

Bulletin

University of Kentucky



Graduate School

1929-1930

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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, 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.

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. Application 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 entitles 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.

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 THE DEGREES IN ENGINEERING. C. E., CIVIL ENGINEERING; E. E. ELECTRICAL ENGINEERING; M. E., MECHANICAL ENGINEERING; MET. E., METALLURGICAL ENGINEERING; E. M., MINING ENGINEERING.

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 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 the Dean of the Graduate School.

These degrees may also be obtained for work done *in absentia* three or more years after receiving the degree of bachelor of science in 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.

The fees for the degree obtained *in absentia* are \$15.00 registration fee, \$15.00 ten days before the degree is granted and \$2.00 for binding the thesis.

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 requirement 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 this 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 slightly 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 satisfy 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 provides ways and means for securing prominent men for addresses on various subjects of interest.

COLLEGE OF ARTS AND SCIENCES

PAUL PRENTICE BOYD, M. A., Ph. D., Dean

ANATOMY AND PHYSIOLOGY

101a. 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 is studied in detail, drawings are made from the bone. At intervals oral and written examinations are given. The notebook is carefully inspected and reasonably good drawings are required. The work may be amplified to most any extent and some comparative anatomy included. *Recitation one hour; laboratory two hours a week. First semester.*

101b. HUMAN OSTEOLOGY. A continuation of 101a. *Recitation one hour, laboratory two hours a week. Second semester.*

106a. ENDOCRINOLOGY. The course is the study of the glands of internal secretion or endocrine organs which include the thyroid, parathyroids, thymus, suprarenals, pituitary, pancreas, organs of reproduction and pineal. Each gland is to be introduced with the consideration of its anatomical location and microscopic structure. This will be followed by a comprehensive study of its functions, including the normal activity, hyperactivity and hypoactivity. The foregoing will be demonstrated to the class. Recent scientific articles bearing upon the subject are to be reviewed and discussed. A notebook, which shall contain a complete record of the demonstrations, reviewed articles and other material deemed advisable to include, is required. Prerequisites, Physiology 1a and 1b or 2a and 2b; Zoology 107a and 107b; Chemistry 1a and 1b. *Lectures, demonstrations and recitations three hours a week. First semester. Assistant Profesosr Allen.*

106b. ENDOCRINOLOGY. Continuation of 106a. *Lectures, demonstrations and recitations three hours a week. Second semester. Assistant Professor Allen.*

201a. RESEARCH IN PHYSIOLOGY. *Laboratory and conferences. Ten hours a week. Five credits. First semester. Assistant Professor Allen.*

201b. RESEARCH IN PHYSIOLOGY. Continuation of 201a. *Laboratory and conferences. Ten hours a week. Five credits. Second semester. Assistant Professor Allen.*

ANCIENT LANGUAGES AND LITERATURES

LATIN

107. TACITUS (Germania, Agricola, Dialogues). Special attention is given to the style of Tacitus, and to his treatment of biography. His

treatise on Germany is the best one extant. The contents of it will be carefully noted. *Three hours a week. First semester.* Professor Jones.

108. TERRENCE (Phormio); PLINY'S LETTERS (Selections). The student will get a general introduction to the dramatic and epistolary literature of the Romans. Talks will be given on the Roman theatre, the influence of Greek literature upon that of Rome, the home and political life of Pliny. *Three hours a week. Second semester.* Professor Jones.

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. *Three hours a week. First semester.* Professor 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. *Three hours a week. Second semester.* Professor Jones.

114a. LATIN COMPOSITION. The course will begin with easy passages in connected discourse and will proceed to more difficult selections. *One hour a week. First semester.* Professor Jones.

114b. LATIN COMPOSITION. A continuation of 114a. *One hour a week. Second semester.* Professor Jones.

120. GREEK CIVILIZATION (given entirely in English). A brief review of Ancient Greek history; the private and public life of the people; archaeology. *Three hours a week. First semester.* Professor Jones.

122. GREEK LITERATURE IN ENGLISH TRANSLATION. Several of the great authors will be studied, beginning with Homer. *Three hours a week. First semester.* Professor Jones.

121. ROMAN CIVILIZATION (given entirely in English). A brief review of Roman history; private and public life of the Romans; Roman archaeology. *Three hours a week. Second semester.* Professor Jones.

151a. COURSE IN INDIVIDUAL WORK. The work assigned will depend upon the needs of the student. *Three hours a week. First semester.* Professor Jones.

151b. COURSE IN INDIVIDUAL WORK. A continuation of 151a. *Three hours a week. Second semester.* Professor Jones.

201a. LATIN PASTORAL POETRY. This course is based mainly on Virgil's Eclogues 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. *Three hours a week. First semester.* Professor 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. *Three hours a week. Second semester.* Professor Jones.

GREEK

152a. ANABASIS. One book of the Anabasis will be read, and easy selections from other writers. Exercises in construction and composition. *Three hours a week. Second semester.* Professor Jones.

152b. ANABASIS. A continuation of 152a. Selections from the remaining books of the Anabasis and from other writers of equal difficulty will be read. *Three hours a week. First semester.* Professor Jones.

153. HOMER. The Iliad, Books 1-6. The Homeric Question. Life in the Homeric Age, Mycenaean Antiquities. Recent discoveries will receive due attention. Scanning. *Three hours a week. Second semester.* Professor 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. *Three hours a week. First semester.* Professor 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. *Three hours a week. Second semester.* Professor Jones.

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. *First semester. Three hours a week. Two credits.* Professor 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. Prerequisites A & A 101a. *Second semester. Three hours a week. Two credits.* Professor Webb.

ART

108a. ART STRUCTURE. This course deals with problems of designing for tapestry, stained glass, mosaic, and other advanced problems. The problems will be considered from the historical point of view. *Four hours a week. Two credits.* Professor Rannells.

108b. ART STRUCTURE. A continuation of 108a. Full sized cartoons will be completed in color, for an advanced composition in some of these or similar mediums. *Four hours a week. Two credits.* Professor Rannells.

109a. DRAWING AND PAINTING. This course includes portrait in oils from life, and in the spring and fall, Landscape Painting from nature. *Lectures and recitations two hours, studio six hours. Four credits.* Professor Fisk.

109b. DRAWING AND PAINTING. A continuation of 109a. *Lectures and recitations two hours, studio six hours. Four credits.* Professor Fisk.

112a. ART STRUCTURE. This is an advanced course in Pictorial Composition. Illustration, mural painting, and other forms of composition will be studied. *Four hours a week. Two credits.* Professor Rannells.

112b. ART STRUCTURE. A continuation of 112a. One major problem will be carried out in this course. *Four hours a week. Two credits.* Professor Rannells.

117a. ART APPRECIATION. This course is only open to those who have completed at least two of the following courses or its equivalent: Art 2a, 2b, 17a, 17b, 31a, 31b, 32a, 32b, 33a, or 33b. *Lectures and recitations two hours, conference one hour. Three credits.* Professor Rannells.

117b. ART APPRECIATION. A continuation of 117a. *Lectures and recitations two hours, conference one hour. Three credits.* Professor Rannells.

BACTERIOLOGY

102. GENERAL BACTERIOLOGY. Morphology, classification physiology, observation and cultivation of bacteria and related microorganisms; their relation to certain fermentations and to the preservation of food; their influence on the plant food in the soil. Microorganisms in milk, water, air, and soil. Relation of microorganisms to disease;

sources and modes of infection; use of germicidal agents; theories of immunity; prerequisite, Chemistry 1b. *Lectures and recitations two hours, laboratory four hours a week. First semester. Repeated second semester.* Professor Scherago, Assistant Professor Weaver, and assistants.

103. PATHOGENIC BACTERIOLOGY. Cultivation, morphology, means of identification, powers of resistance, pathogenesis, distribution, channels of infection and means of dissemination of pathogenic microorganisms, 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. Prerequisite, course 102 or 2b and Chemistry 1b. *Lectures and recitations two hours, laboratory four hours a week. First semester.* Professor Scherago and assistants.

104. APPLIED BACTERIOLOGY. A course in bacteriological analysis to supplement courses 2 and 102. Prerequisite, course 2b and Chemistry 1b or course 102. *Laboratory four hours a week. Second semester.* Assistant Professor Weaver and assistants.

106. BACTERIOLOGY OF FOODS. Microbiology of milk and milk products, eggs, tomato products, meat and meat products; good preservation; bacterial food poisoning. Prerequisite, course 2b and Chemistry 1b or course 102. *Lectures and recitations two hours, laboratory four hours a week. First semester.* Assistant Professor Weaver.

107. BACTERIOLOGY OF WATER AND SEWAGE. The microflora of water; importance of the colon-typhoid group of bacteria on 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. Prerequisite, course 2b and Chemistry 1b, or course 102. *Lectures and recitations two hours, laboratory four hours a week. First semester.* Assistant Professor Weaver.

110a. LABORATORY DIAGNOSIS. Laboratory methods in the diagnosis of disease. Designed for students specializing in Public Health Bacteriology. Prerequisite, course 103. *Laboratory six hours a week. First semester.* Professor Scherago.

110b. LABORATORY DIAGNOSIS. A continuation of 110a. *Laboratory six hours a week. Second semester.* Professor Scherago.

111. GENERAL PATHOLOGY. A general course in Pathology, consisting of lectures, demonstrations, recitations and laboratory work. The laboratory work comprises examination of gross specimens and microscopic examination of morbid tissue. Emphasis will be placed on pathological technique and on the study of pathological histology. Prerequisites, Physiology 1, Zoology 1 to 5, and Histology 101b. *Lectures and recitations two hours, laboratory four hours a week. Second semester.* Professor Scherago.

115. INDIVIDUAL WORK. Students will be assigned special problems in laboratory work and reference reading. Prerequisite, any course above 102. *Laboratory six hours a week. Three credits.* Professor Scherago and Assistant Professor 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 anaphylaxis. Prerequisite, Bacteriology 103. *Lectures and recitations two hours, laboratory six hours a week. Second semester.* Professor Scherago.

150a. SEMINAR. *One two-hour discussion a week. One credit. First semester.* Professor Scherago and Assistant Professor Weaver.

150b. SEMINAR. *One two-hour discussion a week. One credit. Second semester.* Professor Scherago and Assistant Professor Weaver.

201a. RESEARCH IN BACTERIOLOGY. *Laboratory ten hours a week. Five credits. First semester.* Professor Scherago and Assistant Professor Weaver.

201b. RESEARCH IN BACTERIOLOGY. A continuation of course 201a. *Laboratory ten hours a week. Five credits. Second semester.* Professor Scherago and Assistant Professor Weaver.

