BULLETIN

University of Kentucky

Graduate School
1933-34

JULY, 1933

C

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THE GRADUATE SCHOOL

WILLIAM D. FUNKHOUSER, A. M., Ph. D., Sc. D., Dean

INTRODUCTORY STATEMENT

Graduate work is offered in all colleges in the University. Approximately three hundred courses are listed in the catalogue, under the various departments, which are accepted for graduate credit.

The following advanced degrees are conferred by the University: Master of Arts, Master of Science, Master of Science in Agriculture, Master of Science in Home Economics, Civil Engineer, Mechanical Engineer, Electrical Engineer, Metallurgical Engineer, Mining Engineer.

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

ADMISSION TO GRADUATE STANDING

Graduates of institutions accredited by the University may be admitted to the Graduate School upon the presentation of a certificate of graduation and an official transcript of undergraduate courses taken. The status of the institution is to be ascertained from the Registrar of the University. Graduates from non-accredited institutions are encouraged to secure a bachelor's degree from an accredited institution. In particular cases they may be admitted to the Graduate School on the basis of doing additional work before being admitted to full graduate status.

It should be clearly understood that admission to the Graduate School does not necessarily admit a student to full graduate status. A student only attains full graduate status when he has fulfilled all the preliminary requirements of the degree which he seeks and of the department under whose direction he is pursuing graduate work.

Department prerequisites are determined jointly by the Dean of the Graduate School and the respective departments. In brief, it may be stated that such prerequisites usually consist of the equivalent of an undergraduate major. In some fields, the equivalent of an undergraduate minor is sufficient.

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 at this institution.

REGISTRATION

The first step in the procedure for admission to the Graduate

School is the filing of a formal application with the Registrar on a form prepared for that purpose. Applicants from institutions other than this University are also required to file an official transcript showing (a) all undergraduate work covered, (b) graduate work taken, if any, and (c) degrees received.

If the record submitted to the Registrar entitled him to admission he should confer with the Dean of the Graduate School and his major professor concerning preliminary requirements that he may have to satisfy and as to the graduate courses that he should take.

Preliminary requirements may be added from time to time as found necessary and all such requirements, together with graduate courses, must be recorded in the Registrar's Office and must be satisfied by the student before he is eligible for the degree for which he is registered.

All courses listed in this bulletin, and all courses which may appear later in the regular University catalogue, which have numbers above 100, may be counted as credit towards a graduate degree. A grade of D in a course will not be given graduate credit.

FEES

Registration and laboratory fees are the same as for undergraduate students in the college in which the major work is done, that is, $47.00 for residents of Kentucky; $60.000 for non-residents. This does not include laboratory fees.

Before the advanced degree is conferred, a fee of fifteen dollars must be paid at the Business Office of the University. This covers the graduation fee, diploma fee, fee for binding thesis and all other incidental fees.

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

Students, having completed the equivalent of an A. B. or B. S. degree from an accredited liberal arts college or a standard teachers' college, may become candidates for the degree of master of arts or master of science.

Two plans are provided for satisfying the requirements for a master's degree, as follows:

1. Twenty-four credits in graduate courses exclusive of the thesis, one academic year (36 weeks) in residence, and an acceptable thesis.
2. At the option of a department (not of the student) the master's degree may be granted for the completion of forty-five credits in graduate courses with an average standing of B or better, three semesters (54 weeks) in residence, and no requirements of a thesis.

CREDITS

The credits (semester hours) may not include credits received in

a thesis course. All of the work may be done in one field but it should preferably be done in a major subject and one or two minors. At least half of the work must be taken in major courses.

RESIDENCE

The residence requirements may be fulfilled by any combination of regular semester or summer school sessions which total the required number of weeks. This does not mean that the work prescribed for each individual student can always be completed in the minimum length of time. Inadequate preparation or assistance in departments very frequently makes a longer period necessary. Part-time work during a regular semester is evaluated on the basis of the amount of work carried.

The transfer of acceptable graduate credits from other institutions or of other work done *in absentia*, such as writing a thesis under the direction of the major professor, cannot reduce the standard residence requirements.

THESIS

If a thesis is submitted, two typewritten copies of the completed thesis must be presented not later than three weeks before the time set for the oral examination. One copy is presented to the Dean of the Graduate School to be bound and placed in the University Library and the other to the major professor to be retained by the department concerned.

EXAMINATIONS of regular class work are taken by all resident graduate students. A final *oral examination* is given the candidate not later than fifteen days before the close of the semester. The Dean appoints an examining committee of at least three members for the purpose, selecting its members from the major and minor professors under whom work was done. The Dean is *ex officio* a member of all such examining committees. The candidate is asked to defend his thesis and is examined on any subject matter related to his field.

MASTER OF SCIENCE IN AGRICULTURE OR IN HOME ECONOMICS

Students 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 same requirements as those designated for the M. A. and M. S. degrees. The work is prescribed by the major professor with the approval of the Dean.

REQUIREMENTS FOR ADVANCED DEGREES IN ENGINEERING C. E., CIVIL ENGINEER; E. E., ELECTRICAL ENGINEER; M. E., MECHANICAL ENGINEER; MET. E., METALLURGICAL ENGINEER; E. M., MINING ENGINEER

Any of these advanced engineering degrees may be obtained in residence by satisfying the same requirements as those outlined for the M. A. and M. S. degrees, provided the student holds a corresponding bachelor's degree from an engineering college of recognized standing. The course of study should be arranged in consultation with the head of the department in which the student expects to do his major work and must have the approval of the Dean of the College of Engineering and of the Dean of the Graduate School.

Each of these degrees may also be obtained by graduates of the University of Kentucky for work done *in absentia* three or more years after receiving the degree of Bachelor of Science in the same branch of engineering, providing this time has been spent in practical engineering work and an acceptable thesis is presented. At least one year's notice must be given the Dean of the Graduate School that graduate work is being done, and such work must have his approval and that of the major professor under whose supervision the thesis is prepared.

Those holding the degree, Bachelor of Science in Mechanical Engineering, may apply for either of the degrees, Mechanical Engineer or Electrical Engineer.

The fees for the degree obtained *in absentia* are $15.00 registration fee and $15.00 graduation fee.

REQUIREMENTS FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

The degree of Doctor of Philosophy is conferred upon a candidate who, after completing not less than three years of graduate work devoted to the study of a special field of knowledge, passes the required examination in the subjects, presents a satisfactory dissertation, and is deemed worthy of recognition as a scholar of high attainments in his chosen province.

The Doctor's degree is intended to represent not a 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 his special field of learning and a marked capacity for research.

REQUIREMENTS FOR APPLICANT

ADMISSION

Admission to the Graduate School and acceptance of advanced credits from other institutions must first be approved by the Registrar.

In order to be accepted as an *applicant* for the degree of Doctor of Philosophy the student must present evidence that he has completed an undergraduate course and has received his baccalaureate degree from a college of recognized standing.

The Graduate Committee reserves the right to decide in each case of applicancy for a degree whether the prerequisite training has been satisfactory and, if any of the years of advanced work have been passed in another institution, whether they may be properly regarded as having been spent under suitable guidance and favorable conditions. Private study is not considered as equivalent to university work. In any case the student must pass the qualifying examinations at the University of Kentucky and spend the last year of the residence requirements at this institution.

CLASSIFICATION

A student wishing to become an *applicant* for the Doctor's degree must first regularly register in the Graduate School of the University of Kentucky and must then classify with the Dean of the Graduate School who will appoint a special committee for that student. This special committee, the chairman of which shall be his major professor, will consist of members of the departments in which the applicant elects to do his major and minor work and this committee will supervise his work throughout his period of study.

Not every *applicant* for the Doctor's degree is a *candidate.* A student is not a *candidate* for the degree until he has passed the qualifying examinations, satisfied the language requirements, and made formal application to be so enrolled.

COURSES OF STUDY

Every applicant for the degree must select one major and at least one and not more than two minor subjects.

The major subject should be one in which he intends to concentrate his efforts; the minor subjects should be closely allied to the major field or be subjects which will be of value in the major work and should be approved by the major department.

The applicant's principal work must be in the major subject. Although no absolute regulations are laid down in respect to the time to be devoted to the major and minor subjects, it may be stated in general that the major subject should represent two-thirds of the student's entire time.

Any regular graduate course may be assigned as part of the applicant's work by his special committee. Only courses numbered above 100 in the University catalogue are considered as of graduate status. The number and extent of such courses is determined by the special committee.

REQUIREMENTS FOR CANDIDATES

RESIDENCE

A minimum of three collegiate years of resident graduate work, of which at least the last year must be spent at the University of Kentucky, is required for the doctorate. The full time of each of these years must be spent in study. Part-time students and those holding assistantships or engaging in other outside activities will of course be required to take a proportionately longer time.

While it is expected that a well-prepared student of good ability may secure the degree upon the completion of three years of study, it should be understood that this time requirement is a minimum and is wholly secondary to the matter of scholarship. Neither time spent in study, however long, nor the accumulation of facts, however great in amount, nor the completion of advanced courses, however numerous, can be substituted for independent thinking and original research.

Work done in other institutions of learning may be accepted toward the doctorate at the University of Kentucky but no work is credited which has not been done in a college or university of recognized standing or in a research laboratory.

LANGUAGE REQUIREMENTS

The applicant must give evidence of having a good reading knowledge 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. Ordinarily French and German are expected to be offered, but other languages may be substituted on recommendation of the special committee if it is considered that such languages are of greater importance in the special field of work. The language requirements must be satisfied before the applicant can be admitted to the qualifying examination.

QUALIFYING EXAMINATION

Applicants for the degree of Doctor of Philosophy are required to pass a Qualifying Examination. This examination shall be taken during the second semester of the second year of residence. The examination shall be both oral and written and shall cover both major and minor subjects. It shall be prepared and given to the applicant by a committee of five to be appointed by the Dean of the Graduate School. The language requirements must have been met before the qualifying examination is taken. No applicant may proceed to his final examination until one year of work has been completed after he has passed the qualifying examination. If the applicant fails to pass the qualifying examination, no re-examination shall be allowed except upon the recommendation of the special committee and the approval of the Graduate Committee. If the applicant passes the qualifying examination he is then considered as a *candidate* for the degree and may make formal application for his rating.

DISSERTATION

Each candidate must present a dissertation covering his thesis work. This dissertation must give evidence of the candidate's ability to carry on independent investigation and must be satisfactory in style and composition. It must represent a definite contribution to the knowledge of his subject, must be the result of independent work, must include original research and must in some way add to or otherwise modify what was previously known on the subject. Two bound typewritten copies of the thesis and an abstract of not less than 1,200 nor more than 3,000 words must be formally presented to the Dean of the Graduate School at least four weeks before the final examination.

PRINTING OF DISSERTATION

One hundred printed copies of the dissertation must be presented to the University within one year from the time when the degree is conferred. Not later than one week before the conferring of the degree the candidate must deposit with the Business Agent of the University the sum of $50.00, this amount to be returned if the printed copies are received within the time specified. The University does not obligate itself to publish the thesis but if in the judgment of the Graduate Committee the thesis or an abstract of same should be published, the University reserves the privilege of so doing.—

Or—

The candidate may have the dissertation printed at his own expense, in which case he must present one hundred copies to the University before the degree is granted. If the candidate has the dissertation printed at his own expense, he will be expected to use good substantial paper and sightly typography. A page four by six inches with outside margin of at least one inch is recommended. The dissertation must have a cover and title page and the latter, in addition to the title and the name of the author, must bear the following inscription:

> "*A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy in the University of Kentucky.*"

If the dissertation is published in a technical journal or other recognized educational publication, the reprints will be accepted if presented with special printed covers and proper title page.

APPLICATION

All candidates who desire to be admitted to the final examination must file an application, approved by the Dean of the Graduate School, with the Registrar of the University at least three weeks before the examination is held.

FINAL EXAMINATION

After the acceptance of the dissertation by the special committee and the Dean of the Graduate School, the candidate shall be given a final oral examination by a committee of five members which shall include the Head of the Major Department or his delegate presiding, one additional professor selected by the major department, one professor selected by each of the minor departments and additional members (to make the total of five) selected by the Dean of the Graduate School. The President of the University and the Dean of the Graduate School are *ex-officio* members of all examining committees.

The final examination shall not be held until at least one year after the student has been accepted as a *candidate* for the degree.

The completion of three years of residence work confers no right upon the student to be so examined.

RECOMMENDATION

After the final examination has been passed, the name of the candidate will be presented to the University Senate for recommendation to the Board of Trustees for the degree of Doctor of Philosophy in course.

FELLOWSHIPS AND SCHOLARSHIPS

For the encouragement of research and scholarship the following fellowships and scholarships have been established:

Ten University scholarships with a stipend of $200.00 each.
Five University fellowships with a stipend of $400.00 each.
One Registrar's fellowship with a stipend of $500.00.

Scholars and fellows will be expected to devote their whole time to graduate work, and no teaching or other departmental work may be required of them. Students employed as assistants in departments should as a rule take two years to satsify a year's requirement.

Fellowships and scholarships are open to those who already hold, or will receive at the close of the academic year, a bachelor's degree from any college or university of good standing, provided the student has shown some special aptitude for the line of work he desires to pursue.

The primary object of these appointments is to stimulate research and not to give pecuniary aid. No departmental duties of any kind will be required of fellows and scholars. Candidates for the awards must be graduates of standard colleges or universities and must show evidence of high scholarship and fitness for graduate study. No student should apply for the award who does not cherish a real and earnest desire to do research work. The appointments are made for one year only but may be renewed if it can be satisfactorily shown that the prosecution of research undertaken should continue.

Forms for making application may be secured from the Dean of the Graduate School, University of Kentucky, Lexington, Kentucky. All applications should be on file not later than the 15th of April.

GRADUATE STUDENTS NOT CANDIDATES FOR A DEGREE

Graduate students who are not candidates for an advanced degree are not required to designate major or minor subjects, but may elect their work with a view to the special purpose for which they are in attendance at the University.

Any course of study announced for advanced undergraduates and graduates is open for election by such students upon the same conditions that are imposed upon those who are candidates for degrees.

Should a graduate student, who has not arranged for his work with a view to obtaining a degree, subsequently desire to become a candidate for a degree, the amount of credit he is to receive for work already done will be determined at the time he applies for admission to candidacy for the degree.

No work is given graduate credit unless the student was enrolled in the Graduate School at the time during which the work was taken.

THE GRADUATE CLUB

All graduate students are members of the Graduate Club, in which they are expected to take an active part. The club serves the purpose of developing an *esprit de corps* among graduate students and provide ways and means for securing prominent men for addresses on various subjects of interest.

GRADUATE COURSES OF STUDY

The courses offered for graduate work are listed under the following groups:

I. Languages and Literatures
- Ancient Languages
- English
- German
- Library Science
- Romance Languages

II. Social Sciences
- Archaeology (See Biological Sciences)
- Commerce
- Commercial Education (See Education)
- Economics
- Educational Psychology (See Education)
- Farm Economics (See Agriculture)
- History
- History of Education (See Education)
- Law (See Law)
- Markets and Rural Finance (See Agriculture)
- Philosophy
- Philosophy of Education (See Education)
- Political Science
- Psychology
- Sociology

III. Biological Sciences
- Agronomy (See Agriculture)
- Anatomy and Physiology
- Animal Industry (See Agriculture)
- Animal Pathology (See Agriculture)
- Anthropology and Archaeology
- Bacteriology
- Botany
- Entomology (See Agriculture)
- Horticulture (See Agriculture)
- Hygiene
- Psychology (See Social Sciences)
- Zoology

IV. Physical Sciences
- Chemistry
- Engineering (See Engineering)
- Geology

Mathematics and Astronomy
Physics

V. AGRICULTURE
Agricultural Education (See Education)
Agronomy
Animal Industry
Animal Pathology
Entomology
Farm Economics
Home Economics
Home Economics Education (See Education)
Horticulture
Markets and Rural Finance

VI. EDUCATION
Administration
Agricultural Education
Commercial Education
Educational Psychology
Elementary Education
History of Education
Home Economics Education
Philosophy of Education
Physical Education
Secondary Education

VII. ENGINEERING
Civil Engineering
Electrical Engineering
Mechanical Engineering
Metallurgical Engineering
Mining Engineering

VIII. FINE ARTS
Art
Music

IX. LAW

I. LANGUAGES AND LITERATURES

Ancient Languages and Literatures

LATIN

109—LATIN LITERATURE (Selections). The authors read will probably be: Juvenal (Selected Satires); Martial (Selected Epigrams). These writers will be read for their literary value, and for the light they throw on the political and social life in Rome at the close of the first century.
Prerequisite: *Latin 7 or 8.* 3 *credits; 1st semester* (Jones)

110—LATIN LITERATURE (Selections). The authors read will probably be: Suetonius (Claudius and Nero); Seneca (Selections). The private life of the Caesars is discussed in detail. The principles of the Stoic Philosophy are explained.
Prerequisite: *Latin 7 or 8.* 3 *credits; 2nd Semester* (Jones)

114a—LATIN COMPOSITION. The course will begin with easy passages in connected discourse and will proceed to more difficult selections.
Prerequisite: *Latin 5.* 1 *credit; 1st semester* (Jones)

114b—LATIN COMPOSITION. A continuation of 114a.
Prerequisite: *Latin 5.* 1 *credit; 2nd semester* (Jones)

120—GREEK CIVILIZATION (given entirely in English). A brief review of Ancient Greek history; the private and public life of the people; archaeology.
Prerequisite: *Junior Standing.* 3 *credits; 1st semester* (Jones)

121—ROMAN CIVILIZATION (given entirely in English). A brief review of Roman history; private and public life of the Romans; Roman archaeology.
Prerequisite: *Junior Standing.* 3 *credits; 2nd semester* (Jones)

122a—GREEK LITERATURE IN ENGLISH TRANSLATION. Several of the great authors will be studied, beginning with Homer.
Prerequisite: *Junior Standing.* 3 *credits; 1st semester* (Jones)

122b—A continuation of 122a. Prose writers will be studied; historians, orators, philosophers.
Prerequisite: *Junior Standing.* 3 *credits; 2nd semester* (Jones)

151a—COURSE IN INDIVIDUAL WORK. The work assigned will depend upon the needs of the student.
Prerequisite: *Junior Standing.* 3 *credits; 1st semester* (Jones)

151b—COURSE IN INDIVIDUAL WORK. A continuation of 151a.
Prerequisite: Junior Standing. 3 *credits; 2nd semester* (Jones)

201a—LATIN PASTORAL POETRY. This course is based mainly on Virgil's Ecologues and Georgics. The development of the author's talent will be noted and his models traced. In addition one or two dramas will be read, or selections from Lucretius.
Prerequisite: Graduate Standing. 3 *credits; 1st semester* (Jones)

201b—LATIN ELEGIAC POETRY. Selections from Catullus, Tibullus, Propertius, and Ovid will be read. The change in the subject matter of the Elegy will be noted. Scanning. Mythological references studied.
Prerequisite: Graduate Standing. 3 *credits; 2nd semester* (Jones)

GREEK

149—FREEMAN AND LOWE'S GREEK READER will be read, and easy selections from other writers. Exercises in construction and composition.
Prerequisite: Greek 51. 3 *credits; 2nd semester* (Jones)

152—ANABASIS. Selections from the remaining books of the Anabasis and from other writers of equal difficulty will be read.
Prerequisite: Greek 149. 3 *credits; 1st semester* (Jones)

153—HOMER. The Iliad, Books 1-6. The Homeric Question. Life in the Homeric Age, Mycenean Antiquities. Recent discoveries will receive due attention. Scanning.
Prerequisite: Greek 149. 3 *credits; 2nd semester* (Jones)

154—PLATO. The Apology and Crito, selections from Phaedo. The relation of Plato to Socrates, Socrates as a moral teacher, his methods of investigation, will be discussed.
Prerequisite: Greek 152. 3 *credits; 1st semester* (Jones)

155—HERODOTUS. Books 6-7. This course will include a rapid survey of Greek History from the Ionic Revolt to the end of the Persian Wars.
Prerequisite: Greek 152. 3 *credits; 2nd semester* (Jones)

ENGLISH

The Department of English requires, as a prerequisite for the master's degree, attainment in English equivalent to that required of an undergraduate English major at the University of Kentucky. For the M. A. degree, a minimum of fifteen hours of English must be offered, including seminar throughout the year. A maximum of nine hours in other subjects is permitted, provided these courses have the approval of the Graduate Committee of the Department of English.

All candidates for the master's degree in English will be required to attain a reading knowledge of one foreign language before receiving the degree.

104—MILTON. A study of Milton's poetry and most important prose work. The relation of Milton to his contemporaries. Graduate students will be assigned special topics for investigation.

3 *credits; 1st semester* (Dantzler)

104—THE SEVENTEENTH CENTURY. Cavalier and Puritan Poetry; Milton; Burton, Browne, Bunyan, Walton; Restoration Prose and Poetry.

3 *credits; 1st semester* (Gallaway)

105—BROWNING. An intensive study of the art and teaching of Browning. Graduate students will be assigned special topics for investigation.

3 *credits; 2nd semester* (Dantzler)

106—THE ROMANTIC MOVEMENT IN ENGLISH POETRY. A rapid survey of the characteristics of the classical period, and a more careful study of growing signs of Romanticism in the early part of the 18th century. The French Revolution and its influence on the chief poets of the Romantic Movement. Special emphasis on Wordsworth, Byron, Shelley, Keats and other prominent poets of the first quarter of the 19th century.

3 *credits; 1st semester* (Brady)

107—VICTORIAN POETRY. 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.

3 *credits; 2nd semester* (Brady)

110a—SHAKESPEARE—COMEDY. Shakespeare's comedies will be studied in detail.

3 *credits; 1st semester* (Farquhar)

110b—SHAKESPEARE—TRAGEDY. A continuation of 110a.

3 *credits; 2nd semester* (Farquhar)

111a—THE NOVEL BEFORE SCOTT. The development of fiction from the romance to Jane Austen.

3 *credits; 1st semester* (Gallaway)

111b—THE ENGLISH NOVEL OF THE NINETEENTH CENTURY. A continuance of 111a, although the latter is not required for admission. It aims to acquaint the student with the development of the novel in English from Walter Scott to and including Stephen Crane.

3 *credits; 2nd semester* (Knight)

116—THE CONTEMPORARY DRAMA. Development and tendencies in Continental, British, and American Dramatic literature, 1850 to 1918. Selected readings.

3 *Credits* (Farquhar)

117—LITERARY COMPOSITION. Meant to stimulate original writing in any form the student prefers. The class becomes a laboratory for readings, criticisms and discussions. Those taking it should be interested, at least in a speculative way, in becoming writers.

2 *credits; 2nd semester* (Knight)

123a—AMERICAN LITERATURE BEFORE 1860. A survey course which purposes to introduce the student to influences in American life and thought as well as to its letters.

3 *credits; 1st semester* (Knight)

123b—AMERICAN LITERATURE AFTER 1860. A continuation of the above, which is not a prerequisite.

3 *credits; 2nd semester* (Knight)

127a—LITERATURE OF THE BIBLE. A literary study of the Bible by Books. It develops an appreciation of literature generally because of the demand that literature identify itself with the highest thought and feeling.

2 *credits; 1st semester* (Farquhar)

127b—LITERATURE OF THE BIBLE. This is a continuation of 127a.

2 *credits; 2nd semester* (Farquhar)

130a—COMPARATIVE LITERATURE. Extensive reading of literary masterpieces through the ages from Homer to the present day. A study of the great traditions of civilization as reflected in the literary monuments. Lectures, assigned readings, and class discussion. Intended for advanced undergraduates or graduate students. The reading is assigned entirely in translations, but a reading knowledge of at least one foreign language is highly desirable.

3 *credits; 1st semester* (Brady)

130b—COMPARATIVE LITERATURE. A continuation of English 130a.

3 *credits; 2nd semester* (Brady)

133—THE DEVELOPMENT OF AMERICAN REALISM. A course which will complete the study of colonial and romantic American literature (English 123a and 123b) by tracing the development of realistic writing through our sectional humorists, the local color school, Mark Twain, the growth of naturalism in fiction, drama, and poetry to the present.

3 *credits* (Knight)

135—PRE-VICTORIAN PROSE. A careful study of some of the prose monuments of English Literature with special emphasis on the groups of writers surrounding the period of the French Revolution, with consideration of the philosophical and political writing of the age.

3 *credits; 2nd semester* (Brady)

136—VICTORIAN PROSE. A careful study of Carlyle, Ruskin, Newman, Spencer, Arnold, Huxley, and related writers of the period in the field of prose. Assigned parallel readings, class discussion, and lecture.

3 *credits, 1st semester* (Brady)

141—RESTORATION—18TH CENTURY DRAMA. A course in the types of drama arising or developing between 1660 and 1774. Special attention given to foreign influences on the English drama and the relations between the drama and the 18th century life.

3 *credits; 1st semester* (Kelley)

142—ENGLISH LITERATURE OF THE RENAISSANCE. A survey of the literature of the Elizabethan and Jacobean periods, exclusive of the drama. Attention will be given to the foreign sources of the English Renaissance. The sonnet will be studied from its origins to its development in Spenser. The pastoral from Theocritus to Spenser, Utopian literature from Plato to More, the romance from Auccasin and Nicolette.

3 *credits; 1st semester* (Dantzler)

145—ELIZABETHAN DRAMA. A study of Elizabethan drama and dramatists, excluding Shakespeare, contributing to the development of English drama. Special study of the influence of foreign drama upon Elizabethan drama.

3 *credits; 2nd semester* (Kelley)

147—THE AGE OF JOHNSON. Continuation of the survey from the death of Pope to 1798. Johnson and his circle: Burke, Goldsmith, Gray, Walpole, Cowper. The Pre-Romantic Movement.

Prerequisite: *English* 152*a* or *the consent of the instructor.* 3 *credits; 2nd semester* (Gallaway)

152—AGE OF POPE. Addison and Steele, Swift, Pope, and Defoe.

3 *credits; 1st semester* (Gallaway)

153—RESTORATION—EIGHTEENTH CENTURY DRAMA. A study of the dramatic types that arose or developed between the closing of the theaters in 1642 and the death of Sheridan.

3 *credits; 1st semester* (Kelley)

201a—LITERARY CRITICISM. This course is mainly an application of the philosophic and historical elements of literary criticism to some period of literature or to the works of some author in a period.

It is criticism that essays the unity of all literature, its everlasting growth and the importance of inductive observation of literary phenomena.
Prerequisites: *English* 108*a-b*. 3 *credits; 1st semester* (Farquhar)

201b—LITERARY CRITICISM. A continuation of 201a. Special problems assigned to students.
3 *credits; 2nd semester* (Farquhar)

202a—STUDIES IN CONTEMPORARY DRAMA. This course is an application of the philosophy and history of drama to the modern drama as a whole and to the work of some particular dramatists. It includes a particular study of the work of Ibsen as prerequisite to any other study.
Prerequisite: *English* 116. 3 *credits; 1st semester* (Farquhar)

202b—STUDIES IN CONTEMPORARY DRAMA. A continuation of 202a. Special problems assigned to students.
3 *credits; 2nd semester* (Farquhar)

204a—BEOWULF. A literary and linguistic study of Beowulf. Lecture and recitation. One year of Old English and a reading knowledge of German are desirable.
2 *credits; 1st semester* (Dantzler)

204b—BEOWULF. A continuation of 204a.
2 *credits; 2nd semester* (Dantzler)

205—CHAUCER. Chaucer's contribution to English literature. The greater part of his poetry will be read. Lecture and recitation.
3 *credits; 1st semester* (Dantzler)

207—SPENSER. A study of Spenser and his poetry. Lecture and recitation. A problem will be assigned to each member of the class for study.
3 *credits; 2nd semester* (Dantzler

208—CARLYLE. A comprehensive study of Carlyle, his position as a man of letters, and a critic of literature. His literary essays, political philosophy, various writings on history, including *The French Revolution*. His social ethics and moral philosophy: *Sartor Resartus, Chartism, Past and Present*.
3 *credits* (Brady)

GERMAN

101a—NINETEENTH CENTURY LITERATURE. Studies in the German drama of the 19th century with special emphasis on selected authors.
Prerequisite: *German* 3*b*. 3 *credits; 1st semester* (Melcher)

101b—NINETEENTH CENTURY LITERATURE. Continuation of course 101a.
Prerequisite: *German 3b.* 3 *credits; 2nd semester* (Melcher)

102a—GERHARDT HAUPTMANN. Reading, discussions and reports.
Prerequisites: *German 4a-b.* 3 *credits; 1st semester* (Bigge)

102b—GERHARDT HAUPTMANN. Continuation of Course 102a.
Prerequisites: *German 4a-b.* 3 *credits; 2nd semester* (Bigge)

105a—INDEPENDENT WORK COURSE. This course is designed for students of particular excellence in the department.
3 *credits; 1st semester* (Melcher, Bigge)

105b—INDEPENDENT WORK COURSE. Continuation of Course 105a.
3 *credits; 2nd semester* (Melcher, Bigge)

LIBRARY SCIENCE

126—PLACE, FUNCTION, ADMINISTRATION, AND OPPORTUNITY OF THE HIGH SCHOOL LIBRARY. A study of the place, function, administration and opportunity of the library in the modern school. The librarian's relations to faculty, students, and outside agencies; the fundamentals of library planning and equipment; personnel problems and their management; business management, including accounts, records and statistics; methods of stimulating reading habits and handling an effective service are major topics discussed. Lectures, problems, assigned readings.
3 *credits; 2nd semester* (King)

128—CHILDREN'S LITERATURE. A brief introduction to the field of children's literature and a comparative study of different classes and types of books with regard to the independent reading of children of different age groups and reading interests, with special emphasis on myth, folk tale and legend, followed by the reading and discussion of all types of books suitable for the junior high school. Special study of story telling; of illustration and physical make-up of books; of editions; of children's magazines and book-reviewing periodicals; and of aids in the selection of books for young people.
2 *credits; 2nd semester* (Semmons)

129—CATALOGING AND CLASSIFICATION. A study of the principles and form of cataloging by the unit card system with some use of Library of Congress cards; of the assigning of subject headings; and of the principles of classification with their application in the effective administration of the library. Practice work under supervision is required in classifying books by the Dewey Decimal system

and in making a shelf list and dictionary catalog. Lectures, problems and assigned readings.

