett, Margaret O. Stewart, Thomas B. Stroup, Hollis S. Summers, Milton A. Voight, Jack E. Wallace, Eugene L. Williamson, and George T. Wright.

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, Speech, and Dramatic Arts, as set forth in the departmental statement of requirements.

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

Requirements in Field of Concentration. Forty credits (in courses not open to freshmen) in the field of Literature, Philosophy, 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, which is prerequisite.

*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.

* Open to Freshmen.

30 BUSINESS ENGLISH. (2) Staff
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.*

50 COMPOSITION FOR TECHNICAL STUDENTS. (3) Staff
A course designed to give writing experience for students in the sciences, engineering, agriculture and business. Definitions, analyses, classifications, interpretations, directives, business letters, reports. *Prereq: English 1a and 1b.*

60 ADVANCED COMPOSITION. (3) Jacobs and others
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 and Hazel
A course for those who wish to write fiction and to develop a critical appreciation of narrative writing. Analysis of models and student manuscripts. *Prereq: Consent of instructor.*

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.

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.

117a WORKSHOP IN IMAGINATIVE WRITING. (2) Summers
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: Consent of instructor.*

117b WORKSHOP IN IMAGINATIVE WRITING. (2) Summers
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: Consent of instructor.*

180 ENGLISH COMPOSITION FOR TEACHERS. (3) Ward
The basic scholarly studies helpful to high school teachers of English. The teaching of grammer, punctuation, usage, etc.; of theme planning, correction, and revision; of reading factual and imaginative literature, with required explications.

185a DESCRIPTIVE LINGUISTICS I: Morphology Syntax. (3) Faust
An explanation of some of the ways speech sounds are put together in patterns so as to form languages. (Same as Anthropology 185a.) *Prereq: consent of instructor.*

185b DESCRIPTIVE LINGUISTICS II: Phonology; Communication by Language. (3) Faust
An investigation of speech-sounds and systems of speech-sounds. Also, attention to both speech and writing as communication systems. (Same as Anthropology 185b.) *Prereq: English 185a.*

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, American, and Comparative 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.

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.

*4 INTRODUCTION TO LITERATURE. (3) Staff
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) Staff
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.

5b MAJOR AMERICAN WRITERS. (3) Staff
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.

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.

105 CHAUCER. (3) Moore and Cutler
Extensive readings in the chief works of Chaucer with assigned problems relating to Chaucer and his age.

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.

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.

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.

107b VICTORIAN PROSE. (3) Shine
A study of Carlyle, Ruskin, Newman, Spencer, Arnold, Huxley, and related writers of the period in the field of prose. Special emphasis is placed on Carlyle's *Sartor Resartus*.

108a PRINCIPLES OF LITERARY CRITICISM. (3) Adler
A course designed to show criticism as a growth and development in an historical survey and to give a corpus of opinion about literature.

108b PRINCIPLES OF LITERARY CRITICISM. (3) Adler
A continuation of 108a, which is not prerequisite although desirable.

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.

110a SHAKESPEARE: THE COMEDIES. (3) Black and Evans
Shakespeare's comedies will be studied in detail.

110b SHAKESPEARE: THE TRAGEDIES. (3) Black and Evans
A continuation of English 110a, with special attention to the great tragedies.

111a THE EIGHTEENTH CENTURY BRITISH NOVEL. (3) Cooke
A study of the novel from its beginning in English Literature to the advent of Scott.

111b THE NINETEENTH CENTURY BRITISH NOVEL. (3)
A study of the novel in English literature from Scott through Gissing.

113 THE AMERICAN NOVEL BEFORE 1900. (3)
A study of the American novel from the beginnings to Henry James.

116 THE CONTEMPORARY DRAMA. (3) Adler
A course designed to show the development and tendencies in Continental, British, and American dramatic literature, 1850 to date.

123a AMERICAN LITERATURE BEFORE 1860. (3) Spivey and Jacobs
A survey intended to show the development of American life, thought, and letters from the beginnings to 1860.

123b AMERICAN LITERATURE AFTER 1860. (3) Spivey and Jacobs
A survey intended to show the development of American life, thought, and letters from 1860 to the present.

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.

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.

127a LITERATURE OF THE BIBLE. (3) Bellamy
A survey of the Old Testament as the literature of the Jewish people.

127b LITERATURE OF THE BIBLE. (3) Bellamy
A survey of the New Testament as the literature of the early Christians.

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.

130b COMPARATIVE LITERATURE. (3) Brady
From Montaigne to Anatole France. A continuation of English 130a, which is not prerequisite, although desirable.

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.

143 EDGAR ALLEN POE. (3)
A comprehensive study of Poe's works.

145 ELIZABETHAN DRAMA, EXCLUSIVE OF SHAKESPEARE. (3) Stroup
A survey of English drama from the early Elizabethans until the closing of the theatres.

147 AGE OF JOHNSON. (3) Cooke
From 1740 to 1789. Johnson and his circle: Burke, Goldsmith, Gray, Walpole, Cowper. The Pre-Romantic movement.

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.

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.

152 THE AGE OF POPE. (3) Cooke
Addison and Steele, Swift, Pope, Defoe, and other contemporary figures.

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.

155a CONTEMPORARY AMERICAN POETRY. (3) Jacobs
An examination of the forces which have modified poetry in England and America since 1830; and a study of the major modern poets.

155b CONTEMPORARY BRITISH POETRY. (3) Moore
A continuation of 155a, which is not prerequisite, although desirable.

156a THE MODERN AMERICAN NOVEL. (3) Jacobs
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.

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.

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.

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 Jacobs
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 Jacobs
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) Staff
Designed to give the student platform experience in the fundamentals of effective speaking.

7 SPEECHES FOR SPECIAL OCCASIONS. (3) Sterrett
A reading and an analysis of and practice in various types of speeches motivated by the specific occasion, such as the introduction, the welcome. the presentation, the dedication, the good-will, the after dinner speech. *Prereq: 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 literature.

°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.

° Open to Freshmen.

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 or consent of instructor.*

157 TEACHING OF SPEECH. (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 logic and argument than 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, 146a or consent of instructor.*

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 or consent of instructor.*

247b SPECIAL TOPICS IN SPEECH. (3) Staff
Study and research on specific topics and problems, depending on the needs of students. Generally offered as an independent study course.

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.

*35 STAGECRAFT. (2) Rainey
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) Rainey
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.

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.

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 35 or 36.*

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* Open to Freshmen.

163 SCENIC DESIGN. (3) Rainey
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
This course is designed for those students interested in creative drama. The completion of at least one one-act play is required during the semester.

174 WRITING THE FULL-LENGTH PLAY. (3) Robinson
The writing of a full-length play is required during the semester. *Prereq: English 172.*

247a SPECIAL TOPICS IN DRAMATIC ARTS. (3) Staff
Study and research on specific topics and problems, depending on the needs of students. Generally offered as an independent study course.

GEOGRAPHY

Joseph Raymond Schwendeman, Thomas Parry Field, James Algan Shear, William A. Withington, P. P. Karan, and Forrest L. McElhoe, Jr.

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 and 10. *Requirements:* A minimum of 18 credits of advanced work in Geography varied according to the curriculum elected by the student.

*1 ELEMENTS OF GEOGRAPHY. (3) I, II, S Shear
An orientation course in 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 world by regions, 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, McElhoe, 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 and Field
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 Karan and McElhoe
A survey of selected agricultural, mineral and industrial commodities and occupations, including world patterns of distribution, and their relation to factors of the natural environment.

20 INTRODUCTION TO WEATHER AND CLIMATE. (3) I Shear
A study of the atmosphere directed toward a basic understanding of the elements and controls of weather and climate. Attention is given to instruments, maps and observation techniques. *Prereq: Geography 1 or consent of instructor.*

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 Karan
A regional study of the physical, economic, and cultural characteristics of the various areas of the United States, Canada, and Alaska. *Prereq: One geography course.*

101 GEOGRAPHY OF KENTUCKY. (2) II, S Schwendeman
A study of how the people of Kentucky adjust themselves to the location, surface, climate, and other natural resources of their state. *Prereq: One geography course.*

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* Open to Freshmen.

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 Karan
A regional study of the countries of Asia including European U.S.S.R., China, Japan, and India. Role of the Orient in the international landscape. *Prereq: One geography course.*

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 the 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 Karan
An analysis of the patterns of interrelationships between natural factors and economic activities with particular attention and field trips to local agricultural and industrial developments. *Prereq: Geography 10.*

112 CONSERVATION OF NATURAL RESOURCES. (2) I Karan
A general study of the needs for and problems of conserving the natural resources including the development of the conservation movement and resource use. *Prereq: Geography 10.*

120 CLIMATOLOGY. (3) Shear
A study of the elements and controls of climate and of world climatic patterns. *Prereq: Geography 1 or consent of instructor.*

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 3.0 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.*

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.

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.

250 SEMINAR—DEVELOPMENT OF GEOGRAPHIC THOUGHT. (3) II Staff
Series of topics selected in order to acquaint the graduate students of geography or of related subjects with the basic literature and evolution of the broad field of geography. *Prereq: Geography major or consent of instructor.*

500-1-2-3 THESIS. (0) I, II, S Staff

GEOLOGY

A. C. McFarlan, William R. Brown, Lois Campbell, Irving S. Fisher, Vincent E. Nelson, Thomas G. Roberts, 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, 60a, 60b, 61a, 61b, 101a, 101b, 112, 107a, 107b, 118a, 119a, 129, 130, 126a, 126b, 135. *Field Work:* A summer field course, Geology 18a, and a report, Geology 119a, are required of major students for graduation. Local field work is offered throughout the year.

Students majoring in Geology are required to pass a final comprehensive examination in the department.

°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. 60a, 60b.* 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. 60a, 60b; 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. 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.)
Prereq: Geology 50a or concurrent.

°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.

°50a OUTLINES OF GEOLOGY. (3) Staff
An introduction to general geology. Lecture, three hours.

°50b OUTLINES OF GEOLOGY. (3) Brown and Fisher
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.*

° Open to Freshmen.

*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.*

60a, 60b HISTORICAL GEOLOGY. (3 ea.) Nelson
A study of the events of earth history and the interpretation of this record from the rocks. Continental evolution—stratigraphic succession—fossil record. Two lectures, one laboratory conference. *Prereq: Geology 50a and 20a, or 3, or 12a, or equivalent.*

61a MINERALOGY. (3) Fisher
A study of geometrical crystallography and other physical properties useful in mineral identification. Lecture, one hour; lab, four hours. *Prereq: Geology 50a and 20a, or equivalent, and Chemistry 1a and 1b (or concurrent).*

61b 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: Geology 61a.*

101a PALEONTOLOGY. (3) Campbell
A study of fossil invertebrates, their nature, classification, and geological distribution. Lecture, one hour; lab, four hours. *Prereq: Geol. 60a, 60b 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. *Prereq: Major and standing of 3.0 in the department.*

107a-f ADVANCED FIELD GEOLOGY. (2 ea.) McFarlan and Nelson
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. 60a, 60b, 61a and 61b.*

118a, b FIELD WORK IN REGIONAL GEOLOGY. (7 ea.) McFarlan and Others
Eight weeks in the field in Colorado. The course is an effort to bring the student into contact with diverse geological phenomena and problems. Geological field methods. See special announcement. Required of major students at the end of junior year. *Prereq: Geol. 60a, 60b.* For special fee see page 21.

119a, b REPORT ON FIELD WORK IN REGIONAL GEOLOGY, 118a, b. (1 ea.)

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.

126a-d SEMINAR. (1 ea.) Staff
Required of all senior majors.

127 PETROLEUM GEOLOGY. (2) Roberts
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. 60a, 60b, and Physics 1a, 1b.*

129 ELEMENTARY PETROLOGY. (3) Fisher
A megascopic study of the common rocks with emphasis on the sedimentary rocks *Prereq: Geol. 61a, 61b.*

130 ELEMENTARY STRUCTURAL GEOLOGY. (3) Nelson
An introduction to Earth structures. Advanced geologic map interpretation. *Prereq: 60a, 60b; Physics 1a, b.*

135 ADVANCED PRINCIPLES OF GEOLOGY. (4) Fisher
A general study of geological processes. Lecture, three hours; lab, one hour conference. *Prereq: Restricted to senior major students in geology or by permission of the instructor.*

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* Open to Freshmen.

208 STRUCTURAL GEOLOGY. (3) Nelson
A study of the structural features of the earth's crust with an analysis of the mechanics involved. Lecture, three hours; or lecture, two hours; lab, two hours. *Prereq: Physics 1a, 1b; Geol. 60a, 60b, 130.*

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. 60a, 60b, 101a, 101b.*

210b STRATIGRAPHIC PALEONTOLOGY. (3) McFarlan
A continuation of 210a. Lecture, one hour; lab, four hours. *Prereq: 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. 61a and 61b; Physics 1a, 1b.*

212b SEDIMENTARY PETROLOGY. (4) Roberts
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.) Staff

500 1-2-3 THESIS. (0) Staff

HISTORY

Thomas D. Clark, Carl B. Cone, W. Clement Eaton, J. Merton England, Will D. Gilliam, Holman Hamilton, James F. Hopkins, A. D. Kirwan, E. E. Kraehe, Robert G. Lunde, Shelby T. McCloy, Hambleton Tapp, Rhea A. Taylor, Bennett H. Wall, and Gerhard L. Weinberg.

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 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

°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.
From the Stuart period to the present. A continuation of 2a.

° 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 AND THE CONSTITUTION, 1763-1800. (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 HISTORICAL METHOD. (2) I — Staff
To be taken during the first semester of junior year.

116b SENIOR SEMINAR: HISTORICAL LITERATURE. (2) — 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-d INDEPENDENT WORK. (2 ea.) — Staff
Under special conditions selected students may investigate problems, with weekly reports to the instructor.

141 TUTORIAL READING. (1) — Staff

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* Open to Freshmen.

146a THE MIDDLE PERIOD OF AMERICAN HISTORY, 1800-1850. (3) Wall
A study of powerful personalities and pivotal events during this period: presidential influence of Jefferson; War of 1812; the impact of Marshall and Jackson; sectional differences and similarities; Mexican War, Compromise of 1850. Emphasis is placed on national growth, party battles, social cleavage, and industrial change. *Prereq: History 5a, 5b.*

146b THE CIVIL WAR AND RECONSTRUCTION, 1850-1877. (3) II Eaton and Kirwan
The political, social, and constitutional history of the Confederacy and the Reconstruction of the southern states.

146c RECENT HISTORY OF THE UNITED STATES, 1877-1920. (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.*

147 RECENT HISTORY OF THE UNITED STATES, 1920 TO THE PRESENT. (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 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 AND COMMONWEALTH. (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

110a EARLY MIDDLE AGES. (3)
The political, economic and cultural aspects of medieval development from the fourth to the twelfth centuries.

110b LATER MIDDLE AGES. (3)
Emphasis will be placed on the significant political and intellectual development of the "High Middle Ages" through the later Middle Ages.

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, 1814-1870. (3) II Kraehe
This course treats the successive political changes in 1823, 1830, 1848, and 1870, together with the outstanding commercial, cultural, and scientific developments of European life after 1815.

119c EUROPE, 1870-1918. (3)
A balanced treatment of the political, social, cultural, economic, and intellectual life of Europe in the period indicated. Special emphasis placed on diplomatic and military developments leading to the first World War.

120 EUROPE SINCE 1919. (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.

145a RUSSIA TO 1905. (3)
A survey of Russian history from its beginnings to the Revolution of 1905, including the Kiev state, the Mongol conquest, the rise of Moscow, and the rule of the Romanovs.

145b RUSSIA SINCE 1905. (3) II
This course will trace the development of Russia through the revolutionary upheavals of the present century, to a proletarian and industrial state under the Soviet regime.

171 THE AGE OF ABSOLUTISM. (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. (3) 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. (3) 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.*

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.

280 EUROPEAN HISTORIOGRAPHY. (3) I — McCloy

281 AMERICAN HISTORIOGRAPHY. (3) II — Clark, Eaton, and Kirwan

282 HISTORICAL CRITICISM. (3) — Staff
Required of every entering graduate student.

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. Topic will be chosen in keeping with the interest of the professors in charge.

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.

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 (Humanities D or E). Work in the Humanities has not been organized into a distinct department, but a faculty of instructors interested in the humanistic approach to literature, philosophy, and the fine arts has been assembled from the related departments.

A. CLASSICISM: GRAECO-ROMAN; MODERN EUROPEAN. (2)
Lecture and discussion, and required reading from representative works. Typical of the writers to be considered are Plato, Aristotle, Descartes, Lessing, Goethe. *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.*

F. ASPECTS OF ORIENTAL CULTURE. (2)
Selected readings from the literary masterpieces of India, China, Japan as an introduction to the outlook of Oriental man. *Prereq: Sophomore standing. May be taken only as an elective.*

G. ASPECTS OF MIDDLE EASTERN CULTURE. (2)
Lectures, reading and discussion in the literature and thought of the Middle East, with emphasis on the perspective of the Middle Eastern man. *Prereq: Sophomore standing. May be taken only as an elective.*

100a, b. SEMINAR: STUDIES IN THE HUMANITIES. (2 ea.)
Intensive study of an area involving the several humanistic disciplines–literature, philosophy and the arts. *Prereq: 6 crs. in Humanities and consent of the staff.*

HYGIENE AND PUBLIC HEALTH

Wilbur A. Heinz, John S. Chambers, J. D. Farris, and W. Brooks Hamilton.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

Requirements in the Field of Concentration: 40 credits in the field of Biological Sciences, including the major work, in courses not open to freshmen.

Requirements for a Major. Prerequisite: 12 credits in Biological Sciences. *Required:* A minimum of 15 credits of advanced work in Hygiene and Public Health.

*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. *Prereq: Hyg. 9 or 51.*

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. *Prereq: Hyg. 9 or 51.*

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* Open to Freshmen.

111a-f INDEPENDENT WORK IN HYGIENE AND PUBLIC HEALTH. (3 ea.) I, II, S — Heinz
Prereq: Major and a standing of 3.0 in the department.

115 COMMUNICABLE DISEASES. (3) II, S — Hamilton
Environmental sanitation and the effects of environment on the control of communicable diseases. *Prereq: Bacteriology 52 or its equivalent.*

118 VITAL STATISTICS. (3) I, S — Heinz
Statistics of population, deaths, births, and morbidity; the collection and analysis of vital statistics.

120a MENTAL HYGIENE. (3) I, 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
A study of the natural history of disease.

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 259

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, 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. (2) 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 3.0 in the department.*

103a-c WORKSHOP. (1 ea.) S — Visiting Instructors
Designed primarily for persons with little or no library science training who are responsible for a bookmobile or a public or school library situation.

113 ORGANIZATION AND ADMINISTRATION OF THE SCHOOL LIBRARY. (3) I, II, S — Wofford
Designed to help beginning librarians organize collections for and administer school libraries. Topics include: planning and managing the library; ordering and preparing materials for use; and work with students and teachers.

121 LIBRARIES AND LIBRARIANSHIP. (3) I, II, S — Martin
An orientation course designed to give students a general understanding of libraries and library work.

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.

133 REFERENCE AND BIBLIOGRAPHY. (3) I, II, S — Humeston
A study of the essential reference works, including dictionaries, encyclopedias, atlases, yearbooks, periodical indexes, and the more important subject and trade bibliographies.

136 LITERATURE AND RELATED MATERIALS FOR YOUNG PEOPLE. (3) II, S — Wofford
For teachers and librarians planning to work with young people. Emphasis on library materials to supplement the school curriculum and encourage recreational reading.

137 CHILDREN'S LITERATURE AND RELATED MATERIALS. (3) I, II, S — Wofford
For teachers and librarians planning to work with children. Emphasis on library materials to supplement the school curriculum and encourage recreational reading.

139 LIBRARY PRACTICE. (3) I, II, S — Rose
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.)

201a-d PROBLEMS IN LIBRARY SCIENCE. (1 ea.) I, II, S — Staff
Individual conferences, assigned readings, and reports on the investigation of chosen problems and areas in library science. *Prereq: 9 hours of library science at the 200 level.*

212 THE PUBLIC LIBRARY. (3) I, II, S — Martin
A study of the public library as a functioning institution. The course will include case studies of specific libraries.

213 PROBLEMS IN SCHOOL LIBRARY SERVICE. (3) II, S — Wofford
For experienced school librarians and administrators concerned with improving the program of library services in elementary and junior and senior high schools. *Prereq: Library Science courses leading to professional certification (18 hours).*

214 THE COLLEGE AND UNIVERSITY LIBRARY. (3) 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.

227 PROBLEMS IN READING FOR CHILDREN AND YOUNG PEOPLE. (3) 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: 133 or equivalent.*

235 GOVERNMENT PUBLICATIONS. (3) 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: 133 or equivalent.*

242 HISTORY OF BOOKS. (3) 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. (3) 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.

287 NON-BOOK MATERIALS. (3) II — Lecky
The evaluation, selection, acquisition, preparation for use, preservation and function of non-book materials in a library program. *Prereq: L.S. 129, 133, and 145, or equivalent.*

500 1-2-3 THESIS. (0) — Staff

MATHEMATICS AND ASTRONOMY

James C. Eaves, Paul P. Boyd, Marion C. Brown, Vincent F. Cowling, Harold H. Downing, Adolph W. Goodman, Jack L. Harris, Donald Hartford, J. G. Horne, Jr., Frank Levin, Sallie E. Pence, Tullio J. Pignani, Wimberly C. Royster, Christoph J. Scriba, and Kenneth G. Williams.

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. This course is taken concurrently with M. and A. 2. *Prereq: none.*

°1 BASIC MATHEMATICS. (3) I, II, S Staff
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. Prerequisite for M. and A. 20a. *Prereq: 1 unit high school plane geometry.*

4 ELEMENTARY THEORY OF STATISTICS. (3) Staff
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 with the derivations of the necessary formulas. 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; parametric equations. The elementary concepts of the calculus will be used in developing these topics. *Prereq: M. and A. 5 or 17, and 18.*

20a DIFFERENTIAL CALCULUS. (4) I, II, S Staff
Selected topics in analytics, transcendental functions, area, volume, pressure, work, moments. Simple methods of integration.

20b INTEGRAL CALCULUS. (4) I, II, S Staff
Vectors and parametric equations, determinates and matrices, solid analytics, geometry, partial differentiation, multiple integrals, infinite series.

25 INTERMEDIATE CALCULUS. (3) II Staff
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.*

° Open to Freshmen.

26 ADVANCED COLLEGE ALGEBRA. (3) I — Eaves
Introduction to theory of numbers, domains, fields, polynomials, matrices. *Prereq: M. and A. 19.*

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, curves sketching, pclar reciprocation, inversion. *Prereq: M. and A. 20a.*

35 DIFFERENTIAL EQUATIONS FOR ENGINEERS. (2) — Staff
First order differential equations, higher order differential equations with constant coefficients, and applications. *Prereq: M. and A. 20b.*

37 FUNDAMENTALS OF ELEMENTARY MATHEMATICS. (3) — 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 3.0 in the department.*

102 VECTOR ANALYSIS. (3) — Cowling
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) — Eaves
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) — Levin and Pignani
First order differential equations, differential equations of higher order, series solutions, special second order equations. *Prereq: M. and A. 20b.*

105b DIFFERENTIAL EQUATIONS. (3) — Pignani and Levin
Equations in several variables, partial differential equations. *Prereq: M. and A. 105a.*

106a, b ADVANCED CALCULUS. (3, 3) — Royster
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
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) — Staff
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, surfaces, systems coordinate. *Prereq: M. and A. 20a.*

119 COLLEGE GEOMETRY. (3) — Pence
The geometry of the triangle and the circle. Requires only elementary Euclidean concepts. *Prereq: Consent of instructor.*

120 MATHEMATICAL STATISTICS. (3) II — Goodman
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) — Eaves
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) Eaves
Integral domains, groups, rings, fields, polynomials, vector spaces. *Prereq: M. 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) Staff
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) Staff
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.*

130 INTRODUCTORY TOPOLOGY. (3) Goodman and Horne
Elementary set theory and general topological phenomena, properties of continuous functions, metric spaces, the topology of the real line and plane. *Prereq: Consent of instructor.*

132 THE CALCULUS OF FINITE DIFFERENCES. (3) Eaves and Goodman
Method 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) Eaves
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) Eaves and Levin
Study of number systems, matrices, determinants, and Boolean Algebra with applications to electrical networks, machine computation, automatic electronic digital computors, and other engineering problems. *Prereq: M. and A 20b.*

153 ELEMENTARY NUMERICAL ANALYSIS. (3) Levin and Ward
Approximate computation, approximate roots of equations, numerical curve fitting, interpolation formulas, numerical differentiation and integration, solutions of systems of linear equations, introduction to numerical solutions of ordinary differential equations. *Prereq: M. and A. 35 or consent of instructor.*

161a-d SUMMER SEMINAR IN SELECTED TOPICS. (3 ea.) S Eaves and Pence
This course is designed for those students who do not usually attend our regular semester courses but who wish to take several of the courses in summer school. The topics covered here will be selected from our present 100 courses. *Prereq: Teaching experience in the field of mathematics and consent of the instructor.*

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) Staff
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 Staff
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) Levin and Ward
Permutation groups, isomorphisms, the group postulates, abstract groups, automorphisms, homomorphisms, quotient groups. Abelian groups, Galois groups. *Prereq: M. and A. 236, or consent of instructor.*

207a, b FUNCTIONS OF A COMPLEX VARIABLE. (3, 3) Royster and 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) Cowling and Goodman
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) Staff
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) Staff
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) Senior Staff

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) Cowling
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) Eaves and Levin
Groups, rings, fields, Galois theory, linear algebra, hyper-complex numbers, ideals. *Prereq: M. and A. 126, 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 GENERAL TOPOLOGY. (3) Horne
Embedding and metrization, compact spaces, uniform spaces and function spaces. *Prereq: M. and A. 130.*

231 ADVANCED DIFFERENTIAL EQUATIONS. (3) Pignani, Royster
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, Horne
Topological spaces, metric spaces, vector spaces, Banach space, with applications to summability theory, infinite systems of linear equations, spectral theory. *Prereq: Consent of instructor.*

233a, b SELECTED TOPICS IN TOPOLOGY. (3 ea.) Goodman and Horne
Topological algebras, algebraic topology, topologies in lattices. *Prereq: M. and A. 230a and b.*

236 THEORY OF MATRICES. (3) Eaves
Study of matric algebra and canonical forms. *Prereq: M. and A. 126, or consent of instructor.*

241 NUMBER THEORY. (3) Staff
Peano's Axioms, continued fractions, quadratic fields, algebraic integers, p-adic numbers, etc. *Prereq: M. and A. 126 and 141.*

253 NUMERICAL ANALYSIS. (3) Levin
Advanced methods of solutions of systems of equations, approximation of functions, numerical solution of ordinary and partial differential equations, convergence of iterative processes, error analysis, eigen-values of matrices. *Prereq: M. and A. 149 or 153 or equivalent with consent of instructor.*

261a-d SUMMER SEMINAR IN SELECTED TOPICS. (3 ea.) S Eaves and Staff
Continued fractions, Peano's axioms, matrices and the solutions of systems of equations, machine computation, space curves, groups, rings, and fields. *Prereq: Teaching experience in the field of mathematics and consent of instructor.*

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) Staff
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) Staff
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) Staff
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) Staff
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) Staff
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) Staff
Orbit computation, the problem of three bodies, and perturbations. *Prereq: M. and A. 251a.*

MILITARY SCIENCE AND TACTICS

Reserve Officers Training Corps (ROTC)

William E. Grubbs, Louis P. Arbour, Luther Lee Baxter, Bruce Alan Brigham, William R. Burton, Olaf Warren Christopherson, Claude G. Erd, Elden Ernest Evans, John Benjamin Fuqua, Vincent D. Guide, Maynard Ralph McClain, John Woodrow Morgan, Robert Mercer Robinson, Frank D. Weeks, Jr., and John A. Wheeler.

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.

* Open to Freshmen.

20a, b MILITARY SCIENCE II, ROTC. (2 ea.) Staff
Course in crew-served weapons and gunnery; map and aerial photograph reading; role of the Army in National Defense; leadership, drill and 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 the Basic Course requirements, and selection by the President of the University and the head of the Department of Military Science.

30a, b MILITARY SCIENCE III ROTC. (Branch General) (3 ea.) Staff
A study of small unit tactics and communications; organization, function, and mission of the arms and services; military teaching methods; leadership; and school of the soldier and exercise of command. *Prereq: 20a, b.*

40a, b MILITARY SCIENCE IV ROTC. (Branch General) (3 ea.) Staff
An advanced study of logistics, operations, military administration, personnel management, military justice, the role of the United States in world affairs, service orientation and leadership, drill and command. *Prereq: 30a, b.*

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, Calvin H. Evans, Jane Haselden, J. E. Hernández, Margaret Horsfield, James H. Johnson, Herbert Klauser, John A. Rea, Hobart Ryland, Blaine W. Schick, William R. Schmalsteig, 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.

° Open to Freshmen.

*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.*

*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
A study of the representative writers of the XIX Century and the more important literary movements. Outside reading and written reports on assigned topics. *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, Rousseau, Montesquieu, and Diderot. *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 3.0 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.

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.

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* Open to Freshmen.

German Language and Literature

Requirements for a Major. Prerequisites: Junior standing, MFL 21a, 21b, 22a, b. *Required:* A minimum of 18 credits of work in German, independent of Junior and Senior Tutorial Courses. Comprehensive examination in the senior year.

°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)
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 3.0 in the department.*

° Open to Freshmen.

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.*

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

126 PROSEMINAR IN GRILLPARZER. (3) II Whitaker

127 PROSEMINAR IN THOMAS MANN. (3) I Bigge

128 PROSEMINAR IN LESSING. (3) II

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
A review of the History of German Literature from its beginning.

132a, b SENIOR TUTORIAL FOR GERMAN MAJORS. (3 ea.) I, II, S Staff
The 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
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. 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
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.*

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.*

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.*

*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.

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 3.0 in the department.

191c, d TUTORIAL SEMINARS 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.

281a OLD SPANISH. (3) I, II, S — Rea
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.*

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* Open to Freshmen.

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.

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) — Schmalsteig
The study of the basic principles of the language through grammar and reading, with emphasis on oral practice.

72a, b INTERMEDIATE RUSSIAN. (3, 3) — Schmalsteig
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) — Schmalsteig
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.*

76 ELEMENTARY AURAL-ORAL PRACTICE IN RUSSIAN. (1) I, II — Schmalsteig
A course designed to improve pronunciation and comprehension of spoken Russian. Aural-oral drills, dictation, recording, etc. Class will be limited to permit individual attention. Two hours per week.

77 INTERMEDIATE AURAL-ORAL PRACTICE IN RUSSIAN. (1) I, II — Schmalsteig
Continuation of 76 on a more advanced level.

OTHER DEPARTMENTAL OFFERINGS

89 MEXICAN CIVILIZATION. (3) — Server
A lecture course on the cultural development of Mexico, designed to furnish a working basis for required trips to important centers of Mexican civilization. To be offered only during the summer session in Mexico.

193 THE TEACHING OF MODERN FOREIGN LANGUAGES. (3) — Server
A course for teachers and prospective teachers of French, Spanish, or German, with the objective of providing a more vital approach to the teaching of these languages.

291a, b ROMANCE PHILOLOGY. (3 ea.) 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.*

295 SEMINAR: MAIN CURRENTS OF ROMANCE AND GERMAN LITERATURE. (3)
Studies of the principal works of the French, German and Spanish literatures. Lectures, student reports. Required of all candidates for M.A. degree under Plan B.

500-1, 2, 3 THESIS. (0) I, II, S — Staff

MUSIC

Bernard Fitzgerald, Jerry Ball, Arnold Blackburn, Almonte C. Howell, Phyllis Jenness, Howard Karp, James King, Gordon Kinney, Aimo Kiviniemi, Mildred Lewis, Warren Lutz, Daniel McAninch, Ford Montgomery, Lawrence Norris, Nathaniel Patch, Robert Perry, Marvin Rabin, William Worrel, and Kenneth Wright.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

* Open to Freshmen.

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: Music 11a, b; 19a, b; 51a, b; 52a, b; 53a, b; Applied Music—4 to 8 semester hours.

Upper Division Music Requirements: A minimum of 20 semester hours of advanced work in music in accordance with the student's particular interest and as directed by the Department of Music. 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 — McAninch and 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 — McAninch and Rabin
Continuation of 11a. *Prereq: 11a. Three class meetings each week.*

15a-q APPLIED MUSIC—Piano. (2 ea.) I, II, S — Montgomery, Patch, and Karp

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, Kiviniemi, and Jenness

18a-q APPLIED MUSIC—Organ. (2 ea.) I, II, S — Blackburn

19a HISTORY OF MUSIC. (2) II, S — Blackburn and Howell
A survey of the history of music from ancient times to the present.

19b HISTORY OF MUSIC. (2) II, S — Blackburn and Howell
A continuation of Music 19a.

°22a-L BAND. (1 ea.) I, II — Fitzgerald and Lutz

31a-q APPLIED MUSIC—Woodwind Instruments. (2 ea.) I, II, S — Lutz, Howell, McAninch, and Norris

32a-q APPLIED MUSIC—Brass and Percussion Instruments. (2 ea.) I, II, S — Ball, Fitzgerald, and Worrel

°39a-m GLEE CLUB. (1 ea.) I, II — Jenness and King
Any student in the University may be admitted to the glee club after consultation with the director.

°40a-l ORCHESTRA. (1 ea.) I, II — McAninch
Students who have demonstrated the required ability are given an opportunity to study standard orchestral literature. Public performances are given at regular intervals.

°48a-h UNIVERSITY CHORISTERS. (1 ea.) I, II — Lewis
Admission to the University Choristers is through the director.

°49a-l 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.

° Open to Freshmen.