BOTANY

106a. SPECIAL PROBLEM. The qualified student will be assigned some problems for solution. *Three credits.* Professors McFarland and McInteer.

106b. SPECIAL PROBLEM. A continuation of 106a. *Three credits.* Professors McFarland and 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. *Two hours a week. One credit.* Professor McFarland.

125a. MORPHOLOGY OF FUNGI. A detailed study of the different types of fungi from the standpoint of morphology, cytology and physiology. *Two lectures, four hours laboratory a week. Four credits.* Professor McFarland.

125b. MORPHOLOGY OF FUNGI. A continuation of 125a. *Two lectures, four hours laboratory a week. Four credits.*

126a. MYCOLOGY. A course which employs the entire time of the student in identification of unknowns. *Four credits.* Professor McFarland.

126b. MYCOLOGY. A continuation of 126a. *Four credits.* Professor McFarland.

150a. ADVANCED SYSTEMATIC BOTANY. A continuation of course 105, but more work and more difficult plants are studied. *Ten hours laboratory a week. Five credits.* Professors McFarland and McInteer.

150b. ADVANCED SYSTEMATIC BOTANY. A continuation of 150a. *Ten hours laboratory a week. Five credits.* Professors McFarland and McInteer.

206a. RESEARCH IN MORPHOLOGY. *Ten hours a week. Five credits.* Professors McFarland and McInteer.

206b. RESEARCH IN MORPHOLOGY. A continuation of 206a. *Ten hours a week. Five credits.* Professors McFarland and McInteer.

207a. RESEARCH IN MYCOLOGY. *Ten hours a week. Five credits.* Professor McFarland.

207b. RESEARCH IN MYCOLOGY. A continuation of 207a. *Ten hours a week. Five credits.* Professor McFarland.

210a. RESEARCH IN PLANT PHYSIOLOGY. *Ten hours a week. Five credits.* Professor McInteer.

210b. RESEARCH IN PLANT PHYSIOLOGY. A continuation of 210a. *Ten hours a week. Five credits.* Professor McInteer.

213a. RESEARCH IN SYSTEMATIC BOTANY. *Ten hours a week. Five credits.* Professors McFarland and McInteer.

213b. RESEARCH IN SYSTEMATIC BOTANY. A continuation of 213a. *Ten hours a week. Five credits.* Professors McFarland and McInteer.

CHEMISTRY

104. SYNTHETIC INORGANIC CHEMISTRY. An intermediate course planned to aid the student in gaining a more adequate knowledge of practical inorganic chemistry. Elective. *Laboratory ten hours a week. Second semester.* Professor Maxson.

101. PHYSICAL CHEMISTRY. For students in Agriculture and the biological sciences. Prerequisites, Chemistry 7 and 8, Physics 1b, Mathematics 3 or 4. *Lectures and recitations three hours a week.*

laboratory four hours a week. Five credits. Either semester. Assistant Professor Bedford.

106. ADVANCED ORGANIC CHEMISTRY. Prerequisite, Chemistry 127b. 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. Laboratory ten hours a week. Assistant Professor Barkenbus.

107. SELECTED PROBLEMS IN QUANTITATIVE ANALYSIS. Prerequisite, Chemistry 114. Laboratory ten hours a week. Second semester. Professor 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. Laboratory work with conferences and collateral reading ten hours a week. Either semester. Professor Maxson.

109. QUANTITATIVE ANALYSIS. A lecture and laboratory course devoted to the analysis of ores, alloys, etc. Prerequisite, Chemistry 8. Lecture one hour and laboratory eight hours a week. Either semester. Professor Tuttle.

110. PHYSICAL CHEMISTRY. Intermediate course. Prerequisite, Chemistry 131b and Calculus. Three hours a week. Either semester. Assistant Professor Bedford.

111. PHYSICAL CHEMISTRY. Intermediate course. Chemistry 110 is prerequisite or may be taken at the same time. Laboratory four hours a week. Either semester. Assistant Professor 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. Laboratory eight hours a week. Second semester. Professor Tuttle.

127a. ORGANIC CHEMISTRY. Prerequisite, Chemistry 1b. 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. Three recitations and four laboratory hours a week. First semester. Assistant Professor Barkenbus.

127b. ORGANIC CHEMISTRY. A continuation of Chemistry 127a. Prerequisite, Chemistry 113a. Cyclic series. Three recitation and four laboratory hours a week. Second semester. Assistant Professor Barkenbus.

114. ADVANCED QUANTITATIVE ANALYSIS. The analysis of iron and steel, slags and rocks. Lectures one hour and laboratory eight hours a week. Either semester. Professor Tuttle.

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. *Lectures and recitations two hours a week, laboratory four hours a week. First semester.* Assistant Professor Bedford.

131b. INTRODUCTORY COURSE IN PHYSICAL CHEMISTRY. A continuation of 131a. Prerequisite, Chemistry 131a. Homogeneous and Heterogeneous Equilibria; Chemical Kinetics; Structure of Matter; Periodic Law; Radio-chemistry; Colloids; Electro-chemistry. *Lectures and recitations two hours a week, laboratory four hours a week. Second semester.* Assistant Professor Bedford.

118. WATER ANALYSIS. In this course waters are examined to determine their fitness for domestic and other purposes. *Laboratory four hours a week. First semester.* Professor Tuttle.

119a. INDUSTRIAL CHEMISTRY. A survey course on modern industrial chemistry using text as a basis for discussion. *Two hours a week. First semester.* Professor Maxson.

119b. INDUSTRIAL CHEMISTRY. A continuation of 119a. *Two hours a week. Second semester.* Professor Maxson.

122a. JOURNAL CLUB. Conferences and reports on chemical literature and training in the use of literature for research purposes. *One hour a week. First semester.* Professor Maxson.

122b. JOURNAL CLUB. A continuation of 122a. *One hour a week. Second semester.* Professor Maxson.

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 127a and 8. *Lectures and discussions one hour a week with assigned reading, laboratory eight hours a week. First semester.* Professor 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 127a. *Two lectures, six laboratory hours a week. First semester.* Assistant Professor Barkenbus.

130b. PHYSIOLOGICAL CHEMISTRY. A continuation of 130a. *Two lectures, six hours laboratory a week. Second semester.* Assistant Professor Barkenbus, Professor Tuttle.

150. ADVANCED INORGANIC CHEMISTRY. Prerequisite, Chemistry 131b. A survey course covering the less common side of inorganic chemistry including laboratory work in synthesis. *Two recitations and four laboratory hours a week. Second semester.* Professor Maxson.

201. SYNTHETIC INORGANIC CHEMISTRY. Practice and research in inorganic synthesis, with use of original literature. *Laboratory ten hours a week. Either semester.* Professor Maxson.

202. QUANTITATIVE ANALYSIS. A critical study of known procedures and research in analytical chemistry. *Laboratory ten hours a week. Either semester.* Professor Tuttle.

204a. ORGANIC CHEMISTRY. Prerequisite, Chemistry 106. A laboratory course with conferences on special problems in organic chemistry. *Ten hours laboratory a week. Either semester.* Assistant Professor Barkenbus.

204b. ORGANIC CHEMISTRY. Prerequisite, Chemistry 204a. *Ten laboratory hours a week. Either semester.* Assistant Professor Barkenbus.

205a. ADVANCED PHYSICAL CHEMISTRY. Prerequisites, Chemistry 131b and Calculus. Lectures on selected topics. *Two hours a week. Either semester.* Assistant Professor Bedford.

205b. ADVANCED PHYSICAL CHEMISTRY. Continuation of 205a. Lectures on selected topics. *Two hours a week. Either semester.* Assistant Professor Bedford.

206a. ADVANCED PHYSICAL CHEMISTRY. Laboratory course on selected topics in Advanced Physical or Electro-chemistry. To be preceded or accompanied by Chemistry 205a. *Six or more hours a week. Either semester.* Assistant Professor Bedford.

206b. ADVANCED PHYSICAL CHEMISTRY. Continuation of 206a. To be preceded or accompanied by Chemistry 205b. *Six or more hours a week. Either semester.* Assistant Professor Bedford.

ECONOMICS

102. LABOR PROBLEMS. A study of the labor market in its industrial phases, including such directly related topics as immigration, unemployment and labor organizations. Prerequisite, course 1. *Three hours a week. First semester.* Assistant Professor Troxell.

103. TRANSPORTATION. Growth of the railway net; pools and traffic associations; principles and practice of rate-making as exemplified by the decisions of the Interstate Commerce Commission and the courts; state and federal regulation, with comparison of policies in foreign countries. Prerequisite, course 1. *Three hours a week. Second semester.* Assistant Professor Troxell.

104. PUBLIC 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. Attention will be given to the current problems in taxation. Prerequisite, course 1. *Three hours a week. First semester.* Professor Martin.

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 and comparison with those of foreign countries. Prerequisite, course 1. *Three hours a week. Second semester.* Professor Wiest.

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. An essential course for specialists in these fields. Not open to freshmen and sophomores. *Recitation one hour, laboratory four hours a week. First semester.* Associate Professor Palmer.

110. BUSINESS CYCLES. In this course a study is made of the nature and characteristics of the economic factors which underlie the cyclical fluctuations in business conditions. Attention is also directed toward the methods of business and investment forecasting and their practical application. Prerequisites, courses 1 and 107. *Three hours a week. Second semester.* Associate Professor Palmer.

115. CONTEMPORARY ECONOMIC THOUGHT. A survey of current literature of theoretical economics. Special emphasis is placed on theories of value and distribution. Prerequisite, course 1. *Three hours a week. First semester.* Professors Martin and Palmer.

120. ORGANIZATION OF ECONOMIC GROUPS. This course presents a survey of economic groups and deals with their economic and social relationships. It also analyzes the business organization aspects of farmers' organizations, chambers of commerce, trade and industrial associations. Prerequisite, course 1. *Three hours a week. Second semester.* Assistant Professor Troxell.

124. FEDERAL AND STATE TAXATION. An advanced course in public finance which deals with important theoretical issues and current problems in federal and state taxation. Attention is given to such matters as the income, inheritance, gift and excise taxes in the field of federal taxation. The classified property tax, the separation of sources of state and local revenue, the taxation of mines, forests and other natural resources, highway finance and similar problems are studied in relation to state taxation. Prerequisites, course 1a. *Three hours a week. Second semester.* Professor Martin.

125. ADVANCED ECONOMIC HISTORY OF EUROPE. This course is intended to serve as an economic background for students interested in European affairs. It discusses population, immigration, labor, agriculture, industry, and finance and the effects of the various lines of development upon national life. Not open to students who had course 2 except when doing graduate work. *Three hours a week. First semester.* Professor Jennings.