3 *credits; 2nd semester* (Semmons)

132—LIBRARY WORK WITH CHILDREN. The effective organization and administration of library work with children, developed through a study of the history of the work of the economic and social background of the pupil, of the qualifications of the librarian, and of the equipment of rooms and the assembly of materials. Special emphasis on methods of directing the child's reading.

2 *credits; 2nd semester* (Semmons)

133—REFERENCE AND BIBLIOGRAPHY. A study of essential reference works, particularly those most valuable in school libraries, including dictionaries, encyclopedias, atlases, yearbooks, periodical indexes, and reference books on special subjects, with some consideration of subject and trade bibliographies, government documents, and vertical file material; and of the standards by which such material is selected. Lectures, problems and assigned readings.

3 *credits; 1st semester* (Semmons)

138—METHODS OF TEACHING THE USE OF THE LIBRARY. The course emphasizes the function of the library in the modern school and community; the value of developing in students a love of reading and research and of teaching them the effective use of library facilities. It includes the reading of articles on library lessons in school; a study of methods of teaching the use of the library with adaptation to grade taught, of plans for presenting the various types of materials; and the organization by the class members of a definite course of lessons for teaching the use of the card catalog and general reference tools in a high school library.

Prerequisite: 133. 2 *credits; 2nd semester* (Semmons)

139—FIELD WORK. Comparable to practice teaching. Supervised practical work in all departments of the University High School or other school library two periods a week of two consecutive hours, supplemented by seminar discussions.

Prerequisites: 129, 133, 150. 2 *credits; 1st semester* (Semmons)

144—LIBRARY RECORDS AND METHODS. A course planned to emphasize the essentials of library organization and the importance of routine processes in the library, as related to effective library service. The various procedures necessary to the acquisition, accessioning, circulation and care of books and minor materials, and purchase of supplies are studied by means of assigned readings, problems, class discussions and occasional lectures.

2 *credits; 2nd semester* (Semmons)

150—BOOK SELECTION. The study of principles and standards

in the choice of books and periodicals. Practical problems in book selection and acquisition; a study of American publishers, of book reviewing periodicals and aids to book selection; the writing of booknotes; the reading and discussion of typical books in the fields of biography, travel, essays, poetry, fiction, history, sociology, art, and science.

3 *credits; 1st semester* (Semmons)

154—SEMINAR. A survey of the field of library science through a brief study of the history and personnel of the modern library movement and the various agencies that have developed—library associations, schools, commissions, periodicals, etc.; of standards for professional training and certification; of the present library situation in the South and future needs; of adult education in its special application to the guidance of reading of teachers. General discussion of problems, special reports on assigned topics.
Prerequisites: 126, 129, 133, 150. 2 *credits; 2nd semester* (Semmons)

ROMANCE LANGUAGES AND LITERATURES

FRENCH

109a—FRENCH LITERATURE OF THE XIX CENTURY. The works of the writers of XIX century are studied, i. e., Victor Hugo, Theophile Guatier, DeMusset, and Daudet.

3 *credits; 1st semester* (Zembrod)

109b—FRENCH LITERATURE OF THE XIX CENTURY. A continuation of 109a.

2 *credits; 2nd semester* (Zembrod)

110a—FRENCH LITERATURE OF THE XVII CENTURY. The classics of Corneille, Racine, and Moliere are studied. Students are to familiarize themselves with the history of French society and civilization. Reports written in French are to be handed in at regular intervals. Advanced lessons in syntax and composition once a week.

3 *credits; 1st semester* (Zembrod)

110b—FRENCH LITERATURE OF THE XVIII CENTURY. A continuation of 110a.

3 *credits; 2nd semester* (Zembrod, Horsfield)

113a—ROMANCE LANGUAGES. This course is for graduate students who are majoring in one of the romance languages. No definite work is put down. Work is assigned to suit the needs of the students. A good reading knowledge of German is desirable.

3 *credits* (Zembrod)

113b—ROMANCE LANGUAGES. A continuation of 113a.

3 *credits* (Zembrod)

SPANISH

104a—SPANISH LITERATURE. Spanish novel and drama of the XVI and XVII centuries; syntax and composition. This course enables the student to become familiar with some of the works of the greatest novelists and dramatists of the golden age of Spain's literary history.

3 *credits; 1st semester* (Server)

104b—SPANISH LITERATURE. A continuation of 104a.

3 *credits; 2nd semester* (Server)

112a—SPANISH LITERATURE. Spanish novel and drama of the XIX century; syntax and composition.

3 *credits; 1st semester* (Server)

112b—SPANISH LITERATURE. A continuation of 112a.

3 *credits; 2nd semester* (Server)

II. SOCIAL SCIENCES

ARCHAEOLOGY (See Biological Sciences)
COMMERCE (See Economics and Commerce)
COMMERCIAL EDUCATION (See Education)

ECONOMICS AND COMMERCE

102—LABOR PROBLEMS. A study of the labor market in its industrial setting, including such directly related topics as immigration, unemployment, and labor organizations.
Prerequisite: *Course* 1. 3 *credits; 1st semester* (Carter)

103—TRANSPORTATION. Railways, waterways, highways, airways. Rates, service, management, regulation.
Prerequisite: *Course* 1. 3 *credits; 2nd semester* (Sullivan)

104—GOVERNMENT FINANCE. A study of public receipts; public expenditures; the principles of taxation with special reference to their application to the tax systems, federal and state.
Prerequisite: *Course* 1. 3 *credits; 1st semester* (Martin and Sullivan)

105—MONEY AND BANKING. Nature and functions of money; the importance of credit; relation of money and credit to prices; bank deposits and loans; complete study of our national banking system.
Prerequisite: *Course* 1. 3 *credits; 1st semester* (Wiest and Sullivan)

106a—ADVANCED ACCOUNTING. Corporation accounting, cost accounting, municipal accounting, and auditing.
Prerequisites: *Courses 7a and 7b.* 3 *credits; 1st semester* (Haun)

106b—ADVANCED ACCOUNTING. Continuation of 106a.
3 *credits; 2nd semester* (Haun)

107—STATISTICAL METHOD. Training in the process of treating multiple phenomena with mathematical exactitude. The methods are illustrated with material from the fields of psychology, education, economics and sociology. Recitation, one hour, laboratory, four hours.
Not open to freshmen and sophomores. 3 *credits; 1st semester* (Palmer)

109a—BUSINESS LAW. A survey of the principles of contracts, sales, bills and notes, and that portion of the law of torts applicable to business practices.
3 *credits; 1st semester* (Murray)

109b—BUSINESS LAW. Continuation of 109a.
3 *credits; 2nd semester* (Murray)

110—BUSINESS CYCLES. The nature and characteristics of the economic factors which underlie the cyclical fluctuations in business conditions; the methods of business and investment forecasting.
Prerequisites: *Courses* 1 *and* 107. 3 *credits; 2nd semester* (Palmer)

112a—INDIVIDUAL WORK IN ECONOMICS. In this course a selected group of advanced students who have at least a standing of 2 are given special problems for intensive investigation. The students are expected to do more work than the usual amount required per credit hour.
Prerequisite: *Course* 1. 2 *credits; 1st semester* (Martin, Palmer and others)

112b—INDIVIDUAL WORK IN ECONOMICS. Continuation of 112a.
2 *credits; 2nd semester* (Martin, Palmer and others)

113—AUDITING. 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.
Prerequisites: *Courses 7a and 7b.* 3 *credits; 2nd semester* (Haun)

117—CORPORATION FINANCE. Stocks and bonds, sound fiscal principles concerning the issue of securities, the management of the corporate income, the disbursement of dividends, the creation of sinking funds, and reorganization procedure.
Prerequisites: 1, *7a, 7b and* 9. 3 *credits; 2nd semester* (Lawrence and Averett)

118—COST ACCOUNTING. The place of cost accounting in the general field of accounting, special records and cost statistics, application to particular businesses.
Prerequisites: *Courses 7a, 7b.* 3 *credits; 1st semester* (Haun)

119—RETAIL MERCHANDISING. Selecting a business location, internal layout, departmentalization, merchandising control, store policies toward the public, training and management of personnel, and related subjects.
Prerequisites: *Courses* 1, 10. 2 *credits; 2nd semester* (McIntyre)

120—ORGANIZATION OF ECONOMIC GROUPS. A survey of economic groups and their economic and social relationships; the business organization aspects of farmers' organizations, chambers of commerce, trade and industrial associations.
Prerequisite: *Course* 1. 3 *credits; 1st semester* (Sullivan)

124—STATE AND LOCAL TAXATION. 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.

Prerequisite: *Course* 1. 3 *credits; 2nd semester* (Martin)

125. ADVANCED ECONOMIC HISTORY OF EUROPE. An advanced study of population, immigration, labor, agriculture, industry, and finance and the effects of the various lines of development upon national life.

Not open to freshmen and sophomores nor to students who have had course 2 except when doing graduate work. 3 *credits; 1st semester* (Jennings)

126—ECONOMICS OF PUBLIC UTILITIES. No credit for this course can be given if the student has credit for Political Science 158. Growth and development of public utilities; valuation; rate-making; financing; the holding company; regulation; current problems; accounting.

Prerequisite: *Course* 1. 3 *credits; 1st semester* (Carter)

127—INTERNATIONAL ECONOMIC POLICIES. Modern fallacies respecting foreign trade; free trade; protectionism; preferential tariffs; colonial tariff policies; dumping, commercial treaties; control of raw materials; encouragement of shipping; international investments and the movement of capital; international debts; reparations.

Prerequisite: *Course* 1. 3 *credits; 2nd semester* (Sullivan)

128—FOREIGN EXCHANGE. The theory and practice of foreign exchange; types of foreign bills; the rate of exchange; international gold movements; investment and speculation in exchange.

Prerequisite: *Course* 1. 2 *credits; 1st semester* (Palmer)

129—CREDITS AND COLLECTIONS. The theory of credits; forms of credits; classes of credit and credit machinery; duties and qualifications of a credit man; elements determining the credit risk; sources of credit information; analysis of the financial statement; collections; legal remedies of the creditor and credit safeguards.

Prerequisites: *Courses* 1, 10. 2 *credits; 1st semester* (Averett)

130—LABOR LEGISLATION. The status of labor law, mediation, conciliation, arbitration, the minimum wage, the eight-hour day, unemployment relief, safety and health legislation, and social insurance.

Prerequisite: *Course* 1. 3 *credits; 2nd semester* (Carter)

131—INVESTMENTS. The general field of investments. Emphasis is placed upon problems which face the investor rather than the seller

of securities. Analysis of corporation statements for investment purposes; the security market; market influences on security prices; effect of interest changes on security prices; analysis of specific types of investments; and the development of investment programs.

Prerequisites: *Courses* 1, *and* 9. 2 *credits; 2nd semester* (Palmer)

132a—C. P. A. PROBLEMS. This 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.

Prerequisites: *Courses* 106*a and* 106*b*. 3 *credits; 1st semester* (Haun)

132b—C. P. A. PROBLEMS. Continuation of 132a.

3 *credits; 2nd semester* (Haun)

133—INCOME TAX PROCEDURE. The preparation of income tax returns for individuals and corporations of all classes and a practical application of principles of accounting.

Prerequisites: *Courses* 106*a*, 106*b*. 3 *credits; 1st semester* (Haun)

134—ADVANCED ECONOMIC HISTORY OF THE UNITED STATES. An advanced study of English colonial policy, population growth, immigration, territorial expansion, agriculture, manufactures, tariff, labor, industrial combinations, commerce, transportation facilities, money and banking, and conservation.

Not open to freshmen and sophomores nor to students who have had course 3 *except when doing graduate work.* 3 *credits; 2nd semester* (Jennings)

135—ADVANCED MARKETING. The literature and problems in the retail distribution of consumers' goods; wholesale distribution of consumers' goods; industrial goods; sales organization; sales promotion and advertising and price policies.

Prerequisite: *Course* 10. 3 *credits; 1st semester* (McIntyre)

136—SALES MANAGEMENT. The case method will be used supplemented with outside reading and written reports.

Prerequisites: *Course* 11 *or the consent of the instructor.* 3 *credits; 2nd semester* (McIntyre)

137—PROBLEMS IN MANAGEMENT. Emphasis is placed upon factory management, but an attempt is made to coordinate managerial aspects of business in its entirety. Approximately half of the semester is devoted to the consideration and criticism of business reports

dealing with various managerial problems and prepared by members of the class.

Open only to seniors of the College of Commerce who are required to take either this course or 138, *and to graduate students who have had the necessary prerequisite training.*

3 *credits; 2nd semester*
(Carter)

138—INVESTIGATION OF BUSINESS PROBLEMS. The method of surveying, analyzing and actual investigation of problems of business management. It is intended for mature students who have had a thorough training in commerce and who are capable of doing research work under the guidance of the instructor. The work will involve the statistical analysis of data secured through interviews, questionnaires and otherwise, and the use of the results in determining a satisfactory solution.

Open only to seniors of the College of Commerce who are required to take either this course or 137, *and to graduate students who have had the necessary prerequisite training.*

3 *credits; 2nd semester*
(Palmer)

140—ADVERTISING CAMPAIGNS. The procedure necessary for developing an advertising campaign; a study of successful advertising campaigns as used by leading business houses throughout the country; and the planning and execution of an advertising campaign in conjunction with some local business house. The advertising campaign worked out by the student will be checked and tested for its effectiveness.

Prerequisites: *Course* 11, *Psychology* 5, *or the consent of the instructor.*

3 *credits; 2nd semester*
(McIntyre)

141—MANAGERIAL STATISTICS. An advanced practical course in the use of charts and graphs by the business manager; logarithmic, double logarithmic and other rulings, pin maps, organization charts, work schedule graphs, computation graphs and nomographs, plotting the error area of trends, construction of three-dimensioned surfaces, etc. Data will be drawn from the fields of accounting, advertising, personnel work, credit granting, purchasing, scheduling and the like.

Prerequisite: *An Elementary course in statistics.*

3 *credits; 1st semester*
(Palmer)

142—INDEX NUMBERS. The problems of sampling, selection of formula, and weighting in the construction of index numbers; a

study of the construction and use of the common index numbers of prices and production.

Prerequisite: *An Elementary course in statistics.* 2 *credits; 2nd semester* (Palmer)

143—LIFE INSURANCE. Economics of life insurance; organization and control; special forms of life insurance; fundamental principles of rate-making.

Prerequisite: *Course* 1. 3 *credits; 2nd semester* (Averett)

144—PROPERTY AND CASUALTY INSURANCE. Public control; nature of contracts; analysis of reserve functions and rate-making processes.

Prerequisite: *Course* 1. 3 *credits; 2nd semester* (Averett)

202a—SEMINAR. An extended original investigation of some specific topic with a view to giving training in methods of research and studying intensively a particular subject in the field of economics.

3 *credits; 1st semester* (Martin and others)

202b—SEMINAR. Continuation of 202a.

3 *credits; 2nd semester* (Martin and others)

203—HISTORY OF ECONOMIC THOUGHT. A survey of the history of economic thought from the ancient period to about the end of the Classical School.

Prerequisite: *Course* 1. 3 *credits; 1st semester* (Wiest)

204—ECONOMIC HISTORY OF THE UNITED STATES PRIOR TO 1860. An examination of original sources and class reports; intensive investigation of all the subjects in detail prior to 1860.

Not open to students who have taken Course 134 *for graduate credit.* 2 *credits; 1st semester* (Jennings)

205—ECONOMIC HISTORY OF THE UNITED STATES SINCE 1860. A continuation of course 204, but may be taken independently.

Not open to students who have taken Course 134 *for graduate credit.* 2 *credits; 2nd semester* (Jennings)

206—MUNICIPAL FINANCE. The budget problems of municipalities are analyzed; the debt policies critically examined; and the auditing and reporting plans compared and evaluated. Problems of taxation are dealt with incidentally. Each individual conducts one or more independent investigations.

3 *credits; 1st semester* (Martin)

207—LITERATURE OF PUBLIC FINANCE. Several of the great masterpieces of government finance are read critically. Each student

makes a careful study of one system or of the development of one idea. A reading knowledge of French or German is desirable, but not necessary.

3 *credits; 1st semester* (Martin)

208—ADVANCED ECONOMIC THEORY. A critical, comparative analysis of "orthodox" economic theory in the light of recent criticism is attempted. The course is built around a comprehensive system of economic theory.

3 *credits; 2nd semester* (Martin)

209—COMPARATIVE BANKING AND MONETARY SYSTEMS. A comparative study of banking system and monetary policies in the principal countries of the world; emphasis is placed upon present-day organization; the commercial bank with its monetary functions is the main theme of the course, but brief surveys of investment banking systems are also attempted.

3 *credits; 2nd semester* (Wiest)

210—RESEARCH STATISTICS. For those who wish to become connected with government, state and industrial research bureaus; particularly devoted to the study of the practical applications of probable error formulae, in estimating the most profitable size of samples. Applications will be made in the fields of frequency series, correlation problems, and time series.

Prerequisites: *An elementary course in statistics and consent of instructor.* 3 *credits; 2nd semester* (Palmer)

211—ADVANCED MONEY AND BANKING. A general survey of the subject is attempted with the emphasis upon its historical and theoretical aspects.

3 *credits; 2nd semester* (Wiest)

215—CONTEMPORARY ECONOMIC THOUGHT. A survey of current literature of theoretical economics. Special emphasis is placed on analysis of fundamental institutions.

Prerequisite: *Course* 1. 3 *credits; 1st semester* (Martin)

EDUCATIONAL PSYCHOLOGY (See Education)

FARM ECONOMICS (See Agriculture)

HISTORY

To become a candidate for the Master's degree in History, the applicant must present twenty semester hours of college history—being the equivalent of the A. B. degree with History as a major in the University of Kentucky.

Applicants for the degree of Doctor of Philosophy who select History as the major field of study will adopt a program in line with

the following requirements and suggestions, always subject to the approval of the Department:

EXAMINATION FOR ADMITTANCE TO CANDIDACY

Early in the second year of graduate study the applicant will be required to take an examination for admittance to candidacy. This examination will be both written and oral and will cover the course work in both the major and minor fields. In addition, the History Department may require the applicant to present specific fundamental fields even if these have not been covered in course work. The duration of the written examination will be 8 hours in the case of a major and 2 to 3 hours in the minor. There will be an oral examination of not less than 2 hours. Meeting successfully this examination admits the applicant to candidacy following approval by the Dean of the Graduate School.

COMPREHENSIVE ORAL EXAMINATION

Later in his work the candidate will be required to pass a comprehensive written and oral examination in not less than five specified fields of history which have been previously selected with the approval of the Department. The candidate will be expected to show that his knowledge in these fields is of a definitive character. For the purposes of this examination the subject is organized into the following divisions and special fields:

DIVISION I

1. The Ancient Orient and Greece.
2. Roman History.
3. Political and Institutional History of the Middle Ages.
4. History of Continental Europe, 1300-1648.
5. English History to 1485.

DIVISION II

1. English History since 1485.
2. History of Continental Europe, 1648-1871.
3. History of Continental Europe since 1871.
4. History of North America and the U. S. to 1789.
5. History of the United States, 1789-1876.
6. History of the United States since 1876.

DIVISION III

1. The Expansion of Europe.
2. The Far East.
3. The Near East.
4. Latin-America.
5. Canada.

In order that the candidate may have a reasonable distribution of the fields for intensive study which will be tested in this examination he must select:

at least 1 field from division I,
at least 2 fields from division II,
and may select one field from division III.

In addition to the specific detailed examination on these selected fields the candidate should understand that he will be expected to have general familiarity with the broader fields of European and American history.

FINAL EXAMINATION

After the acceptance of the dissertation by the special committee appointed for this purpose and by the Dean of the Graduate School the candidate shall be given a final oral examination. In this examination the candidate shall be required to defend his thesis and also to present for examination the special field in which the thesis subject lies.

The following courses are offered by the Department:

100a—AMERICAN DIPLOMACY TO 1865.
[Not Given 1933-34] 3 *credits* (Clyde)

100b—AMERICAN DIPLOMACY SINCE 1865.
[Not Given 1933-34] 3 *credits* (Clyde)

105—COLONIAL AMERICA. A study of the beginnings of the English colonies, the colonial background, political, social and economic development, extension of their frontiers, inter-colonial wars, and external relations with the Dutch, French and Spanish. Emphasis on imperial policies and imperial control and the controversies arising therefrom.

Prerequisite: *One year of American or English history in College.* 3 *credits; 2nd semester* (Knapp)

106—LATIN AMERICA. A rapid survey of the colonial period of Latin America, the struggle for independence, and the development of National problems—political, social, economic. Lectures, text and readings.

3 *credits; 1st semester* (Knapp)

114—THE RENAISSANCE. A study of the Italian Renaissance from 1300 to 1500. The states and cities of Italy and their scholars; general movements, political and other; rise of the modern spirit along the several lines of art and science, education, philosophy, commerce and exploration. Text, lectures, reports.

3 *credits; 1st semester* (Tuthill)

115—THE RENAISSANCE IN THE NORTH. This course will properly follow Course 114 in tracing the awakening of the new spirit

in France, England, and Germany, and in sketching the background of the Reformation period.
Prerequisites: *History* 4*a-b*. 3 *credits* (Tuthill)

119a—THE FRENCH REVOLUTION AND NAPOLEON. A study of the period 1789-1815 in Europe, treating of the appearance and manifestation of the spirit of revolt. Conditions in France and adjoining nations, the evolution of France from 1778 to 1795 and subsequent changes under Napoleon. Open to juniors, seniors and graduate students, with supplementary reading for the latter.
3 *credits; 1st semester* (Tuthill)

119b—THE NINETEENTH CENTURY. Starting with the fall of Napoleon, this course treats the successive political changes in 1823, 1830, 1848 and 1871, together with the outstanding commercial, cultural and scientific features of European life after 1815; the expansion of Europe in Africa and Asia, and the reactions upon the great states of the world.
3 *credits; 2nd semester*

120—THE TWENTIETH CENTURY. A study of recent and contemporary movements, chiefly in Europe. The rise and conflict of the chief colonial empires; European interference and control in Asia and Africa; forces and elements leading up to the great war; general features of the past twenty-five years, including socialism, public education, invention and discoveries. Reports on current literature and assigned reading on a liberal scale.
3 *credits; 2nd semester* (Tuthill)

131a—ENGLISH CONSTITUTIONAL HISTORY TO 1485.
3 *credits; 1st semester* (Hall)

131b—ENGLISH CONSTITUTIONAL HISTORY SINCE 1485.
3 *credits; 2nd semester* (Hall)

135—THE BRITISH EMPIRE. Early English colonial beginnings; commercial and colonial rivalries of the 17th and 18th centuries. The first British Empire and revolt of the American colonies. New colonial interest and rise of the second empire. Rise of the Dominions.
Prerequisite: *History* 2 *or* *History* 4. 3 *credits* (Hall)

140a, b, c, d—Under special conditions selected students may investigate special problems, making weekly reports to the instructor.
2 *credits* (Staff)

147—RECENT HISTORY OF THE UNITED STATES. An intensive study of the principal movements and episodes in the history of

the people of the United States from the Spanish American War to the present.
Prerequisite: *One year of American history.* 3 *credits; 2nd semester* (Knapp)

160—THE CIVIL WAR PERIOD IN KENTUCKY. A close study of neutrality, war and readjustment with emphasis on political, economic, and social developments in Kentucky from 1860 to 1870.

166—DIVISION AND REUNION, 1850-1877. An intensive study of sectionalism in the United States from 1850 to 1860. The political, military, economic, industrial and educational aspects of the period of the Civil War, and Reconstruction. Emphasis on the problems of the Border States.
3 *credits* (Knapp)

170—THE ERA OF LOUIS XIV. A study of the general conditions of Western Europe from 1648 to 1715, and particularly of the institutions and power of France under the leadership of Louis XIV, as reflected in the life and culture of Europe and her colonies.
Prerequisite: *One year of European history.* 3 *credits* (Tuthill)

184—THE GEOGRAPHIC BASIS OF AMERICAN HISTORY. A study of the relationship of geography to history and the influence of physiography upon the settlement and growth of various regions of the Americas.
Prerequisites: *Ten semester hours of American history* 1 *credit* (Knapp)

190a—THE EXPANSION OF EUROPE. Portuguese, Dutch, French, British colonial and trading empires in the Central East (India, Burma, Indo-China and the East Indies).
Prerequisite: *Course 4a or equivalent.* 3 *credits* (Clyde)
(Not given 1933-34)

190b—THE EXPANSION OF EUROPE. The contacts of Europe and America with the Far East (China, Korea, Japan, and the Philippines) in the 19th and 20th centuries.
Prerequisite: *Course 4b.* 3 *credits* (Clyde)
(Not given 1933-34)

COURSES IN THE "200" GROUP

These courses are for graduate students only. They are content courses presented by the lecture and discussion method, and as such are distinct in character from the "300" group of courses which are concerned with problems and practice of research.

200a, b, c, d—GRADUATE SEMINAR IN AMERICAN DIPLOMATIC HISTORY. A specific topic for investigation will be assigned by the instructor.

3 *credits; each semester* (Clyde)

(Not given 1933-34)

202—THE AMERICAN REVOLUTION.

3 *credits* (Knapp)

203—THE FEDERAL CONVENTION OF 1787.

2 *credits*

206—AMERICAN CONFEDERATION.

3 *credits* (Knapp)

226—THE OLD SOUTH.

3 *credits* (Knapp)

230—DEVELOPMENT OF THE POPULIST MOVEMENT. A close study of the origin and development of the Populist movement through the last quarter of the 19th century.

3 *credits* (Knapp)

231—THE BRITISH EMPIRE SINCE 1815. The rise of the modern British Empire. Stressing the development of responsible government and the Dominions. Especial emphasis will be placed upon Canadian history as a type. Modern Imperialism and the World War. Developments in Empire History since the war. Lectures, discussions, and reports. Three hours a week for one semester.

236—HISTORY OF THE WEST.

3 *credits* (Knapp)

280—EUROPEAN HISTORIOGRAPHY. A study of the principal collections of material bearing on European history together with guides to books and periodicals in various fields. Periods will be chosen according to the needs of students. Lectures, discussions, problems.

2 *credits; 1st semester* (Tuthill)

281—AMERICAN HISTORIOGRAPHY. A study of the principal historians of United States and their works; periodical and monographic literature; public documents and collections of source materials; guides to and methods of historical investigation. Lectures, discussions, problems.

2 *credits; 2nd semester* (Knapp)

282—HISTORICAL CRITICISM. A study of the process of collecting, assembling, criticising and presenting material relating to thesis and seminar courses. A standard treatise will be used.

2 *credits* (Tuthill)

COURSES IN THE "300" GROUP

SEMINARS—basically research in character. These are not content courses. They provide laboratory training in historical research (collection and critical analysis of bibliography, note-taking and organization of materials, and the presentation of a properly documented thesis). It is desirable that the student take the Senior Seminar before enrolling in "300" courses. 3 hours credit. 2 class hours. 1 conference hour.