51a THEORY II—AURAL THEORY. (2) I McAninch and 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 McAninch and 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 McAninch and 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 McAninch and 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 Wright
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 Wright
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.*

64a, b CLASS INSTRUCTION IN VOICE. (1 ea.) I, II, S Jenness and Kiviniemi
A beginning course in the fundamentals of singing. Two laboratory hours per week.

65a-d CLASS INSTRUCTION IN STRING INSTRUMENTS. (1 ea.) I, II, S Kinney and Rabin
A beginning course in the fundamentals of playing and teaching the violin, viola, cello, and string bass. Two laboratory hours per week.

66a, b CLASS INSTRUCTION IN BRASS AND PERCUSSION INSTRUMENTS. (1 ea.) I, II, S Ball and Worrel
A beginning course in the fundamentals of playing and teaching brass and percussion instruments. Two laboratory hours per week.

67a, b CLASS INSTRUCTION IN WOODWIND INSTRUMENTS. (1 ea.) I, II, S Lutz
A beginning course in the fundamentals of playing and teaching woodwind instruments.

102 VOCAL PEDAGOGY. (2) I, S Jenness and 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.

106a PIANO LITERATURE. (2) I, S Karp and Patch
A survey of music written for the piano, emphasizing problems in performance of standard piano literature.

106b PIANO LITERATURE. (2) II, S Karp and Patch
A continuation of 106a. *Prereq: 106a.*

107 VOCAL LITERATURE. (3) I, S Jenness and Kiviniemi
A study of the development of the Art Song, Opera, Oratoria, and Cantata.

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.*

113a COUNTERPOINT. (2) I, S Kinney
A study of Counterpoint based on 16th Century and 18th Century contrapuntal techniques, original compositions and analysis.

113b COUNTERPOINT. (2) II, S Kinney
A continuation of 113a. *Prereq: 113a.*

115 INTERPRETATION OF CHORAL MUSIC. (2) I, II, S Lewis
A study of the fundamentals of choral conducting and choral literature, emphasizing materials for the secondary school level.

116a CONDUCTING. (2) I — Fitzgerald and Rabin
A study of the technique and practice of the fundamentals of conducting.

116b INSTRUMENTAL CONDUCTING. (2) II — Fitzgerald and 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.*

119a COMPOSITION AND ORCHESTRATION. (2) I, S — Wright
A basic course in original composition and orchestration. *Prereq: Music 53b and 121.*

119b COMPOSITION AND ORCHESTRATION. (2) II, S — Wright
A continuation of 119a. *Prereq: 119a.*

120a SURVEY OF MUSIC LITERATURE. (2) I, S — Kinney and 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 — Kinney and Rabin
A continuation of Music 120a. *Prereq: Same as above.*

121 INSTRUMENTATION AND ARRANGING. (2) I, II, S — Fitzgerald
A basic course in instrumentation and arranging for typical school instrumental and vocal ensembles.

122a CHAMBER MUSIC ENSEMBLES. (1) I, S — Staff
The study of chamber music through performance. *Prereq: Junior standing in applied music. Two class hours per week.*

122b CHAMBER MUSIC ENSEMBLES. (1) II, S — Staff
A continuation of 122a. *Prereq: Junior standing in applied music.*

123 SURVEY OF CONTEMPORARY MUSIC. (2) I, S — Kinney

124a-c OPERA WORKSHOP. (1 ea.) S — Jenness, Kiviniemi, and King

125 MUSIC EDUCATION WORKSHOP: CHORAL. (1) S (30 class hours) — Staff
An intensive study of choral literature and interpretation through lectures, demonstrations, and participation.

126 MUSIC EDUCATION WORKSHOP: GENERAL MUSIC. (1) S (26 class hours) — Staff
A study of elementary and secondary school methods and materials, class piano techniques, audio-visual aids in Music Education, and the administration of school music.

127 MUSIC EDUCATION WORKSHOP: THE SCHOOL ORCHESTRA. (1) S (20 class hours) — Staff
A study of school orchestra methods, materials, and administration, and specific stringed instrument teaching problems. This unit convenes during the annual meeting of the University of Kentucky Summer All-State High School Orchestra.

128 MUSIC EDUCATION WORKSHOP: THE SCHOOL BAND. (1) S (20 class hours) — Staff
A study of concert and marching band organizations on the secondary school level, with brass, woodwind, percussion, and conducting clinics.

129a METHODS AND MATERIALS IN THE ELEMENTARY GRADES. (3) 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. Three lectures and one laboratory each week.

129b METHODS AND MATERIALS ON THE SECONDARY LEVEL. (3) 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: 129a.* Three lectures and one laboratory each week.

130 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.

131 SEVENTEENTH AND EIGHTEENTH CENTURY MUSIC. (2) I, II, S Howell
A survey of music literature composed c. 1600 — c. 1800.

132 NINETEENTH CENTURY MUSIC. (2) I, II, S Howell
A study of masterworks of music composed in the nineteenth century.

133 MUSICAL ANALYSIS. (3) I, II, S Wright
A study of musical style through structural, harmonic and melodic analyses.

134 HISTORY AND LITERATURE OF OPERA. (3) I, S Howell
The development of opera as an art form, and analysis of representative operas from various eras.

135 HISTORY OF AMERICAN MUSIC. (3) II, S Howell, Kinney, and Wright
A study of music in America from colonial times to the present.

145 SUPERVISION OF MUSIC. (1) 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. One lecture and one laboratory each week. *Prereq: Music 129a, b.*

200a-c ADVANCED COMPOSITION AND ORCHESTRATION. (2 ea.) I, II, S Wright
Prereq: Music 19a, b.

202 THEORY REVIEW. (0) I, S Wright
A review of the fundamentals of music theory.

203 CHORAL LITERATURE AND TECHNIQUE. (2) I, S Lewis
A study of Choral literature and its interpretation.

204 ADVANCED BAND TECHNIQUE. (2) Staff
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. (3) II, S Howell and Stein
An advanced study of the musical development during these periods.

214 ADVANCED INSTRUMENTAL CONDUCTING. (2) Fitzgerald and 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 Karp
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, Jenness, 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.

219 SYMPHONIC LITERATURE. (3) II, S Howell, Kinney, and Wright
An intensive study of orchestral literature.

220 RESEARCH METHODS. (2) I, S Howell and Kinney
A course designed to acquaint the student with the basic research techniques and materials in music.

222a INDEPENDENT WORK IN MUSIC EDUCATION.
(2) I, II, S Fitzgerald, Howell, Kinney, Lewis, and Wright
Prereq: 4-6 hours of graduate credit in the area of specialization.

222b INDEPENDENT WORK IN MUSIC THEORY. (2)
I, II, S Fitzgerald, Howell, Kinney, Lewis, and Wright
Prereq: 4-6 hours of graduate credit in the area of specialization.

222c INDEPENDENT WORK IN MUSICOLOGY.
(2) I, II, S Fitzgerald, Howell, Kinney, Lewis, and Wright
Prereq: 4-6 hours of graduate credit in the area of specialization.

223a, b PEDAGOGY OF THEORY. (2 ea.) I, II, S Wright
The teaching of music theory.

224a ADVANCED MUSICAL ANALYSIS. (2) I, S Kinney and 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 Kinney and Wright
A continuation of 224a. *Prereq: 224a.*

225a, b ADVANCED INSTRUMENTAL TECHNIQUES. (1 ea.) S Staff
An advanced technical study of playing string, brass, and woodwind instruments, designed for the needs of school music teachers.

226 SIXTEENTH CENTURY COUNTERPOINT. (2) Wright
The study of sixteenth century counterpoint techniques through analysis and composition.

231a-h APPLIED MUSIC—Woodwind Instruments.
(2 ea.) I, II, S Lutz, McAninch, and Norris
Prereq: Eight semester hours of accredited undergraduate study.

232a-h APPLIED MUSIC—Brass and Percussion Instruments.
(2 ea.) I, II, S Fitzgerald and Worrel
Prereq: Eight semester hours of accredited undergraduate study.

242 ADMINISTRATION AND SUPERVISION OF PUBLIC SCHOOL MUSIC. (3) II, S Fitzgerald and 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 Fitzgerald and Worrel
Survey and evaluation of new Public School Music methods and materials.

244 HISTORY AND PHILOSOPHY OF MUSIC EDUCATION. (2) I, S Fitzgerald and Worrel
A course designed to acquaint the student with the historical development and basic philosophy in Public School Music.

NURSING

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.

101a-d PRACTICUM IN NURSING. (? 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, Henry Howard Jack, 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 and Jack
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 — Jack
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 logical 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) — 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) I — Jack
A second course in logic including the logic of classes, of relations, of propositions and propositional functions, the theory of deductive systems, and a consideration of the rival schools of contemporary logical theory.

118 PLATO AND ARISTOTLE. (3) — 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) I, 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) II — DeBoer
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) II — 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) II — Melzer
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) I, II — Jack
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) S — 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.) II — Staff
One 2-hour meeting a week for discussion of current developments in philosophy as found in books and periodicals. Readings and reports.

210a, b TYPES OF LOGICAL THEORY. (3 ea.) — 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-f RESEARCH IN PHILOSOPHY. (3 ea.) — Staff
This course is primarily intended for advanced students who desire and are prepared to do research in philosophy.

PHYSICAL EDUCATION

Don Cash Seaton, William S. Arnsparger, Jr., Betty G. Blanton, Martha G. Carr, Maurice A. Clay, Stella Gilb, Charles W. Hackensmith, Bernard M. Johnson, Milo G. Karsner, Earl Kauffman, Jr., Harry Lancaster, Lovaine C. Lewis, William E. McCubbin, Alfred M. Reece, Kob Ryen, Peggy Stanaland, 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, 5, and 120; Home Economics 101; Hygiene 110; Physical Education 51, 61, 62a, b, 70, 80, 81, 140, 143, 165, 172, 180. For Women: Physical Education 53, 90, 190. For Men: Physical Education 52.

(For Teaching Certificate: Education 50, 51, 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, Clay, and Reece
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 — Lancaster
Theory and practice in coaching fundamentals involved in basketball. Four hours lab per week.

*42 FOOTBALL COACHING FUNDAMENTALS. (2) II — McCubbin and Arnsparger
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 — Stanaland
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 — Stanaland
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, and 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.

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* Open to Freshmen.

°57 GYMNASTICS FOR WOMEN. (2) I — Stanaland
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 Arnsparger
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 Arnsparger
A continuation of Phy. Ed. 72a; playing strategy and coaching techniques. Four hours lab.

80 RECREATION LEADERSHIP. (2) I, II — Staff
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) S — Johnson and Lewis
Designed for the training camp administrators and counselors. Offered at Camp Robinson during "inter-session."

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.

86a EQUESTRIAN DRESSAGE. (2) — Ryen
The technique of training dressage. One hour lecture and two hours laboratory. *Prereq: Horsemanship or equivalent.*

86b INTERMEDIATE DRESSAGE. (1) — Ryen
The techniques of training a horse for dressage in position and utmost collection. *Prereq: P.E. 86a or consent of instructor.* Two hours lab.

86c ADVANCED DRESSAGE. (2) — Ryen
Advanced techniques in equestrian dressage leading up to the fundamentals of high school riding. *Prereq: P.E. 86b.* One hour lecture, two hours lab.

90 FOLK, TAP, AND SOCIAL DANCING. (3) II — Carr, Lewis, and Johnson
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 — Blanton
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.

120a-d INDEPENDENT WORK IN PHYSICAL EDUCATION. (3 ea.) I, II, S
Prereq: Major and 3.0 standing in the Department.

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.

° Open to Freshmen.

141 COACHING ADVANCED BASKETBALL. (2) I, S Lancaster
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) I, S Arnsparger 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) 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 Stanaland
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 Stanaland
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 Staff
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 Staff
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
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 Staff
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.

185 COMMERCIAL RECREATION. (3) II, S Staff
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. *Prereq: Horsemanship and Animal Industry 5.*

190 HISTORY AND SURVEY OF THE DANCE. (3) II, S Blanton
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 Blanton
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 Blanton
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) S 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 SEMINAR. (2) I, II, S Hackensmith
A review of current literature in the field. Guidance in thesis writing. Two hours per week.

241 CURRENT STUDIES AND TRENDS. (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
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 RESEARCH AND ITS APPLICATION. (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.

250 CURRICULUM AND PROGRAM DEVELOPMENT. (3) I, S (even years) Carr
A study of fundamental principles basic to the development of the overall curriculum in physical education with special emphasis upon the proper selection and organization of physical education activities to meet the education and recreational needs of all students. Three hours per week. *Prereq: P.E.* 140, 143, 144.

251 FACILITIES, CONSTRUCTION, AND EQUIPMENT. (2) II, S (odd years) Seaton
Principles and standards for maintaining facilities, and planning construction; purchase and care of equipment. Two hours per week. *Prereq: P.E. 140.*

280 PROBLEMS IN RECREATION. (2) I, S Staff
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.

285 ADMINISTRATIVE PRACTICES IN RECREATION. (3) I, S Staff
This course deals with such administrative practices as decision making, policy determination, public relations, personnel practices, and routine details that constitute the functions of the chief recreation officer and his staff associates. *Prereq: P.E. 180 or consent of instructor. Three hours per week.*

290 ORGANIZATION AND ADMINISTRATION OF DANCE IN EDUCATION. (3) II, S (odd years) Blanton, Karsner, and Lewis
Special emphasis will be placed upon the organization and administrative program in dance to meet the needs of students from elementary through college levels. Some attention will be given to dance production, festivals and social dance functions in schools. Three hours per week. *Prereq: P.E. 90, 91, 190, 195.*

PHYSICS

Francis L. Yost, Robert L. Becker, Lewis W. Cochran, John G. Dardis, Wendell C. DeMarcus, Menno Fast, L. W. Gildart, R. D. Halladay, Richard Hanau, Richard F. Hood, Vincent P. Kenney, Bernard D. Kern, O. T. Koppius, Marcus T. McEllistrem, Everett F. Sieckmann, 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, 4a, 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.

*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.

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. (3) I, II, S Staff
An advanced general course covering the Mechanics of solids, liquids, and gases; Heat; and Sound. Lecture and recitations, four hours. *Prereq: Mathematics 17, 18 and 19; Chemistry 1a, b; or equivalents; Mathematics 20a, or concurrent.*

3b GENERAL COLLEGE PHYSICS. (3) I, II, S Staff
An advanced general course covering Magnetism and Electricity, and Light. Lecture and recitations, four hours. *Prereq: Physics 3a, or equivalent; Mathematics 20b, or concurrent.*

4a GENERAL COLLEGE PHYSICS LABORATORY. (2) I, II, S Staff
An advanced general laboratory course involving experiments on the Mechanics of solids, liquids, and gases; and Heat. Laboratory, four hours. *Prereq: Physics 3a, or concurrent.*

* Open to Freshmen.

4b GENERAL COLLEGE PHYSICS LABORATORY. (2) I, II, S — Staff
An advanced general laboratory course involving experiments on Magnetism and Electricity, Sound, and Light. Laboratory, four hours. *Prereq: Physics 4a; Physics 3b, or concurrent.*

8 GENERAL PHYSICS FOR STUDENTS IN AGRICULTURE AND HOME ECONOMICS. (4) I, II — Staff
A general elementary course summarizing in one semester the main features of a two-semester course in Physics. Recitations, three hours; lab, two hours. *Prereq: Mathematics 5 or 17 or equivalent* (Open only to students in the College of Agriculture and Home Economics).

101 ORIENTATION IN MODERN PHYSICS FOR TEACHERS. (3) S — Staff
Review of fundamentals of Physics. Discussion of problems associated with high school physics teaching. Recent developments in Physics. *Prereq: Employment as high school science teacher.*

104 THEORETICAL MECHANICS. (4) I — Gildart
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, 4b; Mathematics 20b.*

108 OPTICS. (3) — Dardis
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, 4b; 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, 4b; Mathematics 20b.*

111 ELECTRICITY AND MAGNETISM. (3) — Kenney
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, 4b; 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: 3b, 4b; Mathematics 20b.*

115 THEORY OF MEASUREMENTS. (3) — Hanau
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, 4b; 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) — Becker
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, 4b; Mathematics 20b.*

123b HEAT AND THERMODYNAMICS. (3) — Becker
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.*

124 SOLID STATE PHYSICS. (3) — Gildart
Structure of solids; bonding, solid types, lattice energy; thermal, dielectric and magnetic properties; electrons in metals and semi-conductors; theory of rectifiers, transistors and solid state devices. *Prereq: Physics 3b, 4b; Mathematics 20b.*

125a-d INDEPENDENT WORK IN PHYSICS. (3 ea.) — Staff
Prereq: Major and a standing of 3.0 in the department.

° Open to Freshmen.

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.*

132 RADIOISOTOPES TECHNIQUES. (3) Cochran
An introductory course designed primarily for students in the biological sciences, geology, engineering and agriculture. Includes fundamental principles of radioactive decay, interaction of radiation with matter, techniques of measurements, and applications. Lectures and recitations, two hours; lab, three hours. *Prereq: Consent of instructor.*

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).

135 EXPERIMENTAL PHYSICS: ATOMIC AND NUCLEAR. (2) Cochran
Measurement of e, e/m, h/e, resonance potentials, x-ray absorption, half-lives, beta-ray and gamma ray absorption, gamma spectra, specific activity, alpha particle ranges, and radiation dosage. *Prereq: Physics 155b or concurrent.*

137 EXPERIMENTAL PHYSICS: HEAT. (2) Koppius
Thermal and electrical conductance in solids, photoelectric effect, photoresistive effect, rectification, transistor action, diffusion, Hayne's experiment. *Prereq: Physics 124.*

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) McEllistrem
Atomic models, electromagnetic radiation, special theory of relativity, x-rays and crystal structure, Compton effect, wave nature of matter, atomic spectra, vector model, Zeeman effect. *Prereq: Physics 3b, 4b; Math. 20b.*

155b FUNDAMENTAL ATOMIC AND NUCLEAR PHYSICS. (3) Dardis
Nuclear size; concepts of spin, parity, and statistics; alpha, beta, and gamma decay; natural radioactivity; nuclear reactions; systematics of nuclei; nuclear forces; fission and fusion. *Prereq: Physics 155a.*

156 NUCLEAR REACTOR PHYSICS. (3) Cochran
A lecture and problem course covering nuclear fission and neutron diffusion as they enter into reactor theory; physical principles of reactor design; time behavior of reactors. *Prereq: Physics 155b.*

204 CLASSICAL MECHANICS. (3) Becker
The methods of Lagrange and Hamilton and their application to particles, systems of particles, and continuous media; variational principles; transformation theory. *Prereq: Physics 104; Mathematics 105a.*

205 KINETIC THEORY OF MATTER. (3) Yost
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) DeMarcus
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) Staff
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) Kern
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) Sieckmann
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) Sieckmann
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) DeMarcus
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) DeMarcus
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) Gildart
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) McEllistrem
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) Kern
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) Cochran
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) Dardis
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) Kenney
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, H. N. Drennon, Gladys M. Kammerer, Ruth McQuown, John E. Reeves, William O. Reichart, 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.

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 — Reeves
An analysis of pressure groups; organization, methods, and functions of political parties in the United States.

173 PUBLIC OPINION. (3) II
A study of the nature of public opinion, influence of the press, propaganda techniques and media of communication in politics.

179 POLITICAL LEADERSHIP. (3) II, S
A course in practical politics, an analysis of the interaction of leaders and led in government. A course intended particularly for persons expecting to enter the profession of politics.

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 — Kammerer
A study of the theories and principles of planning with a detailed investigation of the regional life of selected areas.

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* Open to Freshmen.

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 Economics.
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 122. Fields of Social Work.
Social Work 151. Public Assistance.

III. Theory

171a EARLY POLITICAL THEORY. (3) I Reichert
The political theories of Plato and Aristotle, Roman and early Christian Political Thought.

171b MODERN POLITICAL THEORY. (3) II Reichert
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 Reichert
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 Reichert
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 161. Constitutional Law I and II.

VI. International Law and Diplomacy

101 LATIN AMERICAN RELATIONS. (3) II, S Drennon
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 Economics.
History 100a, b. The Diplomacy and Foreign Policy of the United States.
History 120. Europe since 1919.
History 135a, b. The British Empire.
History 145. Russia Since 1900.
History 190a, b. 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. Sociology of Urban Life.

PSYCHOLOGY

James S. Calvin, Carl Begley, Richard Blanton, Bobbie L. Boyd, John B. Brannon, Louis Brown, Kenneth W. Burk, Charles F. Diehl, Graham B. Dimmick, John Donahoe, Betsy W. Estes, Doris Ethington, Logan Gragg, Jessie Irvine, Roger Kirk, Francis Kodman, Albert J. Lott, Ellen Loudenslager, Parl L. Mellenbruch, John A. Modrick, Jack J. Monroe, Edward Newbury, Frank A. Pattie, Kenneth Purcell, Walter E. Watson, and M.M. White.

For information regarding the Industrial Psychological Service, Child Guidance Service, Audiology Clinic, and Speech Center, see "Special Services of the University," p. 323.

UPPER DIVISION REQUIREMENTS — *Junior and Senior Years*

Requirements for a Major. Prerequisite: Psychology 1 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 — Estes and Purcell
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 — Lott
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) II — Donahoe
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) I — Donahoe
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.*

° Open to Freshmen.

115 GENETIC PSYCHOLOGY. (3) II — Newbury
Influence of hereditary factors in the development of human behavior. A critical survey of the evidence regarding psychological traits such as musical and other special abilities, intelligence, interest, insanity. *Prereq: 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.*

117 BIOLOGY OF MOTIVATION. (2) I — 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 3.0 in psychology courses.*

121 COUNSELING PSYCHOLOGY. (3) II, S — Elton
The methods of dealing with problems in counseling psychology in college and high school, including the problems of selection, classification, grading, personal adjustment, motivation, academic, vocational and personal counseling. *Prereq: Psy. 1.*

124 MENTAL HYGIENE. (3) I, II, S — Blanton
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 — 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 PATHOLOGY: 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: Psy. 1.*

130b SPEECH PATHOLOGY: 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.*

132 SPEECH MECHANISMS. (3) I, II — Diehl
A detailed investigation of the speech musculature: respiration, phonation, resonation, and articulation. Voice disorders and cleft palate will be given special emphasis. *Prereq: 130a.*

133 INTRODUCTION TO CLINICAL AUDIOLOGY. (3) II — Kodman
Topics covered are the auditory stimulus, air and bone conduction thresholds, masking, speech audiometry and auditory rehabilitation. *Prereq: 130a.*

141 PSYCHOLOGY OF THE CRIMINAL. (2) I — 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 incarceration. *Prereq: 1.*

150 PSYCHOLOGICAL TESTING. (3) I, II — Estes and Patti
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-m SEMINAR IN PSYCHOLOGY. (0 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 Biddle, Lott, and 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 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
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
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.*

215 PSYCHOMETRICS. (3) I Calvin
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 PSYCHOLOGY 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, 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) II Estes
This course provides advanced laboratory practice in the measurement of intelligence by individual techniques. Six hours a week. *Prereq: Psy. 150 or equivalent.*

226 PSYCHOLOGICAL MEASURING INSTRUMENTS. (3) II Mellenbruch
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.*

231a, b PSYCHOLOGICAL THEORIES. (3 ea.) I, II Blanton and Modrick
An examination of theories of learning, perception, and personality. The relation of these theories to psychological research will be examined. *Prereq: 108, 113, 222.*

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 Mellenbruch
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 COUNSELING PSYCHOLOGY. (3) I, II
An advanced course in diagnosis and application of theories, techniques and tools in counseling psychology. *Prereq: A graduate major in psychology or education.*

237 CLINICAL TESTING. (2) II Watson
Practical experience in the application of clinical diagnostic techniques to a variety of pathological subjects. *Prereq: Psy. 225.*

251a, b PROJECTIVE TECHNIQUES. (3 ea.) I, II, S Dimmick
Projective tests as instruments in obtaining information concerning thought content, attitudes and feelings; their use in clinical diagnosis and therapy. Practice in administering, scoring, and interpretation. *Prereq: 219, 225.*

252 PSYCHOTHERAPY. (3) II Purcell
Theories and techniques of psychotherapeutic procedures including directive, nondirective, and play therapies. Demonstration and supervised experience in these techniques. *Prereq: Completion of one year of graduate study in psychology.*

253 PSYCHOPATHOLOGY. (4) II Dimmick
Problems of differentiation between the various neuroses and psychoses with emphasis upon the affective and conative factors. *Prereq: 114, 231b.*

270 PSYCHOLOGICAL RESEARCH. (3) 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 and Estes
Supervised case experience in clinical psychology. Students rotate among various institutions, including neuropsychiatric hospitals, institutes for mental defectives, and child guidance clinics. *Prereq: Psy. 219, 225.*

311a-h PRACTICUM IN COUNSELING PSYCHOLOGY. (3 ea.) I, II Dimmick and Elton
Supervised experience in application of diagnostic and interviewing techniques in a counseling service. Same as Education 311a-h.

312a-h PRACTICUM IN CHILD PSYCHOLOGY. (3 ea.) I, II Dimmick and Estes
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 21.

500-1, 2, 3 THESIS. (0) I, II, S Staff

RADIO ARTS

Camille Henderson Halyard, Abraham Fawal, Stuart W. Hallock, O. Leonard Press, and Elizabeth E. Taylor.

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, 3, 101, 102, 103, 105a, 106a, 106b, 110, and 111. Comprehensive examination.

*1a RADIO TODAY. (3) I, S
A familiarization of the set-ups of radio-TV stations and networks, their relationship with the federal body regulating them, and many of the various tools used by them in presenting radio programs. Lecture and recitation, three hours.

*1b RADIO TODAY. (3) II
Radio and television in public service; broadcasts to schools; building the radio schedule; serving the sponsor; listener problems; the newer radio arts (FM, Facsimile, Television). Lecture and recitation, three hours.

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.

3 STUDIO OPERATIONS. (2) II
Basic study of function of broadcasting equipment, and practice in fundamental operating techniques. Lecture and recitation, one hour; lab, two hours. No prerequisite.

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) II
The data and techniques of radio and television advertising, including problems of coverage and circulation, spot campaigns, testing, time buying, the agency, measuring broadcast effectiveness, merchandising radio and television advertising, and time selling. Lecture and recitation, two hours.

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, 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, Constance P. Wilson, 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.

Requirements for a Major. Prerequisite: Social Work 24 and 122. A basic minimum of twenty credits in social work including 100, 113, 116, 130a and

* Open to Freshmen.

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 — Wilson
An introduction to the organization and function of selected social work agencies in the community. Lectures, discussions, and observational visits.

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 — Theobald
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 3.0 in the department.*

113 INTRODUCTION TO SOCIAL CASE WORK. (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 — Staff
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. (2 ea.) I, II, S — Staff
For senior majors in the department.

130a COMMUNITY ORGANIZATION FOR SOCIAL WELFARE. (3) II — Wilson
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 — Wetzel
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, II — Wilson
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 — Wilson
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 — Wilson
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.*

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, John C. Ball, Harry Best, Bruce J. Biddle, A. Lee Coleman, John T. Flint, Thomas R. Ford, James W. Gladden, Sidney Kaplan, Irwin T. Sanders, Robert Straus, and Willis A. Sutton, Jr.

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.)

*4 INTRODUCTORY SOCIOLOGY. (3) I, II Staff
Introduction to the concepts and methods of sociology. Investigation of socialization, group processes, social institutions and social change.

106 PRINCIPLES OF SOCIOLOGY. (3) I, S Staff
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.

II. Theory and Methodology

105 SOCIAL THEORY: PLATO TO COMTE. (3) I Flint
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 3.0 in the department.*

* Open to Freshmen.

122 CONTEMPORARY SOCIOLOGICAL THEORY. (3) II — Biddle
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 — Ball
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.*

201a, b SOCIOLOGY SEMINAR. (3 ea.) I, II, S — Anderson
Consideration mainly of methods of research and of current sociological literature.

202a-j SPECIAL PROBLEMS IN SOCIOLOGY. (1 ea.) I, II, S — Staff

203a, b TOPICAL SEMINAR IN SOCIOLOGY. (3 ea.) II — Staff
Advanced study of topics of current importance in sociology, such as structural strain and social change, game theory, decision processes, communication and power structures. *Prereq: A least 9 hours in the social sciences, preferably in sociology.*

208 RESEARCH DESIGN AND ANALYSIS. (3) II — Biddle
Problem definition and delimitation, design appropriate to problem and data, and selection of appropriate analysis techniques; critical examination of representative research studies and students' designs. *Prereq: M. & A. 4 or equivalent, Sociology 124; (Advanced Statistical Methods for Sociologists) prior or concurrent.*

225 SYSTEMATIC SOCIOLOGY. (3) — 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

40 THE COMMUNITY. (3) I, II, S — Sanders and 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: one sociology course.*

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.*

110 HEALTH AND SOCIETY. (3) II — Straus
Historical and cross-cultural analysis of human behavior in illness; medicine as a behavior system. Relates components of contemporary medicine to pertinent concepts of social process. Offered in alternate years. *Prereq: Permission of instructor.*

112 SOCIAL FACTORS IN MEDICINE. (3) II — Straus
The significance of social and cultural factors to the etiology, course, and management of health problems; social change and medical practice; role of the physician. Offered in alternate years.

126 INDUSTRIAL SOCIOLOGY. (3) II — Sutton
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.*

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) — Staff
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.) I, II, 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 — 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 SOCIOLOGY OF URBAN LIFE. (3) I — 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 — Flint
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.

102 SOCIAL PATHOLOGY. (3) II — Ball
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 — Kaplan
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.

108 JUVENILE DELINQUENCY. (3) II — Ball
Study of the extent, ecological distribution, and etiology of delinquency in contemporary American society, including a critical examination of trends and methods of treatment. *Prereq: Junior-Senior standing.*

121 POPULATION ANALYSIS. (3) I — Ford
Distribution and composition, fertility and mortality, migration, ecological relationships and growth of population.

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, including the building up or shaping of public opinion or social control.

104 SOCIAL PSYCHOLOGY. (3) I, II, S — Lott
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.)

* Open to Freshmen.

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 Biddle and Lott
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

115 ORGANIZATION OF RURAL GROUPS. (3) II Coughenour

125 RURAL MOVEMENTS AND SOCIAL POLICY. (3) I Brown

160 RURAL COMMUNITY ANALYSIS. (3) I, II Ford

180 ADVANCED RURAL SOCIOLOGY. (3) II

190a-c SPECIAL PROBLEMS IN RURAL LIFE. (2 ea.) I, II Staff

200a-c RESEARCH IN RURAL SOCIOLOGY. (2 ea.) I, II, S Staff

210 SEMINAR IN RURAL ORGANIZATION. (3) I Beers

220 SEMINAR IN RURAL ATTITUDES. (3) II

230 RURAL URBAN RELATIONS. (3) II Brown

250a, b TOPICAL SEMINAR. (3 ea.) I, II Staff

ZOOLOGY

John M. Carpenter, Roger W. Barbour, Alfred C. Brauer, Elden Burcham, Richard C. Dugdale, 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* 27, 106, 107, 108, 109, 114a,b, 157; a minimum of 15 credits of advanced work; passing a comprehensive examination before graduation.

Courses Recommended for Special Curricula: Medical Sciences: 1, 27, 101, 104, 105, 106, 107, 117, 119, 123. Teacher Training: 1, 11, 21, 27, 102, 103a,b, 105, 107, 108, 109, 112, 117, 119, 123, 140, 141. Pre-Conservation Training: 1, 21, 102, 103a,b, 105, 109, 112, 117, 119, 123, 140, 141.

*1 GENERAL ZOOLOGY. (4) I, II, S Staff
General studies on cell structure, division, gametogenesis, ontogeny, histology, physiology, homology, ecology, taxonomy, heredity, and phylogeny. Laboratory studies of typical animal types. Two lectures and two lab periods per week for one semester.

*11 NATURE STUDY. (4) II, S Dugdale
Get acquainted studies of animals and plants and their relationships to human culture. Elementary materials for use of schools, Nature Clubs, Scouts, etc. Lectures, lab, field work.

* Open to Freshmen.

21 NATURAL HISTORY OF THE VERTEBRATES. (4) I, II, S — Dugdale
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.*

27 COMPARATIVE ANATOMY. (4) I — Burcham
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.*

101 GENERAL HISTOLOGY. (4) I, II, S — Brauer
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.*

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
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.*

103b GENERAL ENTOMOLOGY. (3) II
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.*

104 SPECIAL HISTOLOGY. (3) I, II, S — Brauer
Histology of the organs. A continuation of Course 101 in which the studies are based on the organs. *Prereq: Zoology 101.*

105 PARASITOLOGY. (4) I, S — Burcham
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.*

107 HEREDITY. (3) I, S — Carpenter
Lectures and recitations on principles of heredity, variation and eugenics. *Prereq: Zoology 1.*

108 EVOLUTION. (3) II, S — Carpenter
An advanced lecture course on some of the fundamental principles of organic evolution. *Prereq: Zoology 1.*

109 ANIMAL ECOLOGY. (3) I — Dugdale
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 21 or consent of instructor.*

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 3.0 in the department.*

111 ADVANCED MICROTECHNIQUE. (3) I, II, S — Brauef
Special methods in histological technique for students of Zoology, Pathology or Anatomy. *Prereq: Zoology 101, 102.*

112 ICHTHYOLOGY. (4) I — Barbour
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 ZOOLOGY SEMINAR. (1 ea.) I, II — Staff
Reports on: technical papers in scientific journals, book reviews, recent developments in Zoology, scientific meetings. 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 or consent of instructor.*

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 or consent of instructor.*

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, 101, 104, or satisfactory equivalents.*

123 MEDICAL ENTOMOLOGY. (4) I, S — Burcham
Study of Arthropod vectors of disease. Structure, collection, identification, control measures and life history studies. Given alternate years. *Prereq: Zoology 105 or consent of instructor.*

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: Zoology 108.*

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.*

157 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.*

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: Zoology 27 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 — Burcham

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 — Dugdale

212a-d PROBLEMS IN ICHTHYOLOGY. (3 ea.) I, II, S — Staff

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, Perry J. Ashley, Thomas Duncan, J. Ardery McCauley, Marguerite McLaughlin, William M. Moore, Victor R. Portmann, and Jessie I. Smith.