126. ECONOMICS OF PUBLIC UTILITIES. The following topics are discussed in this course: Growth and development of public utilities; valuation; rate-making; financing; the holding company; regulation; current problems; accounting. Prerequisite, Commerce 1a. *Three hours a week. First semester.* Assistant Professor Troxell.

127. INTERNATIONAL ECONOMIC POLICIES. Among the topics to be discussed in this course are the following: Medieval notions concerning trade; modern fallacies respecting foreign trade; free trade; protectionism; preferential tariffs; colonial tariff policies; dumping; commercial treaties; international patent control; encouragement of foreign shipping; international investments and the movement of capital; international debts; reparations. Special emphasis will be placed on current international economic problems. Prerequisite, course 1a. *Three hours a week. Second semester.* Professor Martin.

130. LABOR LEGISLATION. The increasing complexity of the problems of labor makes necessary a more detailed examination into the nature and principles of labor legislation than is possible in a general course such as Commerce 102. Emphasis is placed upon the nature and extent of the problem which given legislation seeks to solve rather than upon the technique or application of legislative methods. The following topics, among others, are discussed in this course: The status of labor law, mediation, conciliation, arbitration, the minimum wage, the eight-hour day, unemployment relief, safety and health legislation, and social insurance. *Three hours a week. Second semester.* Prerequisite, course 1a. Assistant Professor Troxell.

134. ADVANCED ECONOMIC HISTORY OF THE UNITED STATES. This course is intended primarily as an economic background for social science students. It studies English colonial policy, population growth, immigration, territorial expansion, agriculture, manufactures, tariff, labor, industrial combinations, commerce, transportation facilities, money and banking, and conservation. Not open to students who had course 3 except when doing graduate work. *Three hours a week. Second semester.* Professor Jennings.

203. HISTORY OF ECONOMIC THOUGHT. This course is a survey of the history of economic thought from the ancient period to the present. The relation of economic theory to general philosophic thought is noted. A more or less intensive study of capital, value and distribution is made, beginning with the Classical School and carried forward to the more recent writers. Prerequisite, course 1. *Three hours a week. Second semester.* Professor Wiest.

ENGLISH LANGUAGE AND LITERATURE.

104. MILTON. A study of Milton's poetry and most important prose works. The relation of Milton to his contemporaries. Graduate

students will be assigned special topics for investigation. *Two hours a week. First semester.* Professor Dantzler.

105. BROWNING. An intensive study of the art and teaching of Browning. Graduate students will be assigned special topics for investigation. *Two hours a week. Second semester.* Professor 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. *Three hours a week.* Associate Professor 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. *Three hours a week. Second semester.* Associate Professor Brady.

110a. SHAKESPEARE—COMEDY. Shakespeare's comedies will be studied in detail. *Three hours a week. First semester.* Professor Farquhar.

110b. SHAKESPEARE—TRAGEDY. A continuation of 110a. *Three hours a week. Second semester.* Professor Farquhar.

111. THE ENGLISH NOVEL. Aims to present the development of the novel from Richardson to the most modern writers, including Joyce, Huxley, and Firbank, and to form and guide taste in reading fiction. Reading list of fourteen novels. *Three hours a week. Second semester.* Associate Professor Knight.

114a. AMERICAN LITERATURE BEFORE 1860. This course will include extensive reading in American literature with a view to determining relation between American literature and life of the times. *Lectures and reports by students. Two hours a week. First semester.* Associate Professor Knight.

114b. AMERICAN LITERATURE AFTER 1860. A continuation of 114a. *Two hours a week. Second semester.* Associate Professor Knight.

116. THE CONTEMPORARY DRAMA. Development and tendencies in Continental, British and American Dramatic Literature, 1850 to 1918. Selected readings open to juniors and seniors. *Three hours a week.* Professor 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. *Two hours a week. Second semester.* Associate Professor Knight.

123a. 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. *Two hours a week. First Semester.* Professor Farquhar.

123b. LITERATURE OF THE BIBLE. This is a continuation of 123a. *Two hours a week. Second semester.* Professor 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 discussions. 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. *Three hours a week. First semester.* Associate Professor Brady.

130b. COMPARATIVE LITERATURE. A continuation of English 130a. *Three hours a week. Second semester.* Associate Professor Brady.

134. DEVELOPMENT OF THE ESSAY FROM BACON TO THE PRESENT DAY. Class discussion of assigned readings from representative essayists. Study of various types, such as the familiar, critical, historical and philosophical essay, with some practice by the student in writing original essays. *Three hours a week. First semester.* Associate Professor Brady.

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. *Three hours a week. Second semester.* Associate Professor 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. Special emphasis is placed upon Carlyle's *Sartor Resartus* and Newman's *Idea of a University* and *Apologia Pro Vita Mea*. Assigned parallel readings, class discussion and lecture. *Three hours a week. First semester.* Associate Professor 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. *Two hours a week. First semester.* Mr. 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 literature 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 Aucassin and Nicolette. *Two hours a week. Second semester.* Mr. 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. Prerequisite beginning in 1928, English 108a, 108b. *Three hours a week. First semester.* Professor Farquhar.

201b. LITERARY CRITICISM. A continuation of 201a. Special problems assigned to students. *Three hours a week. Second semester.* Professor 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 beginning in 1928, English 116. *Three hours a week. First semester.* Professor Farquhar.

202b. STUDIES IN CONTEMPORARY DRAMA. A continuation of 202a. Special problems assigned to students. *Three hours a week. Second semester.* Professor 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. *Two hours a week. First semester.* Professor Dantzler.

204b. BEOWULF. A continuation of 204a. *Two hours a week. Second semester.* Professor Dantzler.

205. CHAUCER. Chaucer's contribution to English literature. The greater part of his poetry will be read. Lecture and recitation. Each member of the class will prepare two papers. *Two hours a week. First semester.* Professor 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. *Two hours a week. Second semester.* Professor Dantzler.

ENGLISH 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. *Three hours a week.* Associate Professor Brady.

GEOLOGY.

101a. PALEONTOLOGY. A study of the invertebrate fossils dealing with both their systematic and stratigraphic relationship. *Three hours a week. First semester.* Professor McFarlan.

101b. PALEONTOLOGY. A continuation of 101a. *Three hours a week. Second semester.* Professor McFarlan.

104a. ADVANCED FIELD GEOLOGY. Training in field methods applied to problems in structural, areal and stratigraphic geology. *Two credits. First semester.* Professor McFarlan.

104b. ADVANCED FIELD GEOLOGY. A continuation of 104a. *Two credits. Second semester.* Professor McFarlan.

105a. INDEPENDENT WORK IN GEOLOGY. Individual work on assigned problems. *Three credits. First semester.*

105b. INDEPENDENT WORK IN GEOLOGY. A continuation of 105a. *Three credits. Second semester.*

106a. ECONOMIC GEOLOGY. An advanced study of representative deposits of both metallic and nonmetallic minerals and rocks of commercial value. Emphasis is placed on the genesis of these deposits. *Three credits. First semester.* Assistant Professor Robinson.

106b. ECONOMIC GEOLOGY. A continuation of 106a. *Three credits. Second semester.* Assistant Professor Robinson.

107a. PETROLOGY. Optical Mineralogy. *First semester. Three credits.* Assistant Professor Robinson.

107b. PETROLOGY. Principally a study of igneous rocks, their identification, classification and origin. *Second semester.* Assistant Professor Robinson.

108. STRUCTURAL GEOLOGY. A study of the principles and theories of earth diastrophism and rock deformation. *One semester.* Assistant Professor Robinson.

109a. MINERALOGY. A study of crystallography, the more important physical properties of minerals and blowpipe analysis. *Two credits. First semester.* Assistant Professor Robinson.

109b. MINERALOGY. Determinative mineralogy, mineral genesis and geologic occurrence. *Two credits. Second semester.* Assistant Professor Robinson.

110. STRATIGRAPHIC PALEONTOLOGY. A study of geologic faunas and the principles of correlation and stratigraphic geology. *One semester. Three credits.* Professor McFarlan.

116. OIL GEOLOGY. A study of oil and gas accumulation and exploitation with emphasis on the position and usefulness of the geologist

in this field. *Two credits. Second semester.* Assistant Professor Robinson.

202a. RESEARCH IN GEOLOGY. *Five credits. First semester.*

202b. RESEARCH IN GEOLOGY. A continuation of 202a. *Five credits. Second semester.*

GERMAN

GERMAN 101a. The Drama. Readings from Schiller, Goethe and Lessing. Supplementary reading from the same authors and other dramatists of the period that is known as the "Second Golden Age of German Literature" (1748-1832), together with lectures on the literature of this period. *Three hours a week. First semester.* Professor Melcher.

GERMAN 101b. The Drama. Continuation of 101a. *Three hours a week. Second semester.* Professor Melcher.

GERMAN 102a. Novel and Drama. Readings from modern dramatists and novelists (from 1871 to the present). Also, more extensive supplementary reading, together with lectures on the principal writers of the period and their works. *Three hours a week. First semester.* Professor Melcher.

GERMAN 102b. Novel and Drama. Continuation of 102a. *Three hours a week. Second semester.* Professor Melcher.

HISTORY

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

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. *Three hours a week. First semester.* Professor 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. *Three hours a week. Given in alternate years.* Professor 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. *Three hours a week. Second semester. Professor Tuthill.*

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. *Three hours a week. Second semester. Professor Tuthill.*

126. THE OLD SOUTH. The exploration and settlement of the southern colonies, the development of their political and social institutions and economic interests, the American Revolution in the South, the ratification of the Constitution, and the growth of cotton production. It includes an historical study of the institutions, political philosophy, economic theory, social structure, and politics of the South prior to the Civil War. Lectures, collateral reading, and an essay. *Three hours a week. One semester. Associate Professor Knapp.*

130a. HISTORY OF THE WEST. A study of the westward expansion in the United States and its influence upon the political, social and economic development of the United States. Lectures, collateral reading and reports. *Two hours a week. Associate Professor Knapp.*

130b. HISTORY OF THE WEST. A continuation of course 130a. *Two hours a week. Associate Professor Knapp.*

166a. 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. *One semester. Three credits. Associate Professor Knapp.*

180. 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. *First semester. One credit. Professor Tuthill.*

181. 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, discus-

sions, problems. *One hour credit. First semester.* Associate Professor Knapp.

182a. 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. *One hour credit. First semester.* Professor Tuthill.

182b. HISTORICAL CRITICISM. A continuation of 182a. *One hour credit. Second semester.* Professor Tuthill.