300a, b, c, d—SEMINAR IN AMERICAN DIPLOMACY.
3 *credits* (Clyde)

315a, b, c, d—HENRY CLAY.
3 *credits* (Knapp)

320a, b, c, d—ORIGINS OF THE GREAT WAR.
3 *credits* (Tuthill)

340a, b, c, d—SEMINAR IN AMERICAN DIPLOMACY IN THE PACIFIC AREA.
3 *credits* (Clyde)

365—THE AMERICAN CIVIL WAR.
3 *credits* (Knapp)

366—RECONSTRUCTION.
3 *credits* (Knapp)

331—SEMINAR IN MODERN BRITISH HISTORY.
3 *credits* (Hall)

HISTORY OF EDUCATION (See Education)
MARKETS AND RURAL FINANCE (See Agriculture)

LAW (See Law)

PHILOSOPHY

101a—HISTORY OF PHILOSOPHY. A critical survey of Greek Philosophy and the Philosophy of the Middle Ages.
3 *credits; 1st semester* (Kuiper)

101b—HISTORY OF PHILOSOPHY. A critical survey of modern Philosophy from the Renaissance to contemporary times.
3 *credits; 2nd semester* (Kuiper)

109a—INDEPENDENT WORK IN PHILOSOPHY.
3 *credits; 1st semester* (Kuiper)

109b—INDEPENDENT WORK IN PHILOSOPHY.
3 *credits; 2nd semester* (Kuiper)

111a—CONTEMPORARY PHILOSOPHY. A study of contemporary realism, idealism, pragmatism, etc., with special reference to the writings of Bertrand Russell, S. Alexander, F. H. Bradley, B. Bosanquet, Wm. James, John Dewey, Henri Bergson, and G. Santayana.
Prerequisites: *Philosophy* 101*a*, *b*. 3 *credits; 1st semester* (Kuiper)
(Not given 1933-34)

111b—CONTEMPORARY PHILOSOPHY. Continuation of 111a.
Prerequisites: *Philosophy* 101*a*, *b*. 3 *credits; 2nd semester* (Kuiper)
(Not given 1933-34)

115—INTERMEDIATE LOGIC. A second course in logic, including an introduction to symbolic logic and its relation to traditional logic.
Prerequisite: *Philosophy* 31. 3 *credits; 1st semester* (Kuiper)

118—PLATO AND ARISTOTLE. A study in English of the chief dialogues of Plato, and of Aristotle's *Ethics*, *Politics*, and *Metaphysics*.
3 *credits; 2nd semester* (Kuiper)

201a—SEMINAR IN PHILOSOPHY. One two-hour meeting a week for discussion of current developments in Philosophy as found in recent books as well as in periodicals.
1 *credit; 1st semester* (Kuiper)

201b—SEMINAR IN PHILOSOPHY. Continuation of 201a.
1 *credit; 2nd semester* (Kuiper)

210a—TYPES OF LOGICAL THEORY. An intensive study of some of the outstanding contributions to logical theory, such as those of W. E. Johnson, Whitehead and Russell, or F. H. Bradley.
3 *credits; 1st semester* (Kuiper)

210b—TYPES OF LOGICAL THEORY. Continuation of 210a.
3 *credits; 2nd semester* (Kuiper)

Note:—Other courses such as Epistemology, Aesthetics, Philosophy of Religion, and special periods in the History of Philosophy will be given from time to time.

PHILOSOPHY OF EDUCATION (See Education)

POLITICAL SCIENCE

The Political Science Department offers courses leading to M. A. and Ph. D. degrees.

The student who holds a baccalaureate degree from a standard college is eligible to enter the department as a candidate for an

advanced degree. An A. B. or B. S. degree is the only definite prerequisite for entering graduate study in the field of political science. However, students who are deficient in their social science background must make up such deficiencies before they will be recommended for a degree by the department. Students entering with these deficiencies will find the work more difficult, and the period required for the completion of the degree longer than if there were no deficiencies in the social science background. The applicant may remove such deficiencies by private study or by taking undergraduate courses. Each individual case is handled on its own merits.

101—LATIN AMERICAN RELATIONS.
3 *credits* (Trimble)

150—INTERNATIONAL LAW.
3 *credits* (McVey or Vandenbosch)

154—COUNTY GOVERNMENT.
3 *credits* (Manning)

155a—COMPARATIVE GOVERNMENT.
3 *credits* (Jones)

155b—COMPARATIVE GOVERNMENT. Continuation of 155a.
3 *credits* (Jones)

156—COLONIAL GOVERNMENT.
3 *credits* (Vandenbosch)

157—CITY ADMINISTRATION.
3 *credits* (Manning)

158—PUBLIC UTILITIES.
3 *credits* (Manning)

164—AMERICAN FOREIGN SERVICE AND INTERNATIONAL ORGANIZATION.
3 *credits* (Vandenbosch)

165—WORLD POLITICS.
3 *credits* (Blanding)

171—POLITICAL THEORY.
3 *credits* (Vandenbosch or Cole)

201a—SEMINAR.
2 *credits* (Jones)

201b—SEMINAR.
2 *credits* (Jones)

202—SCOPE AND METHOD IN POLITICAL SCIENCE.
3 *credits* (Vandenbosch or Cole)
(Given 1931-32 and alternate years.)

203—PUBLIC ADMINISTRATION.
3 *credits* (Manning)
(Given 1931-32 and alternate years.)

205—FREEDOM OF THE SEAS.
3 *credits* (Vandenbosch)

207—IMPERIALISM AND NATIONALISM.
3 *credits* (Blanding)
(Given 1931-32 and alternate years.)

210—SUPREME COURT AND POLITICS.
3 *credits* (Cole)

211—INTERNATIONAL ADMINISTRATIVE BODIES.
3 *credits* (Vandenbosch)
(Given 1932-33)

212—MUNICIPAL FRANCHISES.
3 *credits* (Manning)
(Given 1930-31 and alternate years.)

213—FEDERAL CENTRALIZATION.
3 *credits* (Jones)
(Given 1930-31 and alternate years.)

215—ADMINISTRATION OF JUSTICE.
3 *credits* (Manning)

216—TYPES OF POLITICAL ORGANIZATIONS.
3 *credits* (Cole)

255—COMPARATIVE GOVERNMENT.
3 *credits* (Jones)
(Given 1931-32 and alternate years.)

PSYCHOLOGY

The department has accumulated for a number of years a mass of test records of the intelligence, special abilities and achievements of students in all the colleges of the University. It also has estimates of personal traits and the histories of many students. Taken together, these afford a rare opportunity for graduate work in student personnel problems. The director and executive secretary of the University Personnel Bureau are also affiliated with the department.

Another field in which special facilities are provided is that of the psychological clinic. The department has maintained such a clinic for years. It has established close contacts with the public schools, the welfare agencies, the Eastern State Hospital for the Insane, the reformatory institutions, and the State Institution for the Feeble-Minded, all of which are located at or near Lexington.

The department undertakes special research in business and industrial personnel problems and in the development and training of normal children. It is well equipped for experimental and statistical studies in these fields. Connected with the department is a Kentucky Station of the Psychological Corporation, a national organization for conducting authoritative work in applied psychology.

The experimental laboratory is especially equipped for the objective determination of emotions, their relation to perceptual acts, sets, drives, conditioning, etc. Research may be attacked also on lower animals with facilities provided in the animal house.

Apparatus, test equipment, and library facilities are available for advanced work in the following list of courses which assume fundamental training in general psychology, and biological or social sciences for majors in the department.

104—SOCIAL PSYCHOLOGY. Description and explanation of social phenomena in terms of the original and acquired reaction systems of the individual. So-called types are characterized in respect to the social problems they afford. Topics given special consideration: crowds, mob behavior, propaganda, and nationalism.

3 *credits; 1st semester* (Dimmick)

107—PSYCHOLOGICAL INTERPRETATIONS. Unusual human activities and experiences, including hypnotism, thought transference, spirit communications, psycho-therapy, and other sub-conscious phenomena are considered from the point of view of the scientific evidence. An attempt is made to trace the relation to the creative work in literature and art and to discoveries in science and invention.

3 *credits; 2nd semester* (Miner)

114—ABNORMAL PSYCHOLOGY. Atypical conduct and thinking are studied from both the theoretical and the practical points of view. The major psychoses and neuroses are given special consideration. Some opportunity for clinical observation is provided.

3 *credits; 2nd semester* (Dimmick)

108a—HUMAN MEASUREMENTS. The history and significance of tests of intelligence, including an analysis and evaluation of individual and group tests of general capacity for intellectual performances.

2 *credits; 1st semester* (Dimmick)

108b—HUMAN MEASUREMENTS. The history and interpretation of tests of special aptitudes and of special skills and attainments, including a criticism of the available tests for these special abilities.

2 *credits; 2nd semester* (Dimmick)

109a—DIAGNOSIS OF DEVELOPMENT. Provides for acquisition of technique in the administration of well-known individual tests and scales which furnish criteria of the levels of intellectual and emotional

development. Emphasis is placed upon the Standard Revision and the Herring Revision of the Binet-Simon Scale.

Prerequisite: *Psychology* 108*a* or *equivalent.* 2 *credits; either semester* (Dimmick)

109b—DIAGNOSIS OF DEVELOPMENT. A continuation of 109a in respect to aims. Training is given in the administration of standardized performance tests and scales and in the interpretation of the data yielded by these.

Prerequisite: *Psychology* 108*a* or *equivalent.* 2 *credits; either semester* (Dimmick)

102a—GENETIC PSYCHOLOGY. Influence of hereditary factors in the development of human behavior, with a critical survey of the problem and evidence in connection with certain psychological traits such as musical and other special abilities, intelligence, insanity, and interests.

2 *credits; 1st semester* (Newbury)

116—COMPARATIVE PSYCHOLOGY. Two hours of lectures, two hours of laboratory a week. A survey of the field of animal behavior with special reference to experimental technique. Opportunity for research experience in an animal laboratory. Topics include problems of heredity and environment, activity, instinct, motivation, learning, sensory discrimination, and personality in sub-human species. Relationships to human problems indicated.

3 *credits; 2nd semester* (Newbury)

119—CLINICAL PSYCHOLOGY. Two hours lecture and discussion. A survey of clinical work on the diagnosis and adjustment of problem children and adults. The course gives a background for social, mental hygiene, and clinical work.

2 *credits; 2nd semester* (Dimmick)

110—EXPERIMENTAL PSYCHOLOGY. Experimental techniques and their application to present psychological problems. The student is encouraged to select his own problems. Example of such problems are: effect of changed surroundings on learning; peripheral retinal sensitivity; binocular fuson. One hour lecture; four hours laboratory.

3 *credits; 2nd semester* (White)

113—PSYCHOLOGY OF LEARNING. An experimental study of the learning process together with an analysis of the types of learning. One hour lecture; four hours laboratory.

3 *credits; 1st semester* (White)

112—PERSONAL ADMINISTRATION. The functions of personnel work in business and industry. The selection and placement of employes, their training, supervision and motivation; the scientific study of work and fatigue. Given in alternate years with 221.

3 *credits; 1st semester* (Beaumont)

120a-d—INDEPENDENT WORK IN PSYCHOLOGY. Designed for advanced students and graduates who undertake minor research problems to be conducted in regular consultation with the instructor. A minimum of six hours time per week is required.

2 *credits; both semesters* (Miner and others)

Courses open only to Graduate Students

201a--SEMINAR IN PSYCHOLOGY. One two-hour discussion each week of research under way by graduate students and members of the staff.

1 *credit; 1st semester* (Miner and the staff)

201b, c, etc.—SEMINAR IN PSYCHOLOGY. Continuation of 201a. These numbers are provided for registration in succeeding semesters.

1 *credit; either semester* (Miner and the staff)

203a—PROBLEMS IN PSYCHOLOGY. Shorter research problems are registered under this number. A minimum of six hours per week is required in consultation with the instructor.

2 *credits; 1st semester* (Miner and others)

203b, c, etc.—PROBLEMS IN PSYCHOLOGY. Continuation of researches. These numbers are provided for registration in subsequent semesters.

2 *credits; either semester* (Miner and others)

210a—RESEARCH IN PSYCHOLOGY. Research or thesis work may be registered under this number. A minimum of nine hours per week is required on research conducted in consultation with the instructor.

3 *credits; 1st semester* (Miner and others)

210b, c, etc.—RESEARCH IN PSYCHOLOGY. Continuation of research. These numbers are provided for registration in succeeding semesters.

3 *credits; either semester* (Miner and others)

211—MENTAL WORK AND FATIGUE. A laboratory course. Four hours devoted to experiments and one hour discussion. Prerequisites, an advanced course in experimental psychology and elementary statistics or their equivalent.

3 *credits; 1st semester* (White)

212—THE EMOTIONS. A laboratory course. Four hours devoted to experiments and one hour discussion. Prerequisites, an advanced course in experimental psychology and elementary statistics or their equivalent.

3 *credits; 2nd semester* (White)

213—THE OBSERVATION PROCESSES. A laboratory course. Four hours devoted to experiments and one hour discussion. Pre-

requisites, an advanced course in experimental psychology and elementary statistics or their equivalent.

3 *credits* (White)

215—MEASUREMENTS OF HUMAN RELATIONSHIPS. An advanced course which considers the treatment and interpretation of human measurements. The course deals with the computation and interpretation of simple, partial and multiple correlations, regressions, equations, and reliability of measures.

3 *credits; 2nd semester* (Asher)

218—SYSTEMATIC PSYCHOLOGY. An historical and critical study of fundamental concepts and current schools of psychology with a view to their evaluation.

3 *credits; 1st semester* (Miner)

221—STUDENT PERSONNEL. The methods of dealing with student personnel problems in college and high school, including the problems of selection, classification, sectioning of classes, grading, personal adjustment, motivation, guidance and vocational placement. The functions of a personnel officer. Given in alternate years with 112.

3 *credits; 2nd semester* (Miner)

SOCIOLOGY

101—SOCIAL DEPENDENCE. A study of poverty and social dependence, and of measure of relief afforded through philanthropic agencies, or organized charity, together with general or special measures for the prevention, elimination, or reduction of poverty, and for social betterment.

3 *credits; 1st semester* (Best)

102—SOCIAL PATHOLOGY. A study of mortality rates, of diseases and accidents, and of mental and physical defectiveness, from a sociological point of view, together with a consideration of general social measures for prevention and treatment.

3 *credits; 2nd semester* (Best)

103—CRIMINOLOGY. A study of general conditions as to crime and delinquency, of measures of punishment and reform of the prisoner, of criminal procedure and its possible reform, and of measures for the prevention of crime.

3 *credits; 1st semester* (Best)

105—SOCIAL SYSTEMS. A study of social systems that have existed or have been proposed from early times, together with an examination of the theories of representative sociologists.

3 *credits; 1st semester* (Best)

[NOT GIVEN 1931-32]

106—AMERICAN IMMIGRATION. A study of immigrant peoples and races in the United States, and of their general effects upon American life, together with an examination of a general national policy upon the subject.

3 *credits; 2nd semester* (Best)

107—COMMUNITY WELFARE WORK. A limited social service course involving a study, with practical observations, of actual social conditions among local communities, of the work of agencies and organizations dealing with them, and of general measures for their improvement.

3 *credits; 1st semester* (Montgomery)

109—THE FAMILY. A study of the family, both in its historical aspects and in connection with the problems before it under modern conditions.

3 *credits; 1st semester* (Montgomery)

112—COMMUNITY ORGANIZATION. A study of the theory and of practical results of organization among individuals and among different agencies in the community for the advancement of its life.

3 *credits; 2nd semester* (Montgomery)

201a—SOCIOLOGY SEMINAR. Consideration mainly of theses, methods of research, and current sociological literature.

1 *credit; 1st semester* (Best)

201b—SOCIOLOGY SEMINAR. Continuation of 201a.

1 *credit; 2nd semester* (Best)

III. BIOLOGICAL SCIENCES

AGRONOMY (See Agriculture)

ANATOMY AND PHYSIOLOGY

105a—HUMAN OSTEOLOGY. The study begins with the development of the skeleton. This is followed by the process of ossification and the histology of bones. Each bone of the body is studied in detail, drawings being made from the bone. The bones surveyed during this division of the course are: Those of the face and cranium; vertebrae; ribs; sternum; hyoid. The work may be amplified to most any extent and some comparative anatomy included. *Recitation, one hour a week; laboratory, four hours a week.*

3 *credits; 1st semester* (Sherwood and Assistant)

105b—HUMAN OSTEOLOGY. Continuation of A+P 105a. The bones of the upper and lower extremities (arm and leg) including the pectoral and pelvic girdles are thoroughly studied, detailed drawings of each bone being made from furnished specimens. *Recitation, one hour a week; laboratory, four hours a week.*

3 *credits; 2nd semester* (Sherwood and Assistant)

106a—ENDOCRINOLOGY. This is the study of the glands of internal secretion or endocrine glands. Each gland is introduced with the consideration of its anatomical location and structure, gross and microscopic. This is followed by a comprehensive study of its functions, including the normal activity, hyperactivity and hypoactivity. The foregoing are demonstrated to the class. Recent scientific articles bearing upon the subject are reviewed and discussed. The glands taken up in this course are the thyroid, parathyroids, thymus and supraenals. *Lectures, demonstrations and recitations.*

Prerequisites: A+P 1a and 1b or 2a and 2b; Zoology 7b; Chemistry 1a and 1b; and the consent of the instructor.

3 *credits; 1st semester* (Allen)

106b—ENDOCRINOLOGY. Continuation of 106a. The endocrine glands which are studied are the pituitary, pancreas, organs of reproduction and pineal. *Lectures, demonstrations and recitations.*

Prerequisites: A+P 1a and 1b or 2a and 2b; Zoology 7b; Chemistry 1a and 1b; and the consent of the instructor.

3 *credits; 2nd semester* (Allen)

107a—ADVANCED ANATOMY. An introduction to the anatomy of the nervous system. The aim of this course is to provide an intro-

ductory laboratory course on the form, structure and functional arrangements of the nervous system for students of biology, physiology, psychology and those who are planning the study of the medical sciences. The work of this course includes a careful study of the nervous systems of lower vertebrates, namely, fishes, amphibia and reptiles. *Recitations and lectures, one hour a week; laboratory, four hours a week.*

Prerequisites: *A+P 1a and 1b or the equivalent.* 3 *credits; 1st semester* (Sherwood)

107b—ADVANCED ANATOMY. Continuation of 107a. Special consideration is given to the structure of the mammalian brain in which the conductive systems are most completely organized. *Recitations and lectures, one hour a week; laboratory, four hours a week.*
Prerequisite: *A+P 107a.* 3 *credits; 2nd semester* (Sherwood)

108a—ADVANCED PHYSIOLOGY. The course is designed for students who anticipate further advanced study in physiology or in the medical sciences. In the course, graphic records which show the character of contraction of muscle (skeletal and smooth) are made. This is followed by observing the different factors that vary the character of the contraction. Experiments are performed to show that muscle is a thermogenic and an electrogenic organ. The nervous system which includes the structures and functions of the spinal cord, the medulla oblongata, the cerebellum, the cerebrum and the autonomic system are taken up in great detail. The course will close with an intensive study of the special sense-organs. Practically half of the semester will be devoted to the nervous system. *Lectures, recitations, three hours a week; laboratory, four hours a week.*

Prerequisites: *A+P 1a and 1b or the equivalent; Chemistry 1a and 1b; Physics 1a and 1b; also, the consent of the instructors.* 5 *credits; 1st semester* (Allen and Assistants)

108b—ADVANCED PHYSIOLOGY. This is a continuation of 108a. The course is opened with the study of the circulatory system. Much time is given to the consideration of the mechanics of the heart, its nervous regulation and the functional peculiarities of its tissues. The mechanics of the circulation (hemodynamics) which includes the nervous regulation of the blood vessels are also surveyed. Other subject-material to be covered consists of the respiratory system; the gastro-intestinal tract with its secretory organs; the processes of digestion, absorption, excretion, heat production; voice and the production of speech. *Lectures and recitation, three hours a week; laboratory, four hours a week.*

Prerequisite: *A+P 108a.* 5 *credits; 2nd semester* (Allen and Assistants)

116a—SEMINAR IN ANATOMY AND PHYSIOLOGY. All students who are majoring in the Department are required to take this course. At each meeting of the Seminar, an assigned scientific article of physiological or anatomical subject-matter will be reviewed thoroughly by a member of the seminar and then discussed in general. In addition to the foregoing, each member of the seminar will be required to follow closely the current publications bearing upon the subjects of the class and present brief reports of such articles which are of interest. *One two-hour discussion period a week.*

Prerequisites: A+P 1a and 1b or the equivalent. 1 *credit; 1st semester* (Allen, Sherwood)

116b—SEMINAR IN ANATOMY AND PHYSIOLOGY. Continuation of 116a. *One two-hour discussion period a week.*

Prerequisites: A+P 1a and 1b or the equivalent. 1 *credit; 2nd semester* (Allen, Sherwood)

201a—RESEARCH IN PHYSIOLOGY. The pursuit of an assigned problem in which the student will have the opportunity to demonstrate originality. *Conference and laboratory, ten hours a week.*

Prerequisites: A+P 1a and 1b or the equivalent; Chemistry 127a and 127b (131a and 131b desirable); Physics, one year. 5 *credits; 1st semester* (Allen, Sherwood)

201b—RESEARCH IN PHYSIOLOGY. Continuation of 201a. *Conferences and laboratory, ten hours a week.*

Prerequisites: A+P 1a and 1b or the equivalent; Chemistry 127a and 127b (131a and 131b desirable); Physics, one year. 5 *credits; 2nd semester* (Allen, Sherwood)

ANIMAL INDUSTRY (See Agriculture)

ANIMAL PATHOLOGY (See Agriculture)

ANTHROPOLOGY AND ARCHAEOLOGY

101—PRINCIPLES OF ANTHROPOLOGY. Fundamental principles of anthropology; relationships of physical anthropology, anthropometry, ethnology, ethnography and archaeology; anthropology of the New World; North American prehistory; ancient human occupation in the Mississippi Valley; outline of man's prehistoric past in Kentucky; anthropological studies of Kentucky materials.

2 *credits; 1st semester* (Funkhouser)

102—KENTUCKY ARCHAEOLOGY. Review of archaeological research in the United States; prehistoric cultures of the Mississippi

Valley; development of ancient crafts; methods of classification of artifacts; significance of neolithic tools, weapons and problematical forms; a study of the artifacts and cultures represented in Kentucky.
Prerequisite: *A & A* 101. 2 *credits; 2nd semester* (Webb)

BACTERIOLOGY

102—GENERAL BACTERIOLOGY. Morphology, classification, physiology, observation and cultivation of bacteria and related micro-organisms; their relation to certain fermentations and to the preservation of food; their influence on the plant food in the soil. Micro-organisms in milk, water, air, and soil. Relation of micro-organisms to disease; sources and modes of infection; use of germicidal agents; theories of immunity.
Prerequisite: *Chemistry 1b.* 4 *credits;* (Scherago, Kahn)

103—PATHOGENIC BACTERIOLOGY. Cultivation, morphology, means of identification, powers of resistance, pathogenesis, distribution, channels of infection and means of dissemination of pathogenic micro-organisms, especially those related to specific infectious diseases of man and animals. Study of preparation, standardization, and uses of vaccines, toxins, antitoxins, and other biological products related to the diagnosis, prevention and treatment of specific infectious diseases. Application of the various phenomena of immunity in the diagnosis of infectious diseases; agglutination, precipitation, and complement fixation reactions. Anaphylaxis.
Prerequisites: *Bacteriology* 52 *or* 102, *or* 2*b and Chemistry* 1*b.* 4 *credits; 1st semester* (Scherago)

104—APPLIED BACTERIOLOGY. A course in bacteriological analysis to supplement courses 52 or 102.
Prerequisites: *Bacteriology* 2*b and Chemistry* 1*b or Bacteriology* 52 *or* 102. 2 *credits; 2nd semester* (Weaver)

106—BACTERIOLOGY OF FOODS. Microbiology of milk and milk products, eggs, tomato products, meat and meat products; food preservation; bacterial food poisoning.
Prerequisites: *Bacteriology* 2*b and Chemistry* 1*b, or Bacteriology* 52 *or* 102. 4 *credits; 1st semester* (Weaver)

107—BACTERIOLOGY OF WATER AND SEWAGE. The microflora of water; importance of the colon-typhoid group of bacteria in water; methods of water analysis and interpretation of results; special media used in isolating and identifying the colon-typhoid group of bacteria; methods of water purification; microflora of sewage; methods of sewage analysis; methods of sewage disposal; bacteriological study

of swimming pools; methods of analysis; effect of treatment on bacteriological content; regulations concerning swimming pools. Water purification plants, sewage disposal plants and swimming pools will be visited and studied.

Prerequisites: *Bacteriology 2b and Chemistry 1b, or Bacteriology* 52 *or* 102. 4 *credits; 2nd semester* (Weaver)

110a—LABORATORY DIAGNOSIS. Laboratory methods in the diagnosis of disease. Designed for students taking the course in Medical Technology.

Prerequisite: *Bacteriology* 103. 3 *credits; 2nd semester* (Scherago)

110b—LABORATORY DIAGNOSIS. A continuation of 110a. 3 *credits; 2nd semester* (Scherago)

111—GENERAL PATHOLOGY. A course in general pathology consisting of lectures and recitations and in the laboratory the demonstration of pathological histology and of fresh and museum specimens showing the effect of disease on the organs and tissues of the human body. Degenerations, infiltrations, regenerations, inflammation, disturbances of the circulation, infectious granulomata, neoplasms, etc., will be studied.

Prerequisites: *Physiology 1a and 1b; Zoology 7b and 101b; Bacteriology* 103. 4 *credits; 1st semester* (Maxwell)

115—INDIVIDUAL WORK. Students will be assigned special problems in laboratory work and reference reading.

Prerequisite: *Any Bacteriology course above* 102. 3 *credits* (Scherago, Weaver)

125—IMMUNOLOGY AND SEROLOGY. The theories and mechanism of immunity. The production of antitoxin, agglutinins, bacteriolysins, opsonins, precipitins, hemolysins, and cytotoxins; their practical applications; the preparation of their homologous antigens. The study of ferments and antiferments; the study of hypersensitiveness.

Prerequisite: *Bacteriology* 103. 5 *credits; 2nd semester* (Scherago)

150a and c—SEMINAR.
1 *credit; 1st semester* (Scherago, Weaver)

150b and d—SEMINAR.
1 *credit; 2nd semester* (Scherago, Weaver)

201a—RESEARCH IN BACTERIOLOGY.
5 *credits; 1st semester* (Scherago, Weaver)

201b—RESEARCH IN BACTERIOLOGY. A continuation of course 201a.

5 *credits; 2nd semester* (Scherago, Weaver)

203a—PUBLIC HEALTH BACTERIOLOGY. This course considers the public health aspects of bacteriology including the etiology, epidemiology, immunology, and laboratory diagnosis of infectious diseases; the bacteriology of air, water and sewage; food poisoning; the production, standardization and practical applications of biological products used in the diagnosis, treatment and prevention of infectious diseases; the standardization of disinfectants.

Prerequisites: *Open only to physicians and health officers or those with equivalent training.* 3 *credits* (Scherago)

203b—PUBLIC HEALTH BACTERIOLOGY. Continuation of course 203a.

Prerequisite: *Bacteriology* 203*a*. 3 *credits* (Scherago)

Note: This course is offered in the summer session only.

BOTANY

106a—SPECIAL PROBLEM. The qualified student will be assigned some problems for solution.

3 *credits* (McFarland, McInteer)

106b—SPECIAL PROBLEM. A continuation of 106a.

3 *credits* (McFarland, McInteer)

111—CLASSIFICATION OF PARASITIC FUNGI. Entire time will be taken up in studying the fungi that cause diseases of plants, both cultivated and wild.

1 *credit* (McFarland)

125a—MORPHOLOGY OF FUNGI. A detailed study of the different types of fungi from the standpoint of morphology, cytology and physiology.

4 *credits* (McFarland)

125b—MORPHOLOGY OF FUNGI. A continuation of 125a.

4 *credits* (McFarland)

126a—MYCOLOGY. A course which employs the entire time of the student in identification of unknowns.

4 *credits* (McFarland)

126b—MYCOLOGY. A continuation of 126a.

4 *credits* (McFarland)

150a—ADVANCED SYSTEMATIC BOTANY. A continuation of course 105, but more work and more difficult plants are studied.
5 *credits* (McFarland, McInteer)

150b—ADVANCED SYSTEMATIC BOTANY. A continuation of 150a.
5 *credits* (McFarland, McInteer)

206a—RESEARCH IN MORPHOLOGY.
5 *credits* (McFarland, McInteer)

206b—RESEARCH IN MORPHOLOGY. A continuation of 206a.
5 *credits* (McFarland, McInteer)

207a—RESEARCH IN MYCOLOGY.
5 *credits* (McFarland)

207b—RESEARCH IN MYCOLOGY. A continuation of 207a.
5 *credits* (McFarland)

210a—RESEARCH IN PLANT PHYSIOLOGY.
5 *credits* (McInteer)

210b—RESEARCH IN PLANT PHYSIOLOGY. A continuation of 210a.
5 *credits* (McInteer)

213a—RESEARCH IN SYSTEMATIC BOTANY.
5 *credits* (McFarland, McInteer)

213b—RESEARCH IN SYSTEMATIC BOTANY. A continuation of 213a.
5 *credits* (McFarland, McInteer)

ENTOMOLOGY (See Agriculture)

HORTICULTURE (See Agriculture)

HYGIENE AND PUBLIC HEALTH

The Department of Hygiene and Public Health does not at this time give advanced work leading to a degree in public health. The courses listed below are available as minors for students who wish to become candidates for graduate degrees in related departments.