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 — Smith
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 ETYMOLOGY. (3) I, II, S — Plummer
A study of words and their fundamental values with reference to development of a writing vocabulary.

22 PRINCIPLES OF NEWS WRITING. (3) I, II, S — Moore
Lectures and readings on the development of the modern news style. Practice in effective writing.

100a NEWS REPORTING. (3) I, II, S — McCauley, Plummer, and Duncan
Instruction and practice in news gathering, news evaluation, and news writing. *Prereq: Journalism 22.*

100b NEWS REPORTING. (3) I, II, S — Plummer and Duncan
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.*

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.*

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* Open to Freshmen.

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 — Ashley
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 — Smith
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, James E. Criswell, Albert N. Halter, Hugh Bruce Price, John C. Redman, John Bissell Roberts, Robert William Rudd, Eldon Dee Smith, and Leon Angus Vennes.

General Agricultural Economics

1 AGRICULTURAL ECONOMICS. (3) I, II, S — Bradford
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 and 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 — 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 and 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 — Halter
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 — Redman
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
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 and 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 and 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
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 Criswell
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
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 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. and 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.*

200a-d AGRICULTURAL ECONOMIC SEMINARS. (0) I, II Staff
Analysis of economic problems which affect agriculture.

216 RESEARCH METHODS IN AGRICULTURAL ECONOMICS. (3) II Redman
An analytical examination of research methods and techniques used in agricultural economics. *Prereq: Approval of instructor.*

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.*

500-1, 2, 3 THESIS. (0) Staff

AGRICULTURAL ENGINEERING

Drayton Tucker Kinard, Jesse Byron Brooks, James Byron Kelley, Blaine Frank Parker, Edward Manson Smith, and Earl Robert Young.

1a, b THE ENGINEERING PROFESSION (Freshman). (0) I, II

2a, b THE ENGINEERING PROFESSION (Sophomore). (0) I, II

3a, b THE ENGINEERING PROFESSION (Junior). (0) I, II

4a, b THE ENGINEERING PROFESSION (Senior). (0) I, II
Lectures on professional growth, conduct, and ethics. Activities of the student branches of the corresponding professional societies.

6 MACHINE AND STRUCTURAL PRACTICES. (2) II Young
Principles and practices of farm construction in metal, wood, and masonry. Welding, machinery repair, framing of farm structures, and farm concrete work. Lecture, one hour; lab, two hours.

15 MECHANICS OF THE FARMSTEAD. (3) I, II Brooks
Fundamentals of engineering as applied to agriculture, including materials, transmission of power, farm implements, water supply, and electricity. Lecture, two hours; lab, two hours.

16 FARM ENGINES AND TRACTORS. (3) I, 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.

17a FARM SHOP. (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.

17b FARM SHOP. (3) I, II, S Young
Machinery repair, soldering, cold metal work, forging, oxacetylene and electric arc welding, pipe fitting, rope work and painting. Lecture, one hour; lab, four hours.

20 FARM MACHINERY. (3) I — Smith
A study of farm machinery dealing with its development, design, tests, costs, selection, utilization, and maintenance. Lecture, two hours; lab, two hours. *Prereq: A.M. 3.*

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 EQUIPMENT. (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: Agr. Engr. 15.*

104 FARM ELECTRIFICATION. (3) 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; lab, two hours.

105 FARM WATER MANAGEMENT. (3) I, II, S — Brooks
Surveying, mapping, and determining areas of farm land; designing farm drainage systems, farm reservoirs; controlling water erosion with terraces and other mechanical structures. Lectures, two hours; lab, two hours.

106 FARM POWER AND MACHINERY. (3) S — Young
Selection, operation, and maintenance of farm machinery with emphasis on power-driven machines. Analysis of the machinery needs of farms, adjustments, and servicing of machines. Lecture, one hour; lab, four hours.

107 FARM STRUCTURES. (3) S — Brooks
Planning buildings for the adequate housing of farm animals, crops, machinery and supplies. Design problems considering the efficient use of labor, space requirements, construction methods, use of various building materials and costs. Lecture, one hour; lab, four hours.

120 AGRICULTURAL TRACTOR POWER. (3) I — Young
A study of internal combustion engine cycles; principles of construction, operation, and adjustment of engines and tractors; power and performance measurements; economics of tractor power. Lecture, two hours; lab, two hours. *Prereq: Agr. Engr. 20 and M.E. 134 or M.E. 104a.*

121a FARM BUILDINGS AND EQUIPMENT. (4) II — Parker and Brooks
Functional requirements of farm buildings and structures; planning for plant and process efficiency; selection and utilization of materials; sanitary equipment and disposal of wastes; preparation of plans, estimates, and specifications. Lecture, two hours; lab, four hours. *Prereq: A.M. 100, E.D. 1b.*

121b FARM BUILDINGS AND EQUIPMENT. (3) I — Parker and Brooks
Continuation of Agr. Engr. 121a with more advanced study devoted to several of the same topics. Lecture, two hours; lab, two hours. *Prereq: Agr. Engr. 121a.*

122a SOIL AND WATER CONSERVATION ENGINEERING. (4) II — Smith
Engineering aspects of the control of surface and subsurface water to aid agricultural production. Mapping of farm land; design and construction of terraces, dams, waterways, drainage, and irrigation systems. Lecture, three hours; lab, two hours. *Prereq: M.E. 107 or C.E. 120.*

122b SOIL AND WATER CONSERVATION ENGINEERING. (3) I — Smith
Continuation of Agr. Engr. 122a with more advanced study devoted to several of the same topics. Lecture, three hours. *Prereq: Agr. Engr. 122a.*

124 ELECTRICITY IN AGRICULTURE. (3) II — Parker and Kinard
Planning and design of adequate farmstead wiring systems; utilization of electricity for heat, light, power, for control of agricultural machines and processes, and for chemical, biological, or other effects in agricultural production. Lecture, two hours; lab, two hours. *Prereq: E.E. 101.*

200a-c SEMINAR. (0) I, II, S — Staff
Weekly meetings with members of the staff for reports and discussion on research and current trends and practices in agricultural engineering. One class hour.

201 RESEARCH METHODS IN AGRICULTURAL ENGINEERING. (3) I, II, S — Kinard and Staff
A study of research techniques and methods used in agricultural engineering. *Prereq or concurrent: Agr. Econ. 130 or equivalent.*

202 INSTRUMENTATION IN AGRICULTURAL ENGINEERING RESEARCH. (3) I, II Kinard and Parker
The principles and applications of measuring instruments and devices for obtaining experimental data. *Prereq or concurrent: Agr. Engr. 201.*

203 ADVANCED FARM MACHINERY. (3) I, II Smith and Young
Analysis of agricultural machines, power units, and equipment with emphasis on functional design requirements, development procedures, safety requirements, and evaluation of performance. To be offered as a formal class or as a special problems course. *Prereq: Agr. Engr. 120.*

204 ADVANCED FARM BUILDINGS AND EQUIPMENT. (3) I, II Parker
Analysis and solution of selected problems dealing with such topics as rural housing, and the maintenance of desirable environments for farm animals and for the storage of farm products. To be offered as a formal class or as a special problems course. *Prereq: Agr. Engr. 121a.*

205 ADVANCED RURAL ELECTRIFICATION. (3) I, II Kinard and Parker
Analytical study of selected topics associated with electricity in agriculture. To be offered as a formal class or as a special problems course. *Prereq: Agr. Engr. 124.*

206 ADVANCED SOIL AND WATER CONSERVATION ENGINEERING. (3) I, II Brooks and Smith
Analysis and solution of selected problems dealing with land improvement and the control and use of water for agricultural production, with emphasis on functional design requirements of water retarding, storage, and distribution systems. To be offered as a formal class or as a special problems course. *Prereq: Agr. Engr. 122a or equivalent.*

207 ADVANCED AGRICULTURAL PROCESSING. (3) I, II Parker and Staff
Analytical study of engineering problems dealing with the handling and processing of agricultural products, such as grading, sorting, drying, and curing, and the preparation of plans for these operations. To be offered as a formal class or as a special problems course. *Prereq: Agr. Engr. 121a and 124 or equivalent.*

500-1, 2, 3 THESIS. (0) I, II, S

AGRICULTURAL ENTOMOLOGY

Lee Hill Townsend, Juan Guadelupe Rodriguez, Kenneth Starks, and Richard Thurston.

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 Starks
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.

4 FUNDAMENTALS OF INSECT POLLINATION. (2) I Townsend
Principles of pollination as effected by insects, with emphasis on the honeybee. The common agricultural plants are considered and the pollination described. Lectures, two hours.

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 Rodriguez
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 Thurston
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 Staff
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 Staff
Investigations of chosen insect problems, including original work. Discussion and assignment of current insect subjects. *Preres: Agr. Ent. 1, 103, 104, 105a, b.*

AGRICULTURE—GENERAL

2 AGRICULTURE AROUND THE WORLD. (3) II
A study of the agriculture of the United States and other countries in different regions of the world. Lectures, 3 hours.

110 AGENCY RELATIONSHIPS. (1) II Wall
In this course the student learns something of the objectives of public and private agricultural agencies and organizations and how they work together for the improvement of agriculture. Lecture, one hour.

AGRICULTURAL EXTENSION

101 PRINCIPLES OF AGRICULTURAL EXTENSION. (3) II Summers
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.

202a-d SPECIAL PROBLEMS IN AGRICULTURE OR HOME ECONOMICS EXTENSION. (3 ea.) I, II, S Nesius and Summers

500-1, 2, 3 THESIS (0 credit) Staff

AGRONOMY

Gilbert Theodore Webster, Harry Hudson Bailey, Richard Alexander Chapman, Stephen Diachun, Eugene Carter Doll, Ernest Newton Fergus, Thomas Barksdale Hutcheson Jr., Frank Albert Loeffel, Herbert Massey, William Albert Seay, Roy Edward Sigafus, Granville Woodman Stokes, William Gregory Survant, and William Dorney Valleau,

General Courses

5 INTRODUCTION TO AGRONOMY. (3) I, II Diachun, Sigafus, and Survant
The interrelations of soil, plant diseases and crop production. Lecture, discussion and demonstration, three hours.

200a-d AGRONOMY SEMINAR. (1 ea.) I, II Staff
Reports and discussion of problems and investigations of problems in soils, crops and plant pathology.

500-1, 2, 3—THESIS. (0) I, II, S (Staff)

Course in Crops

6 PRINCIPLES OF FIELD CROPS PRODUCTION. (3) I, II Sigafus
A course in scientific fundamentals underlying the production of cereal, fiber, forage and tobacco crops. Lecture and discussion, two hours: lab, two hours. *Prereq: Agron. 5; Bot. 1 or consent of instructor.*

101 PASTURE PRODUCTION AND MANAGEMENT. (3) II, S Sigafus
The selection of pasture crops and their establishment, fertilization and management for temporary or permanent pastures. Lecture and recitation, three hours. *Prereq: Bot. 1; Agron. 6 or consent of instructor.*

102 FIELD CROP ECOLOGY. (3) I — Fergus
A study of environmental factors affecting the yield and quality of field crops. Lecture and recitation, three hours. *Prereq: Bot. 1; Agron. 6 or consent of instructor; Agron. 61.*

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 — Sigafus
A comprehensive study of forage crops with special emphasis upon their production in Kentucky. Lecture and recitation, three hours. *Prereq: Bot. 1; Agron. 6 or consent of instructor.* Not offered in 1958-59.

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. *Prereq: Bot. 1; Agron. 6 or consent of instructor.* Not offered in 1958-59.

106 FIELD CROP IMPROVEMENT. (3) II — Loeffel
A study of the principles involved and the techniques used in breeding crop plants. Lecture and recitation, two hours; lab, two hours. *Prereq: Agron. 6 and Bot. 130 or A. I. 61 or consent of instructor.*

107 ADVANCED CROPS: TOBACCO. (3) II — Stokes
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. 6 or consent of instructor.*

109a-d SPECIAL PROBLEMS IN CROPS. (3 ea.) I, II, S — Fergus, Loeffel, and Sigafus
Intensive studies of specific crop problems. *Prereq: Bot. 1; Agron. 6 and consent of instructor.*

204a-d SPECIAL PROBLEMS IN PRODUCTION OF FORAGE CROPS. (3 ea.) I, II, S — Fergus and Sigafus
Intensive studies of research relative to particular problems in forage crop production. *Prereq: Consent of instructor.*

205a-b SPECIAL PROBLEMS IN PRODUCTION OF TOBACCO OR CEREALS. (3, 3) II, S — Staff
Prereq: Consent of instructor.

Courses in Soils

61 SOILS. (4) I, II — Survant
A general study of soil properties and processes with emphasis upon their influence on soil management. Lecture and discussion, three hours, lab, two hours. *Prereq: Agron. 5 or consent of instructor, and/or concurrent, Chemistry 4b or equivalent.*

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. 61 and Bact. 52.*

111 SOIL CONSERVATION. (3) I, S — Survant
The scope and nature of the soil conservation problem, and the application of soil conserving methods in the planning and management of farms. Lecture and discussion, two hours; lab, two hours. *Prereq: Agron. 61.*

112a-d SPECIAL PROBLEMS IN SOILS. (3 ea.) I, II, S — Staff
Directed independent study of selected soil problems. *Prereq: Agron. 61 and approval of instructors.*

114 FERTILIZERS AND SOIL FERTILITY. (3) II, S — Hutcheson
Sources, manufacture, evaluation, and use of fertilizers and lime materials; soil organic matter and nitrogen. Lecture and recitation, three hours. *Prereq: Agron. 61.*

116 SOIL CHEMISTRY. (4) I — Massey
Chemical methods applicable to soil fertility and productivity; determination of plant nutrients in soil; study of chemical characteristics of soil by means of modern instrumentation. Lecture and discussion, two hours; lab, four hours. *Prereq: 61; or concurrent: Chem. 22 or 25a.*

119 SOIL ORIGIN, CLASSIFICATION AND MAPPING. (3) II — Bailey
Classification of Kentucky soils, use of soil survey equipment, preparation of soils maps and development of a land use plan of an assigned area. Lecture and recitation, two hours; lab, three hours. *Prereq: Agron. 61 and Geol. 3 or approval of instructor.*

120 SOIL PHYSICS. (4) II, S — Survant
Physical properties of soils in relation to soil management and conservation of soils. Lecture and discussion, two hours; lab, four hours. *Prereq: Agron. 61 and approval of instructor.*

212a-d RESEARCH IN SOILS. (3 ea.) I, II, S — Massey, Seay and Survant
Directed research on selected soil problems. *Prereq: Approval of instructor.*

213 ADVANCED SOIL FERTILITY. (4) I — Doll
Utilization of native and applied plant nutrients by crops; experimental methods especially applicable to research in soil fertility. Lecture-discussion, 3 hours; lab, 2 hours. *Prereq: Agron. 114, Agr. Econ. 130 or special 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 or equiv., and consent of instructor.

141 PLANT PATHOLOGY. (3) II — Diachun
Significance, nature, causes, and methods of control of plant diseases. Lectures and discussion, two hours; lab, two hours. Same as Bot. 141, Plant Pathology. *Prereq: Bot. 1.*

142 DISEASES OF PLANTS. (3) II — Valleau
Symptons, 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 equiv., 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 equiv., and consent of instructor.*

242 NEMATODE DISEASES OF PLANTS. (3) I — Chapman
The importance, effects, recognition and control of nematodes that cause plant diseases; physiology of plant parasitic nematodes and their relations with other nematodes and plant pathogens. Lecture, 1 hour; lab, 4 hours. *Prereq: Agron. 141 or Bot. 141, Zool. 105.*

245a-d RESEARCH IN PLANT PATHOLOGY. (3 ea.) I, II, S — Valleau
Prereq: Agron. 141 or equiv., and consent of instructor.

Courses in Botany

(May be used for agricultural credit, subject to the approval of adviser.)

103 PLANT PHYSIOLOGY. (4) I
See course description under Botany.

104 PLANT PHYSIOLOGY. (4) II
See course description under Botany.

134 CYTOGENETICS. (4) II
See course description under Botany.

ANIMAL INDUSTRY

Wesley Patterson Garrigus, Frank Hammon Baker, Charles Elmer Barnhart, John J. Begin, C. Frank Buck, Ray Horn Dutt, Theodore Russell Freeman, Wilburn Glenn, Robert B. Grainger, Robert W. Hicks, Wyatt Marion Insko, Jr., Donald Jacobson, James Dillon Kemp, Durward Olds, Arthur W. Rudnick, Joseph Rust, Kob Ryen, Dwight Moody Seath, Dewey G. Steele, John W. Stroud, William York Varney, Ernest Thomas Wightman, and Patch Gregory Woolfolk.

Courses in Animal Husbandry

1 FARM LIVESTOCK PRODUCTION. (3) I, S Buck
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 Hicks
Evaluation of purebred and commercial beef cattle, sheep, and swine; both market and breeding classes. Practice in writing reasons and giving of reasons orally. Lab, six hours. *Prereq: A.I. 1.* Not open to Freshmen.

4 LIVESTOCK MANAGEMENT. (1) I Hicks
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) I, II Ryen
A brief study of the breeds of light horses; selection, feeding, and management; fundamental instruction in equitation. Lecture, two hours; lab, two hours.

6 FARM BUTCHERING AND MEAT CURING. (4) I, II Kemp and Varney
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.

8 LIGHT HORSE PRODUCTION. (3) I, II Ryen
Breed history, development and pedigrees; a general study of the anatomy and physiology of the horse; diagnosis, prevention and cure of common ailments; breaking, schooling and training. Lecture, two hours; lab, two hours. *Prereq: A.I. 5.*

9 BREEDS OF LIVESTOCK. (3) I Barnhart, Hicks, and Woolfolk
A study of the identification, origin, development, adaptations and present status of the breeds of beef cattle, sheep and swine. Lecture, three 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.*

101 APPLIED LIVESTOCK NUTRITION. (3) S Barnhart, Parsons, and Woolfolk
A discussion of the specific nutritional requirements of beef cattle, sheep and swine; with emphasis on recent nutritional concepts, feed formulation, and economic considerations. *Prereq: A.I. 81 and approval of instructors.*

102 ADVANCED LIVESTOCK JUDGING. (3) I Hicks
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.*

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 Parsons
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) 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.*

107 ANIMAL HUSBANDRY SEMINAR. (1) II Staff
An insight into the problems and opportunities in Animal Husbandry. Presentation and discussion of current topics by students, staff and guests. Lecture, one hour.

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 or A.I. 7.*

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, S — Woolfolk
Problems involving original investigation.

205a-c RESEARCH IN BEEF CATTLE HUSBANDRY. (3 ea.) I, II, S — Parsons
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 FUNDAMENTALS OF DAIRYING. (3) I, II — Jacobson, Rudnick, and Rust
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 — Freeman
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.*

24 DAIRY PLANT TESTING METHODS. (3) II — Rudnick
Purpose, principles, technic and interpretation of results of testing procedures essential to the control of all dairy processing operations. Lab, six hours. *Prereq: A. I. 21; Chem. 4b.*

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 three weeks. *Prereq: A.I. 21 or permission of instructor.*

30 APPROVED DAIRY PRACTICE. (1) — Freeman
A minimum of three months practical experience in an approved dairy plant, preferably to be done between junior and senior years.

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.*

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 — Seath, Jacobson, and Rust
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: 21, 23.*

123 DAIRY BACTERIOLOGY. (2) I — Glenn
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 Glenn
Laboratory to accompany A.I. 123, Dairy Bacteriology. Lab, four hours. *Prereq. or concurrent: A.I. 123.*

126 ADVANCED DAIRY BACTERIOLOGY. (3) II Glenn
Bacteriological principles and problems relating to specific dairy products and processes. Lab, six hours. *Prereq: A. I. 123, 124.*

127 SURVEY OF THE DAIRY INDUSTRY. (3) S Staff
Same as A.I. 27 except that graduate students will be given additional assignments.

129a-f SPECIAL PROBLEMS IN DAIRYING. (3 ea.) I, II, S Dairy Staff
Approval of instructor required.

132 REPRODUCTION IN DAIRY CATTLE. (2) II Olds
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.*

134 PRINCIPLES OF DAIRY TECHNOLOGY. (4) II Freeman
Chemical and physical characteristics of dairy products; chemical, physical, and physico-chemical principles involved in dairy processing; special methods of analysis. Lecture, one hour; lab, six hours. *Prereq: Math. 5, Chem. 37, A. I. 24.*

135 DAIRY PROCESSING AND PLANT MANAGEMENT. (6) II Staff
Methods used for processing milk, butter, ice cream, cheese, and concentrated milks; fundamentals of dairy plant management. Lecture, two hours; lab, eight hours. *Prereq: A. I. 24.*

189a-d DAIRY SEMINAR. (1 ea.) I, 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.

222 CURRENT DEVELOPMENTS IN DAIRY SCIENCE. (3) II Dairy Staff
A course designed to acquaint the advanced student with the more significant problems and scientific developments of current interest in the dairy field. *Prereq: Graduate standing and permission of major adviser.*

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) I, II Begin
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 three 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.

147 POULTRY NUTRITION. (3) II — Begin
A study of nutrients, feed ingredients, deficiencies, formulation, and feeding practices for broilers, replacement stock, and layers. Lecture, two hours; lab, two hours. *Prereq: Chem. 37 or equivalent and A.I. 41.*

149a-c SPECIAL PROBLEMS IN POULTRY. (3 ea.) I, II, S — Wightman and Insko
Approval of instructor required.

241a-c RESEARCH IN POULTRY. (3 ea.) I, II, S — Staff
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: Bot. 1 or Zool. 1.*

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: Bot. 1 or Zool 1.*

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 and Dutt
Approval of instructor required.

260 PHYSIOLOGY OF REPRODUCTION. (3) II — Dutt
Physiological processes of reproduction in farm animals; gonadal functions; endocrine relationships; fertility; and factors affecting reproductive efficiency. Lecture, three hours. *Prereq: A.I. 100 or A.I. 120 or A.I. 140 and A.P. 101.*

261a-c RESEARCH IN GENETICS. (3 ea.) I, II, S — Steele and Dutt
Problems involving original investigation.

500-1, 2, 3 THESIS. (no credit) — Steele and Dutt
Note. — See also A.I. 200, Animal Industry Seminar.

Courses in Animal Nutrition

81 FEEDS AND FEEDING. (4) I, II — Buck
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.*

181 PRINCIPLES OF ANIMAL NUTRITION. (3) I Baker
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. (4) I Grainger and Stroud
The use of laboratory techniques and equipment in the solution of fundamental problems on nutrition. Lecture and recitation, one hour; lab, 6 hours. *Prereq. or concurrent: A.I. 281.*

283 ADVANCED ANIMAL NUTRITION. (3) II Stroud
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 ANIMAI NUTRITION. (3 ea.) I, II Animal Nutrition Staff
Problems involving original investigation.

289a-c SPECIAL PROBLEMS IN ANIMAL NUTRITION. (3 ea.) I, II, S Animal Nutrition Staff
Approval of instructor required.

500-1, 2, 3 THESIS. (no credit) Animal Nutrition Staff

Note. – See also A.I. 200, Animal Industry Seminar.

ANIMAL PATHOLOGY

Floyd Edgar Hull and Robert Frank Behlow

51 ANIMAL HYGIENE. (3) I, II Hull
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 Behlow
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 Behlow
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, or approval of instructor.*

104a, b SPECIAL PROBLEMS IN ANIMAL PATHOLOGY. (3 ea.) I, II Hull and Behlow
Prereq: An. Path. 51, 101, 102, and approval of instructor.

201a, b INVESTIGATIONS IN ANIMAL DISEASES. (3 ea.) I, II Hull and Behlow
This course is open only to persons who have degrees in veterinary medicine.

HORTICULTURE

Albert Jackson Olney, Donald J. Cotter, O. Malcolm Davenport, Norris Raymond Elliott, Emery Myers Emmert, and Clair Smith Waltman.

1 GENERAL HORTICULTURE. (3) I, II Olney
A study of the principles and practices basic to the production of fruit, flowers, and vegetable crops. 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 1957-58 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 1958-59 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) II — 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 — Cotter
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) II — Cotter
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 (1958) — Elliott
The adaptation of principles of landscape architecture; coordination of buildings with surroundings; identification and uses of decorative materials and their requirements. For ornamental majors. Lectures, two hours; lab, two hours. *Prereq: Hort. 1, 20, Bot. 1, 2.* Offered 1959-60 and alternate years.

121 ADVANCED LANDSCAPE. (3) II — Elliott
A continuation of Horticulture 120, with special emphasis on design and use of materials. For ornamental majors. Lectures, two hours; lab, two hours. *Prereq: 120.* Offered 1958-59 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. For ornamental majors. *Prereq: Hort. 22.* Offered 1958-59 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 1959-60 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 detailed study of evergreen and deciduous plants, their identification, size, shape, effects produced, the conditions required for their use and suitability for landscape uses. Lecture, one hour; lab, two hours. For ornamental majors. *Prereq: Hort. 120 or approval of instructor.* Offered 1958-59 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.

500-1, 2, 3 THESIS. (No credit) — Staff

Forestry

1 ELEMENTS OF FORESTRY. (3) I — Davenport
A brief coverage of the general fields of forestry; development and importance; tree growth; principal forest regions and important timber species; forest management practices, utilization and products; state and federal forestry programs. 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) I 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, A. Lee Coleman, C. Milton Coughenour and Thomas Ford.

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 Coughenour
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, II Ford
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
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.

Courses in Sociology Are Listed on Pages 252-255.

SCHOOL OF HOME ECONOMICS

Abby L. Marlatt, Jess McFadden Alexander, Marie Rodes Barkley, Marjorie Bradford, Annie R. Brownklie, Iris Frances Clark, Anne McAdams Clemmons, Lois Blanche Combs, Statie E. Erikson, Ruth Margaret Guenther, Jean G. Hobart, Billie Jean Kinney, Lucile Magruder, Helen R. Marshall, Jessie Wilson Ringo, Roberta Seat Taylor, Gertrude M. Skerski, Claudia E. Wells, and Helen M. 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.

5 FOODS. (4) I, II, S Barkley and Taylor
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 Skerski
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, prereq. or concurrent, 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 programs on a community level. Experience is provided for presenting nutrition in health clinics, schools and state institutions. Lectures, 1 hours; lab, 2 hours. *Prereq. or concurrent: H.E. 102.*

105a-c EXPERIMENTAL COOKERY. (3 ea.) I, II, S Brownlie
Study of factors that affect results obtained in cooking and food preparation processes. Experimental work under controlled conditions. Lecture, one hour; lab, four hours. *Prereq: H.E. 5, 11.*

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) Clemmons
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 Marlatt
Investigations of recent research in nutrition. *Prereq: Senior or graduate standing.*

111 ADVANCED NUTRITION. (4) I Marlatt and Skerski
Application of biochemistry to understanding of the utilization of nutrients for body processes. Laboratory work includes analysis of digestive juices, blood, and urine; balance experiments. Lecture, two hours; lab, four hours. *Prereq: H.E. 11, Chem. 37 or approval of instructor.*

112 NUTRITION IN DISEASE. (2) II Marlatt
Metabolic processes of the body in normal and diseased conditions correlating the metabolic changes due to disease with diet therapy. Lecture, one hour; lab, two hours. *Prereq. or concurrent: H. Econ. 111, 102.*

114 FOOD PRESERVATION. (3) I, S Brownlie
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, bFOOD FOR SPECIAL OCCASIONS. (3 ea.) II, 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, six hours. *Prereq: H. Econ. 5, 6.*

119a-c SPECIAL PROBLEMS IN FOODS AND NUTRITION.
(2 ea.) I, II Clemmons and Marlatt
Intensive work on a specific phase of the field. Senior and graduate standing.

203a-b ADVANCED COMMUNITY NUTRITION. (3 ea.) I, II, S Clemmons
Study of nutrition surveys and of bases for judging community nutrition. Emphasis is placed upon economic, geographic, social and educational causes of malnutrition. Experience is given in development of nutrition programs. *Prereq: 103a.*

208a-c SEMINAR IN NUTRITION. (2 ea.) I Erikson and Marlatt

219a-c SPECIAL PROBLEMS IN FOOD AND NUTRITION.
(2 ea.) I, II Clemmons, Erikson, and Marlatt
Independent advanced work on a specific problem.

Courses in Clothing, Textiles, Costume Design, and Interior Design

20 CLOTHING. (3) I, S Clark
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 Alexander
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 34, 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) Alexander
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. Open to non home economics students.

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: 25, 161.*

126 COSTUME DESIGN. (3) I, S Alexander
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 34.*

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 and Alexander
Intensive work on specific phases of the field. Senior or graduate standing.

129 INTERIOR DESIGN. (3) II, S — Alexander
A study of color, line, texture as used to creat effective interiors suited to modern living. Lecture, one hour; lab, four hours. *Prereq: H. Econ. 25, 61, Art 34 or approval of instructor.*

130a, b INTERIOR DECORATION PROJECTS. (2 ea.) II, S — Alexander
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, or approval of instructor.*

133 FASHION. (2) II, S — Guenther
How the fashion world works. Study of French, Italian and American designers who have greatest influence on current trends. Field trips to augment lectures. Lecture, two hours. *Prereq: H.E. 27 or approval of instructor.*

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, or approval of instructor.*

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 34.*

136a-c SPECIAL PROBLEMS IN TEXTILES. (2 ea.) I, II, S — Guenther
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. 28.*

138a-c SPECIAL PROBLEMS IN INTERIOR DESIGN. (2 ea.) I, II, S — Alexander
Intensive work on specific phases of the field. Senior or graduate standing.

139 ADVANCED INTERIOR DESIGN. (2) II, S — Alexander
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 Alexander
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 Alexander
Investigation of special textile, clothing, and costume design or interior decoration problems; lecture, two hours.

238a-c SPECIAL PROBLEMS IN INTERIOR DECORATION. (2 ea.) I, II, S — Alexander
Independent advanced work on a specific problem.

Courses in Institution Management

41 INSTITUTION MARKETING. (3) II — Brownlie
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 — Brownlie
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 — Brownlie
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 Brownlie
Principles of institution organization, types of institution service, personnel and financial management. Legal aspects of institution management. Personal and professional qualifications of an institution manager. *Prereq: H. Econ. 41, 42.*

142a-c INSTITUTION ADMINISTRATION. (2 ea.) S Brownlie
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) I Brownlie
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.*

144 FOOD SERVICE ACCOUNTING. (3) I Brownlie
Application of accounting principles to food service in the cafeteria, lunch room, tea-room, restaurant, residence hall, hospital and other institutions. Lecture, one hour; lab, four hours. *Prereq: H.E. 41, Econ. 51.*

149a-c SPECIAL PROBLEMS IN INSTITUTION MANAGEMENT.
(2 ea.) I, II Brownlie
Intensive work on specific problems. Senior or graduate standing.

249a-c SPECIAL PROBLEMS IN INSTITUTION MANAGEMENT.
(2 ea.) I, II Brownlie
Independent, advanced work.

Courses in Child Development and Family Living

51 HEALTH OF THE FAMILY. (3) I, II Taylor and Magruder
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 Staff
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, II Marshall and Staff
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) I, S Marshall
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 Ringo
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 Clark
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 Staff
Play activities of young children, relation of play equipment to development, and characteristics of good play materials. Construction of toys suitable for the pre-school child. Lecture, one hour; lab, two hours. *Prereq: H.E. 52.*

157 INFANT DEVELOPMENT. (2) S Staff
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, S Marshall
Intensive work on specific problems. Senior or graduate standing.

259a-c SPECIAL PROBLEMS IN CHILD DEVELOPMENT AND FAMILY LIVING. (2 ea.) I, II, S Staff
Independent advanced work.

Courses in Home Management

61 HOUSING. (4) I, II — 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.

161 CONSUMER PROBLEMS. (3) I, 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 and Combs
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.*

168 HOUSEHOLD EQUIPMENT. (3) I, II — Combs
Electric and gas household equipment and small appliances; their selection, maintenance, operation and cost. Lecture, two hours; lab, two hours. *Prereq: H. Econ. 61. Prereq. or concurrent: Physics 51a, 51b or 8.*

169a-c SPECIAL PROBLEMS IN HOME MANAGEMENT. (2 ea.) I, II — Wilmore
Intensive work on specific phases of home management. Senior or graduate standing.

170 DEMONSTRATION TECHNIQUES. (3) II — Combs
Emphasis on planning and presenting food and equipment demonstrations. Lecture, 1 hour; lab, four hours. *Prereq: H.E. 168.*

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 extension 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 — Beers
The nature of the town-country community, with special emphasis on the function of institutional and agency programs and their leaders in relation to the community. Same course as R. S. 160.

COLLEGE OF ENGINEERING

Agricultural Engineering

The curriculum in Agricultural Engineering is administered jointly by the College of Engineering and the College of Agriculture and Home Economics.

The curriculum is listed under Engineering on page 110. The course descriptions are listed under Agriculture and Home Economics on page 263.

Chemical Engineering

Samuel Charles Hite

1a, b THE ENGINEERING PROFESSION (Freshman). (0 ea.) I, II

2a, b THE ENGINEERING PROFESSION (Sophomore). (0 ea.) I, II

3a, b THE ENGINEERING PROFESSION (Junior). (0 ea.) I, II

4a, b THE ENGINEERING PROFESSION (Senior). (0 ea.) I, II
Lectures on professional growth, conduct, and ethics. Activities of the student branches of the corresponding professional societies.