202, 203, 220, 265, 266. GRADUATE SEMINARS. The graduate seminar is open only to candidates for advanced degrees. It requires extensive study, the results of which are to be written out and presented orally before the group for discussion and criticism. A survey of the sources of information, and cooperative attacks on typical problems constitute the normal procedure. *Two hours credit.* One or more of the following will be offered each semester.

202. The American Revolution.

203. The Federal Convention of 1787.

220. Origins of the Great War.

265. The American Civil War.

266. The Reconstruction of the Union.

HYGIENE

105a. ADVANCED HYGIENE. This course deals with the specific problems in the field of hygiene and the methods of prevention in each field. Prerequisites, 1a and 1b. *Two hours a week. Two credits. First semester.* Dr. Chambers.

105b. ADVANCED HYGIENE. A continuation of 105a. *Two hours a week. Two credits. Second semester.* Dr. Chambers.

106a. INDEPENDENT WORK. *Three hours a week. Three credits.* Dr. Chambers.

106b. INDEPENDENT WORK. *Three hours a week. Three credits.* Dr. Chambers.

107a. THESIS COURSE. Required of all students working for the master's degree. *One hour a week.* Dr. Chambers.

108a. DISEASES OF OCCUPATION. A discussion of health hazards in the various professions and industries with emphasis placed upon preventive measures. Prerequisites, 1a and 1b. *Two hours a week. Two credits. Second semester. Summer School.* Dr. Chambers.

108b. DISEASES OF OCCUPATION. A discussion of health hazards in the various professions and industries with emphasis placed upon

preventive measures. Prerequisites, 1a and 1b. *Two hours a week. Two credits. Second semester. Summer school. Dr. Chambers.*

109. SEMINAR IN PUBLIC HEALTH. *One hour a week throughout the year. One credit. Dr. Chambers and staff.*

111a. INDIVIDUAL WORK.

111b. INDIVIDUAL WORK.

MATHEMATICS AND ASTRONOMY

MATHEMATICS

As a prerequisite to graduate work counting toward an advanced degree with mathematics as a major the student must have had twelve semester credits beyond elementary calculus. The courses listed below are available, the ones given in any particular semester varying and being dependent on the demand.

102. VECTOR ANALYSIS. This course provides a thorough study of the algebra of vectors with numerous applications to geometry and solid analytics. Also a brief introduction to the calculus of vectors with applications to differential geometry, mechanics and physics. Given chiefly by lectures supplemented by collateral reading. *Three hours a week.*

103. THEORY OF EQUATIONS. An elementary course treating: Properties of determinants; properties of polynomials; fundamental theorem of algebra; solutions of numerical equations; limits of roots; separation of roots; relation between coefficients and roots; symmetric functions; elimination. *Three hours a week.*

104. ADVANCED ANALYTICS. This course is intended to bridge the gap between elementary analytics and modern geometry. Trilinear coordinates are introduced and some of the more important propositions relating to conic sections are proved. *Three hours a week.*

105a. DIFFERENTIAL EQUATIONS. A study of the more common types of ordinary differential equations with emphasis on geometrical interpretations and applications to geometry, elementary mechanics and physics, with a brief study of partial differential equations of the first order. *Three hours a week.*

105b. DIFFERENTIAL EQUATIONS. This course extends the study of the ordinary differential equations giving some particular attention to certain types of equations. The study of the partial differential equation is extended to those of the second and higher orders. *Three hours a week.*

106a. ADVANCED CALCULUS. Review of the fundamental theory from a more advanced viewpoint. Fundamental theorems on contin-

uous functions; Taylor's formula for n variables; Jacobians; envelopes of curves and surfaces; series. *Three hours a week.*

106b. ADVANCED CALCULUS. Cauchy-Riemann integration; mean value theorems; selected topics, including an introduction to Fourier series, gamma and beta functions, elliptic integrals and elements of elliptic functions with attention to problems and applications. *Three hours a week.*

107. PROJECTIVE GEOMETRY. A study of the content and the methods of modern synthetic geometry. It is designed also as an introduction to the course in Geometric Transformations. *Three hours a week.*

109. THEORY OF FUNCTIONS OF A COMPLEX VARIABLE. This is an introductory course based largely on Townsend's "Theory of Functions of a Complex Variable." Emphasis is placed on geometrical interpretations of the analysis. *Three hours a week.*

110a. INDEPENDENT WORK IN MATHEMATICS. The student is assigned some topic or line for investigation. He confers with the professor in charge each week and prepares a written report covering the work of the semester for presentation before the department faculty. *Three credits.*

110b. INDEPENDENT WORK IN MATHEMATICS. A continuation of 110a. *Three credits.*

111. HIGHER ALGEBRA. Selected topics from algebra with emphasis on the relations of algebraic theories to geometry. Properties of matrices, invariant factors and elementary divisors; algebraic theory of a single quadratic or bilinear form; theory of pairs of quadratic or bilinear forms. *Three hours a week.*

112. SERIES. The real number system. Limits. Derivatives Elementary theorems on sets of points, functions, sequences and series. Multiple series. Infinite integrals. Asymptotic and summable series. Divergent series. *Three hours a week.*

113. FOURIER'S SERIES AND SPHERICAL HARMONICS. Development of trigonometric series, convergence of Fourier series. Fourier's Integrals, Zonal, spherical, cylindrical and ellipsoidal harmonics. Laplace's equation in curvilinear coordinates. *Three hours a week.*

114. POTENTIAL FUNCTION. Potential Function in attraction and repulsion. Properties of Surface distributions. Green's Theorem, Logarithmic potential function. *Three hours a week.*

116. ANALYTICAL MECHANICS. The customary course in the theory and problems of kinematics, statics and kinetics, it being the purpose to emphasize the mathematical side of the subject perhaps more than the practical. *Three hours a week.*

117. ALGEBRAIC INVARIANTS. This course will cover the first two chapters of Dickson's "Modern Algebraic Theories," followed by an introduction to the syzygetic method and geometric applications. *Three hours a week.*

118. SOLID ANALYTICS. Coordinate Systems. Relation between coordinates. Transformations of coordinates. Lines in space. Planes. Quadric surfaces. Ruled surfaces. Surfaces of revolution. Poles and polars. Space curves. Loci. Prerequisite, Plane Analytics. *Three hours a week. One semester.*

201a. GEOMETRIC TRANSFORMATIONS. Homogeneous coordinates are usually developed first. Then follow in order the projective transformations in the binary, ternary and quaternary fields. Invariant theory and groups of transformations are also included. The material varies from year to year. *Three hours a week.*

201b. GEOMETRIC TRANSFORMATIONS. A continuation of 201a. *Three hours a week.*

202a. ALGEBRAIC CURVES. This course covers the classic theory as presented by such authors as Salmon and Wieletner. The material varies from year to year. *Three hours a week.*

202b. ALGEBRAIC CURVES. A continuation of 202a. *Three hours a week.*

204. CALCULUS OF VARIATIONS. Examples illustrating the various types of problems. The differential equations of a curve which minimizes a definite integral in a space of two or three dimensions. Other properties of a minimizing curve as deduced by Legendre, Jacobi and Weierstrass. Definition of a field and sufficient conditions for a minimum. Problems of the calculus of variations in parametric form. Isoperimetric problems. *Three hours a week.*

205. DIFFERENTIAL GEOMETRY. This course presents the elementary theory of twisted curves and surfaces including the following: Trihedral; Involution and Evolutes of a Curve; Curvilinear Coordinates; Envelopes; Fundamental Forms; Conformal Representation; Applicable Surfaces; Total and Mean Curvature; Lines of Curvature; Asymptotic Lines; Geodesics; Ruled Surfaces; Developable Surfaces. *Three hours a week.*

206. SUBSTITUTION GROUPS. This course will cover the material contained in Chapters 7 to 14 of Dickerson's "Modern Algebraic Theories." *Three hours a week.*

207a. THEORY OF NUMBERS. The elementary theory of rational integers, through the quadratic reciprocity theorem, followed by a study of the arithmetics of complex integers and of quaternions. *Three hours a week.*

207b. THEORY OF NUMBERS. An introduction to the theory of quadratic integers and ideals; also a brief treatment of binary quadratic forms. *Three hours a week.*

ASTRONOMY

251a. CELESTIAL MECHANICS. This part of the course deals with differential equations of motion and their solution for various laws of force, laws of force from known motion, attraction, potential, problem of two bodies. *Three hours a week. First semester.* Associate Professor Downing.

251b. CELESTIAL MECHANICS. A continuation of 251a, dealing with the problem of three bodies, determination of orbits, perturbations, the lunar theory, precession and nutation. *Three hours a week. Second semester.* Associate Professor Downing.

PHILOSOPHY

101a. HISTORY OF PHILOSOPHY. A critical study of the chief systems of Greek Philosophy and of the Theological Philosophy of the Middle Ages. *Three hours a week. First semester.* Professor Kuiper.

101b. HISTORY OF PHILOSOPHY. A continuation of 101a. A similar study of Modern Philosophy. *Three hours a week. Second semester.* Professor Kuiper.

102. LOGIC—DEDUCTIVE AND INDUCTIVE. In the study of Deductive Logic our attention is fixed upon the syllogism. In Inductive Logic a study is made of the methods which have proved so successful in the development of science. *Three hours a week. First semester.* Professor Kuiper.

103. ETHICS. A study of the origin and evolution of morals, the good and evil, right and wrong, good citizenship, etc. *Three hours a week. Second semester.* Professor Kuiper.

105. PHILOSOPHY OF RELIGION. A comparative study of the leading religions, the origin of religion, an analysis of the notions about sacrifice, sin, the atonement, etc. *Three hours a week. Both semesters.* Professor Kuiper.

107a. POLITICAL PHILOSOPHY. This course is devoted to a study of Plato's Republic, the ideas and ideals of the Platonic Socrates. Not given in 1929-30. *Three hours a week. First semester.* Professor Kuiper.

107b. POLITICAL PHILOSOPHY. Aristotle's politics, an analysis of his criticism of Plato and a special study of his methods of approach to the subject as contrasted with Plato. Not given in 1929-30. *Three hours a week. Second semester.*

108. THE MAKING OF THE MODERN MIND. A study from the Middle Ages to the present time of the influences which have made the modern mind what it is today. Attention will naturally be fixed on such subjects as the Renaissance, the Reformation, Humanism, Age of Reason, Romanticism, the changes wrought by scientific discoveries, the world as a process of growth, the rise of the modern Democratic spirit—all examined from the viewpoint of Philosophy. *Three hours a week. Both semesters.* Professor Kuiper.