100a—PUBLIC HEALTH. Lectures, recitations and problems. A general consideration of different fields of public health.
Prerequisite: *Hygiene* 1. 3 *credits; 1st semester* (Chambers, Heinz)

100b—PUBLIC HEALTH. A continuation of 100a.
Prerequisite: *Hygiene* 1 *and Hygiene* 100*a*. 3 *credits; 2nd semester* (Chambers, Heinz)

104—MATERNAL AND CHILD HEALTH. Lectures, discussions and reports. The principles of prenatal, infancy and child health. *Prerequisite*: *Hygiene* 1. 3 *credits; 1st semester*
(Chambers, Heinz)

110—HEALTH EDUCATION AND HEALTH SUPERVISION OF SCHOOLS. A course dealing with the essentials and principles of health education and the medical inspection of schools. *Prerequisites*: *Hygiene* 1, 105. 3 *credits; 2nd semester*
(Chambers, Heinz)

122—TUBERCULOSIS FOR NURSES. The control of tuberculosis; for nurses.
1.5 *credits; Summer School only* (Staff)

124a—PUBLIC HEALTH NURSING. A general course covering the principles and practice of public health nursing.
1.5 *credits; Summer School only* (Staff)

124b—PUBLIC HEALTH NURSING. A continuation of 124a.
1.5 *credits; Summer School only* (Staff)

200a—EPIDEMIOLOGY. The control of communicable diseases. For health officers only.
1.5 *credits; Summer School only* (Staff)

200b—EPIDEMIOLOGY. A continuation of 200a.
1.5 *credits; Summer School only* (Staff)

212a—PUBLIC HEALTH ADMINISTRATION. The organization and administration of public health. For health officers only.
1.5 *credits; Summer School only* (Staff)

212b—PUBLIC HEALTH ADMINISTRATION. A continuation of 212a.
1.5 *credits; Summer School only* (Staff)

218a—VITAL STATISTICS. Statistics of populations, births, deaths, marriages, morbidity. For health officers only.
1.5 *credits; Summer School only* (Staff)

218b—VITAL STATISTICS. A continuation of 218a.
1.5 *credits; Summer School only* (Staff)

222—TUBERCULOSIS. The control of tuberculosis. For health officers only.
1.5 *credits; Summer School only* (Staff)

ZOOLOGY

101a—HISTOLOGY. Histology of the tissues. Lectures and laboratory work on the preparation of material for microscopic study.

The latter part of the course is designed to acquaint the student with microscopic manipulation and at the same time familiarize him with the tissues of the animal body.
Prerequisites: *Zoology* 1*a-b*. 3 *credits; 1st semester* (Brauer)

101b—HISTOLOGY. Histology of the organs. A continuation of course 101a. Lectures and laboratory work on the microscopic anatomy of the animal body.
Prerequisite: *Zoology* 101*a*. 3 *credits; 2nd semester* (Brauer)

102—ORNITHOLOGY. A study of the life histories, anatomy and physiology and taxonomy of birds with particular reference to the habits, songs, eggs, nests, migrations and economic importance of our native birds.
3 *credits* (Funkhouser, Allen)

105—MEDICAL ENTOMOLOGY. Insects (and briefly other animals) affecting the health and comfort of man. Identification, life histories and etiology of many important species. Methods of study and methods of control. For pre-medical students.
3 *credits; 1st semester* (Allen)

106—EMBRYOLOGY. Vertebrate development. Lectures on maturation, fertilization, cleavage, axiation, organogenesis, and anomalies of development. The laboratory work consists of a study of the germ cells, maturation, cleavage and development of the chick and of the pig.
4 *credits; 2nd semester* (Brauer)

157a—INVERTEBRATE ANATOMY. Invertebrates. (1) Systematic consideration of all important phyla, classes, orders, and a few families. (2) Dissection of a few types not previously studied. (3) Identification and drawings of external aspects of many genera. (4) Life histories. (5) Comparative organology and physiology of higher phyla.
4 *credits; 1st semester* (Allen)

157b—VERTEBRATE ANATOMY. Vertebrates. (1) Systematic consideration of classes, orders, and some families of Vertebrata. (2) Detailed dissection of types not previously studied. (3) Comparative organology and (briefly) physiology of the several classes. (4) Preparation of charts and diagrams of nervous systems, urinogenital systems, and vascular systems. (5) Complete demonstration of the Mammalian anatomy.
4 *credits; 2nd semester* (Allen)

108a—PRINCIPLES OF ZOOLOGY. An advanced lecture course open only to juniors, seniors and graduate students on the funda-

mental principles of biology. The first semester is devoted primarily to the study of organic evolution.

2 *credits; 1st semester* (Funkhouser)

108b—PRINCIPLES OF ZOOLOGY. A continuation of 108a. The second semester is devoted to the study of heredity, eugenics and animal instincts.

2 *credits; 2nd semester* (Funkhouser)

110a—INDIVIDUAL WORK. Special problems for individual students who are capable of pursuing independent investigations.

3 *credits* (Funkhouser, Allen, Brauer)

110b—INDIVIDUAL WORK. A continuation of 110a.

3 *credits* (Funkhouser, Allen, Brauer)

112—ICHTHYOLOGY. (1) Taxonomy of the fishes. Use of keys and literature. Drawing types of families. (2) Life histories and biology of many type species, illustrated by photographs. (3) Fish structure and physiology. (4) Fish culture and economic ichthyology; care of fishes, aquaria, etc. (5) Special studies, such as blind fishes, deep sea fishes, etc.

3 *credits; 1st semester* (Allen)

114a—ZOOLOGICAL SEMINAR. (1) Occasional presentation of the results of research by members. (2) Reports on papers of technical or semi-technical nature in the current literature. (3) Occasional book reviews. (4) Discussion of biological principles and phenomena. (5) Correlation of zoological fields.

1 *credit* (Funkhouser, Allen, Brauer)

114b—ZOOLOGICAL SEMINAR. A continuation of 114a.

1 *credit* (Funkhouser, Allen, Brauer)

160—ONTOGENY. Theories and philosophies of development with a consideration of experimental data bearing thereon. Lectures and literature reports.

2 *credits; 1st semester* (Brauer)

201a—HERPETOLOGY. Systematic and taxonomic studies of the Reptilia. For graduate students only.

3 *credits; 1st semester* (Funkhouser)

201b—HERPETOLOGY. A continuation of 201a.

3 *credits; 2nd semester* (Funkhouser)

202a—SYSTEMATIC ENTOMOLOGY. Research work on special groups of insects requiring advanced study in the literature of the subject and designed for students who desire to specialize in entomology. For graduate students only.

4 *credits; 1st semester* (Funkhouser)

202b—SYSTEMATIC ENTOMOLOGY. A continuation of 202a. In the second semester special attention is paid to entomotaxy and the bibliography of the group studied.

4 credits; 2nd semester (Funkhouser)

IV. PHYSICAL SCIENCES

CHEMISTRY

101—PHYSICAL CHEMISTRY. For students in Agriculture and the biological sciences.
Prerequisites: *Chemistry* 7 *and* 8, *Physics* 1*b*, *Mathematics* 3 *or* 4. 5 *credits; either semester* (Bedford)

102—ELECTRO CHEMISTRY. Elementary, electro-analysis, electroplating and preparation of some inorganic and organic substances by electrolysis.
Prerequisites: *Chemistry* 101 *or* 131*b*, 109, 127*b*. 5 *credits; either semester* (Bedford)

104—SYNTHETIC INORGANIC CHEMISTRY. An intermediate course planned to aid the student in gaining a more adequate knowledge of practical inorganic chemistry. Elective.
5 *credits; 2nd semester* (Maxson)

106—ADVANCED ORGANIC CHEMISTRY. A laboratory course which includes the preparation of compounds of theoretical, biological and industrial importance together with references to the original literature, conferences and reports.
Prerequisite: *Chemistry* 127*b*. 5 *credits* (Barkenbus)

107—SELECTED PROBLEMS IN QUANTITATIVE ANALYSIS.
Prerequisite: *Chemistry* 114. 5 *credits; 2nd semester* (Tuttle)

108—COLLOID CHEMISTRY. A course involving the preparation of colloids and study of the physical and chemical properties of matter in the colloidal state.
5 *credits; either semester* (Maxson)

109—QUANTITATIVE ANALYSIS. A lecture and laboratory course devoted to the analysis of ores, alloys, etc.
Prerequisite: *Chemistry* 8. 5 *credits; either semester* (Tuttle)

110—PHYSICAL CHEMISTRY. Intermediate course.
Prerequisites: *Chemistry* 131*b* *and Calculus* 3 *credits; either semester* (Bedford)

111—PHYSICAL CHEMISTRY. Intermediate course.
Prerequisite or concurrent; Chemistry 110. 2 *credits; either semester* (Bedford)

112—ADVANCED AGRICULTURAL ANALYSIS. A laboratory

course having for its object the complete analysis of fertilizers, feeds, soils and agricultural products.
Prerequisite: *Chemistry* 8. 4 *credits; 2nd semester* (Tuttle)

114. ADVANCED QUANTITATIVE ANALYSIS. The analysis of iron and steel, slags and rocks.
5 *credits; either semester* (Tuttle)

118—WATER ANALYSIS. In this course waters are examined to determine their fitness for domestic and other purposes.
2 *credits; 1st semester* (Tuttle)

119a—INDUSTRIAL CHEMISTRY. A survey course on modern industrial chemistry using text as a basis for discussion.
2 *credits; 1st semester* (Maxson)

119b—INDUSTRIAL CHEMISTRY. A continuation of 119a.
2 *credits; 2nd semester* (Maxson)

122a—JOURNAL CLUB. Conferences and reports on chemical literature and training in the use of literature for research purposes.
1 *credit; 1st semester* (Maxson)

122b—JOURNAL CLUB. A continuation of 122a.
1 *credit; 2nd semester* (Maxson)

127a—ORGANIC CHEMISTRY. Recitations and lectures in the aliphatic series together with laboratory work on the preparation and study of such compounds as will emphasize basic principles and important synthetic methods.
Prerequisite: *Chemistry* 1*b*. 5 *credits; 1st semester* (Barkenbus)

127b—ORGANIC CHEMISTRY. A continuation of Chemistry 127a. Cyclic series.
Prerequisite: *Chemistry* 113*a*. 5 *credits; 2nd semester* (Barkenbus)

129—FOOD CHEMISTRY AND ANALYSIS. The composition, adulteration and preservation of food. Laboratory practice on the analysis of milk, sugar, baking powder, vinegar, alcoholic beverages, fats, etc.
Prerequisites: *Chemistry* 7 *or* 127*a and* 8. 5 *credits; 1st semester* (Tuttle)

130a—PHYSIOLOGICAL CHEMISTRY. The chemistry and metabolism of carbohydrates, proteins and fats. A study of the tissues, the secretions and excretions. The nature and action of enzymes. Nutrition, food values and requirements. The effects of a diet of selected food principles on the quantity of metabolic products.
Prerequisite: *Chemistry* 7 *or* 127*a*. 5 *credits; 1st semester* (Barkenbus)

130b—PHYSIOLOGICAL CHEMISTRY. A continuation of 130a.
5 *credits; 2nd semester* (Barkenbus)

131a—INTRODUCTORY COURSE IN PHYSICAL CHEMISTRY. Based upon the fundamental laws of chemistry. Determination of atomic and molecular weights; gaseous, liquid and solid states of matter, solution, ideal and ionized; Thermo-chemistry.
4 *credits; 1st semester* (Bedford)

131b—INTRODUCTORY COURSE IN PHYSICAL CHEMISTRY. A continuation of 131a. Homogeneous and Hetrogeneous Equilibria; Chemical Kinetics; Structure of Matter; Periodic Law; Radio-Chemistry; Colloids; Electro-Chemistry.
Prerequisite: *Chemistry* 131*a*. 4 *credits; 2nd semester* (Bedford)

150—ADVANCED INORGANIC CHEMISTRY. A survey course covering the less common side of inorganic chemistry including laboratory work in synthesis.
Prerequisite: *Chemistry* 131*b*. 4 *credits; 2nd semester* (Maxson)

201—SYNTHETIC INORGANIC CHEMISTRY. Practice and research in inorganic synthesis, with use of original literature.
5 *credits; either semester* (Maxson)

202—QUANTITATIVE ANALYSIS. A critical study of known procedures and research in analytical chemistry.
5 *credits; either semester* (Tuttle)

204a—ORGANIC CHEMISTRY. A laboratory course with conferences on special problems in organic chemistry.
Prerequisite: *Chemistry* 106. 5 *credits; either semester* (Barkenbus)

204b—ORGANIC CHEMISTRY.
Prerequisite: *Chemistry* 204*a*. 5 *credits; either semester* (Barkenbus)

205a—ADVANCED PHYSICAL CHEMISTRY. Lectures on selected topics.
Prerequisites: *Chemistry* 131*b* and *Calculus*. 2 *credits; either semester* (Bedford)

205b—ADVANCED PHYSICAL CHEMISTRY. (Continuation of 205a.) Lectures on selected topics.
2 *credits; either semester* (Bedford)

206a—ADVANCED PHYSICAL CHEMISTRY. Laboratory course on selected topics in Advanced Physical or Electro-Chemistry.
Prerequisite or concurrent: *Chemistry* 205*a*. 3 *or more credits; either semester* (Bedford)

206b—ADVANCED PHYSICAL CHEMISTRY. Continuation of 206a.

Prerequisite or concurrent: *Chemistry* 205*b*. 3 *or more credits; either semester* (Bedford)

207a—SYSTEMATIC INORGANIC CHEMISTRY. Lectures and conferences, two hours a week.

Prerequisite: *Chemistry* 131*b or its equivalent*. 2 *credits; either semester* (Maxson)

207b—SYSTEMATIC INORGANIC CHEMISTRY. Continuation of Chemistry 207a. Lectures and conferences, two hours a week.

2 *credits; either semester* (Maxson)

208—THEORETICAL CHEMISTRY. A historical survey of atomic theories and their influence upon the development of chemistry. Two lectures and assigned reading a week.

2 *credits; either semester* (Stewart)

210a, b, c, d—SEMINAR. Reports and discussions of recent research and current literature. 2 hours.

1 *credit; both semesters* (Staff)

ENGINEERING (See Engineering)

GEOLOGY

101a—PALEONTOLOGY. A systematic study of the important phyla of fossil invertebrates, their classification, identification, and geological distribution.

Prerequisite: *Geology* 15*a-b*; *Zoology* 1*a-b*. 3 *credits; 1st semester* (McFarlan)

101b—PALEONTOLOGY. The stratigraphic use of fossils in the determination of the geologic age of strata. Collections are assigned, the fossils identified, and the age of the fauna determined.

Prerequisite: *Geology* 101*a*. 3 *credits; 2nd semester* (McFarlan)

104a, b, c, etc.—ADVANCED FIELD GEOLOGY. The preparation of a geologic map, structure, and stratigraphic sections of assigned areas.

Prerequisite: *Geology* 9*b*, 15*a-b*. 2 *credits* (McFarlan)

105a, b, c, etc.—INDEPENDENT WORK IN GEOLOGY. May be elected in any field. Registration only after consultation with instructor in charge.

3 *credits*

106a—ECONOMIC GEOLOGY. Non-metallic mineral deposits (excepting petroleum, natural gas and asphalt). A study or origin, mode of occurrence, distribution and uses.

Prerequisite: *Geology* 15*a-b*. 3 *credits* (Meacham)

106b—ECONOMIC GEOLOGY. Metallic mineral deposits.
Prerequisite: *Geology* 15*a-b*. 3 *credits* (Meacham)

109a—MINERALOGY. Crystallography and physical mineralogy, with emphasis on their use in mineral identification.
Prerequisite: *Chemistry* 1*a-b*. 2 *credits; 2nd semester* (Robinson)

109b—MINERALOGY. Chemical, descriptive and determinative mineralogy. The origin, occurrence, associations and alteration products of minerals.
2 *credits; 1st semester* (Robinson)

116—OIL GEOLOGY. The origin, accumulation, and production of petroleum. A study of the geological features of the producing regions of the United States. Problems of geological exploration.
Prerequisite: *Geology* 15*a-b*. 2 *credits; 2nd semester* (Robinson)

117a, b, c, etc.—SEMINAR. A consideration of the literature dealing with current research. Required of seniors.
1 *credit; both semesters*

118a, b, c—FIELD WORK IN REGIONAL GEOLOGY. Two weeks in the field in the Appalachians. A study of regional geological features involving the various aspects of the science. The course is offered as a part of the first summer session coming early in June before the regular opening of the term. Required of major students at the end of their Junior year. Three distinct trips, offered in successive years, offer the opportunity for extended work of this type.
Prerequisites: *Geology* 15*a-b*; 106*a-b*. 2 *credits* (McFarlan and Meacham)

207a—PETROLOGY. Optical mineralogy. The use of optical properties in the determination of minerals in thin sections. A study of the minerals, their asscciations, and alteration products.
Prerequisite: *Geology* 109*a-b*; *Physics* 1*a-b*. 3 *credits* (Robinson)

207b—PETROLOGY. A study of igneous rocks, their classification, origin, metamorphism and decay.
Prerequisite: *Geology* 107*a*. 3 *credits* (Robinson)

208—STRUCTURAL GEOLOGY. A study of rock structures, rock deformation and diastrophism.
Prerequisite: *Geology* 15*a-b*; 109*a-b*; *Physics* 1*a-b*. (Robinson)

210—STRATIGRAPHIC PALEONTOLOGY. A study of the more important index fossils and fossil associations used in stratigraphic work.
Prerequisite: *Geology* 101*a-b*. 3 *credits* (McFarlan)

211—PRINCIPLES OF SEDIMENTATION. A study of the origin and distribution of sediment in the forming of sedimentary rock, particularly the effect of various types of environment. A study of the sedimentary rock as a means of determining ancient conditions on the earth.
Prerequisite: *Geology* 15*a-b*; 109*a-b*. 3 *credits* (Meacham)

202a-b—RESEARCH IN GEOLOGY. Consult instructor before registering.
5 *credits*

MATHEMATICS AND ASTRONOMY

MATHEMATICS

Graduate students will be able to obtain sufficient work to qualify for the doctor's degree. Graduate students must have had at least 12 credits beyond calculus before counting work toward an advanced degree. The White Mathematics Club and Pi Mu Epsilon meet regularly for the study of some book of general interest or for the presentation of special topics.

102—VECTOR ANALYSIS. An elementary course in the algebra and calculus of vectors with numerous applications in geometry and physics.
Prerequisite: *Course* 7*b*. 3 *credits; 2nd semester* (Rees)
[GIVEN 1932-33]

103—THEORY OF EQUATIONS. This course is based on Dickson's First Course in the Theory of Equations, which is used as a text.
Prerequisite: *Course* 7*a*. 3 *credits; 2nd semester* (Downing, Rees)
[GIVEN 1932-33; OFFERED 1933-34]

104—ADVANCED ANALYTICS. An account of some of the most important modern methods as presented in the treaties of C. Smith and Salmon.
Prerequisite: *Course* 7*a*. 3 *credits; 1st semester* (Downing)
[GIVEN 1932-3; OFFERED 1933-4]

105a—DIFFERENTIAL EQUATIONS. A first course in differential equations based on A. Cohen's text.
Prerequisite: *Course* 7*b*. 3 *credits; 2nd semester* (LeStourgeon)
[GIVEN 1932-3; OFFERED 1933-4]

106a—ADVANCED CALCULUS. Topics included: Continuity of functions; derivatives and differentials; Taylor's series; power series; partial differentiation; total derivatives; implicit functions; Jacobians; applications to geometry—elements of arc, area, and surface; maxima and minima; curvature and torsion.
Prerequisite: *Course* 7*b*. 3 *credits; 1st semester* (Cohen)
[GIVEN 1932-3; OFFERED 1933-4]

106b—ADVANCED CALCULUS. Continuation of Math. 106a. Topics included: Definite integrals—existence, properties, differentiation of a definite integral, integration under the integral sign, improper integrals; Gamma and Beta functions; Dirichlet integrals; line, surface, and space integrals; elliptic integrals.
Prerequisite: *Course* 106*a*. 3 *credits; 2nd semester* (Cohen)
[GIVEN 1932-3; OFFERED 1933-4]

107—PROJECTIVE GEOMETRY. A brief course based on a text like Dowling's.
Prerequisite: *Course* 7*a*. 3 *credits; 2nd semester* (Brown)
[GIVEN 1932-3]

110a-d—INDEPENDENT WORK IN MATHEMATICS. Limited to upper division and graduate students of high standing.
Prerequisite: *Course* 7*b*. 3 *credits; both semesters*
[GIVEN 1932-33; OFFERED 1933-34]

115—SUBSTITUTION GROUPS. This course will cover the material contained in Chapters 7 to 14 of Dickson's "Modern Algebraic Theories".
3 *credits; 2nd semester* (Latimer)
[OFFERED 1933-34]

116—ANALYTIC MECHANICS. Topics included: Composition and resolution of forces; statics of a particle; moments; couples; center of gravity; friction; simple harmonic motion; moments; constrained motion; work and energy; inertia; impulse.
Prerequisite: *Course* 7*b*. 3 *credits; 1st semester* (Downing)
[GIVEN 1932-3]

119—MODERN GEOMETRY. A course covering the ground substantially as presented in Allschiller Court's text.
Prerequisite: *Course* 7*a*. 3 *credits; 1st semester* (Boyd)
[OFFERED 1933-4]

120—MATHEMATICAL STATISTICS. Topics considered: Averages, coefficient of dispersion and skewness, graphical representation, Bernoulli's Theorem, curve-fitting, theory of sampling, correlation, and regression lines.
Prerequisite: *Course* 7*a*. 3 *credits; 2nd semester* (South)
[GIVEN 1932-3; OFFERED 1933-4]

122—ACTUARIAL MATHEMATICS. Theory and construction of mortality tables, life annuities, premiums, terminal reserves, etc.
Prerequisites: *Mathematics* 14 *and* 7*a*. 3 *credits; 2nd semester* (South)
[GIVEN 1932-3]

201a—GEOMETRIC TRANSFORMATIONS. This course covers a

large part of Doehlemann's Geometrische Transformationen. (Revised Edition).

3 *credits; 1st semester* (Boyd)

[GIVEN 1932-3]

202a—ALGEBRAIC CURVES. The classical theory as presented by Salmon, Wieleitner or Ganguli.

3 *credits; 2nd semester* (Boyd)

[OFFERED 1933-4]

203—THESIS. Required in addition to twenty-four credits for the Master's degree.

3 *credits; both semesters* (Senior Staff)

[GIVEN 1932-3; OFFERED 1933-4]

204—CALCULUS OF VARIATIONS. Examples illustrating the various types of problems. The differential equation of a curve which minimizes a definite integral. Other properties of a minimizing arc as deduced by Legendre, Weierstrass and Jacobi. Isoperimetric problems.

Prerequisites: *Courses* 105*a*, 106*a*. 3 *credits; 1st semester* (LeStourgeon)

[OFFERED 1933-4]

207a—THEORY OF NUMBERS. This course covers the material in Chapters 1-5 inclusive of Dickson's "Introduction to the Theory of Numbers."

3 *credits; 1st semester* (Latimer)

[GIVEN 1932-3]

207b—THEORY OF NUMBERS. This course covers the material in Chapters 6-10 inclusive of Dickson's "Introduction to the Theory of Numbers."

3 *credits; 2nd semester* (Latimer)

[GIVEN 1932-3]

209—THEORY OF FUNCTIONS OF THE COMPLEX VARIABLE. Introduction to algebra and calculus of complex numbers and their geometric representation. Conformal transformation. Cauchy-Riemann viewpoint, Weierstrass development. Riemann surfaces.

Prerequisites: *Courses* 105*a*, 106*a*. 3 *credits; 1st semester* (Rees)

[OFFERED 1933-4]

211—HIGHER ALGEBRA. This course covers the material in Chapters 2-11 inclusive and Chapter XX in Bocher's "Introduction to Higher Algebra."

Prerequisite: *Course* 7*a*. 3 *credits; 1st semester* (Latimer)

[OFFERED 1933-4]

218—ALGEBRAIC NUMBERS. Introductory course. Hecke's Vor-

lesungen uber der Theorie der Algebraischen Zahlen is used as a text.
Prerequisite: *Consent of instructors.* 3 *credits; 2nd semester* (Latimer)
[GIVEN 1932-3]

ASTRONOMY

251a—CELESTIAL MECHANICS. Topics included: Rectilinear motion; central forces of various types; potential and attraction of bodies; problem of two bodies; Ivory's theorem; Kepler's equation.
3 *credits; 2nd semester* (Downing)
[GIVEN 1932-3]

Note: Other courses such as Fourier's Series, Potential Function, Infinite Series, Solid Analytics, Theory of Functions of a Real Variable, Differential Geometry, Algebraic Invariants, Practical Astronomy, second courses in various subjects, will be given from time to time.

PHYSICS

The Department of Physics is well equipped with instruments of precision and has adequate library facilities necessary to the proper conduct of the following list of advanced and graduate courses:

101—THEORY OF HEAT. A lecture and experimental course covering the fundamental principles of heat. Opportunity is offered to use the gas thermometer, resistance thermometer, and various types of radiation pyrometers. Determination of vapor pressure and densities, coefficients of viscosity, freezing and boiling points, latent and specific heats, heats of combustion, thermal conductivities. Calibration of thermocouples, etc.
Prerequisites: *Physics* 3*b*, 6, *and Mathematics* 7*a*. 5 *credits* (Koppius)

102a—ELECTRICITY AND MAGNETISM. A course developing the fundamental theory of electricity and magnetism, emphasizing the physical concepts of electrical quantities and applying these to practical problems. The laboratory work is designed both to emphasize the principles covered and to give the student experience in the careful use of electrical measuring instruments. Lectures and recitations three hours, laboratory four hours a week.
Prerequisites: *Physics* 3*b*, 6, *and Mathematics* 7*a*. 5 *credits* (Warburton)

103—THEORY OF LIGHT. A course covering the general theory of reflection, refraction, diffraction and polarization.
Prerequisites: *Physics* 3*b*, 6, *and Mathematics* 7*a*. 5 *credits* (Webb)

104—THEORETICAL MECHANICS. This course begins with a

careful statement of the fundamental laws of mechanics and the conditions under which they hold. Defined quantities are introduced logically. The work is usually based on some standard text but will be supplemented by lectures. The student is expected to solve a representative list of problems.

Prerequisites: *Physics* 3*b*, 6, *and* *Mathematics* 7*a*. 5 *credits* (Pardue)

111—ELECTRICITY AND MAGNETISM. This course comprises the lectures and recitations of course 102a.

Prerequisites: *Physics* 3*b*, 6, *and* *Mathematics* 7*a*. 3 *credits* (Warburton)

113—RADIO COMMUNICATION. A discussion of the theory of transmission and reception of wireless waves. The theory of the detector and amplification properties of the vacuum tube.

Prerequisites: *Physics* 3*b* *and* 6. 3 *credits* (Hahn)

116a—PHYSICAL MANIPULATIONS. A course for those who wish to acquire a technique in various physical manipulations, as for example, glass blowing, and the preparation and use of materials used in physical experiments.

Prerequisites: *College Physics or* *College Chemistry*. 1 *credit* (Webb)

116b—PHYSICAL MANIPULATIONS. A continuation of 116a. 1 *credit* (Webb)

119—PRINCIPLES OF X-RAYS. A basic course in X-rays for the advanced undergraduate and graduate, dealing with the production and properties of X-rays, the mathematical development of the formulae of absorption, scattering, polarization, etc.; methods of wave length measurement; the Compton effect and related quantum phenomena; a review of articles in the various scientific periodicals.

Prerequisites: *Physics* 3*b*, 6, *and* *Mathematics* 7*a*. 3 *credits* (Hahn)

120—X-RAY TECHNIQUE. An introductory course in X-ray technology dealing with the design and operation of X-ray equipment, the use of intensifying screens, dark room procedure, etc. Some practice will be given in the radiography of the extremities and teeth with special attention to voltage, current, time and distance factors. Lectures and recitations two hours a week.

Prerequisites: *Physics* 1*a-b*. 2 *credits* (Hahn)

201—PHYSICAL OPTICS. This course covers in mathematical formulation the theories of interference and diffraction, the theory of optical instruments, the propagation of light in crystalline media and a comparison of the various theories of light.

Prerequisites: *Physics* 103, *one additional* 100 *course in Physics*, *and Mathematics* 105*a*. 3 *credits* (Webb)

202—MEASUREMENTS IN OPTICS. A course in the measurements of wave lengths; Fresnell mirrors and biprisms; determination of optical constants by Michelson's interferometer; reflection and transmission grating; spectroscopes and concave grating spectrograph. This course is designed to supplement 201.
Prerequisite: *Physics* 103. 2 *credits* (Webb)

204—DYNAMICS OF A PARTICLE, INCLUDING WAVE MOTION. A mathematical presentation of the dynamics of a particle in a conservative medium, and the calculations of the velocity of propagation of various wave forms and their synthesis and analysis by Fourier's theorem. A study of the velocity of propagation as a function of wave length, including a consideration of varying degrees of freedom and boundary conditions.
Prerequisites: *Physics* 104, *one additional* 100 *course in Physics, and Mathematics* 105*a*. 3 *credits* (Koppius)

205—KINETIC THEORY OF MATTER. A course of lectures covering the classical kinetic theory of gases, including the theorems of Clausius, Joule, Maxwell and Boltzman. Coefficients of viscosity and slip. Brownian movements and specific heat relations are treated from the kinetic theory standpoint and equations of change of state are developed.
Prerequisites: *Physics* 101, *one additional* 100 *course in Physics, and Mathematics* 105*a*. 3 *credits* (Koppius)

210a—ELECTRODYNAMICS. The mathematical theory of electricity and magnetism, including an analysis of the energy relations between charges and between currents. Numerous problems are solved by introducing boundary conditions in the general solutions of the differential equations. The expressions for retarded potentials and the Maxwell field equations are developed. Vector notation is used throughout.
Prerequisites: *Physics* 102*a and Mathematics* 105. 3 *credits* (Warburton)

210b—ELECTRODYNAMICS. A treatment of the subject from the relativity point of view and on the electron theory. The topics treated will be the simultaneous and retarded fields of a point charge, the derivation and solution of the field equations, the dynamical equation of the electron, radiation from an electron and groups of electrons.
Prerequisites: *Physics* 102*a and Mathematics* 105*a* 3 *credits* (Pardue)
Note: 210a and 210b are independent of each other.