21 CHEMICAL ENGINEERING CALCULATIONS. (4) II — Hite
Calculations with emphasis on material and energy balances as applied to industrial processes. *Prereq: Chem. 22, Physics 3a and Math. 20a.*

101a UNIT OPERATIONS. (3) I — Hite
Principles of the unit physical operations of fluid flow, heat transfer, evaporation, and filtration with quantitative problems in the operation of chemical process equipment. *Prereq: Ch. E. 21, Math. 20b.*

101b UNIT OPERATIONS. (3) II — Staff
Continuation of Ch. E. 101a. Principles of mass transfer—distillation, gas absorption, liquid extraction, drying, etc. *Prereq: Ch. E. 101a.*

104a UNIT OPERATIONS LABORATORY. (2) II — Staff
Quantitative study of fluid flow, heat transfer, evaporation, etc., comparing the operation of actual equipment with theory. Special consideration of problems in design and report writing; lab, six hours. *Prereq: Ch. E. 101a.*

104b UNIT OPERATIONS LABORATORY. (2) I — Staff
Continuation of Ch. E. 104a, covering diffusional operations such as distillation, absorption, and drying; lab, six hours. *Prereq: Ch. E. 101b, 104a.*

107a CHEMICAL ENGINEERING PROCESSES. (3) I — Staff
Survey of the technology and economics of the chemical industry. Detailed analysis of several selected chemical processes and an introduction to process design calculations. *Prereq: Chem. 130b, Chem. 140b.*

107b CHEMICAL ENGINEERING PROCESSES. (3) II — Staff
Continuation of Ch. E. 107a, including a comprehensive design problem. *Prereq: Ch. E. 101b, Ch. E. 107a.*

110 CHEMICAL ENGINEERING THERMODYNAMICS. (3) I — Staff
Fundamentals of thermodynamics, first and second laws, properties of fluids, phase and chemical equilibrium, and applications to chemical engineering. *Prereq: Ch. E. 21, Math. 20b, Physics 3b.*

175a, b SEMINAR. (1 ea.) I, II — Staff
General discussion of chemical engineering subjects; preparation and delivery of papers and reports; extemporaneous speaking, and the abstracting of current literature. Two hours. *Prereq: Six semesters in chemical engineering.*

CIVIL AND ARCHITECTURAL ENGINEERING

David Knox Blythe, Alvin Lee Chambers, Frank Jacobs Cheek, Jr., William Granville Coblin, William David Daugherty, John Arthur Dearinger, William Bright Drake, William Arthur Gray, Bobby Ott Hardin, James Hobart Havens, Clinton Kelly Hoffmann, James Ellison Humphrey, Jr., Samuel Preston Maggard, Coburn Morgan, Samuel Albert Mory, Jr., and Laurence Chester Pendley.

Architectural Engineering

1 ARCHITECTURAL RENDERING. (2) I, II — Morgan
Pictorial delineation of architectural subjects in the medium of pencil, ink, and water color. Drawing, six hours. *Prereq: Art 11a.*

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 — Coblin
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 — Collin
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 Engr. 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 Engr. Dr. 1b.*

Theory of architectural design with special emphasis on factors affecting the development of plan. Lecture and recitation, two hours. *Prereq: Junior classification.*

8 THEORY OF ARCHITECTURE. (2) I, II — Coblin
Theory of architectural design with special emphasis on factors affecting the development of plan. Lecture and recitation, two hours. *Prereq: Junior classification.*

Civil Engineering

1a, b THE ENGINEERING PROFESSION (Freshman). (0) I, II — Blythe

2a, b THE ENGINEERING PROFESSION (Sophomore). (0) I, II — Chambers

3a, b THE ENGINEERING PROFESSION (Junior). (0) I, II — Chambers

4a, b THE ENGINEERING PROFESSION (Senior). (0) I, II — Chambers
Lectures on professional growth, conduct and ethics. Activities of the student branches of the corresponding professional societies.

5 CIVIL ENGINEERING PROBLEMS. (1) I, II — Pendley
Analysis and solution of basic Civil Engineering problems, including instruction in the use of the slide rule. Two hours per week. *Prerequisite: Math. 18.*

12 PLANE SURVEYING. (2) I, II — Dearinger
Principles, field practice and calculations. General use and care of surveying instruments. Class work, one hour; field work, three hours. *Prereq: Math. 18.*

15 GENERAL SURVEYING. (3) S — Blythe and Dearinger
Given at the Summer Camp, Noble, Kentucky. Theory, field and office practice on control surveys, mapping, photogrammetry, property surveys, hydrographic surveys and astronomical observations. *Prereq: Approval of Head of the Department.*

16a ROUTE SURVEYING. (2) I, II — Dearinger and Hardin
Curves, line, grade, earthwork and theory of location as it applies to railroads, highways and pipe lines. Lecture and recitation, two hours. *Prereq: C.E. 12.*

16b ROUTE SURVEYING. (2) S — Blythe and Dearinger
Given at the Summer Camp, Noble, Kentucky. Theory, field and office practice in route-surveys including the application of aerial photographs in this work. *Prereq: Approval of the Head of the Department.*

18 MAPPING AND TOPOGRAPHIC DRAWING. (2) I, II — Hoffmann
Construction of maps from field notes, reproduction and changing scale of maps. topographic symbols, contours, projected location, profile, line, and grade. Drafting room, six hours. *Prereq: CE 12.*

23 SEMINAR. (1) I, II — Staff
A study of current engineering literature as related to civil engineering; assigned reading and reports. Round table conferences, 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 — Blythe
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 concur.: Geol. 12b.*

110a REINFORCED CONCRETE. (3) I, II — Maggard
Theory and design of beams, slabs, girders, and columns as related to building frames, retaining walls and bridges. Lecture and recitation, three hours. *Prereq: CE 171a.*

110b REINFORCED CONCRETE. (2) I, II — Mory
Continuation of CE 110a, with special emphasis on complete structures. Lecture, one hour; drawing room, three hours. *Prereq: CE 110a.*

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 and Daugherty
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 100.*

123 HYDRAULICS LABORATORY. (1) I, II, S — Cheek and Daugherty
Experimental investigation and application of some of the more important principles covered in CE 120. Lab, three hours. *Prereq. or concur.: 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 and Dearinger
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. Concur. with CE 152.*

152 SEWERS AND SEWAGE DISPOSAL. (2) I, II Cheek
Sanitary and storm sewers, flow problems. Disposal plants and their operation. Lecture and recitation, two hours. *Prereq: CE 120. Concur. 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 Hardin
Analytical and graphical analysis of stresses in simple and indeterminate structures, including beams, girders, trusses, towers and building frames. Lecture and recitation, three hours. *Prereq. or concur: 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 Maggard
Continuation of CE 173a with emphasis on floor systems, trusses, and plate girders for bridges. Drawing room, six hours. *Prereq: CE 173a.*

175 TIMBER STRUCTURES. (2) I, II Humphrey
Theory and design of structural timber beams, columns, trusses as related to buildings and bridges. Recitation, one hour; drawing room, three hours. *Prereq: 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. University requirements for Graduate work are listed in the Bulletin of the Graduate School.

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 — Drake
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 — Drake
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 — Drake
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 — Drake
Origin, production, classification, 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 — Havens
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 — Blythe
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 — Blythe
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 STRUCTURES. (2) I, II — Maggard
Preparation of design drawings of structures analyzed and proportioned in CE 202a and 272a. Lab, four hours. *Prereq: CE 202a and 272a.*

272c ADVANCED STRUCTURES. (3) I, II — Mory
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, Lyle Newton Back, Brinkley Barnett, Eugene Bradford Bradley, Henry Jackson Daily, Raymond Jewel Distler, John S. Jackson, Martin C. Krimm, Charles Thomas Maney, and Russell Elwood Puckett.

1a, b THE ENGINEERING PROFESSION (Freshman). (0) I, II

2a, b THE ENGINEERING PROFESSION (Sophomore). (0) I, II

3a, b THE ENGINEERING PROFESSION (Junior). (0) I, II

4a, b THE ENGINEERING PROFESSION (Senior). (0) I, II
Lectures on professional growth, conduct, and ethics. Activities of the student branches of the corresponding professional societies.

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. *Prereq: Soph. classification.*

21R PRINCIPLES OF ELECTRICAL ENGINEERING. (3) I, II Distler
A study of the application of the fundamental laws of electric, magnetic, and dielectric circuits. Recitation, three class hours. *Prereq: Math. 20a and Physics 3a. Concur: EE 21L.*

21L PRINCIPLES OF ELECTRICAL ENGINEERING LABORATORY. (1) I, II Distler
Laboratory practice and experiment exercises relating to studies in EE 21R. Lab, three hours. *Concur: EE 21R.*

101 FUNDAMENTALS OF ELECTRICAL MACHINERY. (3) I, II Puckett
(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.*

103 ELECTRICAL LABORATORY FOR MINING ENGINEERS. (1) II Daily
A laboratory study of circuits and equipment used in the servicing and operation of industrial equipment. With special emphasis on mining applications. Three hours lab. *Prereq. or concur: EE 101.*

105a ELECTRICAL ENGINEERING CIRCUITS AND MACHINERY. (3) I, II Krimm
(For Mechanical Engineers.) Study of electrical circuits and machinery and their control as found in modernly equipped installations. Three class hours. *Prereq. Physics 3b and Math. 20b.*

105b ELECTRICAL ENGINEERING CIRCUITS AND MACHINERY. (3) I, II Krimm
(For Mechanical Engineers.) Continuation of EE 105a. Three class hours.

107R ELECTRICAL CONTROLS. (2) I Staff
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, or 105a or 101. Concur: EE 107L.*

107L ELECTRICAL CONTROLS LABORATORY. (1) I Staff
Laboratory practice and experiment exercises relating to studies in EE 107R. Lab, three hours. *Concur: EE 107R.*

108R INDUSTRIAL ELECTRONICS. (2) I, II Jackson
Electronic devices for industrial use, and their applications in the control of rectifiers, motors and welders. High frequency heating, timing circuits, and oscillators; photo-tubes, etc. Recitation, two class hours. *Prereq: EE 116R, 116L, 161R, 161L. Concur: EE 108L.*

108L INDUSTRIAL ELECTRONICS LABORATORY. (1) I, II Jackson
Laboratory practice and experiment exercises relating to studies in EE 108R. Lab, three hours. *Concur: EE 108R.*

111 ADVANCED ELECTRICAL LABORATORY. (1) I, II Staff
Lab, two hours. *Prereq: Senior classification.*

114R ALTERNATING CURRENT CIRCUITS. (3) I, II Back
A mathematical study of single phase and polyphase circuits under the influence of steady state sinusoidal and nonsinusoidal voltages. Recitation, three class hours. *Concur: EE 114L. Prereq: EE 21R, Math. 20b, Phys. 3b, 4b.*

114L ALTERNATING CURRENT CIRCUITS LABORATORY. (1) I, II Back
Laboratory practice and experiment exercises relating to studies in EE 114R. Lab, three hours. *Concur: EE 114R.*

116R ELECTRICAL MACHINERY. (3) I, II Barnett and Krimm
A study of A.C. Machinery construction and its operation and characteristics. Recitation, three class hours. *Prereq: EE 114R, 114L. Concurrent: EE 116L.*

116L ELECTRICAL MACHINERY LABORATORY. (1) I, II Barnett and Krimm
Laboratory practice and experiment exercises relating to studies in EE 116R. Lab, three hours. *Concur: EE 116R.*

117 ADVANCED ALTERNATING CURRENT MACHINERY. (3) II Staff
Advanced analytical study of A.C. Machinery characteristics. *Prereq: EE 116R, 116L.*

118 ELECTRICAL POWER PLANT EQUIPMENT. (3) I Staff
A study of the electrical elements of a modern power plant and their operation and characteristics. *Prereq: EE 116R, 116L.*

120a ELECTRICAL CIRCUIT ANALYSIS. (3) II Jackson
A study of engineering analysis stressing fundamental mathematical and physical principles; electrical duals, electrical-mechanical analogies; series solution of differential equations; Bessel and hyperbolic functions, Fourier analysis; Introduction to Vector analysis. *Prerequisites: EE 114R, 114L.*

120b ELECTRICAL CIRCUIT ANALYSIS. (3) I Jackson
A continuation of EE 120a. Investigation of transient and steady state conditions in electrical and mechanical systems, using Laplace transform methods; network analysis and synthesis. Two- and four-terminal reactive networks. Feedback system stability criteria. *Prereq: EE 120a.*

123 ELECTRICAL EQUIPMENT PROBLEMS. (2) I, II Maney
(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 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: 11R, 116L.*

135R NETWORKS AND LINES. (3) I, II Allison and Maney
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. Concur: EE 135L.*

135L NETWORKS AND LINES LABORATORY. (1) I, II Allison and Maney
Laboratory practice and experiment exercises relating to studies in EE 135R. Lab, three hours. *Concur: EE 135R.*

136R ILLUMINATION ENGINEERING. (2) II Staff
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. Concur: EE 136L.*

136L ILLUMINATION ENGINEERING LABORATORY. (1) II Staff
Laboratory practice and experiment exercises relating to studies in EE 136R. Lab, three hours. *Concur: EE 136R.*

137a ELECTRIC POWER TRANSMISSION. (3) I Maney
Transmission line parameters, generalized circuit constants, circle diagram and per-unit computations; three-phase faults; introduction to Symmetrical Components. *Prereq: EE 116R, 116L.*

137b ELECTRIC POWER TRANSMISSION. (3) II Maney
Continuation of EE 137a. Line-to-ground faults; sequence impedance networks for lines, transformers and machines; unsymmetrical faults on power systems; power system stability; voltage-and frequency regulation. *Prereq: EE 137a.*

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 Daily
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. Concur: EE 161L.*

161L VACUUM TUBE ELECTRONICS LABORATORY. (1) I, II Daily
Laboratory practice and experiment exercises relating to studies in EE 161R. Lab, three hours. *Concur: EE 161R.*

162R RADIO CIRCUITS. (3) I, II Allison
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. Concur: EE 162L.*

162L RADIO CIRCUITS LABORATORY. (1) I, II Staff
Laboratory practice and experiment exercises relating to studies in EE 162R. Lab, three hours. *Concur: EE 162R.*

164R RADIO AND TELEVISION CIRCUITS. (3) I, II Allison
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. Concur: EE 164L.*

164L RADIO AND TELEVISION CIRCUITS LABORATORY. (1) I, II Allison and Distler
Laboratory practice and experiment exercises relating to studies in EE 164R. Lab, three hours. *Concur: EE 164R.*

165 FIELDS AND WAVES. (3) I, II Romanowitz
Fundamental theory of current, potential, power and electric and magnetic fields using vector equations; Maxwell's equations; Plane waves, power flow and the Poynting vector; Reflection, radiation, antenna theory. Three class hours. *Prereq: EE 120a.*

172R AUTOMATIC CONTROL SYSTEMS. (3) I, II Jackson
Closed loop industrial control systems and system elements. Analysis of modes of operation. Stability, adjustment. Recitation, three class hours. *Prereq: EE 120. Concur: EE 172L.*

172L AUTOMATIC CONTROL SYSTEMS LABORATORY. (1) Jackson
Laboratory practice and experiment exercises relating to studies in EE 172R. Lab, three hours. *Concur: 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) Staff
The theory underlying the calculation and operation of long distance transmission circuits. Special attention to relay control.

210 SYMMETRICAL COMPONENTS. (3) Maney
A study of the symmetrical component method of analyzing unbalanced conditions on transmission lines and its use in solving relay applications. *Prereq: EE 137a or equivalent.*

211a LINEAR CIRCUIT ANALYSIS I. (3) Jackson
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 120b, 135R, 135L.*

211b LINEAR CIRCUIT ANALYSIS II. (3) Jackson
Continuation of EE 211a with an introduction to non-linear systems.

212 SERVOMECHANISMS. (3) Jackson
Synthesis of closed loop systems. Transient and steady state analysis of system transfer functions. Laplace transform and loci plot methods. *Prereq: EE 120b and 172R, 172L or equivalent.*

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 equations and curves; Random motions of electrons and ions. *Prereq: EE 108R, 108L, 120b.*

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 GUIDES. (3) Allison
Open wire and coaxial lines, reflections, standing waves; circle diagram; stub matching; impedance transformation; wave guides. *Prereq: 135R, 135L, 164R, 164L.*

226 MICROWAVE ENGINEERING. (3) Allison
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
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, William Jackson Barber, Roy Donald Burberry, Edward Everett Elsey, Oliver William Gard, Clinton Kelly Hoffmann, George Land, Jr., James Francis Lafferty, Thomas Eugene Morgan, Walter Vincent Prop, James Welby Riddle, John Harmon Smith, and Charles Bainbridge Wooldridge.

Applied Mechanics

1 ELEMENTS OF DYNAMICS. (0) II Staff
A basic course in dynamics including rectilinear motion, force and acceleration, curvilinear motion and rotation, work, energy and power. 17 weeks at 2 hours per week. *Prereq: High school graduate and satisfactory grade in special test in mathematics and general ability.*

2 MECHANISMS. (3) I, II, S Hawkins, Barber, Adams, Land, and Riddle
(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, Adams, Land, Riddle, and Wooldridge
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, Adams, Land, Riddle, and Wooldridge
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: Phys. 3a and ED 1b.*

7 DYNAMICS. (3) I, II, S Hawkins, Barber, Adams, and Wooldridge
(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, Adams, Land, and Wooldridge
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. (3) 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, three hours. *Prereq. AM 4 or 7 and AM 100. Prereq. or concur: Math. 35.*

NOTE: Credit will not be given in both AM 4 and AM 7.

Engineering Administration

1 ENGINEERING ORIENTATION. (0) S Elsey
(For pre-freshmen and new freshmen entering in Summer Session.) A preparatory course to adjust the student to college life and acquaint him with all fields of engineering. Lecture and recitation, three hours per week.

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

1a ELEMENTARY ENGINEERING DRAWING
(2) I, II, S Hoffmann, Burberry, Martin, Morgan, Prop, and Smith
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 DESCRIPTIVE GEOMETRY.
(2) I, II, S Hoffmann, Burberry, Martin, Morgan, Prop, and Smith
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.*

18 ADVANCED ENGINEERING DRAWING. (2) I, II, S Elsey
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 Staff
(For Engineers.) Lectures on the optics and chemistry of photography together with practical demonstrations. Lecture, one hour; lab, four hours per week. *Prereq: Chem. 1a, Phys. 3a, junior classification.*

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.*

Nuclear Engineering

101 NUCLEAR REACTOR ENGINEERING. (3) Lafferty
Reactor design studies based on neutron diffusion; critical size calculation of homogeneous and heterogeneous systems. Lecture and recitation, three hours. *Prereq: Physics 3b and Math. 35 or 105a.*

102 NUCLEAR REACTOR ENGINEERING. (3) Lafferty
Engineering aspects of reactor kinetics and control; shielding and radiation protection; reactor design variables; nuclear fuels and reactor materials. Lecture and recitation, three hours. *Prereq: NE 101.*

MECHANICAL ENGINEERING

Estel Burdell Penrod, Merl Baker, Willis Merle Carter, Fred Carl Curtis, James McCleland Elliott, Oliver William Gard, Herschel Oscar Knight, Karl Otto Lange, Fritz Mangelsen, Maurice Keith Marshall, Harry Louis Mason, Orville Watson Stewart, Joseph Grant Teague, and Warren Ware Walton.

1a, b THE ENGINEERING PROFESSION (Freshman). (0) I, II Staff

2a, b THE ENGINEERING PROFESSION (Sophomore). (0) I, II Staff

3a, b THE ENGINEERING PROFESSION (Junior). (0) I, II Staff

4a, b THE ENGINEERING PROFESSION (Senior). (0) I, II Staff
Lectures on professional growth, conduct, and ethics. Activities of the student branches of the corresponding professional societies.

5 SLIDE RULE. (1) I, II Knight
Theory and application of the slide rule. One recitation per week. *Prereq: Math. 18.*

**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.

16a SHOP TRAINING. (0) I 20 weeks at 20 hours per week.

16b SHOP TRAINING. (0) II 18 weeks at 20 hours per week.

16c SHOP TRAINING. (0) S 12 weeks at 20 hours per week.
Training in machine tool practice covering basic machines with an introduction to toolmaking. *Prereq: High school graduate and satisfactory grade on special test in mathematics and general ability.*

17 ELEMENTS OF TOOL DESIGN. (0) I Staff
Study and design of jigs, fixtures, gauges and dies as related to production machines. 17 weeks at 2 hours per week. *Prereq: High school graduate and satisfactory grade on special test in mathematics and general ability.*

20 ANALYSIS OF EXPERIMENTAL DATA. (2) I, II Carter and Curtis
A study of problems and methods used in deriving empirical equations from experimental data, including periodic functions. Graphical and numerical methods of integration and differentiation. Design of special slide rules and nomographs. *Prereq. or concur: Physics 3a. Prereq: ED 18.*

100a MACHINE DESIGN. (3) I, S Carter and Gard
Design of machine and structural elements. Lecture and recitation, three hours. *Prereq: Engr. Dr. 18. Prereq. or concur: 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
Fundamental principles of thermodynamics. Lecture and recitation, three hours. *Prereq: Physics 3b. Concur: Math. 35.*

104b ENGINEERING THERMODYNAMICS. (3) II, S Penrod
Continuation of ME 104a. Lecture and recitation, three hours. *Prereq: ME 104a and Math. 35.*

105 POWER PLANT ENGINEERING. (3) II, S Stewart
Study of the characteristics of steam and internal combustion engineering generating power stations. Lecture and recitation, three hours. *Prereq: ME 104b.*

107 FLUID MECHANICS. (4 cr.) II Marshall
Fundamental principles of fluid flow. Lecture and recitation, four hours. *Prereq: ME 104a.*

**Not open to Freshmen.

108 INTERNAL COMBUSTION ENGINES. (3) II Carter, Stewart, 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 104b or 134.*

109 REFRIGERATION. (3) I, S Walton
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) II Walton
Theory of air conditioning and the mechanical equipment of buildings. Lecture and recitation, three hours. *Prereq: ME 104b and 107.*

114b AIR CONDITIONING, HEATING AND VENTILATING DESIGN. (4 cr.) II Walton
Continuation of ME 114a and the complete design and layout of a year-round air conditioning system. Lecture, two hours; drawing room, six hours. *Prereq: ME 114a. Prereq. or concur: ME 109.*

116 ELEMENTARY HEATING, VENTILATING, AND AIR CONDITIONING. (3) II Penrod and Walton
Fundamental principles of air conditioning. Lecture and recitation, three hours. *Prereq: Physics 1a or its equivalent.*

122 SEMINAR. (1) I Staff
Studies of current engineering literature, preparation and presentation of bibliographies and reports through the use of the Engineering Index and Industrial Arts Index. Two hours a week. *Prereq: Senior classification.*

129 ELEMENT OF HEAT TRANSFER. (3) I, S Penrod, Baker, and Walton
Fundamental principles of heat transfer. Lecture and recitation, three hours. *Prereq: ME 104b.*

130 APPLIED AERODYNAMICS. (3) I Lange 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 and Marshall
Covering fundamental principles of airplane design. Lecture and recitation, three hours. *Prereq. or concur: ME 130.*

131b AIRPLANE DESIGN. (3) Lange and Marshall
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. 20*

135 EXPERIMENTAL AERODYNAMICS. (3) II Lange 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 13*

136 INTERNAL COMBUSTION ENGINE LABORATORY. (1) I, II Staff
A study of magnetos, distributors, fuel ignition, timing, carburetors, oil systems, and performance tests on engines. Aeronautical lab, three hours. *Prereq. or concurrent: ME 108, 113a.*

137 MOTION AND TIME STUDY. (4) I Carter
Principles and uses of motion economy and fundamentals of time study. Lecture and recitation, four 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 Knight and Elliott
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 BUILDING. (3) II Knight and Elliott
Continuation of ME 141a. Lecture and recitation, three hours. *Prereq: ME 141a.*

142 AERONAUTICAL METEOROLOGY. (3) I Lange
Introduction to atmospheric statics, thermodynamics, and dynamics; ozone theories, dissociation of oxygen and solar radiation; observational techniques including performance analysis of airborne and ballistic vehicles. Lecture and recitation, 3 hours. *Prereq: ME 134, ME 107 or equivalent.*

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 Stewart
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.) 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.) Penrod
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
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
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
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.*

219 ADVANCED AERONAUTICAL METEOROLOGY. (3) II — Lange
Atmospheric thermodynamics, and dynamics. Adiabatic changes or moist air through vertical motion, effects on aircraft. Energy equations; equations of motion on rotating globe; rocket-spectrographic studies. Lecture and recitation, three hours. *Prereq: ME 142 or instructor's consent.*

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., Thomas Alexander Kendall, Hal Wharton Maynor, Jr., William Haydon Roll, Ernest Melvern Spokes, and Roy Erwin Swift.

Metallurgical Engineering

1a, b THE ENGINEERING PROFESSION (Freshmen). (0) I, II — Staff

2a, b THE ENGINEERING PROFESSION (Sophomore). (0) I, II — Staff

3a, b THE ENGINEERING PROFESSION (Junior). (0) I, II — Staff

4a, b THE ENGINEERING PROFESSION (Senior). (0) I, II — Staff
Lectures on professional growth, conduct, and ethics. Activities of the student branches of the corresponding professional societies.

20 ELEMENTS OF METALLURGY. (0) S — Staff
Basic metallurgy including various methods of heat treatment and other pertinent data. 8 weeks at 2 hours per week. *Prereq: High school graduate and satisfactory grade on special test in mathematics and general ability.*

26 ENGINEERING METALLURGY. (3) I, II — Staff
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 or 2a.*

83 EXTRACTIVE METALLURGY. (5) I Crouse and Spokes
The principles and processes employed in the production, treatment and preparation of the various economic metals, both ferrous and non-ferrous, including a consideration of their strategic and economic importance. *Prereq: Met. E. 27.*

87 ADAPTIVE METALLURGY FOR ENGINEERS. (3) I, II Staff
Principles of production and treatment of metals and alloys; correlation of structures, properties, and applications for Mechanical Engineers. Lecture and recitation, three hours. *Prereq: Freshman Chemistry and Sophomore Physics.*

60 METALLURGICAL LABORATORY AND SHOP PRACTICE. (3) II Duncan and Staff
Metallurgical and Foundry problems. Lecture and recitation, one hour; laboratory six hours. *Prereq: Five semesters in Metallurgical Engineering or its equivalent.*

132 METALLURGICAL CALCULATIONS. (3) I Crouse
Calculations involved in the application of metallurgical principles. Recitation and problems, three hours. *Prereq: Chem. 22, Met. E. 33.*

140 THE SCIENCE OF METALS. (3) I, II Crouse and Swift
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. 22, and Met. E. 33.*

142 FERROUS METALLOGRAPHY AND HEAT TREATMENT. (3) I Maynor
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. 140.*

143a PHYSICS OF METALS. (3) I Swift or Staff
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, three hours. *Prereq: Physics 123b, Chem. 147b, Met. E. 140.*

143b PHYSICS OF METALS. (3) II Maynor or Staff
This is a continuation of Met. E. 143a. Lecture and recitation, two hours; lab, three hours. *Prereq: Met. E. 143a.*

144 NON-FERROUS METALLOGRAPHY AND HEAT TREATMENT. (3) II Maynor
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. 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. 147b.*

166 MINERALS BENEFICIATION. (3) II Spokes
Principles and mechanics of beneficiation involved in the preparation of mine products, principles of plant design, and current developments. Lecture and recitation, three hours. *Prereq: Physics 3b.*

167 MINERALS BENEFICIATION LABORATORY. (1) II Spokes
Application of the principles studied in Met. E. 166. Lab, two hours. *Concur: 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.*

180 THE CASTING OF METALS. (3) I, II Crouse and Swift
Ferrous and non-ferrous foundry practice. Theory and metallurgy of metal castings. Application of engineering principles to the design and production of castings. Lecture and recitation, three hours. *Prereq: Met. E. 26 or 27 or 37.*

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 Swift
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.

209a, b ADVANCED ORE DRESSING. (3 ea.) I, II Spokes
Ore dressing plant design and original research in concentration problems. Lecture and recitation, one hours; lab, four 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 Staff
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 Swift or Staff
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 Maynor and Swift
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 Maynor and Swift
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 Crouse and Spokes
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 Staff
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 Staff
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 Maynor
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 Swift
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 Swift
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 Maynor and Swift
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.

250 NUCLEAR METALLURGY. (3) I, II Swift
The metallurgy of such materials as are used in the various components of nuclear reactors with special emphasis on their physical metallurgy. Scientific principles in their broadest sense are emphasized. Material applicable to nuclear-reactor components in the ceramics, metal-ceramics, and other fields. (Lecture and recitation, three hours. *Prereq: B.S. in Metallurgical Engineering and permission of the instructor.*

275a-h SEMINAR. (1 ea.) I, II Swift
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

1a, b THE ENGINEERING PROFESSION (Freshman). (0) I, II Staff

2a, b THE ENGINEERING PROFESSION (Sophomore). (0) I, II Staff

3a, b THE ENGINEERING PROFESSION (Junior). (0) I, II Staff

4a, b THE ENGINEERING PROFESSION (Senior). (0) I, II Staff
Lectures on professional growth, conduct, and ethics. Activities of the student branch of the American Institute of Mining and Metallurgical Engineers.

25 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.*

126 ELEMENTS OF MINING. (3) I Roll and Spokes
Fundamental mining operations, prospecting, and mine development. Lecture and recitation, three hours. *Prereq: Chem. 1b, Physics 3a, Geol. 12a.*

130 MINERAL INDUSTRIES ADMINISTRATION. (3) I Roll and Spokes
The engineering aspects of mineral industries administration and management, including safety engineering. Lecture and recitation, three hours. *Prereq: Junior classification.*

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, two hours, lab, three hours. *Prereq: Met. E. 166.*

136 MINE VENTILATION. (3) II Roll and Spokes
The principles and methods of mine ventilation and air conditioning; the control of dangerous impurities. Lecture and recitation, three hours. *Prereq: Min. Engr. 126.*

137 MINE PLANT AND MACHINERY. (3) II Spokes
Theory and practice of mine haulage, hoisting, drainage, pumping, and compressed air as power. Application of engineering principles to the mineral industries. Lecture and recitation, two hours, lab, three hours. *Prereq: Min. E. 126 and senior classification.*

139 VALUATION OF MINERAL PROPERTIES. (3) II Roll and Spokes
Methods of appraising the value of deposits of ores, mineral fuels, and non-metallics. Lecture and recitation, three hours. *Prereq: Econ. 51, Min. Engr. 126.*

145 MINING METHODS. (3) I Roll and Spokes
Surface and underground mining of coal, metallic ores, and non-metallic minerals. Economic, engineering and operating factors. Lecture and recitation, three hours. *Prereq: Min. E. 126.*

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.

209a, b ADVANCED MINE ENGINEERING. (3 ea.) I, II — Spokes
Procedure and methods of collecting and recording data for the systematic development and exploitation of a mining property. Lecture and recitation, one hour; drawing and mapping, six hours.

220a-f SPECIAL PROBLEMS IN MINING ENGINEERING. (3 ea.) I, II — Roll and Spokes
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

W. L. Matthews, Jr., Jesse J. Dukeminier, Jr., Richard D. Gilliam, Jr., G. Robin Griffin, Willburt D. Ham, Thomas P. Lewis, Roy Moreland, Paul Oberst, Frank H. Randall, James R. Richardson, W. Lewis Roberts, Calvert T. Roszell, Dorothy Salmon, Frederick W. Whiteside, Jr.

(All courses are lecture and recitation unless otherwise noted.)

First Year Subjects

101a, b CONTRACTS I-II. (3, 2) 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, 2) I, II — Oberst and Gilliam
Thurston, Seavey and Keeton's Cases.
Intentional torts and defenses, negligence, causation, duties of occupants of land and manufacturers and vendors of chattels, contributory negligence, strict liability, deceit, defamation, malicious prosecution, interference with advantageous relations.

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 PLEADING I-II. (2, 2) I, II — Richardson
Clark, Cases on Modern Pleading.
Keigwin, Cases on Common Law Pleading.
Pleading I: Common law forms, theory of the case, composition of pleadings, demurrer, aider, duplicity, traverses, pleas, motions.
Pleading II: Code and Federal Rule 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 BIBLIOGRAPHY. (1) I — Salmon
Practical problems in the use of statutes, reports, digests, encyclopedias, annotated cases, citation books, periodicals, reference tables, and indices.

185 LEGAL METHOD. (2) I — Gilliam and Lewis
Dowling, Patterson and Powell, Materials for Legal Method (2nd ed.).
An introductory course for first year Law students, covering the sources and forms of American law, legal reasoning in judicial precedents, how to solve a legal problem, and legal writing.

Second Year Subjects

120 TRIAL PROCEDURE. (3) II — Staff
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 — Dukeminier
Casner and Leach's Cases.
Titles and conveyancing. Contract for sale of land, deeds, the recording system, title registration, title insurance. Restrictions on the use of land: covenants, easements and constitutional limitations.

123 NEGOTIABLE INSTRUMENTS. (3) II — 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 — Richardson
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
Kauper's Cases and Materials.
Judicial review, relationships in the federal system, powers of Congress, powers of the President, powers of the states. Due process, procedural and substantive; obligation of contract, equal protection, civil rights, privileges, and immunities.

189 INCOME TAXATION. (3) II — Whiteside
Griswold's Cases on Federal Taxation (4th ed.).
Problems in federal and state income taxation.

191a, b EQUITY I-II. (2, 2) I, II — Moreland and Gilliam
Chafee and Simpson's Cases. (3rd ed.)
The traditional Equity materials.

Third Year Subjects

125 PRACTICE COURT. (1) I — Richardson
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.

164 CONFLICT OF LAWS. (3) II — 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.)
Simes' Cases (2nd ed.)
Uses and Statute of Uses; trusts creation; elements; transfer of beneficiary's interest; administration, termination, and modification; charitable trusts; resulting and constructive trusts; powers. Types of future interests; construction problems; limitations to classes, rule against perpetuities, illegal restraints and conditions.

170 THE LEGAL PROFESSION. (1) I — Gilliam
Cheatham's Cases and Materials (2nd ed.).
A study of professional problems including: ethics, discipline, unauthorized practice, duty to court and client, bar admission and organization, fees and office procedure.