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. Given in 1927-28. Prerequisites, Physics 3a, 5, and mathematics 7b. *Lectures and recitations three hours, laboratory four hours a week.* Associate Professor Koppius.

102a. ELEMENTARY AND MAGNETISM. A course in the mathematical theory of electricity and magnetism. The laboratory work is designed to emphasize the principles covered and to give the student experience in the careful use of electrical measuring instruments. The course includes the modern methods of measuring current, high and low resistances, electromotive forces and power, the calibration of instruments employed, together with measurements of capacity, inductance, and the magnetization of iron. Given 1928-29. Prerequisites, Physics 3b, 6, and mathematics 7b. *Lectures and recitations three hours, laboratory four hours a week.* Professor States.

102b. ELECTRICITY AND MAGNETISM. A continuation of Physics 102a with particular emphasis on alternating current phenomena, transformers, transients, the vacuum tube and associated phenomena. Prerequisite, Physics 102a. *Lectures and recitations three hours, laboratory four hours a week.* Professor States.

103. THEORY OF LIGHT. A course covering the general theory of reflection, refraction, diffraction and polarization. Prerequisites, Physics 3b, 6, and Mathematics 7b. Given in 1928-1929. *Lectures and recitations three hours a week, laboratory four hours a week.* Professor Webb.

104. THEORETICAL MECHANICS. This course serves as an introduction to mathematical physics. Although the work is usually based upon some standard text, it is supplemented by lectures and extensions of the text in topics which are of primary interest to physicists. The student is expected to solve a representative list of problems. Given in 1928-29. Prerequisites, Physics 3b, 5 and Mathematics 7b. *Lectures and recitations five hours a week.* Associate Professor Black.

111. ELECTRICITY AND MAGNETISM. This course comprises the lectures and recitations of course 102a. Given in 1928-29. Prerequisites, Physics 3b, 6, and Mathematics 7b. *Lectures and recitations three hours a week.* Professor States.

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 3b and 6. *Recitation two hours per week, laboratory two hours per week. Three credits.* Professor States.

115. THEORY OF MEASUREMENTS. A course designed for major students in Physics and graduates covering the fundamental theories of the science of physical measurements. Prerequisites, Physics 3b and 6, and Mathematics 7b.

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. Given 1928-29. *Laboratory two hours per week. One credit.* Professor States, Associate Professors Black, and Mr. Schneider.

116b. PHYSICAL MANIPULATIONS. A continuation of course 116a. *Laboratory two hours per week. One credit.* Professor States, Associate Professor Black, and Mr. Schneider.

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 and Mathematics 105a. *Lectures and recitations three hours a week.* Professor 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 spectrographs. This course is designed to supplement 201. Prerequisite, Physics 103. *Laboratory four hours a week.* Professor 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, and Mathematics 105a. Given in 1928-29. *Lectures and recitations three hours a week*. Professor States.

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, and Mathematics 105a. Given in 1929-30. *Lectures and recitations three hours a week*. Associate Professor Black.

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, isotopes, etc., are treated. Prerequisites, Physics 102a and 104. Given in 1928-29. *Three hours a week*. Associate Professor Black.

213. ELECTRO-MAGNETIC THEORY OF LIGHT. A course of lectures covering the classical 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, and Mathematics 105a. Given in 1928-29. *Three hours a week*. Professor States.

214. TRANSIENT ELECTRIC AND VACUUM TUBE PHENOMENA. A theoretical and experimental study of transient currents in circuit containing variable amounts of inductances, capacitance and resistance. Investigation of various types of coupled circuits including vacuum tube circuits. Theoretical and experimental study of various types of vacuum tubes including 2, 3 and 4 element tubes, and the measurements of their characteristics and application to problems of radio transmission and reception. Prerequisites, Physics 3b and 6, 113 or 102a, and one additional 100 course, and Mathematics 105. Given in 1929-30. *Lectures and laboratory. Three credits*. Professor States.

215. QUANTUM THEORY. A course of lectures covering the historical development of the quantum hypothesis. Review of the fundamentals of thermodynamics. Application of the quantum theory to black body radiation, to specific heats, to Bohr-Sommerfeld theory of

the spectra of the lighter elements. Prerequisites, Physics 104, one additional 100 course, and Mathematics 105. Given in 1929-30. *Three hours a week.* Professor States.

217a. THEORETICAL PHYSICS. A course for graduate students, the basis of the work being theoretical discussion of modern physical theories. Prerequisites, one 200 course and Mathematics 105a. *Lectures and recitations three hours a week.*

217b. THEORETICAL PHYSICS. A continuation of 217a. *Lectures and recitations three hours a week.*

217. THERMODYNAMICS. First and second laws of Thermodynamics, entropy, derivation of thermodynamic equations and their application to physical phenomena. Prerequisites, Physics 101, 205, and Mathematics 105a. *Lectures and recitations three hours a week.* Professor Webb.

220a. SEMINAR. A weekly meeting of the staff and advanced students of the department for presentation and discussion of recent development 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. *Two hours a week. One credit.*

220b. SEMINAR. A continuation of 220a. *Two hours a week. One credit.*

223a. GENERAL PHYSICS. Prerequisites, one year of Elementary Physics and Mathematics 2 and 3. Course covers Mechanics, Heat and Wave Motion. This course limited to graduate students in the College of Education. *Lectures and recitations five hours per week. Laboratory four hours per week. First semester. Seven credits.* Associate Professor Black.

223b. GENERAL PHYSICS. A continuation of 223a. Covers Electricity, Sound, and Light. *Lectures and recitations five hours per week. Laboratory four hours per week. Second semester. Seven credits.* Professor States.

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. *Lectures and recitations three hours per week.* Prerequisite, Physics 201. Given in 1929-30. Assistant Professor 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. Professors Webb, States and Associate Professor Black.

226a. RESEARCH IN PHYSICS. *Three credits.* Professors Webb, States and Associate Professor Black.

226b. RESEARCH IN PHYSICS. *Three credits.* Professors Webb, States and Associate Professor Black.

227a. RESEARCH IN PHYSICS. *Five credits.* Professors Webb, States and Associate Professor Black.

227b. RESEARCH IN PHYSICS. *Five credits.* Professors Webb, States and Associate Professor Black.

250a. RELATIVITY. A theory of space and time measurements as applied to physical phenomena. Prerequisites Physics 103 and either 102a or Physics 104. *Lectures and recitations, three hours per week.* Professor Webb.

250b. RELATIVITY. A continuation of Physics 250a. *Lectures and recitations three hours per week.* Professor Webb.

POLITICAL SCIENCE

102a. CONTEMPORARY PROBLEMS IN POLITICAL SCIENCE. This course is designed primarily for mature undergraduate students who are especially capable in political science as is shown by their records and who wish to pursue special problems in government. It is open to graduate students who are majoring in the field of political science. Permission of the head of the department is necessary before any student may register in this course. *Two hours a week. First semester. Two credits.*

102b. CONTEMPORARY PROBLEMS IN POLITICAL SCIENCE. A continuation of 102a with conditions of entrance the same as 102a. *Two hours a week. Second semester. Two credits.*

150a. INTERNATIONAL LAW. A survey of the principles of international law. *Two hours a week. Two credits. First semester.* President McVey or Professor Vandenbosch.

150b. INTERNATIONAL LAW. A continuation of 150a. *Two hours a week. Two credits. Second semester.*

152. MUNICIPAL GOVERNMENT. This course gives a brief sketch of the rise of city government. A study of the older forms of mayor and council as well as the commission and manager forms. Considerable attention will be given to city administration. *Three hours a week. Three credits.*

155a. COMPARATIVE GOVERNMENT. A general survey of the government of England, France, Italy, Switzerland, Canada, Australia, Germany, Austria, Poland, Czechoslovakia, Yugoslavia, Russia, Japan, with some attention to the smaller republics of Europe. *First semester. Three hours a week. Three credits.*

155b. COMPARATIVE GOVERNMENT. Continuation of 155a. *Three hours a week. Three credits. Second semester.*

156. COLONIAL GOVERNMENT. A study of the government of the colonies, protectorates, and mandates of the various nations of the world today. Colonies in Asia, Africa, South America, and the islands of the Pacific will be studied. *Three hours a week. Three credits. Not offered 1929-30.*

157. CITY ADMINISTRATION. *Three hours a week. Three credits.*

158. PUBLIC UTILITIES. A study of the nature of public utilities and their relation to the government emphasizing governmental control. The chief emphasis of this course is placed upon municipal and other local utilities. Prerequisites, Course 152 and Economics 12 or equivalents. *Three hours a week. Three credits.*

160. AMERICAN FOREIGN SERVICE. This course deals with the organization and work of the state department and the diplomatic and consular service and its various ramifications. *First semester. Three hours a week. Three credits.*

161. INTERNATIONAL ORGANIZATION. Deals with the agencies which are operative in drawing the nations of the world into closer association. The work of the international bureaus and associations of agriculture, economics and banking, international boundary commissions, river commissions and transportation commissions, together with such agencies as the League of Nations, the World Court, and the Hague Tribunal. *Three hours a week. Three credits.*

165a. WORLD POLITICS. A study of political alignments of the nations of the world during the past fifty years. *Three hours a week. Three credits. First semester.*

165b. WORLD POLITICS. A continuation of 165a. *Second semester. Three hours a week. Three credits.*

170. POLITICAL PARTIES. A comprehensive study of the organization, function and methods of operation of political parties in government with a special emphasis upon the operations of political parties in the United States. *Three hours a week. Three credits. First semester.*

171. POLITICAL THEORY. A study of the theories in government with a special emphasis upon the theories of modern democracies. *Three hours a week. Three credits.*

173. PUBLIC OPINION. This course will deal with the elements of public opinion, the agencies which create public opinion, and the methods of spreading, interpreting, formulating, and measuring public opinion. *Three hours a week. Three credits.*

175a. LEGISLATIVE DRAFTING. Consent of instructor required. *One hour a week. One credit*

175b. LEGISLATIVE DRAFTING. A continuation of 175a. *One hour a week. One credit.*

178a. INDEPENDENT WORK. (Honors Course). A course designed primarily for seniors and graduate students who are majoring in the department of Political Science and who are capable of doing independent research. Consent of the head of the department is required for admission to this course. *First semester. One hour per week. One credit.*

178b. INDEPENDENT WORK. (Honors Course). Continuation of 178a. Admission conditions the same as for 178a. *Second semester. One hour a week. One credit.*

180a. INDEPENDENT WORK. (Honors Course). This course is designed primarily for seniors and graduate students majoring in the department of Political Science. Permission of the head of the department is necessary for admission to this course. *First semester. Three hours a week. Three credits.*