212—CONDUCTION OF ELECTRICITY THROUGH GASES. A course of lectures covering in chronological order the outstanding discoveries connected with the conduction of electricity through gases

at low pressures. The subjects of diffusion, ionic mobility, e/m measurements, positive ray analysis, isotropes, photo-electricity, etc., are treated.

Prerequisites: *Physics* 102*a and* 104. 3 *credits* (Koppius)

213—ELECTRO-MAGNETIC THEORY OF LIGHT. A course of lectures covering the classical electro-magnetic theory as applied to the optical phenomena of reflection, refraction and polarization. Both isotropic and non-isotropic media as well as conducting and non-conducting media are treated.

Prerequisites: *Physics* 103, *one additional* 100 *course in Physics, and Mathematics* 105*a*. 3 *credits* (Webb)

215—QUANTUM THEORY. A brief review of the Bohr and Bohr-Sommerfeld theories. The general aspects of wave mechanics, matrix mechanics, uncertainty principle. Application of the above theories to numerous and important problems.

Prerequisites: *Physics* 217*a and Mathematics* 105*a*. 3 *credits* (Pardue)

216a—RECENT ADVANCES IN PHYSICS. Current developments in physics are carefully studied with special interest placed upon their background and their trend. Useful training is afforded in the organization of the literature upon special topics.

Prerequisites: *One specialized* 200 *course in Physics*. 1 *credit* (Staff)

216b—RECENT ADVANCES IN PHYSICS. A continuation of 216a.

1 *credit* (Staff)

217a—THEORETICAL PHYSICS. Lectures upon advanced classical and relatively dynamics, hydrodynamics of perfect fluids and of viscuous fluids, properties of elastic media. A substantial portion of the treatment of many of the topics will be taken from Page's "Introduction to Theoretical Physics."

Prerequisites: *Two* 100 *courses in Physics, and Mathematics* 105*a*. 3 *credits* (Pardue)

217b—THEORETICAL PHYSICS. A continuation of 217a. Statistical mechanics, classical and modern. Origin of spectra including the classical theory of molecular spectra. Transformation of the elements. There is a slight flexibility which may be used to fit the needs of the students.

3 *credits* (Pardue)

218—THERMODYNAMICS. First and second laws of Thermodynamics, entropy, derivation of thermodynamic equations and their application to physical phenomena.

Prerequisites: *Physics* 101, 205, *and Mathematics* 105*a*. 3 *credits* (Webb)

220a—SEMINAR. A weekly meeting of the staff and advanced students of the department for presentation and discussion of recent developments in physics as reported in the current literature and of work in progress in the department. Credit is given only to those who satisfactorily present papers.

1 *credit* (Staff)

220b—SEMINAR. A continuation of 220a.

1 *credit* (Staff)

223a—GENERAL PHYSICS. Course covers Mechanics, Heat and Wave Motion. This course limited to graduate students of the College of Education.

Prerequisites: *One year of Elementary Physics and Mathematics* 2 *and* 3. 7 *credits* (Koppius)

223b—GENERAL PHYSICS. A continuation of 223a. Covers Electricity, Sound and Light.

7 *credits* (Warburton)

224—X-RAYS AND THEIR APPLICATIONS TO PHYSICAL PROBLEMS. A course for students in physics and chemistry, giving the present theory of X-ray production, and the application of X-rays to microphysical problems.

Prerequisites: *Physics* 201. 3 *credits* (Hahn)

225—THESIS. This course is intended for graduate students who are prepared to undertake special problems. Except in the case of a purely mathematical problem the entire time is to be devoted to work in the laboratory.

(Staff)

226a—RESEARCH IN PHYSICS.

3 *credits* (Staff)

226b—RESEARCH IN PHYSICS.

3 *credits* (Staff)

227a—RESEARCH IN PHYSICS.

5 *credits* (Staff)

227b—RESEARCH IN PHYSICS.

5 *credits* (Staff)

250a—RELATIVITY. A theory of space and time measurements as applied to physical phenomena.

Prerequisites: *Physics* 103 *and either Physics* 102*a or* 104. 3 *credits* (Webb)

250b—RELATIVITY. A continuation of Physics 250a.

3 *credits* (Webb)

V. AGRICULTURE

AGRICULTURAL EDUCATION (See Education)

AGRONOMY

113—METHODS AND RESULTS IN AGRONOMY EXPERIMENTATION. A study of the essentials of reliable experimentation. Experimental data from various sources are studied, with special emphasis upon interpretation.
Prerequisite: *Agronomy* 1. 3 *credits; 1st semester* (Roberts)

105—ADVANCED CROPS. The important crops are studied in more detail than is possible in the standard course in crops. Structure, classification and history of crop plants are given special attention. Soil and climatic adaptation, economics of production, and numerous other fundamental problems of crop production are studied. To as large an extent as possible the best crop literature is reviewed. Some attention is given to the more practical phases of production, chiefly to give students an opportunity to become familiar with advances that have been made in the art of crop production in recent years.
3 *credits; 2nd semester* (Kinney)

106—FIELD CROP IMPROVEMENT. In this course principles of genetics applicable to plant breeding, technique of breeding and development of plant breeding in the past are studied. Classification and inheritance of the various crops and the problems of improvement connected with each are given attention.
2 *credits; 2nd semester* (Kinney, Fergus)

115—SOIL MANAGEMENT. Deals with erosion, soil moisture, tillage operations, soil organic matter and nitrogen, including animal and green manures, lime and fertilizers. Lectures 3 hours.
Prerequisite: *Agronomy* 1. 3 *credits; 1st semester* (Roberts)

110—ADVANCED SOILS. Biological studies in soils. Reference, classroom and laboratory work dealing with the biological processes in soils in relation to soil productivity. The studies include carbon dioxide production, ammonification, nitrification, nitrogen fixation, sulfofication, solvent action of biological activity products, and partial soil sterilization.
Prerequisites: *Agronomy* 1 *and permission of the instructor.* 3 *credits; 1st semester* (Karraker)

111—ADVANCED SOILS. Physico-chemical studies in soils. Reference, classroom and laboratory work on the physico-chemical conditions and changes in soils, emphasizing the theoretical and tech-

nical phases. Soil formation, air and water soil relationships, soil colloids, soil solution, and soil reaction are important parts of the work.

Prerequisites: *Agronomy* 1 *and permission of the instructor.* — 3 *credits; 2nd semester* (Karraker)

112a-b—SPECIAL WORK IN SOILS.

Prerequisites: *Agronomy* 1 *and permission of instructors.* — 3 *credits each semester; 1st and 2nd semesters* (Roberts, Karraker)

114a-b—SPECIFIC CROPS. This course is for the student who wishes to study a crop intensively.

Prerequisite: *Permission of instructors.* — 2 *credits; each semester* (Kinney, Fergus)

202a-b—SPECIAL PROBLEMS IN CROP PRODUCTION. 2 *credits; each semester* (Kinney)

203a—LITERATURE OF PLANT PATHOLOGY. 3 *credits; 1st semester* (Valleau)

203b—LITERATURE OF PLANT PATHOLOGY. 3 *credits; 2nd semester* (Valleau)

204a-b—INVESTIGATION IN SOILS.

Prerequisite: *Permission of instructors.* — 3 *credits; each semester* (Roberts, Karraker)

207a—SEMINAR. 1 *credit* (The Agronomy Staff)

207b—SEMINAR. 1 *credit* (The Agronomy Staff)

ANIMAL INDUSTRY

102—FARM BUTCHERING AND CURING MEATS. The slaughtering and blocking out of beeves, veals, hogs and lambs. Animals are judged on foot and on the hook. Wholesale and retail cuts are studied. A general study is made of the whole field of meat industry. Meat curing and cures are studied with special emphasis on pork.

Prerequisite: *A. I.* 21. — 4 *credits; 1st semester* (Wilford)

104—ANIMAL BREEDING. A survey of the methods by which the breeders have built up the different types of domestic animals.

Prerequisites: *A. I.* 17 *and A. I.* 19. — 4 *credits, 2nd semester* (Anderson)

105—BEEF PRODUCTION. A study of the development of the beef cattle industry in this and other countries. The feeding, breeding and management of beef cattle are given the most attention. Lab-

oratory work consists in judging beef cattle and practical problems relating to the industry.
Prerequisite: *A. I.* 20. 3 *credits; 2nd semester* (Good)

106—PORK PRODUCTION. A study of breeds and types. General management and feeding of all classes of swine supplemented with laboratory in judging and management.
Prerequisite: *A. I.* 20. 3 *credits; 1st semester* (Wilford)

107—SHEEP PRODUCTION. Breeds and market classes; judging, breeding, feeding, management and marketing of sheep; production and marketing of wool.
Prerequisites: *A. I.* 17; 21. 3 *credits; 2nd semester* (Horlacher)

110—ADVANCED STOCK JUDGING. Primarily for judging team candidates. Admission by permission of instructor.
Prerequisites: *A. I.* 17; 21. 3 *credits; 1st semester* (Horlacher)

111a-b—SPECIAL PROBLEMS IN ANIMAL HUSBANDRY.
3 *credits* (Staff)

132a-b—SPECIAL PROBLEMS IN DAIRYING.
3 *credits* (Staff)

133a-b—SPECIAL PROBLEMS IN POULTRY.
3 *credits* (Staff)

120—SYSTEMS OF LIVE STOCK PRODUCTION. A survey of the systems of live stock production in the various countries of the world; designed to give the student a broad view of the live stock industry.
Prerequisites: *A. I.* 17; 21; 22; 23. 3 *credits; 1st semester* (Horlacher)

121—ADVANCED GENETICS. Study of the laws of heredity as they have been applied in plant and animal improvement and may be made applicable for human betterment.
Prerequisite: *A. I.* 19. 3 *credits; 1st semester* (Anderson)

124—ADVANCED STUDY OF THE DAIRY BREEDS. A classification of prominent strains and families within the leading dairy breeds. Interpretation of herd book data, advanced classification, selective and super registration, present day breed problems, selection by type, proved sires and a constructive dairy breeding program. Lecture two hours a week; laboratory four hours a week.
Prerequisite: *A. I.* 23 4 *credits; 2nd semester* (Ely)

125—DAIRY CATTLE FEEDING AND MANAGEMENT. The application of the principles of nutrition to dairy cattle feeding prob-

lems, up-to-date methods contributing to maximum efficiency in the production of quality dairy products on the farm.
Prerequisite: *A. I.* 20. 3 *credits; 2nd semester* (Ely)

127—ADVANCED POULTRY BREEDING. Fundamental genetic principles involved in poultry breeding. Emphasis laid on the transmission of egg production, broodiness, egg shell color and feather color. A breeding program is mapped out, analyzed, and studied in detail.
Prerequisite: *Genetics.* 3 *credits; 2nd semester* (Martin)

129—DAIRY BACTERIOLOGY. The application of bacteriological principles to the production and processing of milk and other dairy products, involving methods of micro-organisms into dairy products, effects of their growth and methods for their control. Lecture 2 hours; laboratory 4 hours a week.
Prerequisite: *Bacteriology* 52 *or* 102. 4 *credits; 1st semester* (Morrison)

130—BUTTER AND ICE CREAM. A study of the various processes and problems involved in the manufacture and storage of butter and ice cream. Lecture 1 hour, laboratory 4 hours a week.
Prerequisite: *A. I.* 23. 3 *credits; 1st semester* (Barkman)

131—MARKET MILK AND CHEESE. A study of the problems connected with the production and handling of milk and manufacture of certain types of cheese. Lecture 1 hour, laboratory 4 hours a week.
Prerequisite: *A. I.* 23. 3 *credits; 2nd semester* (Morrison)

134—ADVANCED POULTRY PRODUCTION. Advanced problems involved in incubation, brooding, pathology, nutrition and flock management.
Prerequisite: *A. I.* 22. 3 *credits; 2nd semester* (Martin)

135—ARTIFICIAL INCUBATION AND BROODING. The fundamental principles involved in the operating of mammoth incubators and brooders; hatchery operation and management. Practice in the operation of mammoth incubators and storage brooders.
Prerequisite: *A. I.* 22. 2 *credits; 2nd semester* (Assistant)

201—ECONOMIC FACTORS INVOLVED IN MEAT PRODUCTION. Problems involving the economical production of beef, pork, and mutton.
3 *credits; each semester*
(Good, Horlacher. Wilford, Harris)

202—MEATS. Research in any field touching on the industry.
Prerequisite: *A. I.* 102. 3 *credits; both semesters* (Wilford)

203—RESEARCH IN GENETICS. Special problems involving original investigation on the part of the student. Throughout the year.
Prerequisite: *Approval of head of department* 3 *credits; each semester* (Anderson)

204a-b—RESEARCH IN DAIRYING. Special problems involving original investigation on the part of the student. Throughout the year.
Prerequisite: *Approval of head of department.* 3 *credits; each semester* (Ely or Barkman or Morrison)

205—INVESTIGATIONS IN BREEDING LIGHT HORSES. 3 *credits* (Anderson)

206a-b—RESEARCH IN POULTRY. Special problems involving original investigation on the part of the student. Throughout the year.
Prerequisite: *Approval of head of department.* 3 *credits; each semester* (Martin or Insko)

207—INVESTIGATIONS IN WOOL. Special research problems.
Prerequisite: *A. I.* 107. 3 *credits; either semester* (Horlacher)

208—RESEARCH IN ANIMAL BREEDING. Special problems involving original investigation on the part of the student. Throughout the year.
Prerequisite: *Approval of head of department.* 3 *credits; each semester* (Anderson)

209a-b—ANIMAL HUSBANDRY SEMINAR. Throughout the year. 1 *credit; each semester* (Good and Staff)

ANIMAL PATHOLOGY

116—DISEASES OF DOMESTIC ANIMALS. The course deals with the various infectious and parasitic diseases of animals, their distribution, general nature, methods of dissemination, sanitation, prevention and eradication. The work is presented from the standpoint of hygiene and preventive medicine, special emphasis being placed on the transmissible diseases. Lectures, recitations and reference reading.

4 *credits; 2nd semester* (Dimock)

126—ANATOMY AND PHYSIOLOGY OF DOMESTIC ANIMALS. A study of anatomy and physiology of domestic animals to show the correlation of structure and function of the various organs of the body. The work is outlined so as to give the student an understanding of anatomy and physiology as related to work offered in other courses

as livestock judging, butchering, animal nutrition, animal breeding and animal diseases.

4 *credits; 1st semester* (Hull)

201a-b—INVESTIGATION IN ANIMAL DISEASES. Special problems involving original investigation on the part of the student.

Prerequisite: 126 *and* 116, *or equivalent.* 4 *credits; each semester* (Dimock and Staff)

ENTOMOLOGY

102—ADVANCED AGRICULTURAL ENTOMOLOGY. Life history, control and means of identification of the common and important insects of Kentucky; the making and care of school collections, cages and aquariums. Field trips and practical demonstrations of insect control. Especially planned for those intending to take up vocational agricultural teaching and county agent work.

Prerequisite: *Entomology* 10. 3 *credits; 2nd semester* (Price)

103—ECONOMIC ENTOMOLOGY. FRUIT AND GARDEN INSECTS. Beneficial and injurious insects of fruit and garden crops with special attention to the life histories, habits and control of injurious species found in Kentucky. A discussion of practical and specific control measures for each insect considered as garden and fruit pests.

Prerequisite: *Entomology* 10. 3 *credits; 1st semester* (Price)

104—ECONOMIC ENTOMOLOGY. FARM CROP INSECTS AND ANIMALS PARASITES. Beneficial and injurious insects of common farm crops including those of stored grains and forage. Detailed discussions of the more important Kentucky species with special reference to life histories and control measures. General theories of agronomic practice in the control of insects; fumigation methods and treatment for animal parasites.

Prerequisite: *Entomology* 10. 3 *credits; 2nd semester* (Price)

106a—SYSTEMATIC AND TECHNICAL AGRICULTURAL ENTOMOLOGY. Insect physiology, anatomy, ecology and taxonomy; entomological literature and technique; studies of special groups of insects.

Prerequisites: *Entomology* 10 *and any one of the following*: 102, 103, 104. 3 *credits; 1st semester* (Price)

106b—SYSTEMATIC AND TECHNICAL AGRICULTURAL ENTOMOLOGY. A continuation of 106a.

3 *credits; 2nd semester* (Price)

201a—ENTOMOLOGICAL PROBLEMS. Discussion and assignment of current insect subjects. Investigations of chosen insect problems including original research work.

Prerequisites: *Entomology* 10, 103, 104, 106*a* *and* 106*b*. 3 *credits; 1st semester* (Price)

201b—ENTOMOLOGICAL PROBLEMS. A continuation of 201a.

3 *credits; 2nd semester* (Price)

FARM ECONOMICS

203a—AGRICULTURAL ECONOMICS SEMINAR. Preparation and presentation of papers on current problems in the field of agricultural economics. Round table discussions, centering on the subject matter treated in the various reports, are held at each meeting.

2 *credits; 1st semester* (Farm Economics Staff)

203b—AGRICULTURAL ECONOMICS SEMINAR. A continuation of 203a.

2 *credits; 2nd semester* (Farm Economics Staff)

107a—SPECIAL PROBLEMS IN FARM MANAGEMENT. Students enrolling in this course are assigned some special problem, as for example, the cost of producing some class of farm products such as dairy products, crop or live stock, the problem of profitable farm organization in a specified community; farm taxes, etc. Students are required to review the literature of the problem and report on it regularly to the instructor. In most cases they are also required to examine, classify and tabulate special statistical data previously collected by the College of Agriculture and to relate these data to the problem. Each student presents a final report showing results and conclusions arrived at.

1st semester (Nicholls)

107b—SPECIAL PROBLEMS IN FARM MANAGEMENT. A continuation of 107a.

2nd semester (Nicholls)

108—LAND PROBLEMS. The course deals particularly with problems of farm ownership and tenancy. Phases of the problem considered are the following: The classification of agricultural land; economic characteristic and peculiarities of land; principles involved in the determination of rent; the relation of rent to other distributive shares in production; factors determining the value and appraisal of farm land; problems of farm tenancy; land-tenant contracts and characteristics of such contracts which have been mutually satisfactory to landlords and tenants.

Prerequisite: *Farm Economics* 4. 2 *credits; 1st semester* (Nicholls)

109—ADVANCED FARM MANAGEMENT. A course giving advanced consideration to the fundamental principles underlying the choice of a farm, the selection of crop and live stock enterprises, the management of labor and equipment and the organization of these elements into an efficient and profitable farm business. Trips are made to nearby farms that illustrate these principles and study is devoted to the records of other successfully operated farms of the state.

Prerequisite: *Farm Economics* 113 2 *credits; 1st semester*
[NOT GIVEN IN 1932-33] (Nicholls)

113—FARM MANAGEMENT. The course consists in a study of the principles underlying the choice of proper types of farming; the comparative merits of intensive and extensive farming; the relation of live stock to farm management; the best size of farm; the relation of capital to farm profits; farm rental systems; the management of men and horse labor and machinery for greatest profits; the layout of fields and farm buildings; farm accounts, including the annual inventory; the choice of a region for farming and important considerations in buying a farm; the other vital questions of farm organization and management.

Prerequisite: *Farm Economics* 4. 3 *credits; 1st semester*
(Nicholls)

120—RURAL COMMUNITY PROBLEMS. This course deals with the fundamental principles underlying the social organization of country life, and the application of those principles in the development of ways and means of community improvement. Among other matters will be considered the following: rural vital statistics; the shifting of the rural population; community hygiene and sanitation; good roads; the rural church; the rural school and organization for community betterment. An essential feature of the course will be a study of the student's own community, with a view of recommending action for the betterment of the general social, intellectual, moral and economic conditions.

3 *credits; 1st semester* (Oyler)

202a—RESEARCH IN FARM ECONOMICS. Open to graduate students. The student enrolling in this course is assigned an advanced problem in the field of farm economics. Stress is placed on the plan, technique and scientific method used by the student in developing his research problem. The student is required to submit a report embodying his methods, generalizations and conclusions.

(Nicholls)

202b—RESEARCH IN FARM ECONOMICS. A continuation of 202a.

(Nicholls)

HOME ECONOMICS

104—PROBLEMS IN TEXTILES. Study of physical and chemical properties of major and minor fibers. Social and economic aspects of textile and clothing trades. Laboratory work includes microscopy of fibers, physical tests and quantitative determination of fabric content. Term papers based upon individual problems.

Prerequisites: *Home Economics* 26; *Economics* 1*a*. 4 *credits; 2nd semester* (Wade)

105a-b—SEMINAR IN NUTRITION. Investigations of recent research on nutrition.

Prerequisite: *Senior or graduate standing.* 1 *credit; throughout year* (Erikson)

106a-b—SEMINAR IN TEXTILES AND CLOTHING. Investigation of special textile and clothing problems.

Prerequisite; *Senior or graduate standing.* 1 *credit; throughout year* (Wade)

119a-b—EXPERIMENTAL COOKERY. Study of the application of chemical methods to the problem of cookery. Observation on effect of pH and determinations of losses in vegetable cookery; experimental work on batter and dough mixtures; shortening power of fats; properties of emulsions; comparison of slow and quick-acting baking powders; jellying properties of fruit juices.

Prerequisites: *Home Economics* 4; 109. 3 *credits; each semester* (Erikson, Grundmeier)

109—NUTRITION. Investigations in nutrition and in metabolic processes of the body. It includes sugar tolerance tests; protein and mineral balance experiments on human subjects; biological tests of vitamins and proteins of various foods.

Prerequisite: *Home Economics* 4. 4 *credits; 2nd semester* (Erikson)

112—PUBLIC SCHOOL NUTRITION. A study of the nutrition class movement with emphasis on causes and effects of malnutrition, methods of judging nutrition and height and weight standards. Development of health program in public schools. The laboratory work includes a health class with public school children.

3 *credits; both semesters* (Grundmeier)

115—CHILD CARE AND TRAINING. Survey of the field of child care and training from pre-natal life through the pre-school period. It includes consideration of problems of pre-natal life and infancy; standards for normal growth; breast and artificial feeding; habit formation; general care and hygiene.

Prerequisites: *Home Economics* 3; *Physiology* 3; *Psychology* 7. 3 *credits; both semesters* (Deephouse)

116—ADVANCED COSTUME DESIGN. History of Costume. A survey of costume from ancient to modern times, showing political, religious and industrial influence in design, and furnishing opportunity to create new designs applicable to modern needs. Study of Egyptian, Greek, Roman, French 18th and 19th Century Costumes.
Prerequisites: *Home Economics* 29; *Art* 2*b*. 3 *credits; 2nd semester* (Wade)

117—INTERIOR DECORATION. Study of essentials of architecture in their relation to interiors. Correct composition and decoration of interiors. Drawings, elevations, embodying color theory, and principles of decorative design are made. Problems and their practical solutions emphasized.
Prerequisites: *Home Economics* 45, 26; *Art* 2*b*. 3 *credits; 1st semester* (Wade)

118—TAILORING. A study of the economics of clothing, budgets. Suit and coat are made.
Prerequisite: *Home Economics* 47. 3 *credits; 2nd semester* (Wade)

121a-b—SPECIAL PROBLEMS. Special problems in undergraduate research.
2 *credits; throughout year* (Staff)

201—ADVANCED HOME MANAGEMENT AND FAMILY RELATIONSHIPS. Open to seniors and advanced students. A lecture course affording opportunity for special study in family relationships. The social and economic problems of the home are stressed.
Prerequisites: *Home Economics* 42; *Sociology* 1*a*; *Economics* 1*a*. 3 *credits; 2nd semester* (Deephouse)

202a-b—GRADUATE SEMINAR.
2 *credits; each semester* (Staff)

178—INSTITUTIONAL ORGANIZATION AND ADMINISTRATION. Principles of organization are studied, types of institutional service, modern industrial tendencies, advertisement, personnel, organization and financial control.
Prerequisite: *Home Economics* 180. 3 *credits; 2nd semester* (Hoover)

179—INSTITUTIONAL MANAGEMENT. Application of scientific principles of institutional management consisting of practical work in the institution six hours a day, six days a week, daily half-hour conferences and hour lecture a week. Remuneration: $35 a semester plus noon meals and laundering of laboratory uniforms.
Prerequisite: *Home Economics* 178. 6 *credits; 2nd semester* (Hoover)

180—INSTITUTIONAL EQUIPMENT. Selection, arrangement, cost and care of institutional equipment is made. Problems of lighting, heating, ventilation, refrigeration are considered.
Prerequisite: *Home Economics* 79. 3 *credits; 1st semester*
(Hoover)

HOME ECONOMICS EDUCATION (See Education)

HORTICULTURE

103—POMOLOGY. Apple Production. A course dealing with the theory and practice of commercial apple growing. Adaptation, soil relations, fruitfulness, and orchard management problems are studied in detail.
Prerequisites Horticulture 1. 3 *credits; 1st semester*
(Waltman)

104—POMOLOGY. Stone Fruits. A detailed study of commercial peach, plum, and cherry growing.
Prerequisite: *Horticulture* 1. 3 *credits; 2nd semester*
(Waltman)

[NOT GIVEN IN 1933-1934]

105—POMOLOGY. Small Fruits. A detailed study of the care and management of commercial plantings of strawberries, raspberries, and other bush fruits. Lecture one hour, laboratory two hours a week, first half; lecture two hours a week last half.
Prerequisite: *Horticulture* 1. 2 *credits; 2nd semester*
(Waltman)

106—GREENHOUSE CONSTRUCTION AND MANAGEMENT. A study of the details of greenhouse construction and management. Lecture 1 hour, laboratory 2 hours.
2 *credits; 1st semester* (Emmert)

108—VEGETABLE FORCING. A study of the culture of vegetable crops under glass. Lecture 2 hours, laboratory 2 hours.
3 *credits; 1st semester* (Emmert)

[NOT GIVEN 1933-1934]

110—VEGETABLE GARDENING. A study of the fundamental principles of vegetable growing, and the farmer's home garden.
3 *credits; 2nd semester* (Emmert)

111—MARKET GARDENING. A detailed study of commercial vegetable growing, with special emphasis on crops suited to Kentucky conditions.
Prerequisites: *Horticulture* 8, 110. 3 *credits; 2nd* semester
(Emmert)

113—LANDSCAPE GARDENING. A study of lawns, trees and shrubs and their arrangements for home and school yard planting. Lecture 2 hours; laboratory 2 hours.

3 *credits; 2nd semester* (Elliott)

115a—SPECIAL PROBLEMS. This course is designed to permit advanced students to make an intensive study of some phase of horticulture in which they are particularly interested. May be taken only with approval of the instructor.

3 *credits; 1st semester* (Olney and Staff)

115b—SPECIAL PROBLEMS. A continuation of 115a.

3 *credits; 2nd semester* (Olney and Staff)

117—ELEMENTS OF FLORICULTURE. A study of the fundamental principles of flower growing under glass and in the garden. Lecture 2 hours; laboratory 2 hours.

3 *credits; 2nd semester* (Elliott)

118—FLOWER GARDEN AND HOME GROUNDS. A detailed study of the culture and arrangement of garden flowers for the home grounds. Lecture 2 hours; laboratory 2 hours.

3 *credits; 2nd semester* (Elliott)

200a—SEMINAR.

1 *credit; 1st semester* (Olney and Staff)

200b—SEMINAR.

1 *credit; 2nd semester* (Olney and Staff)

MARKETS AND RURAL FINANCE

108—MARKETING. Principles and methods of marketing farm products; methods of marketing at country points and in central markets; classes and functions of middlemen; marketing specific commodities; market prices; marketing costs; and cooperative marketing. Lectures 3 hours.

Prerequisite: *Economics* 1. 3 *credits; 1st semester* (Price)

109—COOPERATIVE MARKETING. Principles, methods and problems involved in the cooperative marketing of farm products; legal, organization, and management problems which cooperatives encounter for different classes of farm products. Lectures 3 hours.

Prerequisite: *M. & R. F.* 108. 3 *credits; 2nd semester* (Price)

110—ADVANCED MARKETING. Marketing live stock, dairy products, eggs, and poultry; analysis of local and terminal market organization; factors affecting efficiency of business set-up and financial organization of marketing agencies. Lectures 3 hours.