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.

182a, b ESTATE PLANNING I-II. (4, 2) I, II — Dukeminier
Casner's Estate Planning (2nd ed.)
Donative transfers of property, including *inter vivos* transfers and wills; income, estate and gift tax consequences of the various methods of disposition; administration of estates. Future interests in property, including an intensive study of construction problems and the rule against perpetuities.

187 CORPORATIONS. (4) I — Ha
Dodd and Baker's Cases (2nd ed.).
Formation; entity concept; structure of management; problems of control; scope of corporate activities; powers, duties, and responsibilities of directors; stockholders' derivative suits; stock subscriptions; watered stock; preemptive rights; dividends; treasury stock; reduction in capital; organic changes.

197a-z SEMINAR. (2 ea.) I, II — Staff
Seminar in selected legal problems. Normally, each seminar is centered upon a particular field of legal learning, such as Anglo-American Legal History, Land Planning and Development, Estate Planning, Jurisprudence, etc.

Elective Courses

145 INSURANCE. (2) II — Lewis
Goble's Cases.
Nature of contract, insurable interest, making the contract, concealment, representations, warranties, implied conditions of forfeiture, waiver and estoppel, rights under the contract, and construction of the policy.

147 RESTITUTION. (2) II — Oberst
Woodruff's Cases.
Restitution at law for mistake, duress and undue influence, illegality, impossibility, benefits received without contracts.

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.

150 PUBLIC UTILITIES. (2) 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 — Staff
McCormick's Cases.
Nature of damages, voidable consequences, counsel fees, certainty, compensation, damage for non-pecuniary injuries, interest, damages for death, and eminent domain.

155 MODERN SOCIAL LEGISLATION. (3) II — Gilliam
Aaron's Employment Relation and the Law.
A study of statutes, administrative reports, regulations, legislative hearings and judicial decisions relating to modern social legislation, including Social Security, Workmen's Compensation, medical care insurance, unemployment insurance, wages and hours, and public assistance.

156 AGENCY-PARTNERSHIP. (3) I — Ham
Conard's Cases on Business Organization (2d ed.)
A study of traditional agency concepts and selected materials on partnership law, including the vicarious liability relationship in tort and contract, the fiduciary concept, the organization and liquidation of partnerships.

166 SALES. (2) II — Whiteside
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.

167 ADMINISTRATIVE LAW. (2) II — Oberst
Gellhorn's and Byse's Cases.
Establishment of administrative tribunals, limits on discretion. Notice and hearing, orders, methods of judicial relief, scope of judicial review.

173 FEDERAL JURISDICTION AND PROCEDURE. (2) I — Richardson
Dobie and Ladd's Cases (Forrester's ed.).
Diversity of citizenship, jurisdictional amount, venue, concurrent jurisdiction, original and appellate jurisdiction, procedure in federal courts.

174 CREDIT TRANSACTIONS. (3) II — Lewis
Sturges' Cases (4th ed.).
Mortgages: creation, assignment, priority, foreclosure, redemption. Pledges, suretyship rights, suretyship defenses, Statute of Frauds.

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.

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.

180 LABOR LAW. (2) I Richardson
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.

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.

186 LOCAL GOVERNMENT LAW. (2) II Lewis
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.

195 INTERNATIONAL LEGISLATION. (2) II Gilliam
Seminar on the development and codification of international law. History of codification; promotion of codification under League of Nations and United Nations; international law and war criminal trials; genocide pact; Universal Declaration and Covenant of Human Rights and other similar topics. Political Science 150, International Law, recommended as prerequisite.

199 ACCOUNTING IN LAW PRACTICE. (2) II Staff
Accounting and the lawyer; legal problems involving accounting, in the fields of taxation, corporation law, public utility law, partnership law, estates and trusts, bankruptcy, etc.

COLLEGE OF EDUCATION

DIVISION OF ADMINISTRATION AND SUPERVISION

Harold P. Adams, Leo M. Chamberlain, May K. Duncan, C. Howard Eckel, Charles Elton, Lyman V. Ginger, L. E. Meece, J. R. Ogletree, and M. R. Trabue.

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 — Eckel
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: Ed. 202, 213, or 232.*

206 PROBLEMS OF COLLEGE TEACHING. (3) — Trabue
Methods commonly used in college teaching, bases for measuring instruction, marking systems, qualifications for college teaching, and efforts being made to improve college instruction.

207 SCHOOL BUILDINGS AND EQUIPMENT. (3) — Eckel
Measurement and evaluation of existing school building facilities, planning new buildings, determining suitable equipment, and financing the building program. *Prereq: Ed. 202 or its equivalent.*

209a, b INTERNSHIP IN EDUCATIONAL ADMINISTRATION. (3 ea.) I, II, S — Staff
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 ea.) 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 — Staff
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
A critical study of selected problems in school administration. The course is designed primarily for students who have had some administrative experience. *Prereq: Ed. 202 and 225.*

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.

229 THE ELEMENTARY PRINCIPAL. (3) I, S — Staff
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 Eckel
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) Staff
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) Chamberlain and Trabue
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 ea.) I, II, S (Not offered 1953-54) Elton
A comprehensive study of the work of the registrar in institutions of higher education, including the history, literature, and present-day tendencies; rules of the University; recommendations of the American Association of Collegiate Registrars.

292a, b FIELD PROBLEMS IN CURRICULUM SUPERVISION. (3 ea.) I, II H. Adams and Ogletree
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.

301a, b RESEARCH PROBLEMS IN EDUCATIONAL ADMINISTRATION. (3 ea.) I, II, S Meece
An independent research course for the study of special problems in educational administration. *Prereq: One year of graduate work.*

305a, b RESEARCH PROBLEMS IN CURRICULUM AND SUPERVISION. (3 ea.) I, II, S H. Adams and Ogletree
An independent research course. Students confer individually with the instructor. *Prereq: One year of graduate work.*

321a, b RESEARCH PROBLEMS IN HIGHER EDUCATION. (3 ea.) I, II, S Chamberlain and Trabue
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, Esther N. Adams, Charles Elton, Ernest McDaniel, Helen M. Reed, Herbert Sorenson, and R. M. Van Horne.

50 PLANNING A CAREER IN EDUCATION. (1) I, II Van Horne
General orientation to the teaching profession; emphasis is given to choosing the level or field of teaching and developing plans for meeting certification requirements.

51 THE TEACHER IN AMERICAN SCHOOLS. (2) I, II, S Van Horne
Topics include: the school in a democratic society, the teacher, the learner, the educative process, legal aspects of education, and history of education.

119 THE ELEMENTARY SCHOOL PUPIL. (2) I, S E. N. Adams and Van Horne
The psychology of the child in the primary and intermediate grades. *Prereq: One course in Psychology.*

122 EDUCATIONAL TESTS AND MEASUREMENTS. (3) I, S McDaniel
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 socio-cultural 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 E. N. Adams, 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.

150 THE ROLE OF THE TEACHER AND THE PRINCIPAL IN GUIDANCE. (3) I, II, S E. N. Adams
A first course for non-specialists, basic principles and practical approaches to guidance for prospective teachers and principals in service.

151 THE TEACHING OF HIGHER LEVEL STUDY SKILLS. (3) I, S E. N. Adams
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 ea.) 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 ed.*

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 ea.) 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 ea.) I, II, S Hartford
Independent work problems and topics for advanced students in history of education.

241a, b SEMINAR IN FOUNDATIONS OF EDUCATION. (3 ea.) S Hartford
A critical study of selected problems in the foundation of education areas.

247a, b INDEPENDENT WORK IN PHILOSOPHY OF EDUCATION. (3 ea.) 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.*

255a, b GUIDANCE AND COUNSELING IN TODAY'S SCHOOLS. (3 ea.) S Elton
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 ea.) I, II, S Elton, McDaniel, and Sorenson
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.*

311a-h PRACTICUM IN COUNSELING PSYCHOLOGY. (3 ea.) I, II, S
Nine hours of supervised work each week in counseling psychology in the University Counseling Office. Same as Psychology 311a-h.

DIVISION OF CURRICULUM

James T. Moore, Jr., May K. Duncan, James A. Fickes, Jeanne M. Kuhn, Lucile L. Lurry, Howard D. Lusk, Vernon A. Musselman, and Mark M. Tucker.

127 THE ELEMENTARY CURRICULUM. (3) Fickes, Kuhn, Moore, and Lusk
The philosophy and techniques of curriculum construction and some practical work in construction

175g MODERN EDUCATIONAL PROBLEMS: EDUCATION OF HANDICAPPED CHILDREN. (3) Tucker
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.

175m-z MODERN EDUCATIONAL PROBLEMS. (3 ea.)
A brief survey of some of the problems in modern education. Sub-titles for each course follow:

175m MODERN EDUCATIONAL PROBLEMS (General. Elementary Curriculum)

175n MODERN EDUCATIONAL PROBLEMS. (General Secondary Curriculum)

175o MODERN EDUCATIONAL PROBLEMS. (General Curriculum)

175p MODERN EDUCATIONAL PROBLEMS. (General Language Arts Problems)

175q MODERN EDUCATIONAL PROBLEMS. (Art Education)

175r MODERN EDUCATIONAL PROBLEMS. (Reading Problems)

175s MODERN EDUCATIONAL PROBLEMS. (Moral and Spiritual Values in Education)

175t MODERN EDUCATIONAL PROBLEMS. (Guidance)

175u MODERN EDUCATIONAL PROBLEMS. (General Social Studies Problems)

175v MODERN EDUCATIONAL PROBLEMS. (Vocational Education)

175w MODERN EDUCATIONAL PROBLEMS. (Testing Program Development)

175x MODERN EDUCATIONAL PROBLEMS. (General Development of School Philosophy)

175y MODERN EDUCATIONAL PROBLEMS. (Unclassified)

175z MODERN EDUCATIONAL PROBLEMS. (Unclassified)

176 THE JUNIOR HIGH SCHOOL. (3) Lurry
A study of the junior high school age pupil, the curriculum, current problems, and administration of the modern junior high school.

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 and Moore
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 Lurry and 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.

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 ea.) 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 ea.) 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.

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, dioramas, puppet shows, friezes, mural painting, map making, booklets, and colonial crafts.

42 TEACHING ARITHMETIC IN THE ELEMENTARY SCHOOL. (3) II — Boone and Fickes
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 Kuhn
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.

141 PROBLEMS IN DIAGNOSTIC AND REMEDIAL READING. (3) — Kuhn
Prevention, diagnosis, and corrective measures for reading difficulties. Study of investigations and literature in this field.

172 THE TEACHING OF READING. (3) II — Kuhn
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 — Staff
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 — Lusk and Sloan
A background of elementary science usable with children in the first six grades. Includes planning units of work, organizing and using materials and references, making bibliographies for teachers and children, use of illustrative materials, and excursions.

212 THE ELEMENTARY SCHOOL. (3) II — Moore, Lusk, and Kuhn
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 ea.) I, II — Duncan, Moore, Fickes, and Kuhn
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 — Staff
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 ea.) I, II — Duncan, Moore, Fickes, and Kuhn
An independent research course. Students confer individually with the instructor. *Prereq: One year of graduate work.*

DIVISION OF INSTRUCTION

Morris Cierley, Estelle Adams, Harold P. Adams, Grace Anderson, Olive Barrett, Anna Bruce Boone, Vivian Burke, Emmett Burkeen, Alma Carl, Dolores Cheek, May K. Duncan, Jess Gardner, Stella Gilb, Ruth Haines, Eugene Huff, R. D. Johnson, D. C. Kemper, Betty P. Lastinger, Howard Lusk, William McKenney, Lawrence Norris, Ruth S. Osborne, Anna B. Peck, Leon Porter, Helen M. Reed, Margaret Roser, Martha Shipman, Denver Sloan, Sara Thomas, Mary West, and J. W. Worrel.

107 SAFETY EDUCATION. (3) S — Gardner and Huff
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.

186 VISUAL TEACHING. (3) I, II, S — Tauffner
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.

224 ORGANIZATION AND SUPERVISION OF STUDENT TEACHING. (3) S — Cierley, Lusk, and Reed
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.

245 ORGANIZATION OF AUDIO-VISUAL AIDS. (3) II — Tauffner
Operation of an audio-visual program considering budgeting, training of personnel, duties of staff, sources of materials, and use of equipment. Previews are made of many audio-visual materials.

246 MOTION PICTURES IN EDUCATION. (3) — Tauffner
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 — Cierley and Burkeen
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.

Elementary Education

133 STUDENT TEACHING IN THE ELEMENTARY SCHOOL. (12) I, II, S — Lusk
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.

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.

249 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
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) Shipman
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 Shipman
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 Staff
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
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 Shipman
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.

159a-c STUDENT TEACHING IN SPECIAL EDUCATION. (3 ea.) I, II, S Reed and Staff
Supervised practice teaching in the use of special techniques used in working with individuals with exceptional education problems; speech handicapped, physically handicapped, visually retarded, hearing disability, mentally retarded, and the gifted.

169a, b STUDENT TEACHING IN PHYSICAL EDUCATION. (4, 4) I, II Gilb and Hutt
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 Cheek
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 H. Adams and Cierley
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 H. Adams, Cierley, Lurry, and Reed
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 H. Adams, Cierley, Lurry, and Reed
An independent research course. Students confer individually with the instructor.
Prereq: One year of graduate work.

DIVISION OF VOCATIONAL EDUCATION

Carsie Hammonds, W. Maurice Baker, Harold Binkley, Jeanne G. Callihan, Floyd Cox, Anna Gorman, William Judge, Carl Lamar, George Luster, Leonard C. McDowell, Ethel L. Parker, Evangeline Smith, J. P. Truitt, and Harlan Veal.

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, Lamar, 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, Lamar, 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, and Lamar
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
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
Class work (not individual-problem work) on modern problems in agricultural education.

287a ADVANCED PROBLEMS IN AGRICULTURAL EDUCATION. (3) I, II, S Staff
Specific problems selected according to the needs of the individuals.

287b SELECTING TEACHING MATERIALS. (3) S Luster
Selection of specific references and other teaching materials to be used in the teaching of vocational agriculture.

287c ADULT-FARMER SCHOOLS. (3) S Lamar
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 Binkley
Supervised farming as a method of teaching; standards, planning, supervision, and records.

287e TEACHING FARM SHOP. (3) S Cox
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 Cox
Content and method of teaching young-farmer courses in vocational agriculture.

289a, b RESEARCH IN AGRICULTURAL EDUCATION. (3, 3) I, II, S Staff
Individual problems of importance to agricultural education.

Distributive Education

112 DETERMINING TEACHING CONTENT IN DISTRIBUTIVE EDUCATION. (3) I, II, S Baker and McDowell
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 and McDowell
Problems in teaching vocational distributive education in day, part-time, and evening schools. The problems are selected in accordance with the needs and desires of the students. *Prereq: Ed. 112 and 128.*

116a, b PROBLEMS OF THE COORDINATOR IN INDUSTRIAL AND DISTRIBUTIVE EDUCATION. (2 ea.) I, II, S Baker and McDowell
A course for coordinators of Industrial and Distributive Education, including planning of local programs, use of advisory committees, selection and arrangement of teaching materials, and over-all planning and operation of the program.

128 TECHNIQUE OF TEACHING DISTRIBUTIVE EDUCATION. (3) I, II, S Baker and McDowell
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 Callihan and Parker
A study of methods of teaching as applied to home economics.

162 STUDENT TEACHING IN HOME ECONOMICS. (9) I, II Parker and Smith
Practical application of methods in teaching various phases of home economics. *Prereq: Ed. 160.*

165 ADULT EDUCATION IN HOME ECONOMICS. (3) I, II, S Callihan, Parker, and Smith
Problems in teaching vocational homemaking in day, part-time, and evening schools. *Prereq: Ed. 160; parallel 162.*

166a-d PROBLEMS IN HOME ECONOMICS EDUCATION. (3 ea.) S Parker and Smith
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 Staff
A course planned primarily to help prepare teacher-trainers and supervisors of home economics education. Prereq: Ed. 160 and 162; experience in teaching; *approval of instructor.*

263 CURRENT PROBLEMS IN HOME ECONOMICS EDUCATION. (3) II, S Parker and Smith
Recent developments in home economics education. *Prereq: Ed. 160 and 162; experience in teaching.*

264 MODERN TRENDS IN HOME ECONOMICS EDUCATION. (3) I, S Gorman and 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 ea.) I, II, S Gorman and 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 Gorman and Parker
Individual investigations and reports on special problems in home economics education.

267 DIRECTED SUPERVISION IN HOME ECONOMICS EDUCATION. (3) I, II Staff
This course includes practice in teaching for observation by others, student teaching, and school visiting. *Prereq: Two years of teaching experience and Ed. 261.*

268 HOME ECONOMICS CURRICULUM CONSTRUCTION. (3) S Gorman and Parker
A study of the underlying principles of curriculum building for junior and senior high school and adult education in home economics. *Prereq: Ed. 160 and 162.*

269 EVALUATION IN HOME ECONOMICS EDUCATION. (3) I, S Gorman and 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.

Industrial Education

71 TRADE ANALYSIS. (2) S Baker and McDowell
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 Baker and McDowell
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) Baker and McDowell
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 Baker and McDowell
Selecting and arranging course material in trade and industrial subjects. Preparation of instruction and check sheets with emphasis on their uses. *Prereq: Ed. 71.*

83 PRINCIPLES OF TRADE TEACHING. (2) I, II, S Baker and McDowell
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 Baker and McDowell
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 Baker and McDowell
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 Baker and McDowell
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 Baker and McDowell
The supervised study of approved problems in industrial education on a research basis.

143 MODERN INDUSTRIAL ANALYSIS. (2) I, II, S Baker and McDowell
Modern industrial organizations; trends in industrial educational policies; the proper approach to and analysis of these problems as they affect the industrial vocational teacher.

152 STUDENT TEACHING FOR INDUSTRIAL AND EDUCATIONAL TRAINING DIRECTORS. (9) I, II Baker and McDowell
Designed to give the student practical experience through observation, planning, teaching, and evaluating procedures.

171a, b PRINCIPLES AND PHILOSOPHY OF INDUSTRIAL EDUCATION. (2 ea.) I, II, S Baker and McDowell
A course planned primarily for the advanced student in industrial education. It covers the general philosophy of vocational education as it relates to the problems and principles of industrial education.

183a, b METHODS IN INDUSTRIAL EDUCATION. (2 ea.) I, II, S Baker and McDowell
The most approved methods in instructional management, including lesson planning, in the field of vocational industrial education.

190 ORGANIZATION AND OPERATION OF BUSINESS AND INDUSTRIAL EDUCATION PROGRAMS. (3) I, II, S Baker and McDowell
Training in the organization and operation of business and industrial education training programs, including theory and practice.

191a-f SUPERVISED WORK EXPERIENCE IN INDUSTRY OR BUSINESS. (3 ea.) I, II, S Baker and McDowell
For students planning for careers as vocational industrial educational training directors. Includes education and training practices under the supervision of college and plant personnel.

Vocational Education

211 THE ADMINISTRATION OF VOCATIONAL EDUCATION. (3) I, II Hammonds and Ginger
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 ea.) 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 L. Christian, Frank G. Coolsen, Merrill DeVoe, William W. Ecton, Herman A. Ellis, Carlos C. Erwin, Russell S. Grady, Herbert W. Hargreaves, Robert D. Haun, William W. Haynes, Margaret Bell Humphreys, Clyde Irwin, Martin L. King Homer C. Lewis, Robson Duncan McIntyre, David McMurtry, James Walter Martin, John T. Masten, Walter H. Pearce, Frank D. Peterson, Ralph R. Pickett, Robert H. Stroup, Rodman Sullivan, Ruth E. Thomas, and William Allen Tolman.

ECONOMICS

2 ECONOMIC HISTORY OF EUROPE. (3) I, II — Erwin
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 — Erwin
A brief sketch of economic life in the colonies, followed by a more detailed account of the national evolution in agriculture, manufacture, transportation, commerce, and finance. *Open only to freshmen and sophomores.*

4 RESOURCES AND INDUSTRIES. (3) I, II — Erwin
The economic factors which govern the utilization of world resources and the exchange of products.

7a, b PRINCIPLES OF ACCOUNTING. (4 ea.) 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.

40 PERSONAL AND FAMILY FINANCE. (2) I — Sullivan
Uses and abuses of credit, insurance on persons and property, investing what you save, wills, trusts, taxes, social security, buying versus renting, consumer information, wise buying.

51 PRINCIPLES OF ECONOMICS. (3) I, II — Hargreaves and others
An introductory course: The Theory of Income and Employment and Value Theory. *Not open to freshmen.*

52 PRINCIPLES OF ECONOMICS. (3) I, 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 — Tolman
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 and Stroup
Introduction to the sources of business data, the use of calculating machinery, tabulation, simple charts and graphs, the averages, dispersion, correlation, and the time series analysis.

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.*

112a-f INDIVIDUAL WORK IN ECONOMICS. (1 ea.) I, II — Staff
Students confer individually with the instructor.

115 VALUE AND DISTRIBUTION THEORY. (3) I — Sullivan
The major emphasis is on current theory.

124 STATE AND LOCAL TAXATION. (3) II — Martin
Classified property taxes; separation of sources of revenue; taxation of banks, forests, public utilities, mines, and rural and urban real estate; income, inheritance, and sales taxes.

125 EVOLUTION OF ECONOMIC INSTITUTIONS. (3) II — Erwin
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 — Erwin
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 — Ellis
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 — Ellis
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.*

150 ADVANCED BUSINESS AND ECONOMIC STATISTICS. (3) II — Christian
Advanced time series analysis, multiple and partial correlation, elementary analysis of variance and experimental design. *Prereq: Econ. 107.*

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 — Tolman
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 co-operation, 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.

179 COLLECTIVE BARGAINING. (2) II — Carter
The principles and procedures of bargaining and dispute settlement studied in detail. Includes a review of the content of labor contracts and provisions for administration. Union and management techniques are considered.

186 ECONOMIC RESEARCH. (3) II — Stroup
The sources, uses and application of statistical information in the analysis of economic problems. *Prereq: Econ. 52 and 107.*

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 ea.) 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 — Stroup
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 — Master
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 ea.) 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 ea.) 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 concur: 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 concur: 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 McMurtry
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 and King
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 King
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 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 Grady
Statements from incomplete data, comparative statements, partnerships, installment sales, consignments and agency and branch accounting. Application of funds statements. *Prereq: Commerce 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 co-ordinated body of accounting theory. *Prereq: Commerce 96b.*

109a, b BUSINESS LAW. (3 ea.) 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 116.*

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. 52.*

132a, b C.P.A. PROBLEMS. (3 ea.) 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.*

135 INTERNSHIP IN ACCOUNTING. (3) I, II — Haun
Students are placed with cooperating firms for on-the-job training in accounting. Written reports to be submitted by the firm and the student to the instructor. *Prerequisite: Junior standing and consent of instructor.*

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.

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 — Cooley
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 — Cooley
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. *Prereq: 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 — McMurtry
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 Thomas
Major emphasis is placed upon sources of data, compilation and arrangement of data, documentation, bibliographies, and effective presentation of reports. Problems will be assigned in the various areas of interest.

159 GOVERNMENTAL ACCOUNTING. (2) II Beals
The requirements of adequate accounting systems for various governmental units, including the recording of usual transactions and the form and content of reports. *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.*

170 CONTROLLERSHIP. (3) I Haun
The organizational position of the Comptroller, his functions and objectives; his methods and procedures.

171 STATISTICAL QUALITY CONTROL. (3) I Stroup
Elementary probability theory, control charts, acceptance sampling plans including single, double and sequential sampling.

172 SAMPLING TECHNIQUES. (3) II Stroup
Application of sampling theory and significance testing in economic research, practical problems in sample design.

175 PUBLIC UTILITY ACCOUNTING. (2) I Beals
Accounting problems peculiar to public utilities, especially as to (1) large investment in plant, (2) volume of transaction with customers and (3) accounting requirements of regulatory bodies.

177a COLLEGE BUSINESS MANAGEMENT. (2) S 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) S Peterson
Elements of personnel management, public relations, investments and finance as related to college business management.

177c COLLEGE BUSINESS MANAGEMENT. (2) S Peterson
Case problems in plant operation, purchasing, insurance, bookstore operation and legal aspects of college 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.*

231 INVESTMENT MANAGEMENT. (3) II Pickett
Evaluation of sources of information and advice concerning securities, methods of analysis and policies of individuals and institutions in the management of investment funds.

237 ADVANCED BUSINESS MANAGEMENT. (3) II Haynes
A functional study of business management. Control devices and procedures for carrying out and testing policies.

238 PRODUCTION MANAGEMENT. (3) I Haynes
A study of procedures and techniques employed in manufacturing plants. An analysis of actual cases in production planning and control, time and motion study, quality control, plant layout, and budgetary control. Visits to industrial plants.

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

Arthur C. Glasser 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 — Glasser
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 — Glasser
A continuation of Chemistry 101a. Lecture, one hour; lab, four hours. *Prereq: Chemistry 31a and 31b.*

102 BIOCHEMISTRY. (4) I, II — Glasser
A fundamental course in the chemistry and interrelationships of carbohydrates, lipids, and proteins, as well as the role of enzymes, vitamins, and hormones in physiological processes. Laboratory exercises parallel the lecture material. Lecture, three hours; lab, three hours. *Prereq: Chemistry 31b.*

103 DRUG ASSAY. (4) — Glasser
Modern methods of analysis of medicinal products including synthetic drugs, fixed and volatile oils, alkaloids, glycosides, vitamins, and enzymes. Laboratory exercises selected on basis of application to pharmaceutical products. Lecture, two hours: lab, six hours. *Prereq: Chemistry 33 and 102.*

104 CHEMISTRY OF MEDICINAL PRODUCTS. (3) II — Glasser
A study of the official and more important non-official medicinal agents with respect to their physical and chemical properties, relationships of chemical structure to physiological activity, as well as their potential incompatabilities. Lecture, three hours. *Prereq: Chemistry 102.*

PHARMACY

Charles T. Lesshafft, Jr., Oliver M. Littlejohn, and W. F. Rehberg.

21 THEORETICAL PHARMACY. (4) I, II — Lesshafft
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.

22 PHARMACY ORIENTATION. (2) I — Littlejohn
This course is designed to present the development of pharmacy, to point out the nature and place of pharmaceutical services in society and to emphasize the moral standards and professional conduct required of a pharmacist. Methods of studying pharmacy are also presented in this course. Lecture, two hours.

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* May be elected only by permission of instructor and with consent of the Dean. Hours to be arranged.

24a PHARMACEUTICAL PREPARATIONS. (4) I Rehberg
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.*

24b PHARMACEUTICAL PREPARATIONS. (4) II Rehberg
A continuation of Pharmacy 24a. Lecture, two hours; lab, six hours. *Prereq: Pharmacy 24a.*

26 PHARMACEUTICAL CALCULATIONS. (3) I, II Lesshafft
A systematic study of arithmetical problems encountered in pharmacy. Lecture, three hours.

31 DRUG STORE ACCOUNTING. (2) I Staff
A study of accounting procedures as applied to the retail drug store. Practice in selected problems. Lecture, two hours.

32 DRUG STORE RETAILING. (2) II Staff
A course in the principles of advertising, display, buying, selling, layout, stock control, and taxation as related to the retail drug store. Lecture, two hours.

35 PHARMACY LAW. (2) I, II Staff
A study of the federal, state, and local statutes, regulations, and administrative rulings regulating the practice of pharmacy. Lecture, two hours.

111a DISPENSING PHARMACY. (5) I Littlejohn
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, three hours; lab, four hours. *Prereq: Pharmacy 27.*

111b DISPENSING PHARMACY. (5) II Littlejohn
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, three hours; lab, four hours. *Prereq: Pharmacy 111a.*

122a MODERN THERAPEUTIC AGENTS. (3) I Rehberg
A comprehensive study of the newer drugs used in pharmacy. Their uses, chemistry and proprietary forms of administration are considered. Lecture, three hours. *Prereq: Pharmacy 29.*

122b MODERN THERAPEUTIC AGENTS. (3) II Rehberg
A continuation of Pharmacy 122a. Lecture, three hours. *Prereq: Pharmacy 122a.*

180 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, and Charles A. Walton.

11a PHYSIOLOGY AND PHARMACODYNAMICS. (4) I Walton
Basic human anatomy and physiology with primary emphasis on the functioning of the nervous, muscular, endocrine, excretory, respiratory, circulatory, digestive and reproductive systems, including principal anomalies of these systems and the pharmacodynamics of typical drugs. Lecture, three hours; lab, two hours.

11b PHYSIOLOGY AND PHARMACODYNAMICS. (4) II Walton
A continuation of MM 11a. Lecture, three 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 MM 27a. Lecture, two hours; lab, three hours. *Prereq: MM 27a.*

31a BIOLOGICAL PHARMACEUTICALS. (3) I Doughty
Primarily an introduction to general microbiology. Includes lecture and laboratory studies on morphology, physiology, cultivation, identification and influences of micro-organisms. Lecture, two hours; lab, two hours.

31b BIOLOGICAL PHARMACEUTICALS. (3) II Doughty
A continuation of Materia Medica 31a. Practical applications of microbiological techniques and principles as related to pharmacy and medicine. Special consideration is given Pathogenic organisms, biological products and antibiotics. Lecture, two hours; lab, two hours. *Prereq: MM 31a.*

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: MM 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: MM 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 or meetings through which such work is carried on are described in the following paragraphs.

AGRICULTURAL EXPERIMENT STATION

The Kentucky Agricultural Experiment Station, an institution for investigation and research, established September 25, 1885, functions in accordance with an act of Congress approved March 2, 1887, entitled, "An Act to establish Agricultural Experiment Stations, in connection with the Agricultural Colleges established in the several states under the provisions of an act approved July 2, 1862, and under the acts supplementary thereto," and an act of the Legislature of the State of Kentucky, approved February 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 farms, consisting of approximately 1,600 acres are located at Lexington. Two substations, one of 15,000 acres at Quicksand and the other of more than 600 acres at Princeton, and an experimental farm of 900 acres at Owenton, greatly facilitate investigations dealing with regional problems. In addition a 140-acre farm in Woodford County and a 400-acre farm in Mercer County are under long term lease and are being used for research that cannot be accommodated on the Lexington farm.

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. Extension specialists representing all departments, county agricultural and home demonstration extension 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.

AUDIO-VISUAL SERVICES

The University maintains 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. All campus classes are furnished with projection services without charge. Projection services are provided for clubs, and honorary and social groups on the campus at a nominal fee. Assistance is given 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 teaching 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 Research Commission, the Departments of Economic Development, Finance, and Revenue, and city and county governments, as well as for departments of the federal government.

BUREAU OF COMMUNITY SERVICE

The Bureau of Community Service in the Department of Sociology extends an advisory service for Kentucky communities, especially 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.

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.

CHILD GUIDANCE SERVICE

The Child Guidance Service offered at the University, through the cooperation of the United Community Services, 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 television, exhibits, films, and school contacts. All general, agricultural, and sports publicity of the University is supervised and directed by the Department of Public Relations. The office also has general supervision over the publishing of University catalogs, announcements, bulletins, and 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.

BUREAU OF SCHOOL SERVICE

This Bureau functions as the research and service 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.

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 Agricultural, Chemical, 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 in November, January, March, and May 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.

THE KENTUCKY STUDENT UNION

The Union is the community center of the University for all the members of the University family—students, faculty, administration, alumni, and guests. It is not just a building; it is also an organization and a program. Together they represent a well-considered plan for the community life of the University.

As the hearthstone of the University, the Union provides for the services the members of the University family need in their daily life on the campus and for getting to know and understand one another through informal association outside the classroom. These services include information desk, conducted tours of the building, lounges with newspapers and magazines; cafeteria, grill, and catering for groups using the ballroom, music room, and private dining rooms; check rooms, game room, conference rooms, barber shop, and public telephones.

The Union is part of the educational program of the college. As the center of University community life, it serves as a laboratory of citizenship, training students in social responsibility and for leadership. Through its various interest groups, board, and staff, it provides a cultural, social, and recreational program. In all its processes it encourages self-directed activity. Its goal is the development of persons as well as intellects.

Every student is automatically a member of the Union and may join an interest group by contacting the Office of Program Director, Room 122, Student Union Building.

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 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 University Extended Programs sponsors the Kentucky High School Speech League, the Kentucky High School Drama 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 Regional Festivals.

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 CENTER AND AUDIOLOGY CLINIC

The Department of Psychology operates a Speech Center and an Audiology Clinic. Diagnosis and corrective therapy is provided for children and adults with speech and hearing disorders, and training is offered in the techniques of speech correction and clinical audiology.

The services of the Speech Center and the Audiology Clinic are supported by the University of Kentucky, Lexington Junior League, Lexington Council of Jewish Women, Kentucky Society for Crippled Children, WHAS Crusade for Children and other interested persons and organizations.

UNIVERSITY AND EDUCATIONAL ARCHIVES

University and Educational Archives is the new title given to the collection of books, records, correspondence files and other archives assembled by Professor Ezra L Gillis, and to the work carried on under the title of *Bureau of Source Materials in Higher Education.* Emphasis is to be given to collecting, preserving and indexing official correspondence files, publications and archival material of the various colleges, departments, offices and organizations of the University of Kentucky. This office will continue to collect material on education in Kentucky.

UNIVERSITY PLACEMENT SERVICE

The University Placement Service assists seniors and graduate students in securing full-time employment; assists alumni interested in professional advancement; and assists agricultural agencies, business, industry, government, education, and the professions in securing qualified personnel.

Students and alumni may register by contacting the Director, Placement Service, Administration Building. This service is without cost to student or employer.

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 750,000 volumes. These libraries receive regularly some 5,000 periodicals and are a depository for all U. S. Government publications. In addition, all more significant official publications of the various states are received.