180b. INDEPENDENT WORK. (Honors Course). A continuation of 180a with the same requirements for admission. *Second semester. Three hours a week. Three credits.*

201a. SEMINAR. *Two hours a week. Two credits.*

201b. SEMINAR. *Two hours a week. Two credits.*

202a. SCOPE AND METHOD IN POLITICAL SCIENCE. This course is designed for graduate students and will consist of investigation of the scope and methods of political scientists in modern times. *First semester. Two hours a week. Two credits.*

202b. SCOPE AND METHOD IN POLITICAL SCIENCE. A continuation of 202a. *Second semester. Two hours a week. Two credits.*

203a. PUBLIC ADMINISTRATION. This course is designed to cover the field of public administration in government with emphasis on national administrations, the conflicts between the administrative and legislative departments of government, administration by commission, and administration by executive departments and bureaus. *First semester. Two hours a week. Two credits.*

203b. PUBLIC ADMINISTRATION. A continuation of 203a. *Second semester. Two hours a week. Two credits.*

204. INTERNATIONAL ORGANIZATION. A minute study of the activities of the agencies of international organization, including the League of Nations, the World Court, Reparations Committee, the National Labor Bureau, the Hague Tribunal, etc. *Two hours a week. Two credits.*

205. FREEDOM OF THE SEAS. An investigation of the new international law decisions relating to the freedom of the seas. Prerequisite, International Law. *Two hours a week. Two credits.*

206. MUNICIPAL FINANCE. A study of the administration of finance of greater metropolitan areas. *Two hours a week. Two Credits.*

207. IMPERIALISM AND NATIONALISM. *Two hours a week. Two credits.*

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 in 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.

Another field in which special facilities are provided is that of the psychological clinic. The department has maintained such a clinic for six years. It has also 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 staff includes a Certified Consulting Psychologist of the American Psychological Association and the Director of the Kentucky Station of the Psychological Corporation. These are the two national organizations for conducting authoritative work in applied psychology.

The department undertakes special research also in business and industrial personnel problems and in the development and training of normal children. It is well equipped for experimental or statistical studies in these fields.

Laboratory apparatus, test equipment and library facilities are available for advanced work in the following list of courses for which a year's work in general psychology is a prerequisite.

102a. GENETIC PSYCHOLOGY. A comparative study of the genesis and development of behavior through the animal series, beginning with the lowest organisms. *Two hours lecture, two hours laboratory a week. Three credits. First semester. Professor Basset.*

102b. GENETIC PSYCHOLOGY. Continuation of 102a. A study of the development of the child from infancy through adolescence. *Two hours recitation, two hours laboratory a week. Three credits. Second semester. Associate Professor Boynton.*

104. SOCIAL PSYCHOLOGY. Interpretations of the behavior of the individual as a member of society. Emphasis is placed upon such topics as the instinctive basis of behavior, the relation of the individual

to the mob, leadership, capital and labor, personality, religion and morality, and the influence of intelligence and race. *Three hours a week. Three credits. First semester.* Professor Basset.

107. PSYCHOLOGICAL INTERPRETATIONS. Problems of unusual behavior; subconscious activities, psychotherapy, secondary personalities, genius, psychic phenomena and pathological mental states. *Three hours a week. Three credits. Second semester.* Professor Miner.

108a. HUMAN MEASUREMENTS. Theories of intelligence. History of mental testing with interpretations of results. Especial attention is paid to the advantages and disadvantages of different methods of testing mental alertness, and their application to children. *Two hours a week. Two credits. First semester.* Associate Professor Boynton.

108b. HUMAN MEASUREMENTS. The methods of measuring special aptitudes and proficiency, including rating methods and tests of personality traits, motor or trade skill and achievement in particular fields. *Two hours a week. Two credits. Second semester.* Professor Miner.

109a. DIAGNOSIS OF DEVELOPMENT. A practice course in giving and scoring mental tests, together with the interpretation of test data. Particular emphasis is placed upon the Stanford Revision of the Binet-Simon tests. Prerequisite or concurrent, 108a, 108b, or 111. *One hour discussion, three hours practice a week. Two credits. First semester.* Associate Professor Boynton.

109b. DIAGNOSIS OF DEVELOPMENT. A continuation of 109a. The use of group and performance tests. Special reference to other factors than intelligence. Prerequisite or concurrent, 108a, 108b, or 111. *Two credits. Second semester.* Associate Professor Boynton.

110. EXPERIMENTAL METHODS. An intensive course dealing with the methods of controlling conditions and measuring responses in the psychological laboratory. *Three credits. First semester.* Assistant Professor Graham.

111. MENTAL MEASUREMENTS. A study of the nature and function of intelligence; a brief analysis of atypical mental conditions; a history of mental testing; the giving, scoring, use and application of mental tests; a short introductory discussion of the statistics necessary for the interpretation of mental test data. Credit cannot be obtained on both 108a and 111. *Three hours a week. Three credits. First semester.* Associate Professor Boynton.

112. PERSONNEL MANAGEMENT. The functions of a personnel department in business and industry. The scientific practices in the study of labor turnover; the selection and placement of employees, their training, supervision and motivation. *Three credits. Second semester.* Professor Miner, Mr. Asher.

113. **PSYCHOLOGY OF LEARNING.** An advanced experimental course dealing with the learning process. The nature of learning, interpretations of learning curves, economical methods of learning, effect of different methods of learning upon amount retained, individual differences in learning ability, and transfer of training. *Two hours recitation. Two hours laboratory a week. Three credits. Second semester.* Associate Professor Boynton.

114. **ABNORMAL PSYCHOLOGY.** A course in the abnormal phases of behavior which require special recognition and special training in connection with delinquencies, family welfare, school adjustment and social contacts. The relation of unusual development to mental accidents and repressions. Environmental and heredity factors will be treated. Mental diseases will be considered only so far as is necessary to recognize the need for psychiatric consultation and to develop methods of training when these are warranted. Prerequisite, general psychology. *Three hours a week. Three credits. Second semester.* Professor Basset.

115. **MEASUREMENTS OF HUMAN RELATIONSHIPS.** An advanced course which considers the treatment and interpretation of human measurements. The course deals with the computation of simple, partial and multiple correlations, regression coefficients, best scoring methods, correlation ratios, reliabilities, the theory of attributes, and other methods applicable to a thorough analysis of data. A knowledge of central tendencies and deviations is assumed. *Two hours recitation and a two-hour practice period. Three credits. Second semester.* Associate Professor Boynton.

116. **COMPARATIVE PSYCHOLOGY.** Phylogenetic study of origins of reactions, behavior and thought as conditioned by anatomical and physiological background. Types of individual organism, organization, and of social organization in the phyla from ameba to the insects and to man. *Three hours a week. Three credits. Second semester.* (To be given in alternate years with Psychology 114, Abnormal Psychology.) Professor Basset.

117. **PSYCHOLOGY OF LANGUAGE.** An experimental course dealing with both written and spoken language. A study of the development and physical basis of language, together with its function in thought processes. The main emphasis will be placed upon the experimental phases of the subject. *Two hours laboratory and two hours lecture per week. Three credits.* (To be given in alternate years with Psychology 113, Psychology of Learning.) Associate Professor Boynton.

118. **SYSTEMATIC PSYCHOLOGY.** An historical resume of the most important movements in early psychology together with an evaluation of their contributions to present concepts. A critical analysis of current

psychological schools together with a comparative study of their basic hypotheses and experimental data. *Three hours a week. First semester. Three credits.* Professor Miner.

154. PSYCHOLOGY OF THE LAW. Criminality in relation to intelligence and to responsibility. Insanity as a defense. The development of penology to harmonize law with human nature. The reliability of evidence. How facts are discovered as to an individual's acts, his intention, and his normality. The relations of law to the scientific facts about human behavior. *Two hours a week. Two credits. Second semester.* Professor Miner.

120a. INDEPENDENT WORK IN PSYCHOLOGY. *Two credits. First semester.* Professors Miner and Basset, Associate Professor Boynton, Assistant Professor Graham.

120b. INDEPENDENT WORK IN PSYCHOLOGY. *Two credits. Second semester.* Professors Miner and Basset, Associate Professor Boynton, Assistant Professor Graham.

201a. SEMINAR IN PSYCHOLOGY. One two-hour discussion a week. *One credit. First semester.* Professor Miner and the members of the department.

201b. SEMINAR IN PSYCHOLOGY. One two-hour discussion a week. *One credit. Second semester.* Professor Miner and the members of the department.

202. PSYCHOLOGICAL CLINIC. A study of the organization and conduct of a clinic. The diagnosis of maladjustments and plans for corrective training. Prerequisite, 109a and b. *Two credits.* Professor Basset.

210a. RESEARCH IN PSYCHOLOGY. *Three credits. First semester.* Professors Miner and Basset, Associate Professor Boynton.

210b. RESEARCH IN PSYCHOLOGY. *Three credits. Second semester.* Professors Miner and Basset, Associate Professor Boynton.

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, Thiophile Gautier, DeMusset, and Daudet. *Three hours a week. First semester.* Professor Zembrod.

109b. FRENCH LITERATURE OF THE XIX CENTURY. A continuation of 109a. *Three hours a week. Second semester.* Professor 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. Re-

ports written in French are to be handed in at regular intervals. Advanced lessons in syntax and composition once a week. *Three hours a week. First semester.* Professor Zembrod.

110b. FRENCH LITERATURE OF THE XVIII CENTURY. A continuation of 110a. *Three hours a week. Second semester.* Professor Zembrod, Professor Horsefield.

SPANISH

104a. SPANISH LITERATURE. Spanish novel and drama, syntax and composition. *Three hours a week. First semester.* Professor Server.

104b. SPANISH LITERATURE. A continuation of 104a. *Three hours a week. Second semester.* Professor Server.

112a. SPANISH LITERATURE. Spanish novel and drama, 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, and also of the second half of the XIX century. *Three hours a week. First semester.* Professor Server.

112b. SPANISH LITERATURE. A continuation of 112a. *Three hours a week. Second semester.* Professor Server.

113a. ROMANCE LANGUAGE. 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. *Three hours a week by special appointment.* Professor Zembrod.

113b. ROMANCE LANGUAGES. A continuation of 113a. *Three hours a week by special appointment.* Professor Zembrod.