Prerequisite: *M. & R. F.* 108. 3 *credits; 1st semester* (Price)

111—AGRICULTURAL PRICES. A study of the factors influencing prices of farm products, price movements and trends, and price relationships. Methods of price comparison, long time price movements and cyclical tendencies are reviewed. Lectures 3 hours.
Prerequisite: *Farm Economics* 4. 3 *credits; 1st semester* (Card)

112—FARM FINANCE. Principles of financing the production and marketing of farm products; credit needs of agriculture, including short time, intermediate and farm mortgage credit requirements; organization and operation of the federal farm loan system, and other agencies which furnish credit for agriculture. Lectures 3 hours.
Prerequisite: *Farm Economics* 4. 3 *credits; 2nd semester* (Bradley)

113—AGRICULTURAL STATISTICS. Sources, methods of presentation and analysis of agricultural statistics with special reference to agricultural census and crop and live stock estimates; collection, tabulation and graphic presentation of data; measures of dispersion, index numbers, trends and correlation. Lectures 2 hours; laboratory 2 hours.
Prerequisite: *Economics* 1. 3 *credits; 1st semester* (Card)

131—ADVANCED AGRICULTURAL PRICES. A review of price theory and statistical method with special reference to research in agricultural prices; analysis of various price studies with reference to the theory upon which they are based, research methods used and reliability of conclusions drawn. Lectures 2 hours.
Prerequisites: *M. & R. F.* 111-113 or *Commerce* 107. 2 *credits; 1st semester* (Card)

202a-b—SPECIAL PROBLEMS IN MARKETING AND RURAL FINANCE. Open to graduate students who have the necessary training and ability to do research on individual problems. The course consists of individual work on some selected problem related to agricultural marketing or agricultural finance. Prerequisite, approval of head of department.
3 *credits; each semester* (Price and Staff)

203a-b—SEMINAR. Analysis of current problems in field of marketing and rural finance.
1 *credit; each semester* (Price and Staff)

204—RESEARCH IN MARKETING. Types of research in marketing. Laying out the research project. Analysis of data.
Prerequisite: *M. & R. F.* 108. 2 *credits; second semester* (Price)

VI. EDUCATION

GENERAL STATEMENT OF REGULATIONS GOVERNING GRADUATE WORK IN THE COLLEGE OF EDUCATION

1. Of the graduate work offered by any candidate for the master's degree in education 15 semester hours (including the thesis course) must be in the courses at the 200 level or above.

2. The total number of credits (graduate and undergraduate combined) in education offered by any candidate for the master's degree must be at least 36 semester hours including the thesis course.

3. Two plans are provided for the work which leads to the master's degree:

A. The first plan consists of 30 semester hours of graduate work including the writing of a thesis.

B. The second plan requires the completion of 45 semester hours of graduate work with an average standing of B or better and no requirement of a thesis. Both plans involve the successful passing of an oral examination over the field of education and also the minor field, if any.*

4. The first semester of the thesis course shall be required of all candidates for the master's degree in education.

5. Educational Literature shall be a required course of all persons graduating on the 45 semester hour basis.

6. The residence requirement for those not writing a thesis shall be three semesters.

EDUCATIONAL ADMINISTRATION

101—SCHOOL ORGANIZATION. A course designed to acquaint the prospective teacher with the organization of which she is to become a part, and to familiarize her with those administrative activities in which she may be expected to participate. Topics emphasized are the administrative organization for the control of education, preparation of teachers, teacher selection and placement, tenure, loads, salaries, retirement, supervisory relationships, the curriculum and related administrative problems and problems of pupil personnel. *Prerequisite*: *Education* 16. 3 *credits; both semesters*

(Chamberlain)

202—LOCAL SCHOOL ADMINISTRATION. A course dealing with the administration in local school units—cities, counties and

*No student may elect this plan except with the approval of his major professor.

consolidated schools. The topics considered are: the origin and development of the local school unit; the purpose of local units; the local school board; school organization in the local unit; finance in the local unit; the curriculum; pupil accounting; allied activities; the employed personnel; supervision; publicity and public relations; and buildings and equipment.

3 *credits* (Holloway)

203—CONSTITUTIONAL AND LEGAL BASIS OF PUBLIC SCHOOL ADMINISTRATION. A study of court decisions in order to discover the legal principles involved in practical problems of school administration. Topics: the school and the state; school districts; school officers; relations of school districts and municipalities; authority of school districts and district officers; school board procedure and records; tort liability of school districts; personal liability of school officers; contractual authority and liability of boards of education; school money; the school debt; acquisitions and use of school property; employment and dismissal of teachers; school attendance; rules and regulations of school boards; discipline and punishment of pupils; textbooks and studies.

Desirable prerequisites: Education 212, 250 *and* 222*a*. 3 *credits* (Ligon)

204a—THE ADMINISTRATION OF HIGHER EDUCATION. This course deals with the following topics: problems relating to the organization and administration of universities, colleges, and teacher training institutions; financial problems of higher institutions; professional duties of registrars, deans, and business managers.

Desirable Prerequisite: One year of graduate work. 2 *credits; summer session* (McVey)

204b—THE ADMINISTRATION OF HIGHER EDUCATION. A continuation of Education 204a.

Desirable Prerequisite: One year of graduate work. 2 *credits; summer session* (McVey)

206—PROBLEMS IN COLLEGE TRAINING. This course covers among others the following topics: methods commonly used in college teaching; bases for measuring instruction; marking systems; qualifications for college teaching; and current attempts to improve college instruction.

Desirable Prerequisite: One year of graduate work. 2 *credits; 2nd semester* (Taylor)

207—SCHOOL BUILDINGS AND EQUIPMENT. A specialized course for the advanced student of school administration. Topics emphasized are the measurement and evolution of existing facilities, population studies, selection and purchase of school sites, financing the building program, planning a particular building, legal limitations,

heating and ventilation, lighting, furniture and equipment, and building operation and maintenance.

Desirable Prerequisite: 9 *semester hours of graduate work in education.* 3 *credits* (Chamberlain)

210—SPECIAL PROBLEMS IN EDUCATION. An independent work course for the student who has not completed one year of graduate work. The student is expected to assume a large amount of initiative in the selection and planning of the problem. There are no regular class meetings, but the time spent on the problem must equal or exceed that normally given to a three-credit course.

3 *credits* (Chamberlain, Ligon, Holloway)

211—THE ADMINISTRATION OF VOCATIONAL EDUCATION. A course designed for city and county superintendents and for principals of high schools. The purpose of the course is to train for the administration and supervision of vocational education. Topics emphasized include aims and purposes of vocational education, relationships of vocational education to other education, financing vocational education, and relationships of local and state administration.

3 *credits* (Hammonds)

212—THE ELEMENTARY SCHOOL. A course designed for superintendents, principals and supervisors. It will trace the development of elementary education in the state and in the country at large. Such topics as the following will be treated: historical sketch; the philosophy of the elementary school; modern procedures in the administration of the elementary school; the curriculum; the teaching personnel; the pupils of the elementary school; supervision in the elementary school; pupil activities; and community relations.

3 *credits* (Holloway)

213—STATE SCHOOL ADMINISTRATION. A course designed for school administrators and supervisors and for those preparing for college teaching. The topics treated are: the state as a unit for school administration; the nation as a unit for school administration; relationships of the national, state and local units of school administration; the scope of the school system; supervision by the state and local units; state school finance; the curriculum; and public relations.

Desirable Prerequisite: 9 *semester hours of graduate work in education.* 3 *credits* (Holloway)

225—SUPERVISION OF INSTRUCTION. A course designed for superintendents, principals (elementary school and secondary school) and supervisors. The topics considered are the development of supervision; the purpose of supervision; organization for supervision; planning supervision; supervisory techniques—classroom visitation, demonstration lessons, teachers' meetings, individual conference, curricu-

lum construction, and tests and measurements; equipment and supplies; the teacher; and the pupil.
Desirable Prerequisites: *Education* 212 *and* 250. 3 *credits*
(Holloway)

231.—FINANCING PUBLIC EDUCATION. This course consists of a series of topics treated primarily from the viewpoint of the superintendent or prospective superintendent. The topics are: budgetary procedure, school costs, school indebtedness, state finance, fiscal reports and accounting procedures.
Desirable Prerequisites: 9 *semester hours* 3 *credits* (Hill)
of graduate work in education.

232—SECONDARY SCHOOL ADMINISTRATION. A course designed primarily for high school principals and prospective administrators. Topics emphasized are secondary school organization, the principal, the staff, the pupil, program of studies, schedules, community relationships, records and reports, articulation, library, plant, finance, and the aims of secondary education.
3 *credits; 1st semester* (Ligon)

290a—TECHNIQUE AND PROFESSIONAL WORK OF THE REGISTRAR. A comprehensive study of admissions including the literature, history and present day tendencies; the rules of the University; recommendations of the American Association of Collegiate Registrars; special problems in the administration of the office. Limited to six students. Lecture 1 hour, laboratory 2 hours a week.
2 *credits; 1st semester* (Gillis)

290b—TECHNIQUE AND PROFESSIONAL WORK OF THE REGISTRAR. A comprehensive study of permanent records and transcripts, including the history, literature and present day tendencies; rules of the University; recommendations of the American Association of Collegiate Registrars. Special problems in the administration of the office. Limited to six students. Lecture 1 hour, laboratory 2 hours a week.
2 *credits; 2nd semester* (Gillis)

301a-b—SPECIAL PROBLEMS IN SCHOOL ADMINISTRATION. An independent research course. The student will confer with the instructor, whenever either or both of them deem it advisable. Students enter upon this course only by permission.
Prerequisite: *One year of graduate work.* 3 *credits*
(Holloway, Chamberlain)

307a-b—SPECIAL PROBLEMS IN SECONDARY EDUCATION. Same type of course as Education 301.
Prerequisite: *One year of graduate work.* 3 *credits*
(Ligon, Holloway)

308a-b—SPECIAL PROBLEMS IN ELEMENTARY EDUCATION. Same type of course as Education 301.
Prerequisite: *One year of graduate work.* 3 *credits*
(Holloway, Chamberlain)

321a-b—SPECIAL PROBLEMS IN HIGHER EDUCATION. Same type of course as Education 301.
Prerequisite: *One year of graduate work.* 3 *credits*
(Taylor, Chamberlain)

AGRICULTURAL EDUCATION

179—DETERMINING CONTENT IN VOCATIONAL AGRICULTURE. Interpreting data as a basis for course building. Working out the content of a four-year course in vocational agriculture.
3 *credits; 2nd semester* (Hammonds)

181—TEACHING VOCATIONAL AGRICULTURE. Designed to prepare men for the teaching of agriculture. About one-half of the course is practice.
7 *credits; both semesters* (Hammonds, Woods and Armstrong)

185—APPRENTICE TEACHING. The student assists in regular department of vocational agriculture, under supervision.
Prerequisite: *Ag. Ed.* 181. 2 *credits; both semesters*
(Hammonds and Woods)

188—FARM-PRACTICE SUPERVISION. Practice and directed study in supervising farm-practice of pupils in vocational agriculture.
1 *credit; both semesters* (Hammonds, Woods and Armstrong)

280—METHOD IN TEACHING VOCATIONAL AGRICULTURE. The principles of method are applied to the teaching of agriculture. For men with experience in teaching vocational agriculture.
Prerequisite: *Graduate standing.* 3 *credits; summer session*
(Hammonds)

287—ADVANCED PROBLEMS IN AGRICULTURAL EDUCATION. The specific problems considered vary according to the needs of the group.
Prerequisite: *Graduate standing.* 3 *credits; both semesters*
(Hammonds and Woods)

289—RESEARCH IN AGRICULTURAL EDUCATION. The student works on some problem of importance to agricultural education.
Prerequisite: *Graduate standing.* 3 *credits; both semesters*
(Hammonds and Woods)

COMMERCIAL EDUCATION

158—METHOD OF TEACHING COMMERCIAL SUBJECTS. A study of classroom methods in accounting, shorthand, typewriting, business English, business law, and other commercial subjects usually offered in the high school.

Prerequisites: *A knowledge of the subjects.* 3 *credits; 2nd semester and first summer term* (Lawrence)

159—THE COMMERCIAL CURRICULUM. Commercial subjects offered in high school are examined to determine their content and the place each should occupy in the curriculum. Some time is given to the course of study.

Prerequisites: *Senior standing or experience in teaching or supervising commercial subjects.* 3 *credits; 2nd semester and 2nd summer term* (Lawrence)

EDUCATIONAL PSYCHOLOGY

118—EDUCATIONAL TESTS AND MEASUREMENTS FOR ELEMENTARY TEACHERS. The problem of measurement in the elementary school; formal and informal tests, marking systems, etc.

Prerequisites: *One semester of psychology.* 2 *credits; 1st semester* (Ross)

122—EDUCATIONAL TESTS AND MEASUREMENTS FOR HIGH SCHOOL TEACHERS. The problems of measurement in the junior and senior high school, with special emphasis on standardized tests. The construction and use of new-type tests, use and limitations of traditional examinations, marking systems, etc.

Prerequisite: *Education* 16. 3 *credits; 2nd semester* (Ross)

147—FOUNDATIONS OF SECONDARY EDUCATION. The psychology of the student in junior and senior high school.

Prerequisite: *One semester of psychology.* 3 *credits; 2nd semester* (Ross)

152—PROBLEMS IN EDUCATIONAL PSYCHOLOGY. A critical survey of the conflicting schools of psychology, theories of learning, etc.

Prerequisite: *Education* 16. 3 *credits; 2nd semester* (Ross)

216—SEMINAR IN EDUCATIONAL TESTS AND MEASUREMENTS. A critical study of certain problems in measurement. Individual work.

Prerequisites: *Education* 122*a-b*. 3 *credits; 1st semester* (Ross)

223—EDUCATIONAL STATISTICS. A non-mathematical study of the applications of statistical and graphical methods to educational data.

3 *credits; 1st semester* (Ross)

ELEMENTARY EDUCATION

133—DIRECTED TEACHING IN THE ELEMENTARY SCHOOL. Supervised teaching in kindergarten or Grades I to VI. One hour per day of actual teaching and one hour per day reserved for conference and class work.
Prerequisites: *Senior standing.* 5 *credits; both semesters* (Duncan and Training Teacher)

172—TEACHING READING IN THE ELEMENTARY SCHOOL. A practical application of principles derived from psychology and research. Discussion of aims, primary reading, activities leading to reading, reading in the intermediate grades, oral and silent reading, phonics, diagnostic and remedial work, means of testing and suitable material for each grade.
Prerequisite: *Junior standing.* 3 *credits; 1st semester* (Duncan)

173—TEACHING LITERATURE TO CHILDREN. A study of the literature for children from Kindergarten to Grade VI. Readings and book reports from various types; Mother Goose, folklore, modern fantastic tales, poetry, realistic stories, biography, myths and legends. Children's interests at different ages and stages of development; story telling and dramatization.
Prerequisite: *Junior standing.* 3 *credits; 2nd semester* (Duncan)

174—PRE-SCHOOL THEORY AND MANAGEMENT. A study of the nature, development, care and training educationally of the pre-school child. Emphasis will be placed on the formation of proper emotional and social habits and standards for right environment set up. Students will schedule regular periods for observation and assistance in the Kindergarten (by appointment).
Prerequisite: *Junior standing.* 4 *credits; 1st semester* (Martin)

176—PRE-SCHOOL ORGANIZATION AND TEACHING. A study of the pre-school movement in Europe and America. A study of the organization, equipment, curriculum and methods of pre-school teaching. Students taking this course will schedule regular periods (by appointment) for observation and assistance in the Kindergarten.
Prerequisite: *Junior standing.* 4 *credits; 2nd semester* (Martin)

HISTORY OF EDUCATION

117a—HISTORY OF EDUCATION. This course is a survey of the history of secondary education from the Greek period to the present time.
3 *credits; 1st semester* (Noe)

117b—HISTORY OF EDUCATION. A survey of the history of elementary education beginning with Athenian education and closing with present elementary education in America.
3 *credits; 2nd semester* (Noe)

121—HISTORY OF EDUCATION IN THE UNITED STATES. A course in the history of the development of the public school system in the United States. It is designed to give a background for the appreciation of the aims and purposes of modern education.
[NOT OFFERED 1931-32] 3 *credits*

219—GREAT EDUCATORS AND THEIR WORK. A study of the lives and writings of the world's educators to enable the student to appreciate more fully the ideals, attitudes and contributions to society of the men and women in education who have served best.
Prerequisite: *Graduate standing.* 3 *credits; 1st semester* (Noe)

220—COMPARATIVE EDUCATION. A course giving comparisons of systems of education.
Prerequisite: *Graduate standing.* 3 *credits; 2nd semester* (Noe)

HOME ECONOMICS EDUCATION

160—TECHNIQUE OF TEACHING HOME ECONOMICS. A study of methods of teaching as applied to home economics.
Prerequisites: *Home Economics* 26, 6*a and b*, 29, 3 51, *Education* 16. 3 *credits; both semesters* (Parker or Spickard)

162—DIRECTED TEACHING IN HOME ECONOMICS. Practical application of methods in teaching various phases of home economics.
Prerequisite: *Education* 160. 6 *credits; both semesters* (Parker or Spickard)

163—CURRENT PROBLEMS IN HOME ECONOMICS EDUCATION. A study of some recent developments in the field of home economics education.
Prerequisites: *Education* 160 *and* 162, *experience in teaching.* 3 *credits; summer session* (Parker or Spickard)

164—METHODS OF TEACHING CHILD CARE. A critical evaluation of subject matter in child care and methods of presenting it to high school pupils.
Prerequisites: *Home Economics* 115 *or equivalent.* 3 *credits; summer session* (Parker or Spickard)

165—PROBLEMS IN VOCATIONAL EDUCATION. This course deals with the problems involved in teaching vocational homemaking in day, part-time and evening schools.
3 *credits; 2nd semester* (Parker or Spickard)

266—SEMINAR IN HOME ECONOMICS EDUCATION. Provision is made for students to make individual investigations and report on special problems in home economics education.
Prerequisite: *Graduate standing.* 3 *credits; 2nd semester* (Parker or Spickard)

268—HOME ECONOMICS CURRICULUM CONSTRUCTION. A study of the underlying principles of curriculum building for junior and senior high school home economics.
Prerequisites: *Education* 160, 162. 3 *credits; 1st semester* (Parker or Spickard)

178—METHOD OF TEACHING HOME MANAGEMENT AND FAMILY RELATIONS IN JUNIOR AND SENIOR HIGH SCHOOL. This course deals with the selecting of subject matter and methods suitable for junior and senior high school pupils.
Prerequisites: *Home Economics* 42, *experience in teaching.* 2 *credits; summer session* (Parker or Spickard)

261—HOME ECONOMICS SUPERVISION. A course planned primarily to help prepare teacher trainers and supervisors of home economics education.
Prerequisites: *Education* 160, 162, *experience in teaching and approval of instructor.* 3 *credits; 1st semester* (Parker or Spickard)

PHILOSOPHY OF EDUCATION

114—EDUCATIONAL SOCIOLOGY. A study in the application of sociological findings to the field of education.
Prerequisite: *Nine hours in education.* 3 *credits; 1st and 2nd semesters*

200—ADVANCED COURSE IN PHILOSOPHY OF EDUCATION. This is an advanced course dealing with the philosophy underlying the larger educational problems of today.
Prerequisites: *Graduate standing and at least* 12 *hours in education.* 3 *credits; 2nd semester* (Adams)

205—REVIEW OF CURRENT EDUCATIONAL LITERATURE. An extensive study of current educational literature as found in educational periodicals.
Prerequisites: *Graduate standing and* 9 *hours education.* 3 *credits; 1st semester* (Adams)

222a—THESIS COURSE. This course is 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.
Prerequisites: *Graduate standing and* 12 *hours education.* 3 *credits; 1st semester* (Taylor)

222b—THESIS COURSE. Continuation of 222a.
Prerequisite: *Graduate standing and* 12 *hours education.* 3 *credits; 2nd semester* (Taylor)

227a—PRINCIPLES OF CURRICULUM CONSTRUCTION.* A survey of modern curriculum making as carried on in progressive city school systems, laboratory schools and state school systems. Also an intensive study of the principles underlying curriculum revision.
Prerequisites: *Graduate standing and teaching experience.* 3 *credits; 1st semester* (Adams)

227b—TECHNIQUES IN CURRICULUM CONSTRUCTION. This course has to do with the techniques being used to determine content of courses of study.
Prerequisites: *Graduate standing, teaching experience,* 9 *hours education.* 3 *credits; 2nd semester* (Adams)

230—PROBLEMS OF EDUCATIONAL SOCIOLOGY. An advanced course in the application of sociology to the educational field.
Prerequisites: *Graduate standing and* 9 *hours education, including Education* 114. 3 *credits; 2nd semester* (Adams)

234—PROBLEMS OF CURRICULUM MAKING. This course deals with problems of curriculum making on the various educational levels. The problems have to do with content of material, grade placement of materials and objectives to be reached through the materials.
Prerequisites: *Graduate standing and teaching experience.* 3 *credits; 1st semester* (Adams)

SECONDARY EDUCATION

105—THE TECHNIQUE OF TEACHING. Deals with laboratory methods of instruction. Units: fundamental processes, control, operation, administration.
Prerequisites: *Ed.* 101. 3 *credits; both semesters* (Ligon)

149—EXTRA CURRICULAR ACTIVITIES. Underlying principles, faculty activities, home room activities, student council, clubs, athletics, publications, dramatics, honor societies, commencements.
Prerequisite: *Junior standing.* 3 *credits*

*Not offered either semester 1931-32.

226—THE JUNIOR HIGH SCHOOL. Units: The junior high school idea; peculiar functions of; program of studies; methods of teaching; the staff; administration.
Prerequisite: *Ed.* 101. 3 *credits; 1st semester* (Ligon)

250—THE SENIOR HIGH SCHOOL. History of early secondary schools, relation to elementary and higher education, foreign secondary schools, growth to 1890, report of committee of ten, reorganization 1911, staff, curriculum, allied activities.
Prerequisite: *Ed.* 109. 3 *credits; 2nd semester* (Ligon)

PHYSICAL EDUCATION

(For Men)

120—PHYSICAL DIAGNOSIS AND MEDICAL GYMNASTICS. Theory and practice in physical and health examinations, with special emphasis on the detection of physical abnormalities; physical efficiency tests and measurements. Therapeutic exercises and their application to the prevention or arrest, the cure or correction of disturbances amenable to physio-therapeutic measures. Theory and practice of after-treatment in joint injuries, sprains and fractures.
3 *credits; 2nd semester and summer school* (Potter)

124—HISTORY AND PHILOSOPHY OF PHYSICAL EDUCATION. History of Physical Education from the ancient Greeks and Romans, through the Middle Ages and the Modern Era. The philosophy of the German, Swedish and French systems is outlined. Lectures and recitations on present day athletics and physical training in the United States and foreign countries. Two hours recitation a week.
2 *credits; 1st semester* (Hackensmith)

128—SCHOOL PROGRAMS OF PHYSICAL EDUCATION. Lectures, discussions and preparation of papers covering the objectives of physical education; the educational, health and recreational significances; the content of the school program; types of activities for grade school, high school, and college.
3 *credits; 2nd semester* (Potter)

131—ADVANCED BASKETBALL. Lectures and recitation on theory and practice of team play in basketball. Special emphasis is placed on systems of offense and defense as used by the leading coaches throughout the country. Two hours per week.
2 *credits; 1st semester* (Rupp)

142—ADVANCED FOOTBALL. Lectures and recitations on the theory of football. Special stress is placed on generalship, signal sys-

tems, scouting and conditioning of players. Football is studied from the coach's viewpoint. Two hours a week.

2 *credits; 2nd semester* (Gamage)

148—ORGANIZATION AND ADMINISTRATION OF ATHLETICS. Special emphasis on equipment, care of the gymnasium plant, executive and administrative duties of an athletic director, establishment and enforcement of eligibility rules, making of schedules, selecting a coach, sportsmanship and publicity are studied. Three hours recitation and lecture a week.

3 *credits; 2nd semester* (Boles)

201—RESEARCH IN PHYSICAL EDUCATION. Theory and practice in research and statistical procedures as applied to the field of problems of research pertaining to athletics, recreation, intramural and other phases of Physical Education. Lectures and study on the technique and procedure of research. Special problems and the preparation of papers dealing with studies and surveys of Physical Education. Five hours recitation a week.

5 *credits; 2nd semester* (Potter)

VII. ENGINEERING

CIVIL ENGINEERING

Prerequisites 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 baccalaureate degree in civil engineering.

201a—CONSTRUCTION. Advanced work in plain and reinforced concrete, theory, design and experimental work. Lectures, reading and design twenty hours a week.

10 *credits; 1st semester* (Terrell)

201b—CONSTRUCTION. Continuation of 201a. Lectures, reading and designing twenty hours a week.

10 *credits; 2nd semester* (Terrell)

231a—HIGHWAY ENGINEERING. Advanced course designed for graduate civil engineers who wish to enter the field of highway engineering. Road laws, organization of highway departments, traffic, cost contracts, and specifications, laboratory investigations on all kinds of surfacing materials. Structures, their design and maintenance. Twenty-four hours a week.

12 *credits; 1st semester* (Terrell)

231b—HIGHWAY ENGINEERING. Continuation of 231a. Twenty-four hours a week.

12 *credits; 2nd semester* (Terrell)

241a—RAILROAD ENGINEERING. Advanced course in location, construction, maintenance, economical selection of lines, grade reductions, cost of operation, valuation, structures and their maintenance. Fifteen hours a week.

7 *credits; 1st semester* (Newman)

241b—RAILROAD ENGINEERING. Continuation of 241a. Fifteen hours a week.

7 *credits; 2nd semester* (Newman)

251a—SANITARY ENGINEERING. Advanced course in sewer design, construction and maintenance. Design, maintenance, and operation of sewage disposal plants. Water supply and water works design, construction and maintenance. (Courses in water analysis, sewerage analysis and bacteriology should be taken in connection with this course.) Twenty hours a week.

10 *credits; 1st semester* (Terrell)

251b—SANITARY ENGINEERING. Continuation of 251a. Twenty hours a week.

10 *credits; 2nd semester* (Terrell)

271a—STRUCTURAL ENGINEERING. Advanced course in theory of structures, mill buildings, railroad and highway bridges. The use of influence diagrams and detail drawings. Eighteen hours a week.

9 *credits; 1st semester* (Carrel)

271b—STRUCTURAL ENGINEERING. Continuation of 271a. Eighteen hours a week.

9 *credits; 2nd semester* (Carrel)

ELECTRICAL ENGINEERING

201a—ADVANCED ALTERNATING CURRENTS. An intensive study of the fundamental theory of alternating current phenomena and machines. Designs of machines and layouts for central stations and distribution systems are made. Lectures and recitations five hours, laboratory ten hours, and drawing ten hours a week.

Prerequisite: B. S. in Electrical Engineering or its equivalent. 12 *credits; 1st semester* (Freeman)

201b—ADVANCED ALTERNATING CURRENTS. A continuation of course 201a. Lectures and recitations five hours; laboratory ten hours, and drawing ten hours a week.

Prerequisite: E. E. 201a. 12 *credits; 2nd semester* (Freeman)

202—TELEPHONE ENGINEERING. A study of the theory and operation of modern telephone exchanges. Layouts and designs are made to meet different assumed conditions. Lectures and recitations five hours; laboratory ten hours, and drawing ten hours a week.

Prerequisite: B. S. in Electrical Engineering or its equivalent. 12 *credits; 1st semester* (Freeman)

203—ILLUMINATION. A study of the principles underlying both exterior and interior illumination. The characteristics of the various commercial illuminants are compared and layouts for lighting systems are made. Lectures and recitations five hours; laboratory ten hours and drawing ten hours a week.

Prerequisite: B. S. in Electrical Engineering or its equivalent. 12 *credits; 2nd semester* (Freeman)

MECHANICAL ENGINEERING

201a—AUTOMOTIVE ENGINEERING. An advanced course in the essentials of motor vehicle design, construction and operation.

Recitation five hours a week; design ten hours a week, and laboratory fifteen hours a week.

Prerequisite: *B. S. in Mech. Eng. or its equivalent.* 12 *credits; 1st semester* (C. H. Anderson)

201b—AUTOMOTIVE ENGINEERING. Continuation of M. E. 201a. Recitation five hours a week; design ten hours a week; laboratory fifteen hours a week.

Prerequisite: *M. E. 201a.* 12 *credits; 2nd semester* (C. H. Anderson)

202a—POWER PLANTS. Advanced work in the design, selection and operation of power plant equipment. Usually involves a research problem as the major topic for study.

Prerequisite: *B. S. Mech. Eng. or its equivalent.* 12 *credits; 1st semester* (O'Bannon)

202b—POWER PLANTS. Continuation of M. E. 202a.

Prerequisite: *M. E. 202a.* 12 *credits; 2nd semester* (O'Bannon)

203a—HEATING AND VENTILATION. Advanced work in the design, selection and operation of heating and ventilating equipment, usually with special emphasis on a particular research problem.

Prerequisite: *B. S. Mech. Eng. or its equivalent.* 12 *credits; 1st semester* (O'Bannon)

203b—HEATING AND VENTILATION. Continuation of M. E. 203a.

Prerequisite: *M. E. 203a.* 12 *credits; 2nd semester* (O'Bannon)

METALLURGICAL ENGINEERING

101—ELEMENTS OF OIL SHALE ENGINEERING. Comprises an elementary study of the destructive distillation of oil shales for the production of oil, gas and by-products, together with the history of the oil shale industry and the economic factors upon which the future development of the industry depends.

Prerequisites: *Phys. 3b, Chem. 10.* 2 *credits; 1st semester* (Crouse)

105—ADVANCED METALLURGY OF IRON AND STEEL. A consideration of the metallurgy of iron and steel from the standpoint of the calculations involved in figuring charges, slags, heat efficiency and similar factors of a metallurgist's work.

Prerequisite: *Met. 114.* 2½ *credits; 1st half, 2nd semester* (Crouse)

113—PYROMETRY. A laboratory course in the heat treatment of steel including a study of the various methods used in the measuring of high temperatures. Laboratory four hours a week.

Prerequisites: *Phys.* 3*b*, 6; *Met.* 22. 1 *credit, 1st half, 2nd semester* (Crouse)

114—METALLURGICAL CALCULATIONS. Comprises a study of the calculations involved in the practical application of the principles of general metallurgy and the metallurgy of non-ferrous metals such as copper, lead, zinc and aluminum.