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

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

Adair, John Toomey, B.S., Assistant Chemist, Feed and Fertilizer
Adams, Estelle, M.A., Second Grade, University School
Adams, Esther N., M.A., Instructor in Education
Adams, Harold Plank, M.A., Ed.D., Associate Professor of Education; Assistant Director of the Bureau of School Service (On leave until September 1, 1958)
Adams, Hunter, Librarian, College of Pharmacy
Adams, Leslie Keene, LL.B., Supervisor of Electrical Engineering Laboratories
Adams, Staley Fields, M.S. in C.E., Associate Professor of Applied Mechanics
Adams, Willie Hughes, A.B., Assistant, Acquisition Department, University Library
Adler, Jacob Henry, M.A., Ph.D., Assistant Professor of English
Albright, Arnold DeWald, M.S., Ph.D., Professor of Education, Executive Dean of Extended Programs
Alderdice, Glenn Edward, B.S. in C.E., Instructor in Engineering Drawing
Alexander, Jess McFadden, M.A., Assistant Professor of Home Economics
Alexander, Tracy Douglas, B.S., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Allen, Harry Raymond, M.A., Chief Chemist in Charge of Fertilizer Analysis
Allen, Richard Sweetnam, M.S., Professor of Anatomy and Physiology, Head of the Department of Anatomy and Physiology
Allen, Stephen Quince, M.S., Extension Specialist in Agricultural Economics
Allison, Nathan Breckinridge, M.S., Ph.D., Professor of Electrical Engineering
Amyx, Thomas Clifford, M.A., Associate Professor of Art, Acting Head, Department of Art 1957-58
Anderson, Charles Arnold, M.A., Ph.D., Professor of Sociology
Anderson, Charles Herbert, Professor of Engineering Design, Special Assignment
Anderson, Grace, M.A., Assistant Professor of Education, English, University School
Apker, Ramona, M.A., Third Grade, University School (Resigned August 31, 1957)
Archdeacon, James William, M.S., Ph.D., Professor of Anatomy and Physiology
Armstrong, William Davis, B.S., Horticulturist
Arnsparger, William S., Jr., M.S., Lecturer in Physical Education
Ashley, Perry Jonathan, A.B.J., Part-time Instructor in Journalism
Atkinson, William Offutt, M.S., Assistant Agronomist
Averitt, Ruth, M.S. in Ed., Home Economics, Lafayette School
Back, Lyle Newton, B.S. in E.E., Instructor in Electrical Engineering
Bagby, William R., A.B., LL.B., Part-time Professor of Law
Bailey, Harry Hudson, M.S., Ph.D., Associate Professor of Soils, Associate Agronomist
Baker, Frank Hamon, M.S., Ph.D., Associate Professor of Animal Nutrition
Baker, Merl, M.S. in M.E., Ph.D., Part-time Professor of Mechanical Engineering; Director, Kentucky Research Foundation; Director, University Research and Industrial Relations
Baker, Shirley Marie, M.A., Part-time Instructor in English
Baker, Walter Maurice, M.A., Associate Professor of Education; Head of the Department of Distributive and Industrial Education
Ball, Jerry Weldon, M.M., Instructor in Music
Ball, John Charles, M.A., Ph.D., Assistant Professor of Sociology

Ball, William Blackwell, A.B., In Charge of Service Office, Agricultural Experiment Station
Barber, Harold John, Head Herdsman
Barber, William Jackson, M.S. in M.E., Associate Professor of Applied Mechanics
Barbour, Roger William, Ph.D., Associate 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., Extension Specialist in Dairying, Special Assignment
Barnett, Brinkley, B.M.E., Associate Professor of Electrical Engineering
Barnhart, Charles Elmer, M.S., Ph.D., Professor of Animal Husbandry, Animal Husbandman
Barnhart, Charles Raymond, M.A., Associate Professor of Art
Barrett, Olive, M.A. in Ed., Fifth Grade, University School
Barrows, John E., A.B., Graduate Assistant, Bureau of School Service (Resigned August 31, 1957)
Bartlett, Marian, M.S., Extension Specialist in Home Furnishings
Bastin, Garland Mixon, M.S., Extension Specialist in Dairying
Baugh, Lucy Gaines, B.S., Seed Analyst, Entomology and Botany
Baulch, Walter Monroe, B.S. in M.E., M.Ed., Instructor in Physics, Northern Center
Baxter, Luther Lee, Master Sergeant, U. S. Army, Instructor in Military Science and Tactics
Beals, Wendell Everett, M.B.A., C.P.A., Associate Professor of Accounting
Becker, Robert Louis, M.S., Ph.D., Assistant Professor of Physics
Beebe, Morris Wilson, M.S., Part-time Associate Professor of Metallurgical Engineering (Died May 5, 1957)
Beers, Howard Wayland, M.S., Ph.D., Professor of Sociology; Distinguished Professor of Rural Sociology; Head of the Departments of Sociology and Rural Sociology; Rural Sociologist; Director, Bureau of Community Service
Beggs, William Carrington, M.S., Part-time Instructor in Physics (Appointed through June 30, 1957)
Begin, John Joseph, M.S., Assistant Professor of Poultry Husbandry; Assistant Poultry Husbandman (On leave October 1, 1957 to July 31, 1958)
Begley, Carl Edward, M.A., Part-time Practicum Supervisor, Department of Psychology
Behlow, Robert Frank, D.V.M., Associate Professor of Veterinary Science, Associate Veterinarian
Bell, Jane Grier, M.A., Instructor in Physical Education (Appointed through June 30, 1957)
Bellamy, Virginia Nelle, M.A., Ph.D., Part-time Instructor in English
Best, Etta Wright, B.S., M.D., Part-time Assistant Professor of Clinical Pathology, Department of Bacteriology
Best, Harry, LL.B., M.A., Ph.D., LL.D., Professor of Sociology, Special Assignment
Biddle, Bruce Jesse, Ph.D., Assistant Professor of Sociology
Bigge, Adolph Edmund, M.A., Ph.D., Professor of German, Head of the Department of Modern Foreign Languages
Billings, Robert Keeler, M.A., Instructor in English
Binger, Norman Henry, M.A., Ph.D., Associate Professor of German (On leave 1957-58)
Binkley, Harold, M.S. in Ed., Ed.D., Assistant Professor of Agricultural Education

Binkley, Wendell Chester, M.S. in Agr., Assistant Professor of Agricultural Economics; Associate Economist and Extension Specialist in Cooperative Marketing
Black, Ben Wathen, M.A., Ph.D., Assistant Professor of English
Black, Rodney Elmer, M.S., Ph.D., Associate Professor of Chemistry (On leave 1957-58)
Black, Sarah Lorine, M.A., Instructor in English, Northern Center (Appointed through June 30, 1957)
Blackburn, Arnold, M.M., Associate Professor of Music
Blanton, Betty Gena, M.A., Instructor in Physical Education
Blanton, Richard, M.A., Ph.D., Associate Professor of Psychology
Blythe, David Knox, M.C.E., Professor of Civil Engineering; Head of the Department of Civil Engineering
Blyton, Gifford, M.A., Ph.D., Professor of Speech
Bohanon, Samuel Clifford, M.S., Agricultural Extension Chairman, Agricultural Programs
Bondurant, Charles O., B.S., Field Agent in Agricultural Economics
Bondurant, John Henry, M.S., Ph.D., Associate Professor of Agricultural Economics; Economist
Boone, Anna Bruce, M.A., Fourth Grade, University School
Borries, Frank Beale, Jr., M.A., Extension Specialist in Public Information
Bortner, Charles Eugene, M.S. in Agr., Agronomist
Bost, Howard L., B.B.A., M.A., Ph.D., Professor of Medical and Hospital Economics
Boughton, Bessie Mary, A.B., B.S. in L.S., Cataloger, University Library
Boughton, Roland Wallace, Colonel, U. S. Air Force, Professor of Air Science, Head of the Department of Air Science
Boush, G. Mallory, M.S., Associate Entomologist (Resigned March 23, 1957)
Boyarsky, Louis Lester, M.S., Ph.D., Associate Professor of Anatomy and Physiology (On leave 1957-58)
Boyd, Bobbie Lucille, M.A., Speech Therapist, Speech Center, Department of Psychology
Boyd, Leroy Huston, B.S., Assistant in Animal Husbandry
Boyd, Paul Prentice, M.A., Ph.D., LL.D., Professor of Mathematics, Special Assignment; Dean Emeritus, College of Arts and Sciences
Boyd, Ruth, M.A., Assistant Home Economist
Boyer, Rosemary Kent, A.B., Sales Manager, University Press
Bradford, Lawrence Allan, B.S. in Agr., M.S. in Ed., Professor of Farm Economics
Bradford, Marjorie, M.S., Assistant Professor of Home Economics
Bradley, Eugene Bradford, M.S. in E.E., Instructor in Electrical Engineering
Brady, George Keyports, M.A., Ph.D., Professor of English
Brandon, Alfred N., Th.B., M.S., M.A., Assistant Professor, College of Medicine, Medical Librarian
Brannon, John Burton, Jr., M.A., Hearing Therapist, Department of Psychology
Brauer, Alfred Charles, M.A., Ph.D., Professor of Zoology
Breckinridge, Charles E., B.S. in Pharm., Instructor in Pharmacy (On leave 1957-58)
Brewster, Hazeleen, B.S., Assistant Instructor in Home Economics (Resigned May 31, 1957)
Bricker, Robert Austin, B.Mus., M.A., Part-time Instructor in Music (Appointed through June 30, 1957)
Briggs, Wallace Neal, M.A., Assistant Professor of English; Director of Guignol Theatre

Brigham, Bruce Alvan, A.B., Captain U. S. Army, Assistant Professor of Military Science

Brockman, Fred, M.S., Extension Specialist in Young Adult Work

Brooker, Betty Jane, A.B., M.A.T., Instructor in Art, Northern Center

Brookover, Mary Ruth, M.A., Instructor in Mathematics, Ashland Center

Brooks, Jesse Byron, B.S. in Agr., M.S. in A.E., Associate Professor of Agricultural Engineering

Brooks, William Lee, A.B., Part-time Instructor in English (Resigned January 31, 1957)

Brown, Aubrey J., M.S. in Agr., Ph.D., Professor of Agricultural Marketing, Head of the Department of Agricultural Economics

Brown, James Stephen, M.A., Ph.D., Associate Professor of Rural Sociology; Associate Rural Sociologist

Brown, Joe Beckham, B.S. in Agr., Inspector, Creamery License Section

Brown, Leonard Doyle, M.S., Assistant in Dairying

Brown, Louis, M.A., Ph.D., Instructor in Psychology, Northern Center

Brown, Marion Clay, M.A., Assistant Professor of Mathematics

Brown, Willard Bruce, A.B., Part-time Instructor in Chemistry (Appointed through June 30, 1957)

Brown, William Randall, M.A., Ph.D., Professor of Geology

Browning, Wilmer, M.S., Extension Specialist in Economic Development

Brownlie, Annie Richmond, A.B., M.S., Assistant Professor of Home Economics

Bryan, Janet, B.S., Instructor in Home Economics, Northern Center

Bryan, Robert Armistead, M.A., Ph.D., Instructor in English (Appointed through June 30, 1957)

Bryans, John Thomas, M.S., Ph.D., Virologist, Animal Pathology

Bryant, James Russell, Technician in Agricultural Engineering

Bryant, Louise Barr, B.S., Technician in Dairying (Resigned June 10, 1957)

Bryant, Thomson Ripley, M.S. in Agr., Professor of Agricultural Extension, Special Assignment

Bryant, Vernon, B.S., Instructor in Commerce, Northern Center

Buchanan, Edward L., Mus.B., Instructor in Music, Ashland Center

Buck, Charles Frank, M.S., Ph.D., Assistant Professor of Animal Husbandry; Assistant Animal Husbandman

Buck, Robert John, M.A., Ph.D., Assistant Professor of Ancient Languages

Buckner, Garrett Davis, Ph.D., Research Chemist in Charge of Animal Nutrition Section, Special Assignment

Bucy, John L., B.S., Field Agent in Cream Grading

Buess, Charles Merton, M.S., Ph.D., Visiting Associate Professor of Chemistry (Appointed through August 31, 1957)

Bull, Cecil, M.A.L.S., Head Cataloger, College of Medicine Library

Bull, Jacqueline Page, A.B., Ph.D., Head Archives Department, University Library

Bundy, Molly Myles, M.A., Languages, University School (Resigned June 30, 1957)

Burberry, Roy Donald, B.S. in I.A., Instructor in Engineering Drawing

Burcham, Elden Glenn, M.S., Ph.D., Instructor in Zoology

Burk, Kenneth Winfield, M.A., Speech Therapist, Speech Center, Department of Psychology

Burke, Norman Kenton, Jr., B.S. in M.E., Instructor in Engineering Drawing (Resigned July 31, 1957)

Burke, Vivian, M.A. in Ed., Kindergarten, University School

Burkeen, Emmett D., M.A., Speech and Dramatics, University School

Burnett, Billie Moore, A.B., Assistant, Circulation Department, University Library
Burns, Barbara Lu, A.B., Instructor in English
Burns, Forrest Cyrus, A.B., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Burns, John Howard, M.A., Ph.D., Assistant Professor of Chemistry (Appointed through June 30, 1957)
Burroughs, Mary Collins, B.S., Extension Specialist in Home Furnishings (Resigned June 30, 1957)
Burt, Mary Finney, M.A., Instructor in English, Northern Center
Burton, William Robert, Master Sergeant, U. S. Army, Instructor in Military Science and Tactics
Butler, Ronald Wallace, A.B., Part-time Instructor in English (Appointed through June 30, 1957)
Bybee, Emma Wilson, M.S., Dictrict Leader, Home Demonstration Extension Agents
Byers, George Boyd, M.S. in Agr., Ph.D., Associate Professor of Agricultural Economics; Economist
Byers, Vincent Whitney, M.A., Audiologist, Audiology Clinic, Department of Psychology (Appointed through August 31, 1957)
Byron, William Monroe, A.B., Part-time Instructor in English (Appointed through June 30, 1957)
Caldwell, Lowry McReynolds, B.S. in Agr., Assistant Superintendent, Western Kentucky Experiment Sub-Station
Callahan, Steven Arnold, B.S. in Agr., Area Agent in Marketing
Callihan, Anne Worthington, A.B., Assistant Professor of Art, Special Assignment
Callihan, Jeanne Glazener, M.S., Instructor in Home Economics Education
Calvin, James Sutherland, M.A., Ph.D., Professor of Psychology, Head of the Department of Psychology
Campbell, Lois Jeannette, B.S., Ph.D., Instructor in Geology; Curator of Paleontology
Card, Dana George, M.S., Ph.D., Professor of Agricultural Economics; Economist
Carl, Alma V., M.A. in Ed., Seventh Grade, University School
Carothers, Zane Bland, M.A. in Ed., Ph.D., Instructor in Botany
Carpenter, Cecil Clayton, M.S., Ph.D., Professor of Economics; Dean of the College of Commerce
Carpenter, John Melvin, M.A., Ph.D., Professor of Zoology, Head of the Department of Zoology
Carr, James Donald, Staff Sergeant, U. S. Air Force, Instructor in Air Science (Transferred July, 1957)
Carr, Martha Geraldine, M.A., Ed.D., Professor of Physical Education
Carr, Slade, M.Ed., Administrative Assistant, Northern Center
Carr, Wilbert Lester, M.A., LL.D., Visiting Professor of Ancient Languages and Literatures
Carrell, William Joseph, C.E., Professor of Structural Engineering, Special Assignment
Carter, Lucian Hugh, M.A., Ph.D., Professor of Economics
Carter, Willis Merle, M.S. in M.E., Ph.D., Professor of Machine Design
Cass, Norma Beatrice, B.S., M.A. in L.S., Head of Reference Department, University Library
Cathey, Ted W., B.S. in Agr., Assistant in Animal Husbandry
Cetrulo, Robert, LL.B., Instructor in Political Science, Northern Center

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, Special Assignment
Chambers, Nancy, M.S., Cataloger, University Library
Chaplin, Carl Edward, M.S., Assistant Horticulturist
Chapman, Lucille, M.A., Ph.D., Instructor in History, Ashland Center
Chapman, Richard Alexander, Ph.D., Plant Pathologist
Cheek, Dolores, M.A., in Ed., Business Education, University School
Cheek, Frank Jacobs, Jr., A.B., C.E., M.S., Professor of Sanitary Engineering
Chenault, Joann R., M.A., Acting Director of Counseling
Christian, Virgil Langdon, Jr., M.S., Ph.D., Assistant Professor of Economics
Christopherson, Olaf Warren, A.B., LL.B., Major, U. S. Army, Assistant Professor of Military Science and Tactics
Cierley, Morris Berdyne, M.A., M.Ed., Ed.D., Director, University School; Chairman of the Division of Instruction
Clark, Carl McKinley, M.S., Assistant Professor of Agricultural Economics; Associate Economist
Clark, Harold Brown, Ph.D., Associate Professor of Agricultural Marketing; Assistant Economist in Agricultural Marketing
Clark, Iris Frances, M.S. in H.E., Assistant Professor of Home Economics
Clark, Thomas Dionysius, M.A., Ph.D., Litt.D., Distinguished Professor of History, Head of the Department of History
Clay, Maurice Alton, M.A., Ed.D., Assistant Professor of Education
Clemmons, Anne McAdams, M.S. in H.E., Assistant Professor of Home Economics
Clifton, Donald Fred, B.S. in Met.E., Assistant Professor of Metallurgical Engineering (Resigned September 16, 1957)
Clifton, Louis, M.A., Professor in University Extension, Professor of Education; Associate Dean Emeritus of Extended Programs (Died November 3, 1957)
Clore, Thomas Hornsby, B.S. in M.E., Research Assistant in the Department of Mechanical Engineering; Part-time Instructor in Mechanical Engineering (Resigned January 31, 1957)
Clotfelter, Elizabeth Ritter, M.A., State Documents Librarian
Coblin, William Granville, B.S. in C.E., Part-time Instructor in Architectural Engineering
Cochran, Lewis Wellington, M.S., Ph.D., Associate Professor of Physics; Acting Head of the Department of Physics 1957-58
Cogswell, Theodore Rose, M.A., Instructor in English (Resigned June 30, 1957)
Cohen, Dorothy, M.A., Ph.D., Instructor in English
Coleman, Amoss Lee, M.A., Ph.D., Associate Professor of Sociology; Associate Rural Sociologist
Collier, Blanton Long, M.A., Head Football Coach
Combs, Lois B., M.S., Instructor in Home Economics
Conder, Edward Lee, M.S., Technical Assistant, Agricultural Experiment Station (Resigned April 30, 1957)
Cone, Carl Bruce, M.A., Ph.D., Professor of History
Conforti, Joseph T., M.A., Graduate Assistant, Bureau of School Service
Cooke, Arthur Louis, M.A., Ph.D., Professor of English
Coolsen, Frank Gordon, M.S., Associate Professor of Marketing (On leave 1957-58)
Cooper, Mary Hester, M.A., Archivist, University and Educational Archives

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 (Died February 19, 1958)
Corcoran, Barbara Asenath, M.A., Instructor in English, Northern Center (Appointed through June 30, 1957)
Corder, George Delbert, M.S. in Agr., Extension Specialist in Soils
Cornelison, Joseph Boggs, M.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Cotter, Donald James, M.S., Ph.D., Assistant Professor of Horticulture; Assistant Horticulturist
Cougenour, Charles Milton, M.A., Ph.D., Associate Professor of Rural Sociology; Associate Rural Sociologist
Cowling, Vincent Frederick, M.A., Ph.D., Professor of Mathematics
Cox, Ben Walter, Laboratory Technician in Creamery License Section
Cox, Floyd, M.S. in Ed., Assistant Professor of Agricultural Education
Cox, Thomas Jewel, M.A., Sixth Grade, University School (Resigned August 31, 1957)
Crabb, Alfred Leland, Jr., M.A., Assistant Professor of English
Craig, Cecil, Jr., M.S., Instructor in Mathematics, Northern Center
Crawford, Thomas Jones, M.S., Geologist, Kentucky Geological Survey, Department of Geology
Criswell, James Ernest, M.S. in Agr., Assistant Professor of Agricultural Economics; Assistant Economist
Crouse, Charles Stevens, E.M., Professor of Metallurgical Engineering, Head of the Department of Mining and Metallurgical Engineering
Cruise, Margaret Bruce, M.A., Program Director
Cruickshank, Robert, M.A., Instructor in Physics, Ashland Center
Cuff, Noel Edwin, B.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Culberson, Gerald Wall, A.B., Part-time Instructor in English (Appointed through August 31, 1957)
Curtis, Fred Carl, M.S. in C.E., Assistant Professor of Engineering Research, Engineering Experiment Station
Cutler, John Levi, M.A., Ph.D., Associate Professor of English
Dailey, Henry Jackson, M.A. in Ed., Assistant Professor of Electrical Engineering
Dantzler, Lehre Livingston, M.A., Litt.D., Professor of Philology, Special Assignment
Dardis, John Gerard, M.A., Ph.D., Assistant Professor of Physics
Daugherty, David Martin, M.S., Registration Inspector, Feed and Fertilizer
Daugherty, William David, B.S. in C.E., Instructor in Civil Engineering
Davenport, Oscar Malcolm, M.S., Professor of Forestry; In Charge of Forestry Section
Davis, Allan, B.S. in Agr., Area Extension Agent in Poultry
Davis, John Lockhart, LL.B., Part-time Professor of Law
Davis, Keith, M.A., Graduate Assistant, Division of Administration and Supervision
Davis, Maurice M., Assistant Inspector, Feed and Fertilizer
Dawson, Lyle Ramsay, M.S., Ph.D., Distinguished Professor of Physical Chemistry, Head of the Department of Chemistry
Dawson, Thomas Larry, A.B., Part-time Instructor in Chemistry (Transferred to Research, June 30, 1957)

Day, Ollie Eugene, Master Sergeant, U. S. Air Force, Instructor in Air Science (Transferred September, 1957)
Dearinger, John Arthur, M.S. in C.E., Assistant Professor of Civil Engineering
DeBoer, Jesse, M.A., Ph.D., Professor of Philosophy
Deen, Encil, B.S. in Agr., Seed Technologist, Entomology and Botany
DeMarcus, Wendell Carden, M.S., Ph.D., Associate Professor of Physics
Denbo, Bruce Frederick, M.A., Director of University Press
Dennis, Jane Arterburn, B.S., Extension Specialist in Home Furnishings (Resigned December 15, 1957)
Derrickson, Charles Morton, B.S., Superintendent, Robinson Substation
DeVoe, Merrell, M.B.A., Ph.D., Visiting Professor of Marketing
Diachun, Stephen, M.S., Ph.D., Professor of Plant Pathology; Plant Pathologist
Dicken, John Columbus, B.S. in Agr., Assistant Agronomist
Dickerson, Roger William, Jr., B.S. in M.E., Part-time Instructor in Mechanical Engineering
Dickey, Frank Graves, M.A., Ed.D., President of the University
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 (Died April 5, 1957)
Dils, Robert J., B.S., Part-time Instructor in Chemistry, Ashland Center
Dimmick, Graham Bennett, M.A., Ph.D., Professor of Psychology
Distler, Raymond Jewel, B.S. in E.E., Instructor in Electrical Engineering
Dockery, Jack Donald, B.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Doll, Elvis Roger, M.A., D.V.M., Veterinarian, Agricultural Experiment Station
Doll, Eugene Carter, M.S., Ph.D., Associate Agronomist
Donohew, Robert Lewis, A.B. in Journ., News Editor, University Public Relations
Donohoe, John William, M.A., Instructor in Psychology
Donovan, Herman Lee, M.A., Ph.D., LL.D., Professor of History of Education; President Emeritus of the University
Dorsey, Richard Monroe, A.B., 1st Lieutenant, Air Force, Assistant Professor of Air Science
Doughty, Richard Morrison, M.A., Assistant Professor of Materia Medica
Dowd, Robert Thomas, B.S., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Downing, Harold Hardesty, B.C.E., M.S., Ph.D., Professor of Mathematics and Astronomy, Special Assignment
Drake, William Bright, M.S. in C.E., Part-time Lecturer in Highway Engineering
Drencho, Peter, B.S., Part-time Instructor in Chemistry (Transferred to Research, February, 1957)
Drennon, Herbert Neil, Ph.D., Associate Professor of Political Science
Drudge, Junior Harold, D.V.M., Sc.D., Parasitologist Animal Pathology
Duff, Mike, M.S., Coordinator of Special Extension Programs
Dugan, Frances Smith, A.B., B.S. in L.S., Associate Archivist
Dugdale, Richard Cooper, M.S., Ph.D., Instructor in Zoology
Dukeminier, Jesse J., A.B., LL.B., Professor of Law
Dunaway, Ann Lee, A.B., Part-time Instructor, University School
Duncan, Joseph G., M.A., Publications Editor, Agricultural Experiment Station and Agricultural Extension
Duncan, May Kenney, M.A., Professor of Elementary Education, Special Assignment

Duncan, Robert Carlisle, Jr., M.S., in Met.E., Supervisor of Metallurgical Engineering Laboratories
Duncan, Thomas Doris, A.B., Part-time Instructor in Journalism
Dunn, Charles E., B.S., LL.B., Instructor in Political Science, Northern Center
Dunn, Keller Johnson, M.A., Director of Evening Class Program and Workshops and Conferences, Extended Programs
Dunning, Mose West, Jr., M.S. in Agr., Field Agent in Cream Grading (Resigned July 31, 1957)
Dutt, Ray Horn, M.S., Ph.D., Associate Professor of Genetics; Associate Geneticist
Dysart, Marjorie May, M.A., Editorial Assistant, University Press
Eason, Marjorie Joe, Laboratory Technician, Agronomy
Eaton, William Clement, M.A., Ph.D., Professor of History (On leave 1957-58)
Eaves, James Clifton, M.A., Ph.D., Professor of Mathematics, Head of the Department of Mathematics and Astronomy
Eberhardt, Betty Gentry, A.B., Editorial Assistant, University Public Relations
Eckard, Robert LeRoy, Jr., B.S., Captain, U. S. Air Force, Assistant Professor of Air Science (Transferred August, 1957)
Eckel, Charles Howard, M.A., Ed.D., Associate Professor of Education
Ecton, William Wallace, B.S. in Com., Instructor in Commerce
Edens, Carneal, B.S., Part-time Instructor in Commerce, Northern Center
Edney, James Marion, M.S., Assistant Professor of Zoology
Edwards, Ogden Frazelle, M.S., Ph.D., Associate Professor of Bacteriology
Eff, Diana Pollack, A.B., Part-time Instructor in Mathematics
Eick, Harry Arthur, Ph.D., Assistant Professor of Chemistry (Appointed through June 30, 1957)
Elliott, James McCleland, B.S. in M.E., Instructor in Mechanical Engineering
Elliott, Kenneth Wiley, M.A., Editor of the University Press
Elliott, Norris Raymond, B.S. in Hort., Professor of Horticulture; Extension Specialist in Horticulture
Elliott, William J., M.A., Instructor in Chemistry, Northern Center
Ellis, Herman Adam, M.A., D.B.A., Associate Professor of Economics
Elsey, Edward Everett, M.E., Professor of Engineering Research
Elton, Charles Fowler, M.A., Ph.D., Part-time Associate Professor of Psychology; Part-time Associate Professor of Education; Dean of Admissions and Registrar
Emmert, Emery Myers, M.S., Ph.D., Professor of Horticulture; Horticulturist
Emmick, Lelgia Francis, B.S., Captain, U. S. Air Force, Assistant Professor of Air Science (Transferred September, 1957)
Emrath, Philip Cassily, E.M., Mining Engineer, Kentucky Contract Team, University of Indonesia, Bandung, Java
England, James Merton, M.A., Ph.D., Professor of History
Erikson, Statie Estelle, Ph.D., Distinguished Professor of Home Economics; Home Economist
Erwin, Carlos Clifton, M.S.A., Ph.D., Assistant Professor of Economics
Essene, Frank J., Ph.D., Professor of Anthropology; Head of the Department of Anthropology
Estes, Betsy Worth, M.A., Ph.D., Associate Professor of Psychology
Ethington, Doris, M.A., Instructor in Psychology, Extended Programs
Evans, Calvin Holroyd, M.A., Instructor in Modern Foreign Languages
Evans, Elden Ernest, A.B., Major, U. S. Army, Assistant Professor of Military Science and Tactics
Evans, Evelyn P., A.B., Serials Cataloger, University Library
Evans, Robert Owen, M.A., Ph.D., Assistant Professor of English

Everette, George A., B.S. in Agr., Extension Specialist in Tobacco
Fallis, Robert White, Assistant Agronomist
Fannin, Shirley Lou, B.S., Assistant Bacteriologist
Farmer, Merl Lee, M.S., Assistant Professor of Commerce, Northern Center
Farmer, Wilfred I., B.S., Extension Specialist in Fruit and Vegetable Marketing
Farquhar, Edward Franklin, M.A., Professor of Literature, Special Assignment
Farris, Elgan Brooks, C.E., Chief Engineer, Department of Maintenance and Operations
Farris, Jacob Duncan, M.A., M.D., Part-time Professor of Hygiene and Public Health; Physician, University Health Service
Faust, George Patterson, M.A., Ph.D., Professor of English
Fawal, Abraham Salem, M.A., Instructor in Radio Arts; Film Supervisor
Feltner, John Conrad, M.S., Field Agent in 4-H Extension Programs
Fergus, Ernest Newton, M.S., Ph.D., Professor of Farm Crops; Agronomist in Charge of Pastures and Forage Crop Investigations
Fickes, James Atlee, M.A., Ph.D., Associate Professor of Education
Field, Thomas Parry, M.A., Ph.D., Associate Professor of Geography
Fienup, Darrell Fisher, M.S., Ph.D., Assistant Professor of Agricultural Economics; Assistant Economist (Resigned February 15, 1957)
Finkner, Verne Clifford, M.S., Ph.D., Associate Agronomist; Associate Plant Pathologist
Fish, Ernest Ellsworth, M.S., Field Agent in 4-H Club Work
Fisher, Irving Sanborn, M.A., Ph.D., Associate Professor of Geology
Fitzgerald, Robert Bernard, M.M., Professor of Music; Head of Department of Music
Flint, John Torgny, M.A., Ph.D., Instructor in Sociology
Ford, Elizabeth Elliott, B.S., Technician, Animal Husbandry
Ford, Robert Harvey, B.S. in Agr., Extension Specialist in Radio and TV Information
Ford, Thomas Robert, M.A., Ph.D., Associate Professor of Sociology; Associate Rural Sociologist
Fort, Arthur W., M.S., Ph.D., Assistant Professor of Chemistry
Fortenberry, Blumie White, B.S. in Agr., Extension Specialist in Seed Improvement
Foster, Edward Francis, M.A., Ph.D., Instructor in English
Foster, James Douglas, M.S. in Agr., Inspector; In Charge of Creamery License Section
Freeman, Joe Frank, M.S. in Agr., Associate Agronomist
Freeman, Theodore Russell, M.S., Ph.D., Professor of Dairying; Dairy Technologist
Fuqua, Joe Eugene, M.S., Assistant Economist
Fuqua, John Benjamin, Chief Warrant Officer, U. S. Army, Adjutant, Department of Military Science and Tactics
Gail, Irving A., A.B., M.D., Diplomate, American Board of Psychiatry; Visiting Lecturer in Social Work
Gard, Oliver William, B.S. in M.E., M.S. in I.E., Associate Professor of Mechanical Engineering
Gardner, Jess, M.A., Social Sciences and Mathematics, University School
Gardner, John Samuel, M.A., M.S., Field Agent in Horticulture, Special Assignment
Garner, Jasper Henry Barkdoll, M.A., Ph.D., Instructor in Botany
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 Programs
Gault, Lelah Vaughn, B.S. in H.E., Assistant Chemist, Feed and Fertilizer
Gelber, Norman, M.A., Instructor in English
Gewertz, Joanna R., B.S., Part-time Instructor in Physical Education (Appointed through June 30, 1957)
Gibson, Norma Jean, A.B., Librarian, College of Education Library
Gifford, Chloe, LL.B., M.A., Assistant in Charge of Department of Community Services, Extended Programs
Gilb, Stella Spicer, B.P.E., M.A., Part-time Instructor in Physical Education; Physical Education, University School
Gildart, Lee William, M.S., Ph.D., Associate Professor of Physics
Gillett, Leone, B.S. in H.E., District Leader of Home Demonstration Agents
Gilliam, Richard Davenport, Jr., A.B., LL.B., Professor of Law
Gilliam, William D., Jr., M.A., Ph.D., Associate Professor of History
Gillis, Ezra L, A.B., Director, Bureau of Source Materials in Higher Education
Ginger, Lyman Vernon, M.A., Ed.D., Professor of Education; Dean of the College of Education
Ginocchio, Oleva Louise, Administrative Assistant, Special Assignment, Agricultural Experiment Station
Gipson, John Bennett, B.S., Captain, U. S. Air Force, Assistant Professor of Air Science
Gladden, James Walter, M.Ed., Ph.D., Professor of Sociology
Glasser, Arthur C., Ph.D., R.Ph., Associate Professor of Pharmaceutical Chemistry
Glenn, Wilburn Eldon, M.S., Ph.D., Assistant Professor of Dairying; Dairy Technologist
Godbey, Edsel, M.A., Graduate Assistant, Division of Foundations of Education
Godfrey, Erwina Edwards, M.A., Instructor in Political Science
Goforth, Alice Irene, A.B., Assistant Bacteriologist
Gooch, Ernest D., Jr., M.S. in Agr., Assistant Economist in Agricultural Marketing
Goodman, Adolph Winkler, M.A., Ph.D., Professor of Mathematics
Goodykoontz, William Francis, M.A., Ph.D., Instructor in English (Resigned August 31, 1957)
Gorman, Anna M., M.S., Assistant Professor of Home Economics Education, Acting Head of the Department of Home Economics Education
Gottschang, Jack, M.S., Ph.D., Instructor in Anatomy and Physiology, Northern Center
Graddy, Ivan Clay, M.S. in Agr., District Leader of Agricultural Extension Agents
Grady, Russell Shelby, M.S., C.P.A., Associate Professor of Accounting (Died January 6, 1958)
Gragg, Logan E., A.B., M.D., Psychiatric Consultant, Department of Psychology
Graham, James Hiram, C.E., Professor of Engineering, Special Assignment, Dean Emeritus of the College of Engineering
Grainger, Robert Ball, M.S. in Agr., Ph.D., Assistant Professor of Animal Nutrition; Assistant Nutritionist
Grant, Bruce, M.A., Part-time Instructor in Psychology, Ashland Center
Gray, William Arthur, B.S. in C.E., M.Arch., Part-time Assistant Professor of Architectural Engineering
Grebstein, Sheldon Norman, M.A., Ph.D., Assistant Professor of English
Green, Anne Guerrant, M.A., Assistant Professor of Art
Gregg, Lowell Edward, M.S.E., Part-time Lecturer, Soil Mechanics (Resigned August 31, 1957)