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. *Three hours a week. First semester.* Professor 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. *Three hours a week. Second semester.* Professor 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. *Three hours a week. First semester. Professor Best.*

104. RURAL SOCIAL ECONOMY. A study of the conditions and problems of the country districts and of the smaller towns and villages, and of practical measures for the advancement of such communities. *Three hours a week. Second semester. Professor 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. *Three hours a week. First semester. Professor Best.*

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. *Three hours a week. Second semester. Professor Best.*

107. COMMUNITY WELFARE WORK. A 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. *Three hours a week. First semester.*

108. COMMUNITY SURVEYS. A social service course, involving a study of aims and methods in community surveys, with practical observation and experimenting. *Three hours a week. Second semester.*

109. THE FAMILY. A study of the family, both in its historical aspects and in connection with the problems before it under modern conditions. *Three hours a week. First semester.*

110. CHILD WELFARE. A study of the position and needs of the child in modern life, especially the dependent, delinquent and defective child, with an examination of organizations and agencies for the care or protection of children. *Three hours a week. Second semester.*

111. URBAN SOCIAL ECONOMY. A study of the growth and development of the city, and the problems before it under modern conditions. *Three hours a week. First semester.*

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. *Three hours a week. Second semester.*

201a. SOCIOLOGY SEMINAR. Consideration mainly of theses, methods of research, and current sociological literature. *One hour a week. First semester. Professor Best.*

201b. SOCIOLOGY SEMINAR. Continuation of 201a. *One hour a week. Second semester. Professor Best.*

DEPARTMENT OF ZOOLOGY

101a. HISTOLOGY. Histology of the tissues. Prerequisite, Zoology 1a and 1b. 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. *Lecture one hour, laboratory four hours a week. First semester.* Assistant Professor Brauer.

101b. HISTOLOGY. Prerequisite, Zoology 101a. Histology of the organs. A continuation of course 101a. Lectures and laboratory work on the microscopic anatomy of the animal body. *Lecture one hour, laboratory four hours a week. Second semester.* Assistant Professor Brauer.

104. EMBRYOLOGY. A general course in ontogeny. Lectures on maturation, fertilization, cleavage, 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. *Lecture one hour, laboratory four hours a week. Second semester.* Assistant Professor Brauer.

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. *Lecture one hour, recitation one hour, laboratory two hours a week. First semester.* Associate Professor Allen.

107a. COMPARATIVE 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. *Lecture one hour, recitation one hour, laboratory four hours a week. First semester.* Associate Professor Allen.

107b. COMPARATIVE 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) Identification and demonstration of the bones of at least the Mammalian skeleton. *Lecture one hour, recitation one hour, laboratory four hours a week. Second semester.* Associate Professor Allen.

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

principles of biology. The first semester is devoted primarily to the study of organic evolution. *Lectures three hours a week. Two credits. First semester.* Professor Funkhouser.

108b. PRINCIPLES OF ZOOLOGY. A continuation of 108a. The second semester is devoted to the study of heredity, eugenics and animal instincts. *Lectures three hours a week. Two credits. Second semester.* Professor Funkhouser.

110a. INDIVIDUAL WORK. Special problems for individual students who are capable of pursuing independent investigations. *Laboratory and library work six hours a week. Three credits.* Professor Funkhouser, Associate Professor Allen, Assistant Professor Brauer.

110b. INDIVIDUAL WORK. A continuation of 110a. *Laboratory and library work six hours a week. Three credits.* Professor Funkhouser, Associate Professor Allen, Assistant Professor 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. *Lectures three hours a week. First semester.* Associate Professor Allen.

114. 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) Biological news notes. *Two hours a week. One credit.* Professor Funkhouser, Associate Professor Allen, Assistant Professor Brauer.

201a. HERPETOLOGY. Systematic and taxonomic studies of the Reptilia. For graduate students only. *Lectures two hours, laboratory two hours a week. First semester.* Professor Funkhouser.

201b. HERPETOLOGY. A continuation of 201a. *Lectures two hours, laboratory two hours a week. Second semester.* Professor 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. *Lecture one hour, recitation two hours, laboratory two hours a week. First semester.* Professor 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. *Lecture one hour, recitation two hours, laboratory two hours a week. Second semester.* Professor Funkhouser.

COLLEGE OF AGRICULTURE

THOMAS P. COOPER, B. S. in Agr., Dean and Director

AGRICULTURAL ENTOMOLOGY

101a and b. SPECIAL PROBLEMS. Research problems on selected injurious insects, chiefly devoted to a study of their life-histories and to their treatment. *Three credits each semester.* Professor Price.

AGRONOMY

101. METHODS AND RESULTS OF FIELD EXPERIMENTATION. The essentials of reliable field experimentation, the planning and laying out of model experiments, and a study of the results obtained by experiment station workers and other investigators. Special attention is given to the interpretation of field results. Designed for students who expect to teach or engage in experimental work. Prerequisite, Agronomy 1. *Lectures two hours a week. First semester.* Professor 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. *Lectures three times a week. Second semester.* Professor 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. *Lectures two hours a week. Second semester.* Professor Kinney and Associate Professor Fergus.

107a and 107b. SEMINAR. *One hour a week throughout the year.* The Agronomy Staff.

110. ADVANCED SOILS. Biological Studies in soils. Text book, reference, class room and laboratory work on biological soil processes. The processes studied, in the main, are decomposition of cellulose and of organic matter in general, carbon dioxide production, ammonification, nitrification, symbiotic and non-symbiotic nitrogen fixation, sulfification, solvent action of biological activity products on soil minerals, the effects of partial soil sterilization and the effects of soil organisms

on the physical nature of soils. The laboratory work is given primarily from the illustrative standpoint. Prerequisite, Agronomy 1. *Lectures and recitations one hour a week, laboratory four hours a week. First semester.* Associate Professor Karraker.

111. ADVANCED SOILS. Physico-chemical studies in soils. Reference, class room and laboratory work on the physico-chemical conditions and changes in soils, emphasizing the theoretical and technical phases. Soil formation, air and water soil relationships, soil colloids, soil solution, and soil reaction are important parts of the work. The laboratory work is given primarily from the illustrative standpoint. Prerequisite, Agronomy 1. *Lectures and recitations one hour a week, laboratory four hours a week. Second semester.* Associate Professor Karraker.

112. SPECIAL WORK IN SOILS. Prerequisite, Agronomy 1, and permission of instructors. *Three credits. Either semester.* Professor Roberts, Associate Professor Karraker.

202. SPECIAL PROBLEMS IN CROP PRODUCTION. *Two credits. Either semester.* Professor Kinney.

203a-203b. LITERATURE OF PLANT PATHOLOGY. *Three credits. Each semester.* Professor Valteau.

ANIMAL INDUSTRY

102. FARM BUTCHERING AND CURING OF MEATS. Prerequisites, Animal Industry 1 and 17. All classes of farm animals are slaughtered and blocked out. A comparative study is made of the animals on foot as well as on the hook. A comprehensive study is made of the major and minor wholesale cuts, and of the retail cuts of meat. A general study is made of the meat industry along with some of its major branch industries. Different cures are studied giving special attention to pork cures and curing. *Four credits. First semester.* Associate Professor Wilford.

104. ANIMAL BREEDING. The purpose of the course in Animal Breeding is to acquaint the student with the origin of domestic live stock, with the development of the purebred breeds of live stock, with an analysis of the blood lines of the breeds, with a study of the methods by which the breeds have been built up and are being maintained and with the possibilities of future breed improvements. Prerequisite, Animal Industry 119. *Three hours lecture. Two hours laboratory by appointment. Four credits. Second semester.* Professor Anderson.

105. BEEF PRODUCTION. In this course a study is made of the history 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. The laboratory work consists in judging beef

cattle and practical problems related to the industry. Prerequisite, Animal Industry 20. *Lecture two hours, laboratory two hours per week. Three credits. Second semester. Professor Good.*

106. PORK PRODUCTION. This is an elective course for juniors, seniors and graduate students. A study is made of the general management and feeding of all classes of swine, supplemented with judging and practical laboratory exercises. *Three credits. First semester. Associate Professor Wilford.*

107. SHEEP PRODUCTION. This is an elective course for juniors, seniors and graduate students. A study is made of the history and development of the sheep industry, the breeds of sheep and the care and management of the farm flock. The wool industry is studied from the standpoint of the producer. A small part of the course is devoted to a study of range sheep production. *Three credits. Second semester. Associate Professor Horlacher.*

110. ADVANCED STOCK JUDGING. This is an advanced course in live stock judging primarily for candidates for the live stock judging team. Numerous trips are made to Kentucky stock farms and the best student judges in the class are selected to represent the University in the Intercollegiate judging contest at the International Live Stock Exposition. *Three credits. First semester. Associate Professor Horlacher.*

111a, b, c and d. SPECIAL PROBLEMS. Individual work in any phase of animal production in which the student is particularly interested. *Three credits. Staff.*

112. ADVANCED POULTRY JUDGING. In this course the more advanced problems involved in incubation, brooding, poultry diseases, feeding and flock management will be considered. The laboratory work will consist of the actual operation of incubators and brooders, the treatment of diseased birds and the feeding of the laying flock. Prerequisite, Animal Industry 2. *Lecture three hours, laboratory two hours a week. Four credits. Second semester. Professor Martin.*

113. LIVE STOCK JUDGING. This is an elective course in which the student is given training in the judging of beef cattle, draft horses, sheep and hogs. It must be preceded by Animal Industry 1 and 17. It is designed to give training in judging to those students who intend to compete for the judging team or who are planning to go into county agent work or teach agriculture in high schools. *Two credits. Second semester. Assistant Professor Harris.*

118. DAIRY MANUFACTURES. A course outlined to teach the science and practice of handling city milk supply, including process of condensing; butter, cheese and ice cream making. Designed to train plant foremen and assistant managers. *First semester. Five credits. Assistant Professor Barkman.*

119. GENETICS. The purpose of Genetics is to acquaint the student with the laws of heredity. This is done by a study of variation, a study of the chromosomes and chromosome content, a study of hybridization, a study of the theory of the gene and a study of the method by which the laws of genetics may be applied to human conservation. Prerequisite, one semester's work in either Botany or Zoology. *Three hours lecture. Three credits. First semester a section for men and a section for women. Second semester a section for men and section for women.* Professor Anderson.

120. SYSTEMS OF LIVE STOCK PRODUCTION. This is a general course dealing with the systems of live stock production followed in the different countries of the world and is designed to give the student a broad view of the live stock industry. Prerequisites, Animal Industry 1 and 17. *Three credits. First semester.* Associate Professor Horlacher.

121. ADVANCED GENETICS. This course deals with the more complex problems of heredity such as linkage, crossing-over, the theory of the gene and the more extensive study of the means by which Genetics may be applied to human conservation. Opportunity is also offered in this course for the student to become acquainted with the current literature bearing upon Genetics and Eugenics. Prerequisite, Animal Industry 119. *Three lectures. Three credits. First semester.* Professor Anderson.