Prerequisites: *Met.* 4, 19; *Phys.* 3*b*, 6; *Chem.* 10. 3 *credits; 1st semester* (Crouse)

205—HEAT TREATMENT OF METALS AND ALLOYS. The various factors involved in the heat treatment of metals and alloys are considered with special emphasis to the particular metal or alloy on which the student wishes to specialize. Reference reading and laboratory work are emphasized. Lectures and recitations two hours a week; laboratory eight hours a week.

Prerequisite: *B. S. in Met. Eng. or its equivalent.* 6 *credits; 1st semester* (Crouse)

206—OIL SHALE TECHNOLOGY. Involving a detailed study of the principles and methods used in the production of oil from shales. Reference reading and laboratory work emphasized. It is desirable that the student have some knowledge of physical and organic chemistry. Lectures and recitations three hours a week; laboratory twelve hours a week.

Prerequisites: *Chem.* 10; *Phys.* 3*b*. 9 *credits; 2nd semester* (Crouse)

207—TECHNOLOGY OF ALLOYS. A study of the principles and practice used in the production of alloys of various kinds with special stress on any particular group of alloys that the student may choose. Reference reading and laboratory work are emphasized. Lectures and recitations two hours a week; laboratory eight hours a week.

Prerequisite: *B. S. in Met. Eng. or its equivalent.* 6 *credits; 1st semester* (Crouse)

208—ADVANCED METALLOGRAPHY. A detailed study of the structure of metals and alloys together with their preparation for examination under the microscope for such examination. Reference reading and laboratory work are emphasized. Lectures and recitations two hours a week; laboratory eight hours a week.

Prerequisite: *B. S. in Met. Eng. or its equivalent.* 6 *credits; 2nd semester* (Crouse)

209—ADVANCED ORE DRESSING. A study of the technique of ore dressing plant design and an opportunity for original research in

concentration problems. Lectures and recitations two hours a week; laboratory eight hours a week.
Prerequisite: *B. S. in Met. Eng. or its equivalent.* 6 *credits; 1st semester* (Crouse)

210—TECHNOLOGY OF LOW TEMPERATURE CARBONIZATION. A detailed study of the principles and practices employed in the low temperature carbonization of carbonaceous materials such as bituminous and channel coals. Reference reading and laboratory work emphasized. Lectures and recitations two hours a week; laboratory eight hours a week.
Prerequisite: *B. S. in Met. Eng. or its equivalent.* 6 *credits; 2nd semester* (Crouse)

MINING ENGINEERING

203—MINE ORGANIZATION. A detailed study of the structure and function of a mining enterprise from both the financial and engineering standpoints.
Prerequisite: *B. S. in Min. Eng. or its equivalent.* 3 *credits; 1st semester* (Emrath)

206—EXPLOSIVE ENGINEERING. A study of the principles involved in the use of explosives in large-scale mining and quarrying practice.
Prerequisite: *B. S. in Min. Eng. or its equivalent.* 2 *credits; 2nd semester* (Emrath)

207—ADVANCED PROSPECTING. A detailed study of the principles involved in geophysical investigation of the mineral of the earth's crust.
Prerequisite: *B. S. in Min. Eng. or its equivalent.* 2 *credits; 1st semester* (Emrath)

208—COAL DUST INVESTIGATION. Research work. The design of a laboratory scale gallery for the investigation of the explosive qualities of native bituminous coals.
Prerequisite: *B. S. in Min. Eng. or its equivalent.* 4 *credits; 2nd semester* (Emrath)

209—ADVANCED MINE ENGINEERING. A detailed study of the procedure and methods used, in collecting and recording data and engineering information, involved in the systematic development and exploitation of a mining property. Lecture and recitations three hours a week, drawing and mapping eight hours a week.
Prerequisite: *B. S. in Min. Eng. or its equivalent.* 7 *credits; 1st semester* (Emrath)

VIII. FINE ARTS

ART

112a—ADVANCED COMPOSITION. A study of pictorial organization for advanced students. Six studio hours a week.

Prerequisites: 12 *credits in Drawing and Painting, 4 credits in Design, and approval of Department Head.*

2 *credits; 1st semester* *(Fisk)

112b—ADVANCED COMPOSITION. Continuation of 112a. One major problem will be carried out in this course. Six studio hours a week.

2 *credits; 2nd semester* (Fisk)

115a—INDEPENDENT WORK. Individual work in Painting, Illustration or Applied Design. Open only to advanced students upon approval of Department Head.

3 *credits; 1st semester* (Rannells, Fisk)

115b—INDEPENDENT WORK. Continuation of 115a.

3 *credits; 2nd semester* (Rannells, Fisk)

116a—ETCHING. This is a course in the process of etching open only to advanced students whose work merits reproduction. Eight studio hours and weekly problems.

Prerequisites: 12 *credits in Drawing and Painting, 4 credits in Design, and approval of Department Head.*

4 *credits; 1st semester* (Fisk)

[NOT OFFERED 1933-34]

116b—ETCHING. Continuation of 116a. Eight studio hours and weekly problems.

4 *credits; 2nd semester* (Fisk)

[NOT OFFERED 1933-34]

140—SURVEY OF ART. This course is recommended to those students and graduates of the upper division who have not scheduled the regular undergraduate History of Art courses. Graphic and plastic arts are studied analytically for basis of judgment and appreciation. Lectures, conferences and reports. Three hours a week.

3 *credits; both semesters* (Rannells, Lowry)

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*On leave 1933-34.

IX. LAW

The following courses in the College of Law are accepted as graduate work when taken by students majoring in Political Science, Economics, Sociology, Commerce or other fields in which such courses are recommended by the major professors:

105—AGENCY. Keedy's Cases. Nature of the relation, competency of parties, appointment, delegation of authority, liabilities of principal and of agent, ratification, undisclosed principal, termination.
3 *credits; 2nd semester* (Moreland)

106a-106b—PLEADING I and II. Sunderland's Cases. The Anglo-American legal system, common law forms of actions, common law pleading, modifications thereof by the codes and equity pleading.
3 *credits; 1st and 2nd semesters* (Randall)

164—CONFLICT OF LAWS. Lorenzen's Cases. Domicile, jurisdiction of courts, procedure, contracts, property, movable and immovable, family law, divorce, inheritance, foreign administration, foreign judgments.
3 *credits; 2nd semester* (Black)

161a-161b—CONSTITUTIONAL LAW I and II. Evans's Cases. Division of powers, the dual system of government, scope of federal powers, taxation, money, banking, postal, military and treaty powers, regulation of commerce, the impairment of contracts, jurisdiction of federal courts, the police power, due process of law, equal protection of the law.
4 *credits; 1st and 2nd semesters* (Black)

101a-101b—CONTRACTS I and II. Williston's Cases. Formation, parties, consideration, formalities, contracts for the benefit of third persons, assignments, joint obligations, conditions and implied conditions, impossibility.
6 *credits; 1st and 2nd semesters* (Murray)

107a-107b—CRIMINAL LAW I and II. Sayre's Cases. Nature of the crime problem, the theory of punishment, procedure, characteristics of particular crimes.
2 *credits; 1st and 2nd semesters* (Moreland)

121a-121b—EQUITY I and II. Cook's Cases Volumes I and II. Methods of enforcing and legal effects of equitable decrees, relation of common law and equity, powers of courts of equity, inadequacy of remedy at law, interests protected, balancing the equities. Specific performance, affirmative and negative contracts, mutuality consideration, conditions, marketable title, laches and the Statute of Limita-

tions, partial performance with compensation, the Statute of Frauds, equitable conversion, equitable servitudes, misrepresentations, mistake, hardship, plaintiff's conduct as a defense.

6 *credits; 1st and 2nd semesters* (Moreland)

124a-124b—EVIDENCE I and II. Hinton's Cases. Court and jury, presumptions and burden of proof, admissoin and exclusion of evidence, competency, privileges, examination of witnesses, hearsay rule and its exceptions, dying declarations, admissions, and confessions; statements against interest, regular and official entries, reputation, statement of pedigree, spontaneous statements, the opinion rule, circumstantial evidence, best evidence rule, parole evidence rule.

4 *credits; 1st and 2nd semesters* (Randall)

123—NEGOTIABLE INSTRUMENTS. Bills and Notes. Smith and Moore's Cases. Formal requisites of negotiability, acceptance, delivery, endorsement, rights and duties of holder, liability of maker, acceptor, drawer and endorser.

3 *credits; 1st semester* (Roberts)

125a-125b—PRACTICE COURT I and II. Selected Cases. Presentation and argument of cases by members of the class before the trial court, proceedings in review before appellate court.

2 *credits; 1st and 2nd semesters* (Randall)

160a-160b—PRIVATE CORPORATIONS I and II. Richard's Cases (2nd edition). Characteristics, formation, powers and liabilities, rights of stockholders' directors, legislative control, dissolution, creditors.

4 *credits; 1st and 2nd semesters* (Evans)

104a—PROPERTY I (Personal Property). Warren's Cases. The nature of possession, separation of the custody or use from the possession, bailments, finders, bona fide purchase, judicial sale, Statute of Limitations, accession, tortious confusion, gifts, sale and bailments, liens and pledges, conversion.

3 *credits; 1st semester* (Roberts)

104b—PROPERTY II. Introduction to Real Property. Warren's Cases. Estates, common law method of creating and conveying estates, Statute of Uses, rights incident to the ownership of land, fixtures, easements, waste, emblements, licenses and covenants running with the land.

3 *credits; 2nd semester* (Roberts)

122—PROPERTY III. Titles and Conveyancing. Warren's Cases. Adverse possession, prescription, accretion, execution and delivery of deeds, boundaries, exception and reservation, easements by implication, covenants of title, estoppel, priorities.

3 *credits; 1st semester* (Murray)

162—PROPERTY IV. Future Interest. Kale's Cases on Future Interests. Rights of entry, possibilities of reverter, reversions, remainders, executory limitations, limitations to classes, powers, rule against perpetuities and illegal restraints and conditions.

3 *credits; 2nd semester* (Roberts)

166—SALES. Williston's Cases. Subject matter of sale, executory and executed sales, bills of lading, fraud, liens and their enforcement, stoppage in transitu, inspection, warranty and remedies for breach of warranty, Statute of Frauds.

3 *credits; 2nd semester* (Murray)

102a-102b—TORTS I and II. Ames and Smith's Cases (Pound's Edition). Assault and battery, false imprisonment, negligence and contributory negligence, unintended non-negligent interference, deceit, malicious prosecution, defamation, interference with privacy, interference with advantageous relations.

6 *credits; 1st and 2nd semesters* (Black)

120a-120b—TRIAL PROCEDURE I and II. Sunderland's Cases. The jurisdiction of courts, process and appearance, proceedings based on the record, incidents of jury trial, instructions, argument of counsel, verdicts, judgments, new trials, appellate practice, review.

2 *credits; 1st and 2nd semesters* (Randall)

165—TRUSTS. Scott's Cases. The nature of a trust as compared with other relations, the creation and elements of a trust including charitable trusts, resulting and constructive trusts, remedies of the cestui que trust, the transfer by the cestui to trust, who are bound, liabilities of the trustee, investment of funds, termination of trusts.

4 *credits; 1st semester* (Evans.)

163—WILLS AND THE ADMINISTRATION OF ESTATES. Warren's Cases. Testamentary capacity, the making, revocation, republication and revival of wills, lapsed and void devises and legacies, jurisdiction of court to grant letters testamentary and of administration, the interests, contracts and transfers of the personal representative, inventary, inheritance tax, payment of debts, legacies and distributive shares.

3 *credits; 2nd semester* (Evans)

167—ADMINISTRATIVE LAW. Freund's Cases in Administrative Law, 2nd edition. Administrative power and action, administrative discretion, notice of hearing, summary action, relief against administrative action, mandamus, certiorari, and other extraordinary legal remedies, equitable relief, jurisdictional limitations, and administrative finality.

3 *credits; 1st semester* (Black)

168—ADMINISTRATION OF THE CRIMINAL LAW. Keedy's Cases on the Administration of Criminal Law. Police officers, arrest,

investigation of crime, the magistrate, indictment and information, jurisdiction of the trial court, venue, interstate rendition, arraignment, the petit jury, the prosecuting attorney, counsel for defense, the verdict, methods of review.

2 *credits; 1st semester* (Moreland)

146—BANKRUPTCY. Holbrook and Aigler's Cases. Relation of state and federal governments in matters of bankruptcy, the bankrupt, petitioning creditor, acts of bankruptcy, the trustee, provable claims, preferences and discharge.

2 *credits; 1st semester* (Moreland)

154—DAMAGES. Beale's Cases. Nature of damages, avoidable consequences, counsel fees, certainty, compensation, damages for non-pecuniary injuries, pain, inconvenience, mental suffering, aggravation value, interest, special rules in certain actions, damages for death, eminent domain.

2 *credits; summer session* (Moreland)

148—DOMESTIC RELATIONS. McCurdy's Cases. Marriage and divorce, property interests of husband and wife, mutual obligations of the spouses, parent and child.

2 *credits; 2nd semester* (Roberts)

145—INSURANCE. Woodruff's Cases. Insurable interests, the contract, concealment, representations and warranties, implied conditions, waiver and estoppel, construction.

2 *credits; summer session* (Roberts)

140—INTERNATIONAL LAW—Evans's Cases. Sources, international persons, jurisdiction and state sovereignty, diplomatic representatives, belligerency, prize law, blockade, neutrality.

2 *credits; 2nd semester* (Vandenbosch)

143—MORTGAGES. Campbell's Cases. Elements of the mortgage, equitable mortgages, redemption, foreclosure, statutory redemption after sale, accounting, discharge, priorities, assignment and marshalling.

2 *credits; summer session* (Roberts)

149—MUNICIPAL CORPORATIONS. Tooke's Cases. Incorporation and existence, municipal officers, revenue, indebtedness, police power, zoning, liability for injuries received upon contracts implied in law and on implied contracts.

2 *credits; 1st semester* (Black)

152—OIL AND GAS. Kulp's Cases. Nature of landlord's right in oil and gas, interference, measures of damages, the oil and gas lease,

drilling operations, storage and use of oil and gas, pipe line and transportation companies, taxation.

2 *credits; summer session* (Moreland)

141—PARTNERSHIP. Crane and Magruder's Cases. Elements, formalities of organization, powers of partners, partnership obligations, duties, insolvency and bankruptcy, dissolution, accounting, estoppel.

2 *credits; 2nd semester* (Roberts)

150—PUBLIC UTILITIES. Robinson's Cases. Nature of public service, public employment and profession, withdrawal, duty to public, refusing service, commencement of service, management, liability for default, termination of service, regulation of charges, discrimination.

3 *credits; 2nd semester* (Murray)

147—QUASI-CONTRACTS. Thurston's Cases. Nature of quasi-contracts, benefits conferred by mistake, benefits conferred where further performance is impossible or contract is illegal or unenforceable, benefits conferred without contract or under compulsion.

2 *credits; summer session* (Randall)

151—SURETYSHIP. Ames' Cases. Nature of suretyship, Statute of Frauds, surety's defenses, subrogation, indemnity, contribution and exoneration, creditor's right to surety's remedies.

3 *credits; 1st semester* (Murray)

153—TAXATION. Casebook to be selected. Jurisdiction, public purpose, classification, exemptions, taxation of governmental agencies, direct and indirect taxes.

3 *credits; 1st semester* (Black)

144—USE OF LAW BOOKS. Selected problems, Cooley's Brief Making and Use of Law Books. How to find the law, use of digests, reports, text books, and encyclopedias.

2 *credits; 1st semester* (Roberts)

142—WORKMEN'S COMPENSATION. Selected Cases. The servant at common law, constitutionality of compensation acts, Kentucky and other compensation acts, abolishment of common law defenses, class legislation, police power, compulsory acts, "personal injury by accident", sunstroke, pre-existing diseases, traumatic injuries, occupational diseases, the locus of the accident, horseplay, an intensive study of the provisions of the Kentucky Act.

2 *credits; 1st semester* (Moreland)

169—LAW OF THE AIR. Selected cases and readings. The course will deal principally with aircraft law as follows: proprietary rights in air space at common law, federal and state statutes, tort liability, criminal responsibility, aircraft as common carriers, the rules of the road, international aspects of air law, legislation for future development of air law.

2 *credits; summer session* (Randall)

GRADUATE STUDENTS

FELLOWS

Lawrence Manning Baker ..... Richmond
Carl Henry Kardatzke ..... Winchester
Harry Richmond Lynn ..... Charleston, W. Va.
Orba Forest Traylor ..... Providence

SCHOLARS

Paul Whitman Davis ..... Flint, Mich.
Wiley L. Forman ..... Lexington
Richard Stuart Hicklin ..... Marion
Nancy Duke Lewis ..... Lexington
Virginia Clay McClure ..... Lexington
Robert King Salyers ..... Lexington
Charles Edward Sanders ..... Louisville
Robert Burgess Stewart ..... Denton
Armor Hugh P. Taylor ..... Newport
Richard Malcolm Weaver ..... Lexington
Anita Wells ..... Stanton

OFFICERS OF GRADUATE CLUB

PRESIDENT

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VICE PRESIDENT

Joseph Henry Mills, Jr. ..... Lexington

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Louise Barton ..... Erlanger

REGISTER OF GRADUATE STUDENTS 1932-1933

Name	Major	Address
Aaron, W. G.	Education	Russell Springs
Ackerman, Frank Edwin	Education	Cubbage
Adair, Mary Eunice	Home Economics	Lexington
Alexander, Ethel Irene	Education	Paris
Alexander, Georgia E.	Ancient Languages	Lexington
Alexander, Ralph M.	English	Bybee
Allen, Charles Edward	Education	Wilmore
Allen, H. Edwin	Education	Somerset
Allen, Roy J.	Education	War, W. Va.
Allen, Wayne E.	Commerce	Huntington, W. Va.
Allison, A. A.	Mathematics	Bramwell, W. Va.
Allison, E. E.	Education	Minerva
Allison, Nathan B.	Mathematics	Lexington
Alms, Henry Frederick	Marketing	Lexington
Alms, Ruth Moffitt	Education	Lexington
Alsover, Evelyn Louise	History	Big Stone Gap, Va.
Amis, Edward S.	Chemistry	Himyar
Amis, Otis C.	Commerce	Mt. Vernon
Amyx, Thomas Clifford	Philosophy	Lexington
Anderson, Lindson Pryor	Bacteriology	Lexington
Angelucci, Rosalind Marie	Romance Languages	Lexington
Anna, A. E.	Education	Lexington
Anthony, John D.	Zoology	Tifton, Ga.
Arnett, Edgar	Education	Erlanger
Arnold, Marguerite Gilham	Education	Louisville
Arterberry, Terry L.	Education	Kettle Island
Atkinson, Mrs. Stella C.	Latin	Irvine
Auten, Donald	Physiology	Pontiac, Mich.
Avis, Kyle	Home Economics	Neibert, W. Va.
Bailey, Edgar W.	Education	Ashland
Bailey, J. Yost	Animal Industry	Lexington
Bailey, Virgil C.	Mathematics	Emory, Va.
Baird, Elizabeth	Education	Owenton
Baker, Lawrence M.	Psychology	Richmond
Baldwin, Margaret	Physiology	Shepherdsville
Ball, Frank Kinney	Agronomy	California
Banta, Sallie Mae	English	Midway
Barker, O. W.	Animal Industry	Paducah
Barker, Powell E.	Education	Winchester
Barkley, Edward Orville	Engineering	Louisville
Barnette, Robert	Education	Campbellsburg

Name	Major	Address
Barton, Louise	Geology	Erlanger
Baughman, Robert Tevis	Commerce	Stanford
Baxter, William Elbert	Mathematics	Bloomfield
Bell, William Arthur	Farm Economics	Hartford
Bell, Mrs. William Arthur	Education	Hartford
Belt, Rupert A.	Education	Fredonia
Bennett, Clemmon A.	Education	Cloverport
Bennett, Eleanor Louise	English	Winchester
Bennett, Reginald V.	Mathematics	Winchester
Bennett, Mrs. Wilber	Commerce	Hartford
Bennett, William Arch	Education	Frankfort
Berg, Sidney Howard	Psychology	Liberty, N. Y.
Berry, Armon C.	Education	Simpsonville
Berry, Kitty	Education	Lexington
Berryman, Robert	Education	Winchester
Best, Nannie Louise	Romance Languages	Lexington
Bevarly, Raymond Walker	Education	Worthville
Bishop, Paul Morris	Commerce	Harrisburg, Penn.
Bitterman. Loretta Lockett	Music	Lexington
Blackburn, William O.	Animal Industry	Dry Ridge
Blackford, Effie	Education	Wilmore
Blankenship, Charles F.	Public Health	Louisville
Boggess, Squire R.	Public Health	Lawrenceburg
Boling, James Pleasant	Education	May's Lick
Bond, Jessie L.	Latin	Humbolt, Tenn.
Booth, Loraine	English	Carlisle
Borders, Mrs. Elizabeth B.	Education	Flemingsburg
Bortner, Charles Eugene	Agronomy	Lexington
Bosley, Leslie Carroll	Education	Danville
Botts, George M.	Education	Cynthiana
Bowling, Justus Hampton	Education	London
Boyd, Emerson	Education	Grove Center
Boyd, Nelson Edward	Chemistry	Paducah
Boyd, William Hyland	Education	Covington
Boyd, William Jeffries	Education	Hodgenville
Braden, Donald D.	Political Science	Lexington
Bradford, Laurence A.	Education	Flemingsburg
Bradley, Clifton J.	Economics	Lexington
Breitenhirt, B. Blake	Psychology	Gilbert, W. Va.
Brennan, John O.	Animal Industry	Paris
Brewton, Voncile Augusta	Sociology	Latonia
Broadbent, Geneva R.	Home Economics	Cadiz
Brom, Roman T.	Education	Louisville
Brown, H. R.	Education	Ashland
Brown, Hayward	Education	Bowling Green

Name	Major	Address
Brown, Joe B.	Education	Frazer
Brown, John S.	Political Science	Marion
Brown, Raymond Lee	Zoology	Beaver Dam
Brown, Theodore Cecil	Physics	Ashland
Bruce, W. A.	Physics	Millersburg
Bryan, Katie	Education	Owenton
Bryson, George W.	Education	War, W. Va.
Buchanan, John Victor	Education	Morganfield
Budden, Charles Joseph	Chemistry	Louisville
Bundy, Mary Ruth	Education	Ottawa, Kan.
Burk, Joseph C.	Philosophy	Lexington
Burkhead, Carlos Edward	Education	Bradfordsville
Burns, Goldman L.	Education	Midway
Bush, Bessie May	Home Economics	Mt. Sterling
Bushong, George W.	Public Health	Tompkinsville
Buskie, John William	Engineering	Lexington
Cadden, John F., Jr.	Public Health	Greenup
Calkins, Hugh S.	Economics	Lexington
Campbell, G. W.	Education	Corbin
Campbell, William A.	Education	Lexington
Caporossi, Anthony Paul	Chemistry	Lexington
Carman, Armiel	Education	Lexington
Carpenter, Dauris Clyde	Commerce	Lexington
Carpenter, Winfred L.	Education	West Liberty
Carr, John B.	Education	Linton
Carr, Katherine Duvall	Anatomy & Physiology	Lexington
Carson, Kathryn Jewel	English	Danville
Carter, Ashby B.	Animal Industry	Richmond
Caruthers, Mrs. Amelia L.	Education	Knoxville, Tenn.
Cash, Henley F.	Education	Lancaster
Cassidy, Catherine Ellis	Education	Lexington
Cassidy, Wiley L.	Education	Catlettsburg
Castle, Eunice	Education	Paintsville
Caudill, Ira T.	Mathematics	Farmers
Chamberlain, Mary Frances	History	Adrian, Mich.
Chambers, Tullus A.	Education	Benton
Cherry, Ralph Walter	Mathematics	Harrodsburg
Christian, Virgil L.	Education	Horse Cave
Clark, Julia Ruth	Education	Paris
Clayton, S. T.	Education	Morehouse Mo.
Clayton, Susie Spence	History	Morehouse, Mo.
Cleek, Mary Lydia	Zoology	Lexington
Clements, Philip	Chemistry	Fulton
Cleveland, Forrest F.	Physics	Lexington
Clifton, Louis	Education	Lexington

Name	Major	Address
Cline, Elton	Education	Guide Rock, Neb.
Cobb, John Buford	Education	Crestwood
Cocanougher, Robert Earl	Education	Danville
Cole, William Boyd	English	Campbellsville
Conley, Chloron L.	Animal Industry	Zebulon
Conn, Fred Eugene	Education	Shepherdsville
Conner, Anna Louise	Education	Lexington
Conner, Mrs. Lila F.	Education	Russellville
Conroy, Katherine	Education	Mt. Sterling
Coop, Walter Farris	Education	Peytonsburg
Cooper, Agnes Barbour	Library Science	Lexington
Cowgell, Corinne	English	Owensboro
Cox, Geneva Elizabeth	Education	Mt. Vernon
Cox, John K.	History	Burgin
Cox, Lloyd Bryant	Education	Spurlington
Cracraft, Lucy J.	Ancient Languages	Shelbyville
Craig, Isabel		Lexington
Crawford, Albert Byron	Education	Lexington
Crick, Mrs. Evelyn B.	Education	Hellier
Crick, Herbert Woodson	Education	Hellier
Croft, Lysle Warrick	Psychology	Lexington
Crouch, Lois Alexander	Latin	Brooksville
Crutcher, Frank Douglas	Education	Versailles
Cubbage, Hazel	Education	Clarkson
Cullis, Lela	History	Lexington
Cummins, Squire R.	Education	Crab Orchard
Cunov, Harvey Frank	Chemistry	Detroit, Mich.
Damron, Alex	Education	Pikeville
Daniel, Charles Bruce	Education	Shelbyville
Daniel, Mrs. Hildreth	Education	Shelbyville
Davenport, K. Elizabeth	Education	Lexington
Davidson, William Kelso	Education	Ft. Blackmore, Va.
Davis, Charles A.	History	Barbourville
Davis, Elizabeth H.	French	Glasgow
Davis, Grace A.	Education	Lexington
Davis, Hillry	Home Economics	Paris
Davis, Hugh L.	Education	Rose Hill
Davis, John Williamson	Psychology	Junction City
Davis, Mary Magdalene	English	Glasgow
Davis, Paul Whitman	Psychology	Flint, Mich.
Davis, Robert E.	History	Noctor
Davis, Russell Spruce	Political Science	Lexington
Day, Earl H.	Economics	Whitesburg
Depew, Bertha	Home Economics	Lexington
Dickey, Mrs. Katherine B.	Education	Lexington

Name	Major	Address
Dietrich, Aimée L.	English	Lexington
Dinkle, Pansy Pence	English	Frankfort
Dorsey, Eugene Ray	Political Sci.	Huntington, W. Va.
Dorsey, E. Van	Education	Surveyor, W. Va.
Dowell, Ed N.	Agriculture	Little Cypress
Downing, Dorothy Mae	Psychology	Lexington
Dudley, Hal Ellsworth	Education	Henderson
Duke, J. W.	Public Health	Hindman
Duncan, H. R.	Geology	Greenville
Dunn, Jeff Sidney	Physical Education	Lexington
Dunne, Catherine H.	Romance Languages	Lexington
Durbin, Virginia Omer	English	Lexington
Duvall, William N.	Animal Industry	Washington
Dye, James Given	Education	Ewing
Eagle, Delbert P.	Education	Lancaster
Eckler, Ralph C.	Education	Dry Ridge
Eddleman, James Christian	Education	Crittenden
Edwards, Julia Trigg	History	Louisville
Elliott, Julian N.	Political Science	Lancaster
Embry, Joel Thomas	Education	Stanford
England, Gilbert H.	Education	Milton
Engle, Fred Allen	Education	Richmond
Engle, Myrtle Mae	Education	Princeton
Essery, Marian Ruth	English	Brookline, Mass.
Estes, Betsy 'Worth	English	Lexington
Evans, Mary Elizabeth	French	Beattyville
Evans, Nancy Chenault	English	Richmond
Faith, Hubert W.	Agronomy	Paducah
Farquhar, Bruce Straub	Chemistry	Lexington
Farrington, Olin M.	Commerce	Lexington
Faurest, Henry S.	Education	Elizabethtown
Faust, Miriam E.	Education	Beverly
Finn, Willa Frances	Education	Lexington
Firenze, Elmo Bernard	French	Sparkill, N. Y.
Fisher, Gladys Thorne	Home Economics	Millersburg
Fisher, Mary Elizabeth	Education	Lexington
Fithian, George White	English	Paris
Flannery, Mildred Davis	Bacteriology	Man, W. Va.
Flege, Robert Frederick	Education	Irvine
Floyd, William Burney	Education	Henderson
Forman, Wiley L.	Anatomy & Physiology	Lexington
Forsythe, Katherine	Psychology	Lexington
Foster, Nettie Belle	Education	Lexington
Fox, Bernice	English	Winchester
Foxworth, Frances Carolyn	English	Lexington

Name	Major	Address
Franklin, Mary Katherine	History	'Waddy
Fraysure, William H.	Education	Springfield
Friedman, Louis	Education	Lexington
Frisby, M. V.	Education	Frankfort
Frye, Lois Ammerman	Education	Cynthiana
Fudold, Rose J.	English	Paris
Gabbard, Eugene Field	Education	Arnett
Gambill, Carl Milton	Public Health	Blaine
Gardner, Norris L.	Education	Macon
Garnett, Ethel May	History	Columbia
Garrison, Catherine Maye	French	Bardstown
Gary, J. Carson	Education	Upton
Gerhard, George Richard	Engineering	Augusta
Germann, Gertrude Maria	German	Danville
Gilb, Elmer	Physical Education	Lexington
Gilbreath, H. B.	Economics	Bowling Green
Gillim, Marion H.	Education	Owensboro
Ginger, Lyman V.	Education	Winchester
Glass, Dan R.	Education	Wilmore
Glass, Mattie Mae	Library Science	Nicholasville
Gleason, George T.	Economics	Waverly
Glenn, M. F.	Education	Stone
Godby, Amos	Physical Education	Somerset
Good, Graham R.	Psychology	English
Goodman, Daniel William	English	Lexington
Gordon, Mary Agnes	Psychology	Lexington
Gordon, Mary Amanda	Education	Auburn
Gosch, Eleanor Van	Education	Lexington
Gosch, Glorene Winslow	Education	Lexington
Gover, Glen	Education	Somerset
Graddy, Ivan Clay	Marketing	Lexington
Graham, Charles C.	Zoology	Berea
Grainger, Paul Brydon	Physical Education	Lexington
Grant, Bernice D.	Mathematics	Burlington
Gray, Harry Barkus	Education	Bristow
Gray, Helen Keith	English	Louisville
Green, Todd Heron	Commerce	Lexington
Greene, Clyde Craft	Education	London
Greene, Elma R.	English	Hyden
Greenfield, Esther	Education	Lexington
Grehan, Henry E.	History	Lexington
Gruelle, Orie P.	Education	Dry Ridge
Guthrie, Julia A.	Education	Henderson
Guy, Hollis P.	Commerce	Beckley, W. Va.
Guy, Mrs. Katherine C.	Bacteriology	Beckley, W. Va.