Griffin, Gerald Robin, LL.B., Teaching Associate, College of Law
Griffith, Robert Bell, M.S. in Agr., Ph.D., Agronomist
Grinninger, Lowell Don, B.S., Part-time Instructor in Chemistry (Transferred to Research, July 1, 1957)
Grove, Nancy Ann, B.S., Laboratory Technician
Grubbs, William Ewing, B.S., Colonel, U. S. Army, Professor of Military Science and Tactics, Head of the Department of Military Science and Tactics
Guenther, Ruth Margaret, M.A., Assistant Professor of Home Economics (On leave 1957-58)
Guide, Vincent Daniel Richard, First Lieutenant, U. S. Army, Assistant Professor of Military Science and Tactics
Gulley, Margaret Josephine, M.S. in H.E., Field Agent in 4-H Club Work Programs
Haak, Pearl Jones, B.S. in H.E., Extension Specialist in Foods (Retired August 31, 1957)
Hackensmith, Charles William, M.A., Ph.D., Professor of Physical Education
Hackfield, Bobby Joe, M.A., Part-time Instructor in Physics (Appointed through June 30, 1957)
Hager, Cornelius R., M.A., Director of Extension Class Program, Extended Programs
Haines, Ruth, M.A., Art, University School
Hall, Ann Bowman, A.B., Cataloger, University Library
Hall, Herbert Edom, M.S., Ph.D., Research Associate in Bacteriology
Halladay, Robert D., M.S., Instructor in Physics (Appointed through June 30, 1957)
Hallett, Paul Clifton, B.S. in E.E., Instructor in Electrical Engineering (Resigned January 31, 1958)
Hallock, Stuart Wendell, M.S., Instructor in Radio Arts; Production Supervisor
Halter, Albert, M.S., Ph.D., Assistant Professor of Agricultural Economics; Assistant Economist
Halyard, Camille Henderson, M.A., Assistant Professor of Radio Arts; Head of the Department of Radio Arts
Ham, Willburt Dunn, B.S., LL.M., Professor of Law
Hamilton, Holman, Ph.D., Associate Professor of History
Hamilton, James Lewis, M.S. in Agr., Assistant Agronomist
Hamilton, Orlie Durand, Laboratory Assistant in Animal Husbandry; Supervisor, Agricultural Sales Room
Hamilton, William Brooks, M.S., Ph.D., Professor of Hygiene and Public Health; Bacteriologist for University Health Service
Hammaker, Elwood Meacham, Ph.D., Associate Professor of Chemistry
Hammer, Carolyn Reading, A.B., B.S., Head, Acquisition Department, University Library
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., Director, Northern Center
Hansen, Viola Karen, M.S., Chairman of Home Economics, Extension Programs
Hanson, Mary Elizabeth, A.B., B.S. in L.S., Head of Serials Department, University Library
Hardin, Bobby Ott, B.S. in C.E., Instructor in Civil Engineering
Hargreaves, Herbert Walter, M.A., Ph.D., Professor of Economics
Harned, William Wallace, M.B.S., Assistant Professor of Economics (Resigned August 31, 1957)

Harris, Charles Edgar, B.S. in Agr., Extension Specialist in Poultry
Harris, Fred Earl, M.S., Ed.D., Professor of Elementary Education (Resigned August 31, 1957)
Harris, Leila Gott, M.A., Assistant Professor of English
Harrison, John Scovill, B.S. in Agr., Assistant Agronomist
Hart, Loring Edward, M.A., Ph.D., Instructor in English (Appointed through June 30, 1957)
Hart, Ruby Evans, M.A., Assistant in Charge of Department of Film Library, Audio-Visual Services, Extended Programs, College of Adult and Extension Education
Hartford, Donald Leroy, B.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Hartford, Ellis Ford, M.A., Ed.D., Professor of Education; Chairman of the Division of Foundations of Education
Harvard, Gertrude J., A.B., Head Resident of Boyd Hall
Haselden, Jane, M.A., Ph.D., Assistant Professor of Romance Languages
Hatch, Maurice Addison, M.A., Ph.D., Assistant Professor of English; Director of Freshman English
Hatfield, Albert Leon, B.S., Assistant Agronomist
Haun, Robert Dee, M.A., J.D., C.P.A., Professor of Accounting
Hauser, Robert Emanuel, B.S., Geologist, Kentucky Geological Survey, Department of Geology
Havens, James Hobart, A.B., Assistant Lecturer in Highway Engineering
Hawkins, Ora D., B.S., Farm Manager, Eden Shale Farm
Hawkins, Robert Dawson, M.E., M.S., Professor of Applied Mechanics; Head of the Department of General Engineering
Haynes, William Warren, M.B.A., D.C.S., Professor of Economics
Hazel, Robert, M.A., Visiting Lecturer in English
Hegeman, Daniel VanBrunt, M.A., Ph.D., Professor of German Language and Literature (Died May 28, 1957)
Heimer, Jackson Wendall, M.A., Instructor in English, Northern Center
Heinz, Wilbur August, M.S.P.H., Associate Professor of Hygiene and Public Health; Acting Head of Department of Hygiene and Public Health
Helton, Stella Elizabeth, M.S., Extension Specialist in Foods and Nutrition
Henning, Alda Martha, B.S., District Leader of Home Demonstration Agents
Henrickson, Carl Ernest, M.S., Ph.D., Associate Professor of Botany
Henry, Amanda Helen, B.S., Assistant in Animal Nutrition
Hensley, Claude Everett, B.S. in Agr., Nursery and Seed Inspector, Entomology and Botany
Henson, Lawrence, M.S. in Agr., Associate Agronomist; Associate Plant Pathologist
Hernandez, Juan Eduardo, M.A., Ph.D., Associate Professor of Romance Languages
Herndon, Charles Prestley, M.A., D.S.L., Part-time Instructor in Greek (Appointed through June 30, 1957)
Herron, James Watt, M.S., Ph.D., Associate Botanist, Horticulture and Agronomy
Heurtley, Richard Walter, Jr., M.A., Instructor in History (Appointed through June 30, 1957)
Hibbard, Marion Wallace, B.S., Extension Specialist in Sorghum Marketing (Resigned July 31, 1957)
Hickey, Barbara, A.B. in Journ., Associate News Editor, University Public Relations
Hicks, Donald Gail, B.S., Part-time Instructor in Chemistry (Appointed through June 30, 1957)

Hicks, Robert William, M.S., Assistant Professor of Animal Nutrition; Assistant in Animal Nutrition
Hill, Georgia Anderson, M.A., Part-time Instructor in English (Appointed through June 30, 1957)
Hite, Samuel Charles, B.S. in Ch.E., Ph.D., Professor of Chemical Engineering; Head of the Department of Chemical Engineering
Hobart, Jean Graham, M.S., Assistant Professor of Home Economics
Hoffmann, Clinton Kelly, C.E., Professor of Engineering Drawing
Holbrook, Norma, B.S., Assistant Chemist, Feed and Fertilizer
Holland, James Read, M.S. in Met.E., Assistant Professor of Metallurgical Engineering (On leave—Metallurgical and Administrative Assistant, Kentucky Contract Team University of Indonesia, Bandung, Java)
Holmes, Sarah Bennett, M.A., Dean of Women Emeritus, Special Assignment
Hood, Richard Fred, M.S., Instructor in Physics
Hopkins, James Franklin, M.A., Ph.D., Professor of History
Hopper, Ray Clifford, B.S. in Agr., Extension Specialist in Animal Husbandry
Horine, John Sherman, M.E., Professor of Engineering Drawing, Special Assignment
Horlacher, Levi Jackson, M.S., Professor of Animal Husbandry (On leave October 13, 1956-March 31, 1958)
Horne, James Grady, Jr., Ph.D., Assistant Professor of Mathematics
Horsfield, Margaret Bennett, M.A., Diplome d'Etudes, Francaises de l'Universite de Montpelier, Assistant Professor of Romance Languages, Special Assignment
Hotchkiss, Margaret, Ph.D., Professor of Bacteriology
Howard, Noel Judson, B.S. in Agr., Inspector, Feed and Fertilizer
Howell, Almonte Charles, Jr., M.A., Ph.D., Assistant Professor of Music
Howell, John Nathaniel, B.S., Assistant Field Agent in Poultry Improvement
Hoy, Louise, Ph.D., Part-time Instructor in English, Ashland Center
Hubbard, Jesse Young, Ph.C., LL.B., R.Ph., Instructor in Pharmacy Law
Huff, Eugene, M.A., Physical Education and Coach, University School
Hughes, Jesse Hopwood, A.B., B.S., Librarian, Ashland Center
Hulette, Neville Mastin, Inspector, Feed and Fertilizer
Hull, Floyd Edgar, D.V.M., Professor of Veterinary Science; Head of the Department of Animal Pathology
Humeston, Edward Judson, Jr., B.S. in L.S., M.A., Ph.D., Professor of Library Science, Head of the Department of Library Science
Humphrey, James Elliston, B.S. in Agr., Extension Specialist in Poultry
Humphrey, James Ellison, Jr., M.S. in C.E., Lecturer in Structural Engineering
Humphreys, Margaret Bell, M.A., Assistant Professor of Commerce
Humphries, James Charles, M.S., Ph.D., Professor of Bacteriology
Hunt, Russell Aubrey, M.S. in Agr., Extension Specialist in Tobacco
Hurst, Frank Selby, A.B., LL.B., Teaching Associate, College of Law
Hutcheson, Thomas Barksdale, Jr., M.S., Ph.D., Assistant Professor of Agronomy; Associate Agronomist
Hutchinson, Albert Herman, Jr., B.S., Lt. Colonel, U. S. Air Force, Assistant Professor of Air Science
Hutzler, Lillian Beatrice, M.S., Assistant Parasitologist, Animal Pathology
Ince, Frank Edward, B.S. in E.E., Electrical Engineer—Power and Machinery, Kentucky Contract Team, University of Indonesia, Bandung, Java
Insko, Wyatt Marion, Jr., M.S. in Agr., Professor of Poultry Husbandry, In Charge of Poultry Section
Irvan, William Guy, Jr., M.S. in C.E., Instructor in Civil Engineering (Resigned July 31, 1957)

Irvan, Helen Deiss, A.B., Part-time Editorial Assistant, University Press
Irvine, Jessie F., M.A., Practicum Supervisor, Department of Psychology
Irvine, Kate Tipton, B.S. in L.S., M.A., Head of Circulation Department, University Library
Irwin, Clyde, B.S., M.B.A., Instructor in Commerce
Ishida, Yoshio Garrick, B.S., Part-time Instructor in Chemistry (Transferred to Research, July, 1957)
Jack, Henry Howard, M.A., Ph.D., Instructor in Philosophy
Jackson, John Sterling, Jr., M.S. in E.E., Assistant Professor of Electrical Engineering
Jackson, Juanita, M.A. in L.S., Assistant Reference Librarian, University Library
Jacobs, Robert DuRene, M.A., Ph.D., Assistant Professor of English
Jacobson, Don Richardson, M.S., Ph.D., Assistant Professor of Dairying; Assistant Dairy Husbandman
Jansen, William Hugh, Ph.D., Associate Professor of English
Jasper, Letta Walters, B.S., Extension Specialist in Marketing and Consumer Education
Jenkins, George Henry, Jr., B.S., Extension Specialist in Agricultural Engineering
Jenkins, William, Jr., A.B., Assistant Coordinator for Indonesian Contract
Jenness, Phyllis, B.S. in Ed., Instructor in Music
Jennings, Walter Wilson, M.A., Ph.D., Professor of Economics, Special Assignment
Jensen, Harald Rudolph, M.S., Ph.D., Associate Professor of Agricultural Economics; Associate Economist (Resigned July 15, 1957)
Jewett, Howard Herman, M.A., Associate Entomologist, Special Assignment
Johnson, Bernard Mason, M.A., Assistant Professor of Physical Education
Johnson, Edward Marshall, Ph.D., Plant Pathologist
Johnson, James Henry, M.A., Instructor in Modern Foreign Languages
Johnson, John Lang, Ph.D., Acting Director, Bureau of Business Research (Resigned January 31, 1958)
Johnson, Orinne, B.S. in H.E., Extension Specialist in Press Information
Johnson, Raymon Dudley, M.A., in Ed., Ed.D., Associate Dean, Director of University Centers, Extended Programs
Johnson, Thomas H., B.S. in Agr., Technical Assistant, Animal Industry
Johnson, William, Instructor in Pharmaceutical Chemistry
Jokl, Erica M., M.P.E., Diploma Medical Gym, Therapist, Division of Rehabilitation, Department of Physical Education
Jokl, Ernst, M.D., Professor of Physical Education; Director, Division of Rehabilitation, Department of Physical Education
Jones, Daniel Jonathan, M.S., State Geologist, Kentucky Geological Survey, Department of Geology
Jones, John A., A.B., Insrutctor in English (Appointed through June 30, 1957)
Jones, Martha Jane, B.S., Extension Specialist in Home Furnishings (Resigned July 1, 1957)
Jones, Roger Walter, Superintendent, Robinson Experiment Substation, Quicksand, Kentucky, Special Assignment
Jones, Theodore Tolman, M.A., Ph.D., Professor of Ancient Languages, Special Assignment; Dean of Men Emeritus
Jones, William Joseph, B.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Judge, William, M.A. in Ed., Agriculture, Lafayette School

Kadaba, Pranad Krishna, M.S., Ph.D., Assistant Professor of Electrical Engineering (Resigned August 31, 1957)
Kammerer, Gladys Marie, M.A., Ph.D., Professor of Political Science
Kaplan, Sidney Joseph, M.A., Ph.D., Assistant Professor of Sociology
Karan, Pradyumna Prasad, M.A., Ph.D., Assistant Professor of Geography
Karp, Howard, B.Mus., Assistant Professor of Music
Karraker, Perry Elmer, M.A., Professor of Soils; Agronomist in Soil Technology, Special Assignment
Karsner, Milo Gist, M.S., Ph.D., Associate Professor of Physical Education
Katterjohn, Catherine Lynn, A.B., B.S. in L.S., Serials Cataloger, University Library
Kauffman, Earl, Jr., M.A., Ed.D., Professor of Physical Education (On leave 1957-58 and 1958-59)
Kavanaugh, George Richard, A.B., University Comptroller
Keenan, Boyd R., A.B. in Journ., Director of News Bureau, Department of Public Relations (On leave 1957-58)
Keller, Luther Howard, M.S., Assistant Economist in Agricultural Economics
Kelley, James Byron, B.S. in A.E., B.S. in M.E., Professor of Agricultural Engineering
Kelley, James Durratt, M.S., Ph.D., Assistant Horticulturist
Kelley, Royal Keith, M.S., Assistant District Leader in Agricultural Extension
Kemp, James Dillon, M.S., Ph.D., Associate Professor of Animal Husbandry; Associate Animal Husbandman
Kemper, Durbin Collins, M.A., Science, University School
Kemper, Katherine Hammack, A.B., Director, University Placement Service
Kendall, Thomas Alexander, M.E., Research Analyst in Department of Mining and Metallurgical Engineering
Kendall, William Alexander, M.S., Ph.D., Assistant Agronomist
Kennedy, Thomas Moore, A.B., Part-time Instructor in English (Appointed through June 30, 1957)
Kenney, Vincent Paul, M.S., Ph.D., Assistant Professor of Physics
Kerby, Clifford Franklin, A.B., Assistant Chemist, Feeds and Fertilizer (Resigned March 11, 1957)
Kern, Bernard Donald, M.S., Ph.D., Associate Professor of Physics (On leave 1957-58)
Kilpatrick, Elmer James, M.S. in Agr., District Leader of Agricultural Extension Agents
Kinard, Drayton Tucker, M.S., Ph.D., Professor of Agricultural Engineering, Head of the Department of Agricultural Engineering
King, Helen Galvin, A.B., Director of Alumni Affairs
King, James Ambrose, B.M., M.A., Assistant Professor of Music
King, Margaret Isadore, A.B., B.S., University Librarian, Special Assignment
King, Martin Lee, M.S., Assistant Professor of Economics (On leave 1957-58)
King, Wallace Lang, B.S. in Agr., Extension Specialist in Dairying
Kinney, Billie Jean, M.S., Assistant Professor of Home Economics (Resigned June 30, 1957)
Kinney, Edmund J., B.S. in Agr., Professor of Agronomy, Special Assignment
Kinney, Gordon James, M.M., Associate Professor of Music (On leave 1957-58)
Kirk, Roger, M.A., Ph.D., Instructor in Psychology, Northern Center
Kirwan, Albert Dennis, M.A., LL.B., Ph.D., Professor of History
Kitchen, Joseph M., B.S. in Pharm., Instructor in Pharmacy (Resigned June 30, 1957)
Kiviniemi, Aimo Justus, B.S. in Mus.Ed., M.A., Associate Professor of Music
Klauser, Herbert, Ph.D., Instructor in Modern Foreign Languages

Kline, Cernyw Kenneth, M.S., Extension Specialist in Agricultural Engineering
Knarr, Catherine, M.S., Extension Specialist in Home Management
Knauf, Robert, M.A., Instructor in Music, Northern Center
Knight, Herschel Oscar, B.S. in M.E., Instructor in Mechanical Engineering
Kodman, Francis, Jr., M.A., Ph.D., Assistant Professor of Psychology
Koppius, Otto Townsend, Ph.D., Professor of Physics
Kraehe, Enno Edward, M.A., Ph.D., Associate Professor of History
Krimm, Martin Christian, B.S. in E.E., Instructor in Electrical Engineering
Kuhn, Jeanne M., M.A., Ed.D., Assistant Professor of Education
Kuhn, Kenneth, A.B. in Journ., Sports Editor, Department of Public Relations
Kuiper, John, M.A., Professor of Philosophy, Head of the Department of Philosophy
Kupper, Cheryl, A.B., Instructor in English
Lacy, Edith, M.S., Field Agent in 4-H Club Extension Programs
Lafferty, James Francis, M.S. in M.E., Research Associate in the Wenner Gren Aeronautical Research Laboratory
Lamar, Carl, M.S., Ed.D., Assistant Professor of Agricultural Education
Lancaster, Harry Current, M.A., Assistant Basketball Coach; Lecturer, Department of Physical Education, First Semester, 1957-58
Land, George, Jr., M.S. in C.E., Assistant Professor of Applied Mechanics
Lange, Karl Otto, M.E., D.Eng., Professor of Mechanical Engineering; Associate Director, Engineering Experiment Station
Lanpher, Buel Franklin, Jr., M.A., Extension Specialist in Agricultural Economics
Larson, Robert Sherman, A.B., Colonel, U. S. Air Force, Professor of Air Science, Head of the Department of Air Science (Transferred July, 1957)
Lastinger, Betty P., M.A., Sixth Grade, University School
Latzke, Verna, M.S., Extension Specialist in Clothing
Lawrence, Daniel Long, A.B., Part-time Instructor in Anatomy and Physiology
Lecky, Emma Lou, A.B., M.S. in L.S., Assistant Professor of Library Science
Leggett, James Llewellyn, Jr., M.S. in C.E., Ph.D., Associate Professor of Civil Engineering (Resigned August 31, 1957)
Leland, Stanley Edward, Jr., M.S., Ph.D., Associate Parasitologist, Animal Pathology
Leonard, Lyle Brown, B.S. in Agr., Extension Specialist in Soil and Water Conservation
Leslie, Gary Randell, A.B., Assistant Chemist, Feed and Fertilizer
Lesshafft, Charles Thomas, Jr., B.S., R.Ph., M.S., Associate Professor of Pharmacy
Lester, George Ronald, A.B., Part-time Instructor in Chemistry (Transferred to Research, July, 1957)
Levin, Frank, M.A., Ph.D., Assistant Professor of Mathematics
Lewallen, William F., B.S., Assistant Dairy Technician
Lewis, Clyde, M.A., Director, Ashland Center
Lewis, Homer Collier, M.B.A., LL.B., Associate Professor of Commerce
Lewis, Lovaine Carol, M.A., Ed.D., Part-time Instructor in Physical Education
Lewis, Mildred Sinclair, B.S. in Mus., M.A., Professor of Music
Lewis, Thomas Proctor, LL.B., Assistant Professor of Law
Lickert, Gladys Maggard, M.A., Field Agent in Home Demonstration Work
Lickert, Raymond Henry, M.S. in Ed., District Leader of Agricultural Extension Agents
Link, Harold Forest, M.S. in Agr., District Leader of Agricultural Extension Agents

Link, Leo Aloysius, B.S. in Agr., Assistant Agronomist, Western Kentucky Experiment Substation
Linville, Dorothy C., A.B., Admissions Officer
Lisle, Rufus, LL.B., Part-time Professor of Law
Littlejohn, Oliver Marsilius, Ph.D., Professor of Pharmacy, Head of the Department of Pharmacy (Resigned June 30, 1957)
Litton, Christopher Columbus, M.S. in Agr., Assistant Agronomist
Lockyer, Charles, M.A., Ph.D., Assistant Professor of Economics, Bureau of Business Research
Loeffel, Frank Albert, Ph.D., Associate Professor of Agronomy; Associate Agronomist
Logan, Martha M., B.S., Extension Specialist in Marketing and Consumer Education (Resigned September 30, 1957)
Loptien, Nancy M., M.A., Instructor in Modern Foreign Languages, Northern Center
Lott, Albert J., M.A., Ph.D., Instructor in Psychology
Loudenslager, Ellen Whaley, M.A., Ph.D., Instructor in Psychology, Northern Center
Lowes, Ross Ellsworth, B.S., Graduate Assistant, Bureau of School Service
Lowry, Samuel Jechonias, B.S. in Agr., Superintendent, Western Kentucky Experiment Substation
Lunde, Robert Gerhard, M.A., Associate Professor of History
Lurty, Lucile L., M.S., Ph.D., Associate Professor of Education
Lusk, Howard D., M.A., Instructor in Education
Luster, George, M.S. in Ed., Ph.D., Assistant Professor of Agricultural Education
Lutz, Warren William, B.M., M.A., Assistant Professor of Music
McAninch, Daniel Arthur, M.M., D.M.A., Assistant Professor of Music
McBride, Malcolm Rhodes, M.A., Instructor in Speech
McCauley, Joseph Ardery, B.J., M.A. in Ed., Associate Professor of Journalism
McClellan, James Thomas, M.D., M.S., Part-time Associate Professor of Clinical Pathology, Department of Bacteriology
McClellan, Nancy T., A.B., Instructor in English, Ashland Center
McCloy, Shelby Thomas, A.B. (Oxon), Ph.D., Professor of History
McCollum, William Howard, M.S., Ph.D., Bacteriologist, Animal Pathology
McConnell, Jean Marie, M.A., Assistant in Charge of Music Activities in School and Community, College of Adult and Extension Education (Resigned July 26, 1957)
McCubbin, William Edward, M.A. in Ed., Ed.D., Assistant Professor of Physical Education
McDaniel, Alice Marrs, A.B. in Ed., Seed Analyst, Entomology and Botany
McDaniel, Ernest D., M.A., Ph.D., Director of Testing Service
McDowell, Agnes, A.B., Serials Librarian, College of Medicine
McDowell, Leonard C., M.A. in Ed., Instructor in Industrial Education
McDowell, Marion Sill, M.A., Assistant Professor of Home Economics (Resigned August 31, 1957)
McElhoe, Forest Lester, Jr., M.A., Ph.D., Instructor in Geography
McEllistrem, Marcus Thomas, M.S., Ph.D., Assistant Professor of Physics
McEwen, Alfred Buffin, M.S., LL.B., Professor of Law (Died June 22, 1957)
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
McFarland, Hubert W., Technician in Plant Pathology

McGrain, Preston, M.A., Assistant State Geologist, Kentucky Geological Survey, Department of Geology
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, Special Assignment
McIntyre, Robson Duncan, M.S. in Com., Professor of Marketing
McKenney, Garnett Jennings, B.S. in Agr., Field Agent in 4-H Extension Programs
McKenney, William A., M.A. in Ed., Music, University School
McLaughlin, Marguerite, A.B., Assistant Professor of Journalism, Special Assignment
McMakin, William Nelson, B.S., Assistant Agronomist
McMillin, Frederick Ansten, M.S., Visiting Professor of Geology
McMurtry, David Cornelius, M.A., Assistant Professor of Commerce
McNabb, Edgar, B.S., Part-time Instructor, University School (Resigned June 30, 1957)
McPherson, George, B.S. in Ed., M.S. in E.E., Assistant Professor of Electrical Engineering (Resigned August 31, 1956)
McQuown, O. Ruth, M.A., Part-time Instructor in Political Science; Research Associate, Bureau of Government Research, Department of Political Science
Macke, William Bernard, M.S., Geologist, Kentucky Geological Survey, Department of Geology (Resigned June 15, 1957)
Mackey, Everette, B.S., Extension Specialist in Egg Marketing
MacLaury. Donald Wayne, M.S., Poultry Husbandman
Maggard, Samuel Preston, B.S. in C.E., Instructor in Civil Engineering
Magill, Wilbur William, B.S. in Agr., Extension Specialist in Horticulture
Magruder, Evolyn, A.B., Administrative Assistant, College of Medicine
Magruder, Lucille, M.S., Assistant Professor of Home Economics; Assistant Home Economist
Mahaffey, Carvel Edwin, Jr., A.B., First Lieutenant, U.S. Air Force, Assistant Professor of Air Science
Mahan, Charles Alfred, M.S. in Agr., Administrative Assistant to Associate Director of Agricultural Extension
Mahan, Charles Donald, A.B., Part-time Instructor in English (Appointed through June 30, 1957)
Mahan, William Lloyd, B.S., Superintendent of Experiment Station Farms
Mainous, Joseph Edward, B.S., Part-time Instructor in Speech
Mandia, James William, M.S., Associate Bacteriologist, Animal Pathology
Maney, Charles Thomas, B.S. in E.E., M.S. in Phys., Professor of Electrical Engineering
Mangelsen, Fritz, Superintendent of Machine Shop
Manker, Charles C., M.R.E., Ph.D., Part-time Instructor, College of Education
Marlatt, Abby Lindsey, Ph.D., Professor of Home Economics, Director of School of Home Economics
Marlowe, George Albert, Jr., M.S., Ph.D., Extension Specialist in Horticulture
Marshall, Helen Rowena, Ph.D., Associate Professor of Home Economics, Home Economist
Marshall, Maurice Keith, B.S. in Ae.E., B.S. in M.E., Assistant Professor of Mechanical Engineering
Marshall, William I., B.S., Extension Specialist in Poultry Husbandry
Martin, Charles Perry, M.S., Instructor in Mathematics, Northern Center
Martin, Dudley Carl, Ph.D., Assistant Horticulturist
Martin, George Kenneth, M.S. in C.E., Assistant Professor of Engineering Drawing

Martin, James Henderson, Ph.G., Drug Chemist, Special Assignment
Martin, James Walter, M.A., Distinguished Professor of Economics; Director of Bureau of Business Research (On leave 1957-58)
Martin, Joseph Cephus, Master Sergeant, U. S. Air Force, Instructor in Air Science (Transferred July, 1957)
Martin, Laura Katherine, M.A., Associate Professor of Library Science
Martin, Leslie Leon, M.S., Ph.D., Part-time Associate Professor of Education; Dean of Men
Mason, Harry Louis, B.S. in M.E., Instructor in Mechanical Engineering
Massey, Herbert, M.S., Ph.D., Associate Professor of Soils; Agronomist
Massie, Ira Evan, B.S. in Agr., Extension Specialist in Tobacco
Massie, Joe Logan, M.A., Associate Professor of Economics
Masten, John Talbot, M.S., Ph.D., 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; Dean of the College of Law
Maxwell, Elmer Stephens, M.D., Part-time Professor of Clinical Pathology, Department of Bacteriology
Mayhew, Earl, B.S., Associate Rural Sociologist
Maynor, Hal Wharton, Jr., B.S. in Met.E., D.Engr., Associate Professor of Metallurgical Engineering
Meader, Arthur Lloyd, A.B., Assistant Chemist, Special Assignment
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; Acting Chairman of the Division of Administration and Supervision
Mellenbruch, Parl Leslie, M.A., Ph.D., Professor of Psychology
Melvin, William E., M.A., Ph.D., Instructor in History, Ashland Center
Melzer, John Henry, M.A., Ph.D., Associate Professor of Philosophy
Meyers, Ernest, M.A., Ph.D., Associate Professor of Psychology (Died July 20, 1957)
Midkiff, Valva C., M.S., Chemist, Feed and Fertilizer
Miles, James William, M.S., Ph.D., Professor of Pharmaceutical Chemistry, Head of the Department of Pharmaceutical Chemistry
Miller, Edna Caroline, M.Ed., Ed.D., Instructor in Education and in Modern Foreign Languages, Northern Center
Miller, Harold Franklin, B.S. in Agr., Extension Specialist in Soils
Miller, Richard Clarence, M.S. in Agr., Extension Specialist in Animal Husbandry
Miller, William Merrell, M.S., Laboratory Technician, Agricultural Experiment Station
Mills, Kermit, B.S., Extension Specialist in Agricultural Engineering
Mills, Robert Lee, M.A., Ed.D., Professor of Education; Dean of Admissions and Registrar (Resigned May 31, 1957)
Milton, Mary Page, A.B., University Recorder
Minton, Willard Hamilton, M.S., Assistant Economist, Agricultural Economics
Miracle, Chester, B.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Mitchell, John Richard, A.B., Assistant Professor of Chemistry, Special Assignment
Modrick, John Anthony, M.A., Ph.D., Assistant Professor of Psychology
Monroe, Jack Jagers, M.S., Ph.D., Practicum Supervisor, Department of Psychology

Montgomery, Ford McRae, M.M., Assistant Professor of Music
Moore, Arthur Keister, M.A., Ph.D., Professor of English
Moore, James T., Jr., M.A., Ed.D., Associate Professor of Education; Chairman of the Division of Curriculum
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 (Resigned April 30, 1957)
Moreland, Roy, A.B., LL.B., J.D., S.J.D., Professor of Law
Morgan, Coburn, B.S. in C.E., Part-time Instructor in Architectural Engineering
Morgan, John Woodro, Master Sergeant, U. S. Army, Instructor in Military Science and Tactics
Morgan, Thomas Eugene, M.S., Instructor in Engineering Drawing
Morrison, Henry Bartlett, M.S., Ph.D., Professor of Dairying; Dairy Technologist (Resigned June 30, 1957)
Morton, Margaret Eve, A.B., Seed Analyst, Entomology and Botany
Mory, Samuel Albert, Jr., C.E., Professor of Structural Engineering
Musselman, Vernon Armor, Ed.M., Ed.D., Professor of Education, Head of the Department of Business Education
Neel, Charles O., M.S. in Ed., Agriculture, Nicholasville High School
Nelson, Jack Lee, M.A., Instructor in English
Nelson, Vincent Edward, Ph.D., Professor of Geology
Nesius, Ernest Joseph, M.S. in Agr., Ph.D., Associate Director of Agricultural Extension Service
Newbury, Edward Lee, M.A., Assistant Professor of Psychology
Newell, Sally, B.S., Extension Specialist in 4-H and Utopia Clubs (Resigned September 15, 1957)
Newland, John S., A.B. in Journ., News Editor, Department of Public Relations (Resigned July 1, 1957)
Newman, Dewey Hobert, Jr., B.S., Assistant Chemist, Feed and Fertilizer
Newman, James, B.S., in Agr., Extension Specialist in Forestry
Nielson, Arnold Thor, Ph.D., Assistant Professor of Chemistry
Noback, Richardson K., B.S., M.D., Assistant Dean, College of Medicine
Noble, Milton, B.S., Forester, Robinson Experiment Substation
Norris, Lawrence Ray, M.A., Part-time Instructor in Music; Music, University School
Norris, Sarah Lucy, B.S., Assistant Bacteriologist, Animal Pathology
Nosow, Edmund, M.S., Geologist, Kentucky Geological Survey, Department of Geology
Oberst, Paul, A.B., LL.M., Professor of Law
Ogletree, James Robert, Jr., M.A., Ed.D., Associate Professor of Education
Olds, Durward, D.V.M., Professor of Dairy Husbandry; Dairy Husbandman
Olney, Albert Jackson, M.H., M.S., Professor of Horticulture, Head of the Department of Horticulture
Orr, Clyde, M.S., Graduate Assistant, Bureau of School Service
Osborne, Ruth Stallings, M.A., Music, University School
Overfield, James Ralph, M.S., Assistant in Animal Husbandry, Western Kentucky Substation
Palmer, Robert Thomas, A.B., Major, U. S. Air Force, Assistant Professor of Air Science
Papania, June, Seed Analyst, Entomology and Botany
Paris, Donald Gordon, B.S., Assistant in Agricultural Economics

Parker, Blaine Frank, M.S., Ph.D., Associate Professor of Agricultural Engineering; Associate Agricultural Engineer

Parker, Ethel Lee, M.A., Ph.D., Professor of Home Economics Education, Head of the Department of Home Economics Education (On leave 1958)

Parsons, Alton Ray, M.S., Assistant Professor of Animal Husbandry; Assistant Animal Husbandman