Name	Major	Address
Gwinn, Marion Swope	English	Herndon, W. Va.
Gwinn, Russell	History	Herndon, W. Va.
Haag, William George, Jr.	Geology	Henderson
Hackensmith, Charles William	Hygiene	Lexington
Hale, W. J.	Education	Lexington
Hall, John Felix, Jr.	Anatomy & Phys.	Nicholasville
Hamilton, William Brooks	Hygiene	Lexington
Hammond, Annie	Education	Madisonville
Hammonds, Colonel	Education	Bourne
Harbold, Lucile Lee	Political Science	Lexington
Hardin, Edmond C.	French	Winchester
Hare, Mrs. Lucile B.	Education	Nicholasville
Harned, Janice	Mathematics	Shepherdsville
Harney, Clarence W.	Education	Richmond
Harris, Charles E.	Economics	Lexington
Harris, Fern Vesta	Education	Winchester
Harris, Lois Isadora	Home Economics	Ashland
Hart, John William	History	Phillipsburg, N. J.
Hasler, John Daniel	History	Olney, Illinois
Hatfield, Elsie	French	Lancaster
Haygood, Tyler F.	Economics	Louisville
Haynsworth, Joseph H., Jr.	Physics	Sumter, S. C.
Hearn, Spicie Belle	Education	Midway
Heaton, Mary	English	Franklinton
Heird, James Barton	Education	Versailles
Henderson, O. W.	Education	Lexington
Hendren, J. H.	Public Health	Pineville
Hensley, Carlo	Commerce	Sibert
Hensley, Mayme	Education	Manchester
Hicklin, R. S.	Geology	Marion
Hicks, Carl	History	Hustonville
Hieatt, Kate Gray	Education	Lexington
Hieatt, Martha Fox	English	Lexington
Hill, Mabelle George	Home Economics	Waco
Hilton, Everett P.	Education	Mayslick
Hinsdale, Reuben C.	Education	Covington
Hinton, Nell Winn	Sociology	Paris
Hodgkin, Boswell B.	Education	Winchester
Hogge, Ernest	Chemistry	Morehead
Holladay, Amanda Lee	Education	Lexington
Holtzclaw, Harry L.	Education	Stanford
Hoover, John L.	Commerce	Calvert City
Hoover, Wilson Ray	Horticulture	Calvert City
Hopkins, David A.	English	Sardis
Hopper, Sue Richie	Zoology	May's Lick

Name	Major	Address
Horn, Clarence A.	Education	Princeton
Hosack, Ivan Gentry	Anatomy & Phys.,	Pittsburg, Penn.
Hounshell, Arthur C.	Political Science	Jackson
Howard, H. A.	History	Corbin
Howe, Leonora Alice	English	Lexington
Howes, Mary Margaret	Education	Lexington
Howton, Bertie V.	Home Economics	Hebbardsville
Howton, Ernest A.	Education	Bandana
Howton, Euel B.	Education	Hebbardsville
Hubbard, Ruth	Education	Mayfield
Hughes, Beulah Stillwell	English	Lexington
Hughes, Effie Delle	Chemistry	Somerset
Hughes, W. Brandt	Education	Wilmore
Humphreys, Margaret Bell	English	Lexington
Hunt, Jesse M.	Education	Blandville
Hunt, Mary Lambert	Education	Lexington
Hunter, Ballard	Education	Woods
Hurt, Lester E.	Education	Morgantown
Hurt, Sidney M. R.	Education	Lexington
Hutchison, Lee Pressley	Mathematics	W. Sunbury, Penn.
Hutson, 'Woodfin	Education	Paducah
Imes, Flo	English	Almo
Irvine, Jessie Frank	Psychology	Paris
Irvine, Kate Tipton	English	Paris
Jackson, Edward Dwight	History	Wilmore
Jackson, Mrs. Elsye B.	Ancient Languages	Glasgow
Jackson, Hugh R.	Political Science	Lexington
Jackson, Margarette	Education	Lexington
Jackson, Vester A.	Education	Glasgow
Jacobs, Richard T.	Education	Cynthiana
Jarvis, J. P., Jr.	Political Science	Georgetown
Jenkins, David C.	Mathematics	Shepherdsville
Jennings, Rïenzi W.	Economics	Lexington
Jesse, Edwin Gay	Education	Nicholasville
Jett, Ivan L.	Education	Richmond
Jewell, James W.	Psychology	Burning Springs
Johnson, Alfred H.	Education	Paintsville
Johnson, Emil W.	Bacteriology	Lexington
Johnson, Eugene	Chemistry	Huntington, W. Va.
Johnson, Mrs. Flora S.	Education	Huntington, W. Va.
Johnson, Frances Irwin	English	Lexington
Johnson, Landmon Rice	Animal Industry	Brodhead
Johnston, Ella Buckner	English	Lexington
Jones, Bryant Owsley	Sociology	Lexington
Jones, Claude Hulse	Physical Education	Paris

Name	Major	Address
Jones, Dorothy L.	Ancient Languages	Lexington
Jones, Jessie E.	Education	Buechel
Jones, Lillian Blanche	Latin	Williamsburg
Jones, Warren F.	Education	Winchester
Jones, William Basil	Education	Anchorage
Judy, E. Keevil	Education	Cynthiana
Judy, Mildred Lloyd	Romance Languages	Lexington
Kahn, Robert Broh	Bacteriology	Lexington
Kardatzke, Carl H.	Education	Winchester
Karrick, Roger Horace	Zoology	Salt Lick
Kaut, Thelma Nancy	English	Riverton
Keeney, Margaret Hope	Education	Kenton
Keffer, John LeRoy	Chemistry	Ashland
Kegley, B. Herbert	Mathematics	Newfoundland
Keller, Winnie B.	English	Clarkson
Kelley, Jack	Agriculture	Murray
Kelly, Edna Arabellah	Education	Richmond
Kemper, Durbin C.	Education	Lexington
Kendall, Thomas Alexander	Engineering	Owensboro
Kern, Gladys E.	Education	Beverly
Kerr, Robert Pettit	Bacteriology	Louisville
Ketron, C. V.	Education	Athens, Tenn.
Kidd, Jack Smith	Animal Industry	Endee
Kincheloe, Catherine	English	Hardinsburg
King, Effie	Chemistry	Lexington
King, Henry W.	Education	Horse Cave
King, Samuel Elmore	Education	Falmouth
Kinstler, Ella Marie	English	Louisa
Kirk, Ernest W.	Physics	Philpot
Kirk, John Shaw	Anatomy & Physiology,	Owensboro
Kirmse, Julia Florence	Zoology	Ludlow Station
Krewson, Charles F.	Chemistry	Lexington
Kriegel, Bess Turley	Education	Lexington
Kruse, Alice M.	English	Beverly
Kwoh, Yu-Yu	Education	Luchowfu, China
LaMotte, Thomas J.	Public Health	Elkton
Lampert, Marcia Enid	Education	Lexington
Lancaster, Marjorie	Education	Ottawa, Kansas
Langley, McKendree R.	French	Glassboro, N. J.
Larabee, Norman C.	Education	Wilmore
Latham, Rolla F.	History	Browder
Lawrence Armon J.	Commerce	Lexington
Lawson, Carl Edwin	Chemistry	Corbin
Lecky, Holland N.	Animal Industry	Kevil
Lecky, Joseph L.	Animal Industry	Little Cypress

Name	Major	Address
Ledford, Mrs. D. W.	Library Science	Hopkinsville
Leet, Sarah	Education	Delmar, Delaware
Lehman, Jeanette	English	Midway
Lentz, Jack	Anatomy & Phys.,	Nashville, Tenn.
Leonard, Granville B.	Education	Carlisle
Lester, Clyde D.	Education	Marion
Lester, William Stewart, Sr.	History	Winchester
Lester, William Stewart, Jr.	History	Winchester
Lewis, Bennett	Education	Winchester
Lewis, Nancy Duke	Mathematics	Lexington
Ligon, Mrs. M. E.	Education	Lexington
Liles, Alton B. Parker	Economics	Louisville
Little, K. D.	Physics	Louisville
Little, Robert E.	Education	Berea
Loewenstein, Fannie H.	Education	Louisville
Long, John Goff	Education	West Liberty
Losey, Hettie Jane	Political Science	Covington
Loudenslager, Ralph L.	Education	Wilmore
Lovell, Mrs. Aaron Gordon	English	Greenville
Lucas, W. Carman	Education	Wilmore
Lutes, Abbye M.	English	Primrose
Lutes, Esther F.	Commerce	Primrose
Lutes, Lloyd H.	Education	Falmouth
Lutes, Mrs. L. H.	History	Falmouth
Lutkemeier, Carolyn F.	Education	Frankfort
Lynch, Howard W.	History	Amarillo, Texas
Lynn, Harry R.	History	Lexington
Lytle, Edwin G.	Mathematics	Calhoun
McAnelly, Jesse Guy	Education	Bradfordsville
McCauley, Joseph Ardery	Political Science	Cynthiana
McClain, Samuel Scott	Education	Taylorsville
McClure, Virginia Clay	History	Lexington
McCollum, Mrs. Emma E.	Sociology	Paris
McCoy, Lottie	Education	Wallins Creek
McCray, Carl Augustus	Education	Berea
McCray, Steward Davis	Political Science	Lexington
McCullar, Albert Luther	History	Wilmore
McFarland, Mary Sue	Latin	Glasgow
McGinnis, Lawrence L.	Education	Lexington
McGladdery, Mrs. Sudie F.	Education	Sunrise
McHargue, Lester	Economics	Pine Hill
McKeehan, Rollin Hubert	Education	Wilmore
McKenna, Catherine	Bacteriology	Lexington
McKeon, Catherine P.	Latin	Louisville
McKinney, David Hampton	Economics	Richmond

Name	Major	Address
McLefresh, E. Eric	Political Science	Dayton
McNeill, Mary Jo	Latin	Hickman
Macdonald, Ronald	French	Pewee Valley
Magee, Wallace Hopkins	Engineering	Flint, Michigan
Maggard, Hildreth	English	Morehead
Magill, David M.	Commerce	Salyersville
Maguire, Charles Hugh	Chemistry	Williamsburg
Maguire, Mary J.	Education	Lexington
Mahoney, C. H.	Engineering	Lexington
Main, Ruth L.	English	Barbourville
Maney, Charles Albert	Mathematics	Lexington
Manis, Lloyd Powell	English	Wallins Creek
Marr, Jane Parker	Education	Millersburg
Marshall, Richard W.	Political Science	Lexington
Martin, Ben Riley	Physical Education	Ashland
Mason, Lela Scoville	Education	London
Mathis, Buena Craig	Mathematics	Lexington
Mattingly, Cleveland O.	History	Lexington
May, Anna E.	Education	Lexington
May, Llewellyn H.	Education	Georgetown
Mayfield, Hal Pierce	Education	Marietta, S. C.
Meece, Leonard E.	Education	Lexington
Mefford, Mattie	Mathematics	Paris
Meredith, Miles	Animal Industry	Tompkinsville
Michael, Ann	Animal Industry	Lexington
Miller, Allen P.	Education	Sacramento
Miller, E. M.	Education	Beverly
Mills, Joseph Henry, Jr.	Geology	Lexington
Minihan, Martha Elizabeth	Education	Lexington
Mitchell, Anna Phelps	Psychology	Lexington
Moberly, Jesse	Physical Education	Richmond
Moe, Esther C.	Zoology	Wilmore
Monson, Saida Beall	Education	Cynthiana
Moon, I. D.	Education	Wilmore
Moore, Buell G.	Education	Bedford
Moore, Elvis Lee	Education	Kevil
Moore, Helen E.	Home Economics	Annville
Moore, Mrs. James E.	Home Economics	Marion
Moore, Joseph P.	History	McDowell
Moore, Mrs. Joseph P.	English	McDowell
Moore, Mary A.	Education	Berea
Moore, Thomas	Chemistry	Lexington
Morgan, Luther F.	Education	St. Helens
Morris, Orrill Hayes	Sociology	Wilmore
Mullikin, O. L.	Political Science	Millersburg

Name	Major	Address
Mullins, Robert Edward	Psychology	Mt. Vernon
Murphy, Ernest	French	Williamsburg
Murray, Hershell B.	Public Health	Paintsville
Murray, Roscoe Lee	Education	Upton
Murrill, William A.	Chemistry	Lexington
Nash, Mary Moore	English	Versailles
Nevins, Virginia Halley	English	Lexington
Nichols, Guy G.	Education	Barbourville
Northcutt, Shelby Lee	Psychology	Lexington
Norton, Egbert F.	Education	Brodhead
Ohne, Ida Margaret	Latin	Ghent
Omer, Mary Isabel	Education	Madisonville
Orem, H. Philip	Chemistry	Campbellsburg
Otterbach, Louise	Education	Louisville
Outland, James Alfred	Public Health	Murray
Owen, Naomi W.	Library Science	London
Owens, Mildred	English	Maysville
Pack, Kermit Allen	Commerce	South Portsmouth
Palmer, Lewis Lyndon	Chemistry	Plainfield, N. J.
Palmeter, D. B.	Mathematics	Lexington
Park, Mercy Wilson	Education	Paris
Parker, George T.	History	Murray
Parker, J. H.	Education	Harrodsburg
Parker, Lynden Grace	English	Wilmore
Pate, Paul Springer	Engineering	Anchorage
Pates, Jeanette Winston	Education	Lexington
Patrick, Olney M.	Education	Salyersville
Patterson, William Robert	Engineering	Lexington
Payne, James Andrew	Education	Cynthiana
Payne, Martha	Education	Lexington
Payne, Patrick M.	Education	Hazard
Peak, Bart N.	Political Science	Lexington
Pennington, Henry M.	Anatomy & Physiology	London
Perry, Bernard I.	Education	Frankfort
Perry, George Earl	Education	Lexington
Perry, William Robert	Education	Morganfield
Peterson, Mrs. E. P.	Library Science	Campbellsville
Peyton, Elva	Zoology	Pleasureville
Peyton, Warren	Education	Beaver Dam
Pfanstiel, Everett Earl	Education	Carlisle
Phillips, Stanley	History	Centertown
Phillips, Mrs. Stanley	English	Centertown
Pirtle, John P.	Education	Prospect
Poage, Leila Willis	Sociology	Brooksville
Poindexter, Ann Frances	Psychology	Georgetown

Name	Major	Address
Polk, Henry Tasker	Chemistry	Lexington
Porter, Mrs. T. J., Jr.	Education	Lexington
Portwood, Alfred S.	Psychology	Richmond
Poynter, James William	Chemistry	Winchester
Praither, Mrs. Anne S.	Education	Lexington
Preston, Burman H.	Public Health	Pikeville
Prewitt, Daniel Webster	Political Science	Packard
Price, Orville K.	Education	Cottonburg
Price, Robert E.	Education	Bremen
Prichard, Henry L.	Education	Morehead
Pride, Joy Elizabeth	Art	Lexington
Pruitt, Elizabeth Reed	English	Millersburg
Pugh, Travis B., Jr.	Anatomy & Physiology	Paducah
Pumphrey, Melvina H.	English	Lexington
Puterbaugh, Allen S.	Education	Tippecanoe City, O.
Racke, Elsie Roberta	Education	Fort Thomas
Rader, Ruth	English	Summersville, W. Va.
Ragland, Elizabeth M.	English	Lexington
Ramey, Mrs. Clarice Payne	History	Eubank
Rasdall, Mackie	Political Science	Smiths Grove
Ratliff, Louise Boone	English	Winchester
Ratliff, Mrs. Margaret M.	Psychology	Winchester
Ratliff, Mark Twain	History	Pikeville
Rawlins, Vivian Mae	English	Donerail
Reagan, Mary Cornelia	English	Lexington
Ream, Elmus L.	Commerce	Mt. Lake Park, Md.
Redding, Emma Henrietta	Romance Languages	Louisville
Reed, Curtis J.	Political Science	Fleming
Rees, Rupert S.	Education	Foster
Reynolds, Robert S.	Marketing	Tyner
Rice, Chester Clark	Engineering	Richmond
Rice, Lawrence K.	Education	Jackson
Richards, Richard O.	Physical Education	Denver, Colo.
Ridgeway, John M.	Education	Lexington
Riley, Edgar Carlisle	Education	Lexington
Roberts, Augusta Winn	Philosophy	Decatur, Georgia
Roberts, G. Gilbert	Mathematics	Berea
Roberts, Mack	Public Health	Monticello
Roberts, Martin	Education	Spottsville
Roberts, Mildred Carolyn	English	Berea
Roberts, Mildred O.	French	Lexington
Roberts, Roland	Education	Nicholasville
Robinson, Erwina	Education	Louisville
Robinson, Leonard H.	Education	Ewing
Robinson, Margaret Evelyn	Education	Cynthiana

Name	Major	Address
Roe, James Alvin	History	Sunrise
Rogers, Amelia Van Meter	History	Lexington
Rogers, Frances Landrum	Education	Mt. Sterling
Rogers, Katherine E.	Education	Lexington
Ross, Evelyn Ferrell	Education	Richmond
Routt, Elizabeth	Commerce	Sonora
Rowntree, Gradie Raymond	Public Health	Horse Cave
Roy, Wallace R.	Chemistry	Lexington
Rupley, Lula Margaret	History	Danville
Russell, Clem W.	Education	Bowling Green
Salyer, Amanda Patrick	History	Owingsville
Salyers, Mary Alice	English	Lexington
Salyers, Robert King	Commerce	Lexington
Sanders, Charles Edward	Engineering	Louisville
Sanford, Theodore A.	Education	Murray
Savage, Mountjoy	Anatomy & Physiology	Frankfort
Schell, Sidney T., Jr.	Political Science	Lexington
Scheuerman, Alta L.	German	Wilmore
Schneider, Mrs. Ora S.	Zoology	Nicholasville
Scott, Elizabeth F.	Latin	Winchester
Scott, Ellen	History	Paris
Scott, Mamie West	Education	Irvine
Scudder, James William	Public Health	Calhoun
Seale, Rosa Lee	Home Economics	Berea
Settle, Margery L.	Education	Calhoun
Sewell, George P., Jr.	Engineering	Middlesboro
Sewell, Jane Manley	Art	Lexington
Seymour, Major R. T.	Animal Industry	Lexington
Shafer, William A.	Education	Falmouth
Sharon, Robert E.	Education	Falmouth
Shaw, Eula Hensley	Latin	Crab Orchard
Shearer, Gladys Duvall	Education	Lexington
Shearer, Maurice Chester	Education	Carlisle
Shelton, Mary Bryan	Political Science	Versailles
Sheridan, Mary Esther	Ancient Languages	Lexington
Shively, Bernie Armstead	Hygiene	Lexington
Shouse, Claude F.	English	Lexington
Shouse, Mrs. Edith J.	English	Heidelberg
Shouse, Mrs. Lenore Patrick	Education	Salyersville
Shropshire, Anne	Psychology	Lexington
Shropshire, James	Commerce	Lexington
Shultz, Leslie Gilbert	Mathematics	Horse Branch
Shutt, Charles Noble	Education	Berea
Simons, Dora Bledsoe	Education	Brock
Simpson, Sidney	Public Health	Lawrenceburg

Name	Major	Address
Skaggs, M. H.	Public Health	Stanton
Skidmore, Hugh P.	Education	Campbellsburg
Skinner, Frances Elizabeth	History	Lexington
Skinner, Gertrude	Education	Lexington
Slusher, Thelma	English	Barbourville
Smiser, Louise	Home Economics	Phoenix, Ariz.
Smith, Basil O.	Education	Dawson Springs
Smith, Charlotte Fox	Home Economics	Danville
Smith, Charlsey	Education	Lexington
Smith, Mrs. Dorothy B.	Education	Jenkins
Smith, Edna Lillian	Bacteriology	Lexington
Smith, Ethel Belle	Education	Lexington
Smith, Ira Edgar	Physical Education	Williamsburg
Smith, Jeff Frank	Education	Hindman
Smith, Marguerite	English	Lexington
Smith, Robert L.	Education	Jenkins
Smith, Thomas Lee	Mathematics	Lexington
Smith, William Ray	Engineering	Lexington
Snead, Christy	Commerce	Spencer, W. Va.
Snider, Artie Lynne	Education	Lexington
Solomon, Lester	Education	Paducah
Sparks, Joy W. G.	Education	Ashland
Speaks, W. G.	Physical Education	Lexington
Spears, Elizabeth	Home Economics	Winchester
Spears, Sholto Marion	Engineering	Chicago, Ill.
Spencer, Ella Stone	Latin	Winchester
Spillman, Claude Omar	Education	Berea
Sprague, John S.	Anatomy	Lexington
Spratt, Roberta	Mathematics	Columbia, S. C.
Stamper, Anna L.	English	Stanton
Stanley, Edith	Education	Wabash, Indiana
Stark, Ben	Political Science	New York, N. Y.
Steely, Jo Frances	English	Williamsburg
Stephens, Mary	Home Economics	Independence
Stephenson, Charles M.	Economics	Lexington
Stewart, James	Mathematics	Carlisle
Stewart, Jesse J.	Education	Bowling Green
Stewart, Robert Burgess	Political Science	Denton
Stofer, Cornelia	Education	Lexington
Stone, Talton K.	Political Science	Richmond
Strutz, Alice E.	Music	Beverly
Sturgeon, George	Education	Cobb
Sullivan, Ellen Catherine	English	Lexington
Sullivan, Harris Martin	Physics	Lexington
Sweeney, James Harvey	Education	Mackville

Name	Major	Address
Tabb, William Roy	Education	Howesville
Talbott, Anna Louise	History	Morning View
Tanner, J. Leland	Public Health	Albany
Tapp, Leamon	Education	Corydon
Tarter, Add	Education	Russell Springs
Taylor, A. Cecil	Zoology	Wilmore
Taylor, Annasteele	Library Science	Nicholasville
Taylor, Armor H. P.	Zoology	Newport
Taylor, Dana Mayfield	Engineering	Lexington
Taylor, Emily G.	History	Frankfort
Taylor, George Duey	Education	Williamstown
Taylor, George T.	Education	Central City
Taylor, Marie	History	Marion
Taylor, Sara Newton	Education	Cynthiana
Teller, James Henry D.	Mathematics	Louisville
Tempel, Harold V.	Education	Shelbyville
Terrill, Ethel Edna	Education	Berea
Thompson, Mrs. Calvin M., Jr.	Library Science	Barbourville
Thompson, Elizabeth W.	Library Science	Lexington
Thompson, Forest S.	Education	Myers
Thompson, Mrs. Forest S.	History	Myers
Thompson, George L.	Public Health	Owensboro
Thurman, Grace Mae	Education	Lexington
Thurmond, Charles J.	Education	Danville
Thurmond, William C.	Education	Blackford
Tilson, Howard G.	Agronomy	Mt. Sterling
Tolbert, Clarence B.	Physical Education	Winchester
Tolman, William A.	Economics	Georgetown
Tracy, Leonard Graves	English	Lexington
Trammell, Lois Mildred	English	Pine Knot
Traylor, Orba Forest	Economics	Providence
Trickett, A. Stanley	History	Wilmore
Trimble, Mrs. E. G.	German	Lexington
Troxler, Amy Rose	Education	Louisville
Tucker, Charles E.	Zoology	Lexington
Tucker, Elon Bramble	Zoology	Lexington
Tudor, William Robert	Political Science	Paint Lick
Turner, Virgil Osmer	Education	Langley
Turner, Wallace Blythe	History	Georgetown
Turnipseed, Allan Lloyd	Education	Maysville
Tyndall, Elsa Mae	Library Science	Lexington
Utterback, Sarah A.	Education	Lexington
Van Arsdall, Elizabeth G.	Education	Lexington
Van Arsdall, Elizabeth R.	Education	Harrodsburg
Van Meter, Rebecca C.	French	Lexington

Name	Major	Address
Vansant, Sallie J.	Latin	Edmonton
Vaught, Anita	Home Economics	Clinton, Miss.
Venn, John A.	Education	Ludlow
Vincent, Haskell H.	Bacteriology	Lexington
Wade, Terry Edwin	Education	Campbellsville
Wagers, Floyd	Education	Bright Shade
Wagoner, Thelma May	Education	Paris
Walker, Andrew J.	Sociology	Olive Hill
Walker, Cecil B.	Anatomy & Physiology	Lexington
Walker, Edward A.	Education	Harrodsburg
Walker, Mrs. Margaret L.	Mathematics	Princeton
Walker, Morton	English	Hartford
Walker, Samuel	Education	Richmond
Wallace, Paul Johnson	Education	Parksville
Walters, Roy Nathan	Sociology	Berea
Ware, Mrs. Mary Miller	Education	Nicholasville
Warner, Hattie C.	History	Nicholasville
Warren, Challis H.	Education	Richmond
Warren, Clarence Olney	Animal Industry	Ewing
Warren, Frances MacLea	English	Lexington
Warren, Noah J.	Psychology	Millersburg
Wash, Lewis A.	History	Lawrenceburg
Wash, Margaret Elizabeth	Education	Lawrenceburg
Washburn, Cecil	Education	Paris
Waters, Thomas Bruce	Philosophy	St. Paul
Watkins, Alice E.	Education	Louisville
Watson, Kathryn Elinor	Education	Louisville
Watson, Walter Elbert	Psychology	Lexington
Watson, Willie Mae	Home Economics	Lexington
Weaver, Richard Malcolm	English	Lexington
Webb, Pansy	Political Science	Whitesburg
Wells, Anita	Political Science	Stanton
Wells, Auburn J.	History	Farmington
Wells, George M.	Public Health	Bowling Green
Wells, Henry G.	Public Health	Russell
Wesley, Emory Jones	Education	Lexington
Wesley, William McKinley	Education	Burgin
Whalin, Clarence M.	Education	Bowling Green
Whalin, R. H.	Education	Hickman
White, B. J.	Agronomy	Hardyville
White, J. J.	Education	California
White, Sue Mantha	Education	Danville
Whitlow, George Wallace	Education	Lexington
Whitnel, Martha Kathryn	Education	Murray
Whitney, O. L.	Education	Georgetown

Name	Major	Address
Wiley, Robert F.	Anatomy & Phys.	Halls, Tenn.
Wilkins, James Eldridge	Engineering	Lexington
Williams, Arthur Andrew	Animal Industry	Scottsville
Williams, Estill D	Education	Ashland
Williams, John Blaine	Education	Pleasureville
Williams, Ollie James	Education	Morganfield
Williams, Thomas Oldham	Education	Lexington
Willis, Robert G.	Education	Rich Pond
Wilson, Albert	Farm Economics	Richmond
Wilson, Genevieve Lockhart	Mathematics	Lexington
Wilson, Mary Elizabeth	Education	Lexington
Witt, Mary Virginia	Education	Louisville
Woodward, Alton C.	Education	Owensboro
Woolum, Letcher Ernest	Education	Alexandria
Woosley, Lester Bryant	Zoology	South
Word, Carroll Emerson	Physics	Augusta
Worth, Phoebe Beckner	Psychology	Lexington
Wrather, Stephen Elvis	Marketing	Kirksey
Wright, Arkley	History	Lexington
Wright, Theodore Mathis	Mathematics	Bellevue
Wyman, Anne	English	Mayfield
Wyman, Emma J.	Latin	Mayfield
York, John M.	Library Science	Catlettsburg
Young, David Wilson	Chemistry	Lexington
Zimmerman, Ila See	Education	Mt. Sterling

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