Partin, Robert Edwards, A.B., M.F.A., Instructor in Art (Appointed through June 30, 1957)

Patch, Nathaniel Maxwell, M.M., Professor of Music

Patterson, John Miles, Ph.D., Assistant Professor of Chemistry

Pattie, Frank Acklen, M.A., Ph.D., Professor of Psychology

Patton, Margaret, M.M., Instructor in Humanities, Northern Center

Peak, Bart Nixon, A.B., LIL.B., Executive Secretary, University Young Men's Christian Association (Resigned June 30, 1957)

Pearce, Walter Herman, M.A., Assistant Professor of Economics

Pearson, James Leslie, M.S., Assistant Economist, Agricultural Economics

Peck, Anna Browning, M.A., Assistant Professor of Education; Social Sciences, University School

Pelfrey, Charles Junior, M.A., Part-time Instructor in English (Appointed through June 30, 1957)

Pence, Sallie Elizabeth, M.A., Ph.D., Professor of Mathematics

Pendergrass, George Delbert, M.S., Extension Specialist in Animal Husbandry

Pendley, Laurence Chester, M.S. in C.E., Assistant Professor of Civil Engineering

Penner, Hellmut Phillip, Ph.D., Visiting Assistant Professor of Chemistry (Appointed through June 30, 1957)

Pennington, Carolyn, M.S., Head Resident of Boyd Hall

Penrod, Estel Burdell, M.S., M.M.E., Sc.D., Professor of Mechanical Engineering, Head of the Department of Mechanical Engineering

Perkins, James Robert, M.S., Assistant Professor of Dairy Husbandry; Assistant Dairy Husbandman (Transferred to Extension County Agent Section February 1, 1957)

Perry, Robert, M.M., Instructor in Music

Perry, William Henry, M.S., Part-time Instructor in Chemistry (Appointed through June 30, 1957)

Peterson, Frank Dewey, A.B., LL.D., Vice President (Business Administration)

Peyton, Jimmie Andre, A.B., Part-time Instructor in English (Appointed through June 30, 1957)

Phillips, B. Shirley, B.S. in Agr., Extension Specialist in Crops

Phillips, Carroll Davidson, M.S. in Agr., Ph.D., Economist in Agricultural Marketing

Pickett, Ralph Russell, M.A., Ph.D., Professor of Economics

Pierce, Harold Hunter, M.S. in Agr., Ph.D., Extension Specialist in Pastures (Resigned August 31, 1957)

Pignani, Tullio Joseph, Ph.D., Assistant Professor of Mathematics

Plarr, Robert Jacob, Captain, U. S. Army, Assistant Professor of Military Science and Tactics (Transferred July, 1957)

Plaunt, Darrel, B.S., Assistant in Agricultural Economics (Resigned September 26, 1957)

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

Porter, Leon, M.A., Mathematics, University School

Portmann, Victor Rowe, B.J., Assistant Professor of Journalism

Poundstone, Albert Bruce, M.S. in Agr., Head, Department of Feed and Fertilizer
Powers, Rickman, B.S., C.P.A., Part-time Instructor in Commerce, Northern Center
Press, Oscar Leonard, M.S., Assistant Professor of Radio Arts; Program Supervisor
Price, Hugh Bruce, M.A., Ph.D., Professor of Agricultural Economics; Acting Dean, College of Agriculture and Home Economics; Acting Director, Agricultural Experiment Station and Agricultural Extension Division
Price, Robert D., M.A., Ph.D., Instructor in Education, Northern Center
Price, Robert Newton, B.S. in Chem., Assistant Chemist, Feed and Fertilizer
Price, Vandilla, A.B. in H.E., District Leader of Home Demonstration Agents
Price, Walter Allen, M.S., Professor of Entomology, Special Assignment
Prindl, Frank Joseph, M.M., Assistant Professor of Music (Appointed through June 30, 1957)
Proffitt, Shelba Jean, A.B., Part-time Instructor in Chemistry
Prop, Walter Vincent, M.A., Instructor in Engineering Drawing
Proudfoot, Blenda, M.A., Area Coordinator, College of Education
Puckett, Russell Elwood, B.S. in E.E., Instructor in Electrical Engineering
Purcell, Kenneth, M.A., Ph.D., Part-time Assistant Professor of Psychology
Pyle, Ada Mary, B.S., Physical Education, University School
Query, Joy Marves, M.A., Part-time Instructor in Sociology (Appointed through May 31, 1957)
Quintar, Bady, M.S., Practicum Supervisor, Department of Psychology (Resigned January 31, 1957)
Rabin, Marvin J., A.B. in Ed., M.M., Associate Professor of Music
Rainey, Archie Bryan, M.A., Part-time Instructor in English; Technical Director of Guignol Theatre
Ralph, James Tyree, M.S., Assistant Professor of Agricultural Economics; Assistant Economist
Ramsay, Ralph John, M.A., Extension Specialist in Rural Sociology
Randall, Frank Hall, A.B., LL.B., S.J.D., Professor of Law, Special Assignment (Died January 10, 1958)
Rankin, Robert M., A.B., Instructor in Journalism, Northern Center
Rannells, Edward Warder, M.A., Professor of Art
Rasdall, Mackie, M.A., Director, Student Union Building
Rasor, Robert, M.D., Psychiatric Consultant, Department of Psychology (Resigned March 31, 1957)
Rea, John Alexander, M.A., Instructor in Modern Foreign Languages
Redman, John C., M.S. in Agr., Ph.D., Associate Professor of Agricultural Economics; Associate Economist
Reece, Alfred Marion, Jr., M.A., Assistant Professor of Physical Education; Swimming Coach
Reece, Kathryn Lay, B.S., Biological Sciences Librarian
Reed, Helen Miriam, M.A., Ed.D., Assistant Professor of Education
Reeves, John Estill, M.A., Assistant Professor of Political Science
Rehberg, William F., M.S. in Pharm., R.Ph., Assistant Professor of Pharmacy
Reichert, William Otto, M.A., Ph.D., Assistant Professor of Political Science
Renz, Russell Ray, M.A., Editorial Associate, Bureau of School Service
Requa, Robert Arthur, B.M., Part-time Instructor in Music (Appointed through June 30, 1957)
Rhodes, Ernest Lloyd, M.A., Instructor in English; Director of Laboratory Theatre
Richards, Harry Randolph, M.S., Assistant Agronomist

Richardson, James Russell, A.B., LL.M., Visiting Professor of Law
Rickey, Mary Ellen, M.A., Ph.D., Instructor in English
Riggs, William I., B.S., Instructor in Chemistry, Ashland Center
Riley, Herbert Parkes, M.A., Ph.D., Distinguished Professor of Botany, Head of the Department of Botany
Riley, Thomas L., M.S., Instructor in Agriculture, Northern Center
Ringo, Jessie Wilson, M.A., Assistant Professor of Home Economics
Ripy, Sarah Louise, M.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Roberts, John Bissell, M.S. in Agr., Assistant Professor of Agricultural Economics; Economist
Roberts, Thomas Glasdir, Ph.D., Assistant Professor of Geology
Roberts, William Lewis, M.A., J.D., S.J.D., Professor of Law, Special Assignment
Robertson, Benjamin Russell, M.S., Extension Specialist in Fruit and Vegetable Marketing
Robinson, Don Harry, M.B.A., Bursar-Recorder, College of Pharmacy; Instructor in Drug Store Management (Resigned June 30, 1957)
Robinson, Lolo Lemme, A.B., Assistant Professor of English; Associate Director of Guignol Theatre
Robinson, Robert Mercer, B.S., Captain, U.S. Army; Assistant Professor of Military Science and Tactics
Rodriguez, Juan Guadelupe, M.S., Ph.D., Assistant Professor of Agricultural Entomology; Associate Entomologist
Roelofs, Milton, M.A., Major, U.S. Air Force, Assistant Professor of Air Science
Rogers, Kenneth, M.S., Part-time Instructor in Physics (Appointed through June 30, 1957)
Roll, William Haydon, E.M., Assistant Professor of Mining Engineering
Romanowitz, Harry Alex, E.E., M.S., Ph.D., Professor of Electrical Engineering, Head of the Department of Electrical Engineering
Romer, James Joseph, B.S., First Lieutenant, U.S. Air Force, Assistant Professor of Air Science
Rose, William Drake, Jr., M.S., Geologist, Kentucky Geological Survey, Department of Geology
Rosenbloom, Joseph R., M.F.L., D.H.L., Rabbi, Part-time Instructor in Hebrew, Department of Ancient Languages
Roser, Margaret, M.A., Librarian, University School
Ross, Alan, M.S., Assistant Professor of Medical Statistics
Ross, James Pheane, M.S., Extension Specialist in Recreation
Roszell, Calvert Theodore, LL.B., Teaching Associate, College of Law
Routt, Wilson Morgan, B.S., Assistant Inspector, Feed and Fertilizer
Rowland, Rachel, B.S., Extension Specialist in Clothing (On leave October 1, 1957 through June 30, 1958)
Royster, Winberly Calvin, M.A., Ph.D., Assistant Professor of Mathematics
Rudd, Robert William, M.S. in Agr., Ph.D., Professor of Agricultural Economics; Associate Economist
Rudnick, Arthur William, Jr., M.S., Ph.D., Assistant Professor of Dairying; Superintendent of the Dairy Plant; Assistant Dairy Technologist
Rupp, Adolph Fred, M.A., Head Basketball Coach
Ruschell, George J., M.B.A., Accountant, Agricultural Experiment Station and Extension
Rust, Joseph William, B.S. in Agr., Instructor in Dairying; Superintendent of Dairy Center

Ryan, Joan Williams, B.S., Assistant Chemist, Feed and Fertilizer (Resigned January 18, 1957)
Ryen, Kob, M.A., Part-time Instructor in Physical Education; Assistant Professor of Animal Husbandry
Ryland, Lucian Hobart, M.A., Docteur de l'Universite', Professor of Romance Languages (On leave 1957-58)
Salmon, Dorothy, B.S. in Com., LL.B., Associate Professor of Law; Law Librarian
Sanders, Irwin Taylor, Ph.D., Distinguished Professor of Sociology; Rural Sociologist (On leave 1957-58)
Sanderson, Richard Arlo, A.B., Instructor in Radio Arts (Resigned August 31, 1957)
Saufley, Zack Church, M.S., Extension Specialist in Livestock Marketing
Saunders, Ruth Latimer, B.S., District Leader of Home Demonstration Extension Agents
Saylor, Dana Howard, B.S., Assistant in Animal Husbandry
Scheidenhelm, Elmer Christian, M.S., Extension Specialist in Dairying
Schenck, Melville Brownelle, Master Sergeant, U. S. Army, Instructor in Military Science and Tactics (Transferred November, 1957)
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
Schmalstieg, William Riegel, Ph.D., Assistant Professor of Modern Foreign Languages
Schmidt, Stephen Christopher, M.A., Assistant Economist (Resigned September 23, 1957)
Schmitz, Betty Lee, Instructor in Commerce, Northern Center
Schramm, Gene Moshe, M.A., Ph.D., Instructor in Semitic Languages and Literatures, Department of Ancient Languages and Literatures
Schroeder, Rudolph Alrud, Ph.D., Assistant Professor of Chemistry
Schwartz, Douglas Wright, Ph.D., Assistant Professor of Anthropology; Director of the Museum of Anthropology
Schwendeman, Joseph Raymond, M.A., Ph.D., Professor of Geography, Head of the Department of Geography
Scriba, Christoph J., M.A., Ph.D., Instructor in Mathematics
Sears, Paul Gregory, Ph.D., Assistant Professor of Chemistry (Resigned June 30, 1957)
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, M.S., Ph.D., Vice Director, Agricultural Experiment Station
Sebree, Kathryn Grant, M,S., Extension Specialist in Home Furnishings
Seickmann, Everett, M.S., Assistant Professor of Physics
Sellards, Henry Grady, B.S. in Agr., Extension Specialist in Animal Husbandry
Senter, Roderick J., M.A., Ph.D., Instructor in Psychology, Northern Center (Appointed through June 30, 1957)
Server, Alberta Wilson, M.A., Docteur de l'Université, Associate Professor of Romance Languages
Seward, Doris M., Ph.D., Dean of Women
Shane, James F., M.S. in Agr., Assistant Agronomist
Shannon, Jasper Berry, M.A., M.A., Ph.D., Professor of Political Science (Resigned August 31, 1957)

Shannon, John Francis, A.B., Research Assistant, College of Commerce
Shaver, Robert Ezekiel, C.E., Professor of Civil Engineering, Dean of the College of Engineering; Director of the Engineering Experiment Station
Shear, James Algan, M.S., Ph.D., Associate Professor of Geography (On leave 1957-58)
Shearer, Robert, M.S., Instructor in Zoology, Northern Center
Shedd, Oliver March, M.S., Chemist, Agronomy, Special Assignment
Sheets, David A., Director of Office of Machine Statistics
Shelton, Lilyan, Assistant in Marketing and Consumer Information
Shelton, Thelma Louise, M.S., Instructor in Physical Education, Northern Center
Sheng, Clement Chung-Yuan, B.S., Part-time Instructor in Physics (Appointed through August 31, 1957)
Shindelbower, Daniel, A.B., Graduate Assistant, Bureau of School Service
Shine, Hill, M.A., Ph.D., Professor of English
Shipman, Martha Virginia, M.A., Eighth Grade, University School
Shively, Bernie Armstead, M.A., Director of Intercollegiate Athletics
Shrader, John Aaron, M.S., Ph.C., Microscopist, Feed and Fertilizer
Shuffett, Dallas Milton, M.S., Assistant Professor of Agricultural Economics; Assistant Economist
Sigafus, Roy Edward, M.S., Ph.D., Associate Professor of Farm Crops
Simpson, Everett Coy, M.S., Assistant in Genetics, Animal Husbandry
Singer, Robert, D.V.M., Associate Chemist, Animal Pathology (Resigned April 30, 1957)
Singletary, Clyde C., M.S., Ph.D., Associate Horticulturist
Skerski, Gertrude Marie, M.S., Assistant Professor of Home Economics; Assistant Home Economist
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
Slavosky, Teresa, M.A., Instructor in English, Northern Center
Sloan, Denver, M.S., Ed.D., Director of School Services and Home Study Program, Extended Programs
Slone, Earl Platt, M.A., R.Ph., Dean of the College of Pharmacy
Smith, Charles Leland, M.A., Publications Editor, University Public Relations
Smith, Dale Metz, M.S., Ph.D., Assistant Professor of Botany
Smith, Eldon Dee, M.S., Ph.D., Associate Professor of Agricultural Economics; Associate Economist
Smith, Edward Mason, M.S., Associate Professor of Agricultural Engineering; Associate Agricultural Engineer
Smith, Emilie Varden, M.S. in L.S., Cataloger, University Library
Smith, Evangeline, M.A. in Ed., Instructor in Home Economics Education
Smith, Harry A., Instructor in Pharmacy Administration
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; Part-time Instructor in Journalism
Smith, Jessie Irene, M.A., Part-time Instructor in Journalism
Smith, John Harmon, B.S. in M.E., Part-time Instructor in Engineering Drawing
Smith, Stella Tilley, M.A., Ph.D., Instructor in English
Smith, Walter Thomas, Jr., Ph.D., Associate Professor of Chemistry
Snodgrass, Grace Lee, A.B., Librarian, Agricultural Experiment Station
Snow, Charles Ernest, M.A., Ph.D., Professor of Anthropology
Sorenson, Herbert, M.A., Ph.D., Distinguished Professor of Educational Psychology (On leave 1957-58)

Southerland, Charles R., B.S., C.P.A., Part-time Instructor in Commerce, Northern Center
Sowards, John B., A.B., Instructor in Speech, Ashland Center
Speck, Eldred C., M.A., Ph.D., Associate Professor of Commerce (Resigned August 31, 1957)
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., Ph.D., Professor of Mining Engineering
Sprague, Richard Howard, M.A., Instructor in Mathematics (Appointed through June 30, 1957)
Stacey, James Kermit, B.S., Area Extension Agent in Horticulture
Stallings, Frank, M.A., Graduate Assistant, Division of Administration and Supervision
Stanaland, Peggy, M.A., Instructor in Physical Education
Starke, Kurt Walter Ernst, Ph.D., Dr. phil. habil., Associate Professor of Chemistry
Starks, Kenneth, M.S., Ph.D., Assistant Professor of Agricultural Entomology; Assistant Entomologist
Steele, Dewey George, M.S., Ph.D., Professor of Genetics; In Charge of Genetics Section
Stein, Edwin Eugene, M.M., Ph.D., Professor of Music, Head of the Department of Music (Resigned June 30, 1957)
Steinbach, John Franklin, Ph.D., Assistant Professor of Chemistry
Sternbergs, Janis K., Master Class for Graphic Arts, Instructor in Art
Sterrett, James Reid, M.A., Ph.D., Associate Professor of Speech
Stewart, Margaret O'Brien, M.A., Instructor in English
Stewart, Olus Jesse, M.S., Ph.D., Professor of Analytical Chemistry, Special Assignment
Stewart, Orville Watson, B.S. in M.E., Assistant Professor of Mechanical Engineering; Research Engineer, Aeronautical Research Laboratory
Stinnett, Charles Dunn, M.A., Speech Therapist, Speech Center, Department of Psychology (Transferred to Research, July, 1957)
Stokes, Granville Woolman, M.S., Ph.D., Assistant Professor of Plant Pathology; Associate Plant Pathologist
Stokley, John Allen, M.S., Instructor in Geology (On leave 1957-58)
Stoll, Kenneth Edwin, B.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Storey, Margaret V., M.A., Director of Residence Halls for Women; Head Resident for Jewell Hall
Stout, Florence Offutt, Professor of Physical Education; Special Assignment
Straus, Robert, M.A., Ph.D., Professor of Medical Sociology
Street, William Paul, M.A., Ph.D., Associate Professor of Education; Director of the Bureau of School Service
Stroube, William Hugh, M.S., Ph.D., Associate Agronomist
Stroud, John William, M.S., Ph.D., Assistant Professor of Animal Nutrition; Animal Nutritionist
Stroup, Robert H., M.A., Ph.D., Associate Professor of Economics
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., Personnel and Training Officer, Agricultural Extension

Summers, Hollis Spurgeon, M.A., Ph.D., Associate Professor of English (On leave 1957-58)
Survant, William Gregory, M.S. in Agr., Ph.D., Professor of Soils
Sutton, Cecil C., Field Agent in 4-H Club Work
Sutton, Willis Anderson, Jr., M.A., Ph.D., Associate Professor of Sociology
Swift, Roy Erwin, M.S. in E.M., M.S. in Met.E., D.Eng., Professor of Metallurgical Engineering
Talbert, Charles G., M.A., Ph.D., Assistant Professor of History, Northern Center
Tapp, Hambleton, M.A., Ph.D., Part-time Assistant Professor of History; Director, Museum of Kentucky Life
Tate, Martha Lewis, A.B., Bursar-Recorder, Ashland Center
Tauffner, Gilbert, M.A., Ed.D., Director of Audio-Visual Services, Extended Programs
Taylor, Artie Lee, Reserve Book Librarian, University Library
Taylor, Elizabeth Ellis, A.B., M.A. in Ed., Instructor in Radio Arts; Student Coordinator WBKY
Taylor, Louise, A.B., Part-time Instructor in Mathematics, Ashland Center
Taylor, Norman Linn, M.S., Ph.D., Associate Agronomist
Taylor, Rhea Alec, M.A., Ph.D., Associate Professor of History; Executive Secretary, Department of History
Taylor, Roberta Seat, M.S., Assistant Professor of Home Economics
Taylor, Timothy H., M.S., Ph.D., Associate Agronomist
Teague, Joseph Grant, B.S. in M.E., Instructor in Mechanical Engineering
Teitsma, Arjen, B.S., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Templeton, William Chelcy, M.S., Associate Agronomist
Terrell, Daniel Voiers, C.E., D.Engr., Professor of Civil Engineering, Special Assignment; Dean Emeritus of the College of Engineering and formerly Director of the Engineering Experiment Station
Theobald, Beulah, M.A., Visiting Lecturer in Social Work
Thomas, Joseph Ellis, M.A., Instructor, University School
Thomas, Ruth Edith, M.A., Ph.D., Professor of Commerce
Thomas, Sara, M.A., First Grade, University School
Thompson, James Forrest, M.S., Assistant Professor of Agricultural Economics; Associate Economist
Thompson, Lawrence Sidney, M.A., Ph.D., Director of University Libraries
Threlkeld, Dorothy Elizabeth, B.S. in H.E., Extension Specialist in Clothing
Thurston, Richard, Ph.D., Assistant Professor of Agricultural Entomology; Associate Entomologist
Thursz, Frederick M., M.A., Instructor in Art
Tilson, Howard Gilbert, M.S. in Agr., Deputy State Entomologist; Inspector
Tincher, Wilbur A., Jr., M.A., Graduate Assistant, Bureau of School Service (Resigned July 31, 1957)
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; Head of the Department of Agricultural Entomology
Trabue, Marion Rex, M.A., Ph.D., Professor of Higher Education
Trimble, Ernest Greene, Ph.D., Professor of Political Science; Acting Head, Department of Political Science, 1957-58
Troutman, Edward Cowell, M.S., Extension Specialist in Dairying
Truitt, Jack Paschal, M.A., Agriculture, Lafayette High School

Tucker, Charles Elsey, M.S., M.P.H., Instructor in Public Health, College of Pharmacy
Tucker, Mark M., M.A., Assistant Professor of Education
Turner, Mildred S., A.B., Head Resident of Patterson Hall
Tuttle, John William, M.S. in Agr., Field Agent in Poultry Improvement
Tuttle, Margaret Hemsing, A.B., B.S. in L.S., Supervisor of Department and College 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
Vandenbosch, Amry, Ph.D., Distinguished Professor of Political Science, Head of the Department of Political Science (On leave 1957-58)
Vandiver, Wilma, A.B., District Leader of Home Demonstration Extension Agents
Van Horne, Robert Marion, M.Ed., Instructor in Education
Vanlandingham, Kenneth Earle, M.A., Ph.D., Associate Professor of Political Science
Varney, William York, M.S., Assistant Professor of Animal Husbandry; Assistant in Animal Husbandry
Vaughn, Erle Cleveland, A.B., Field Agent in Seed Improvement, Special Assignment
Vaughn, Joe Warren, A.B., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Veal, Harlan Hale, M.A., in Ed., Agriculture, Versailles High School
Veath, Marian S., B.S., Pharmacy Librarian
Vennes, Leon Angus, M.S., Associate Professor of Marketing; Extension Specialist in Agricultural Marketing
Viscaya, Isidro Canales, Visiting Assistant Professor of Geography
Voigt, Milton Arthur, M.A., Instructor in English
Vollmer, William Louis, B.S. in Pharm., Instructor in Manufacturing Pharmacy
Voorhies, Mary, A.B., Cataloger, University Library
Wachs, Elizabeth Faull, Technician in Animal Husbandry
Wagner, Stanley M., M.H.L., Rabbi, Part-time Instructor in Hebrew, Department of Ancient Languages and Literatures
Wagner, William Frederick, M.S., Ph.D., Associate Professor of Chemistry
Walker, Frank Haff, A.B., Geologist, Kentucky Geological Survey, Department of Geology (Resigned September 30, 1957)
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., Ed.D., Associate Dean of the College of Agriculture and Home Economics
Wallace, Allen Maxwell, M.S., Assistant Agronomist
Wallace, Jack Edward, M.A., Instructor in English
Walthall, Elizabeth Ann, M.A., Instructor in Biological Sciences, Ashland Center
Waltman, Clair Smith, M.S., Ph.D., Professor of Horticulture; Associate Horticulturist
Walton, Charles Anthony, M.S., Ph.D., R.Ph., Professor of Materia Medica, Head of the Department of Materia Medica
Walton, Warren Ware, Jr., M.S. in M.E., Associate Professor of Mechanical Engineering
Ward, William Smith, M.A., Ph.D., Professor of English, Head of the Department of English, Speech, and Dramatic Arts
Warnick, Betty Jane, M.A., Secretary, Northern Center

Warren, Betty Jean, B.S. in Com., Instructor in Commerce, Ashland Center
Warren, Lucille Echols, B.S., Extension Specialist in Foods
Watson, Walter Elbert, M.A., Ph.D., Part-time Lecturer in Psychology
Weaver, Ralph Holder, M.S., Ph.D., Professor of Bacteriology
Webb, Louise Gray, Librarian, College of Engineering, Special Assignment
Webb, Ross Allen, M.A., Ph.D., Assistant Professor of History, Northern Center
Webb, William Snyder, M.S., D.Sc., Distinguished Professor of Physics, Professor of Anthropology, Special Assignment
Webster, Gilbert Theodore, M.S., Ph.D., Head of the Department of Agronomy
Weeks, Frank Dodson, Jr., Captain, U. S. Army, Assistant Professor of Military Science and Tactics
Weinberg, Gerhard, M.A., Ph.D., Assistant Professor of History
Welch, Frank James, M.A., Dean of the College of Agriculture and Home Economics; Director of the Agricultural Experiment Station; Director of Agricultural Extension (On leave December 1, 1957 to November 30, 1958)
Wells, Claudia Ellis, M.S. in H.E., Assistant Professor of Home Economics; Assistant Home Economist
Wells, Dan Bascom, B.S., Part-time Instructor in Mathematics (Appointed through June 30, 1957)
Wells, John Bond, Jr., M.S., Instructor in Mathematics
West, Mary Lucille, M.A., Languages, University School, Special Assignment
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., M.S., Extension Specialist in 4-H and Utopia Club Work (On leave 1957-58)
Wheeler, John Albert, Sergeant, U. S. Army, Instructor in Military Science and Tactics
Wheeler, Otis R., B.S. in Agr., Assistant Inspector, Feed and Fertilizer
Wheeler, William Godfrey, A.B., LL.B., Instructor in Commerce, Ashland Center
Whitaker, McElwyn Dale, M.S., Assistant in Animal Husbandry
Whitaker, Paul Knowlton, M.A., Ph.D., Professor of German Language and Literature
White, Helen McMichael, B.S., District Leader of Home Demonstration Extension Agents (Retired February 28, 1957)
White, John Carlisle, M.S., Assistant in Poultry Husbandry
White, Martin Marshall, M.A., Ph.D., Professor of Psychology; Dean of the College of Arts and Sciences
Whitehead, Samuel Dewey, Inspector, Creamery License Section
Whiteside, Frederick William, Jr., A.B., LL.B., Professor of Law
Whittenberg, Harry William, B.S. in Agr., District Leader of Agricultural Extension Agents
Wichman, William Willis, B.S. in C.E., Part-time Instructor in Architectural Engineering (On leave—Architectural Engineer, Kentucky Contract Team, University of Indonesia, Bandung, Java)
Wiest, Edward, M.A., Ph.D., Professor of Economics, Special Assignment; Dean Emeritus of the College of Commerce
Wiggs, Robert Adolphus, M.F.A., Instructor in Art
Wightman, Ernest Thomas, M.S. in Agr., Associate Professor of Poultry Husbandry, Assistant Poultry Husbandman
Wightman, Mildred Reed, M.S., Assistant in Home Economics
Wild, Raymond Wesley, Ph.M., Director of Public Relations
Wiles, Mabel, Seed Analyst, Entomology and Botany

Willard, William Robert, B.S., M.D., Dr. P.H., Dean of the College of Medicine, Vice President in Charge of the Albert B. Chandler Medical Center
Williams, George Kenneth, A.B. in Ed., Part-time Instructor in Mathematics
Williams, Joe Brooks, M.S., Extension Specialist in Visual Aids
Williamson, Eugene Lacoste, Jr., M.A., Instructor in English
Williamson, Glynn Edward, B.S., Director in Charge of Creamery License Section
Wills, Glenn E., M.B.A., Part-time Assistant, Extended Programs
Wilmore, Helen Mildred, M.S. in H.E., Assistant Professor of Home Economics
Wilson, Constance Popeo, M.S. in Soc. Serv., Assistant Professor of Social Work
Wilson, Donald Dean, B.S., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Wilson, Goldie, M.A., Instructor in Commerce, Ashland Center
Wilson, William Clark, B.S. in Agr., District Leader of Agricultural Extension Agents (Retired December 31, 1957)
Wiseman, Ralph Franklin, M.S., Ph.D., Assistant Professor of Bacteriology
Withington, William Adriance, M.A., Ph.D., Assistant Professor of Geography
Wittrup, Richard D., M.B.A., Assistant Professor of Hospital Administration, Administrator, University Hospital
Wofford, Azile May, M.S., Associate Professor of Library Science
Woodrow, William, B.S., Extension Specialist in Fruit and Vegetable Marketing
Woods, Harry Pollard, B.S., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Wooldridge, Charles Bainbridge, A.B., B.S. in C.E., M.S., Assistant Professor of Applied Mechanics
Woolfolk, Patch G., M.S. in Agr., Ph.D., Professor of Animal Husbandry, Animal Husbandman
Worrel, John William, B.S. in Mus., M.A., Ed.D., Assistant Professor of Music
Wright, George Thaddeus, M.A., Ph.D., Instructor in English
Wright, Kenneth Richard, M.A., Ph.D., Professor of Music
Wyant, Zae Northrup, M.H.E., M.A., Technician, Animal Pathology
Wyatt, Charles Early, B.S. in Agr., Area Extension Agent in Agronomy
Yost, Francis Lorraine, M.S., Ph.D., Professor of Physics, Head of the Department of Physics
Yiannos, Christ N., M.S., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Yoshida, Noble Hajime, A.B., Part-time Instructor in Chemistry (Appointed through June 30, 1957)
Young, Earl Robert, M.S. in A.E., Associate Professor of Agricultural Engineering
Young, James Neal, M.S. in Agr., Instructor in Rural Sociology; Assistant in Rural Sociology (Resigned January 22, 1957)
Zinn, Mary Mann, B.S., Assistant in Home Economics
Zichefoose, Guy, M.C.S., Auditor and Inspector, Feed and Fertilizer

OFFICE ORGANIZATION AND PERSONNEL

OFFICE OF THE PRESIDENT

Frank Graves Dickey, M.A., Ed.D., LL.D., President of the University
Herman Lee Donovan, M.A., Ph.D., LL.D., President Emeritus of the University
Anne Lewis Wilson, B.S. in Com., Secretary
Frances Carr Kratt, A.B., Assistant Secretary

OFFICE OF THE VICE PRESIDENT

Leo M. Chamberlain, M.A., Ph.D., LL.D., Vice President of the University
Ethel Smoot Wyatt, A.B., Secretary
Ann M. Wiemann, B.S., Stenographer

OFFICE OF THE VICE PRESIDENT, BUSINESS ADMINISTRATION

Frank Dewey Peterson, A.B., LL.D., Vice President
George Richard Kavanaugh, A.B., Comptroller
Betty Jo Palmer, A.B., Secretary

OFFICE OF THE DEAN OF ADMISSIONS AND REGISTRAR

Charles F. Elton, M.A., Ph.D., Dean of Admissions and Registrar
Maple Moores, Assistant Registrar
Dorothy Linville, A.B., Admissions Officer
Mary Page Milton, A.B., Recorder
Sarah A. Utterback, M.A., Assistant Admissions Officer
Helene K. Davis, A.B., Assistant Admissions Officer
Patricia Ann Gray, A.B. in Ed., Assistant Recorder
Betty Jo Bussell, Admissions Clerk
Rae Carter, Recording Clerk
Tillie Dampier Conn, Recording Clerk
Mary Frances Flege, Recording Clerk
Emma Jane Graves, A.B., Admissions Clerk
Patricia F. Hazen, Admissions Clerk
Kathryne W. Shelburne, Secretary to the Registrar
Gladys White, Transcript Clerk
Mary Grace Woodyard, Stenographer

COUNSELING SERVICE

Joann R. Chenault, M.A., Acting Director of Counseling 1957-58
George William Mallow, M.A., Counselor
Robert C. White, B.S., Assistant for Veterans' Affairs
Nancy Blanche Dennis, Clerk
Madge Kendall Myers, Secretary
Peggy S. Paxton, Secretary
Nancy Ann Radford, Secretary

TESTING SERVICE

Ernest D. McDaniel, M.A., Ph.D., Director of Testing Service
Mary Sue Forenback, Secretary
Alice Roe, Testing Clerk
Bettie Louise Nollau, A.B., Testing Clerk
Eugene Drucker, B.S., Graduate Assistant

OFFICE OF THE DEAN OF MEN

Leslie Leon Martin, M.S., Ph.D., Dean of Men
John R. Proffitt, A.B., Assistant to the Dean of Men
Helen I. Adams, Secretary
Esther D. McChesney, Secretary
Betty Jo Nichols, Secretary
Hilma L. Eaves, Student Government Association Secretary

OFFICE OF THE DEAN OF WOMEN

Doris M. Seward, Ph.D., Dean of Women
Sarah Bennett Holmes, M.A., Dean of Women Emeritus
Sharon K. Miller, M.A., Assistant to the Dean of Women
Davis L. Gardner, M.A., Assistant to the Dean of Women
Margaret Bruce Cruise, M.A., Program Director
Joyce Laase, B.S., Y.W.C.A. Executive Director
Doris W. Anderson, Secretary of Housing
Betsy P. Richardson, B.S., Secretary

RESIDENCE HALLS FOR MEN

Robert W. Blakeman, B.S., Director of Men's Housing
Dorothy A. Martin, Social Director
Edna Yellman, Hostess
Laverne J. Gibson, Secretary
Samuel W. Dry, M.A., Director of Donovan Hall
Patricia Nation, Secretary

Fraternity Housemothers

Viola Longabaugh, Alpha Gamma Rho
Mary Moss, Alpha Sigma Phi
Catherine Caskey, Alpha Tau Omega
Ethel B. Fish, Delta Tau Delta
Josephine R. Urmston, Farm House
Glennie Johnson, Kappa Alpha
Emily V. Sellers, Kappa Sigma
Dorothy B. Webb, Lambda Chi Alpha
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