122. ADVANCED POULTRY BREEDING. The fundamental genetic principles involved in poultry breeding will be studied. Particular emphasis is laid on the transmission of egg production, broodiness, egg shell color and feather color. A definite breeding program to be followed in building up the poultry flock will be analyzed and studied in detail. Prerequisite, Animal Industry 119. *Lecture two hours a week. Two credits. First semester.* Professor Martin.

123. EXHIBITION AND PRODUCTION POULTRY JUDGING. Systematic culling and judging hens for egg production will be studied in detail. Breed type and other exhibition qualities will also be studied. The time will be equally divided between judging for production and exhibition qualities. Prerequisite, Animal Industry 2. *Laboratory four hours a week. Two credits. First semester.* Professor Martin.

124. ADVANCED STUDY OF DAIRY CATTLE BREEDS. *Lectures two hours; laboratory four hours. Second semester. Four credits.* Professor Ely.

125. DAIRY CATTLE FEEDING AND MANAGEMENT. *Second semester. Lectures three hours. Three credits.* Professor Ely.

201. ECONOMIC FACTORS INVOLVED IN MEAT PRODUCTION. This course involves a problem in the feeding and management of beef cattle, or

sheep or swine. *Three credits.* Professor Good, Associate Professor Horlacher, Associate Professor Wilford and Assistant Professor Harris.

202. MEATS. The student is assigned a definite problem of investigation related to meats. *Three credits.* Associate Professor Wilford.

203. RESEARCH IN GENETICS. A special problem involving some principles of Genetics is assigned. *Three credits.* Professor Anderson.

204. INVESTIGATIONS IN FEEDING DAIRY ANIMALS. *Three credits.* Professor Ely.

205. INVESTIGATIONS IN BREEDING LIGHT HORSES. *Three credits.* Professor Anderson.

206a-b. RESEARCH IN POULTRY. Special problems are assigned involving methods of investigation on the part of the student. *Thruout the year. Three credits each semester.* Professor Martin.

207. INVESTIGATIONS IN WOOL. The student is assigned a definite problem to be worked out in connection with the flock of sheep on the Experiment Station Farm. *Three credits.* Associate Professor Horlacher.

208. RESEARCH IN ANIMAL BREEDING. Some problems in the breeding or improvement of farm animals is undertaken. *Three credits.* Professor Anderson.

209a-b. SEMINAR. Each semester devoted to a discussion of some special phase of animal industry. Required of graduate students majoring in Animal Industry. *One credit. Each semester.* Staff.

ANIMAL PATHOLOGY

116. DISEASES OF DOMESTIC ANIMALS. It is essential that the student has had some work in bacteriology, zoology and physiology. The subject matter of the course deals with the various infectious and parasitic diseases of animals, their distribution, general nature, methods of dissemination, sanitation and prevention. The work is presented from the standpoint of hygienic and preventive medicines, special emphasis being placed on those diseases that are transmissible to man. Lectures, recitation and reference reading. *Four credits. Second semester.* Doctor Dimock, Doctor Hull.

126. ANATOMY AND PHYSIOLOGY OF DOMESTIC ANIMALS. *First semester. Lectures three hours; laboratory two hours. Four credits.* Doctor Hull.

FARM ECONOMICS

103a-103b. 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 student reports, are held at each meeting. *Two hours a week. First semester and second semester.* Farm Economics Staff.

104. ADVANCED FARM COST ACCOUNTING. A course dealing with the problems arising in connection with the various processes in agricultural cost finding. Developments of theory will be considered, and attention will be devoted to posting, summarizing and analyzing complete cost records. Prerequisite, Farm Economics 3. *Laboratory four hours a week. First semester. Repeated second semester.* Assistant Professor Finn.

107a-107b. 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, crops 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. *First and second semesters.* Professor 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. *Lectures two hours a week. First semester.* Professor Nicholls. (Not given in 1929-1930).

109. ADVANCED FARM MANAGEMENT. A course giving advanced consideration to the fundamental principles underlying the choice of a farm, the selection of crop and livestock 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. *Lecture one hour. Laboratory two hours a week. First semester.* Professor 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; and other vital questions of farm organization and management. Prerequisite, Farm Economics 4. *Lecture, three hours a week. First semester.* Professor Nicholls.

202a-202b. 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. Professor Nicholls.

MARKETS AND RURAL FINANCE

108. MARKETING. A study of the principles and methods of marketing farm products. Consideration is given to the services involved in marketing such as assembling, grading, transportation, warehousing, distribution, selling and financing; the methods of marketing at country points and in central markets; the classes and functions of middlemen; marketing specific commodities; market prices and price-making factors; market information; market risks; future trading; marketing costs; grades and standards; cooperative marketing; and weaknesses in marketing methods and remedies proposed. Prerequisite, Economics 1a. *Lecture three hours a week. First semester.* Professor Price.

109. COOPERATIVE MARKETING. A study of principles, methods and problems involved in the cooperative marketing of farm products. The plans employed, progress made and problems encountered for different classes of farm products are studied. Consideration is given to pooling plans and methods, the essentials for success, membership contracts, forms of organization, methods of financing, organization procedure, cooperative laws, incorporation, relation to anti-trust legislation and monopolistic aspects. Prerequisite, Marketing and Rural Finance 108. *Lectures three hours a week. Second semester.* Professor Price.

110. ADVANCED MARKETING. An advanced course designed to take up special aspects of marketing farm products. Special problems are assigned for class reports and as a basis for extensive written reports by the individual members of the class. Prerequisite, Marketing and Rural Finance 108. *Lectures three hours a week. First semester.* Professor Price.

111. AGRICULTURAL PRICES. A study of the factors influencing prices of farm products, of price movements and trends, and of price

relationships. Factors which affect prices are reviewed and consideration is given to the possibilities and limitations of price fixing. Market price determination for various commodities is considered. Methods of price comparison, as illustrated by typical price indexes, are studied. Long time price movements and cyclical tendencies are reviewed. Methods of assembling and disseminating crop and market information, and progress in the formulation of outlook statements and in price forecasting are reviewed. Prerequisite, Farm Economics 4. *Lectures three hours a week. First semester. Assistant Professor Card.*

112. FARM FINANCE. A study of the principles involved in the financing of the production and marketing of farm products. Credit needs of agriculture, including short time, intermediate and farm mortgage credit requirements of the farmer are studied. The organization and operation of the farm loan system, and other agencies which aid in satisfying the credit needs of agriculture are considered. Methods of financing marketing operations, including the movement and storage of products and the financing problems of cooperative marketing associations are considered. Prerequisite, Farm Economics 4. *Lectures three hours a week. Second semester. Professor Price.*

201a. RESEARCH IN MARKETING AND COOPERATION. Open to graduate students who have the necessary training and ability to carry on work on individual problems. The course consists of individual work on some selected marketing problem and aims to acquaint the student with literature dealing with the problem and to give him training in obtaining and analyzing facts with respect to specific problems and draw proper conclusions therefrom. *Three hours a week. First semester. Professor Price.*

201b. RESEARCH IN MARKETING AND COOPERATION. A continuation of 201a. *Three hours a week. Second semester. Professor Price.*

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. *Lectures two hours, laboratory four hours a week. Second semester. Assistant Professor Wade.*

105a. SEMINAR IN NUTRITION. Investigation of recent research on normal nutrition. *One hour a week. First semester. Professor Erikson.*

105b. SEMINAR IN NUTRITION. Investigations of recent research on nutrition. *One hour a week. Second semester. Professor Erikson.*

106. TEXTILE AND CLOTHING SEMINAR. Investigation of special textile and clothing problems. *One hour a week. First semester.* Assistant Professor Wade.

107a. EXPERIMENTAL COOKERY. Study of the application of chemical methods to the problem of cookery. It may include observations on effect of pH and determinations of losses in vegetable cookery; experimental work on batter and dough mixtures with special emphasis on the properties of strong and weak flours; shortening power of fats, properties of emulsions, comparison of slow and quick acting baking powders; an investigation of the jellying properties of fruit juices; analyses of flavoring extracts for adulteration. *Lectures two hours, laboratory six hours a week.* Assistant Professor Tansel.

107b. EXPERIMENTAL COOKERY. A continuation of 107a. *Lectures two hours, laboratory six hours a week.* Assistant Professor Tansel.

109. NUTRITION. Investigations in nutrition and metabolic processes of the body. It includes sugar tolerance tests; protein and mineral balance experiments on human subjects; biological tests for vitamins and proteins of various food. *Lectures two hours, laboratory four hours a week. Second semester.* Professor 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 programs in public schools. The laboratory work includes a health class with public school children. *Lectures two hours, laboratory two hours a week. Both semesters.* Assistant Professor Tansel.

114. ADVANCED TAILORING. A study of the economics of clothing budgets. Suit and coats are made. *Lecture one hour, laboratory six hours a week. First semester.* Assistant Professor Wade.

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. *Lectures three hours a week. Both semesters.* Assistant Professor Tansel.

116. ADVANCED COSTUME DESIGN. Survey of fashions or styles from the time of the Egyptians to the present century. A study is made of the way in which styles have developed, run their course, died away, only to appear again in a slightly different guise. Attention is given to influence of costumes of the ages on present day designs; an inlook on accessories and their relation to costume and our dependence on this. Costumes are designed for pageants and plays. *Lectures one hour, laboratory four hours a week. Second semester.* Assistant Professor Wade.

117. INTERIOR DECORATION. First semester. *Lecture one hour, laboratory four hours. Three credits.* Assistant Professor Wade.

121. SPECIAL INVESTIGATION IN FOOD, NUTRITION, HOUSEHOLD MANAGEMENT, CLOTHING OR TEXTILES. Special problems in undergraduate research. *Two credits.*

178. ORGANIZATION AND ADMINISTRATION. Second semester. *Lectures two hours, laboratory two hours. Three credits.* Assistant Professor Kohl.

179. INSTITUTIONAL MANAGEMENT. The course consists of practical work in the institution, daily half hour conferences and one hour lecture a week. The practical work will require six hours a day, six days a week. The half hour daily conferences will be used for discussion of special cases and problems, menus, and other related subjects. A health certificate from the University Dispensary will be required of all students taking the course. *Second semester. Six credits.* Assistant Professor Kohl.

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. *Lectures two hours, laboratory two hours a week. First semester.* Mr. Waltman.

104. POMOLOGY. Stone Fruits. A course devoted to detail studies of problems of commercial peach, plum, and cherry growing. *Lectures two hours, laboratory two hours a week. Second semester.* Mr. Waltman.

105. POMOLOGY. Small Fruits. A detailed study of the care and management of commercial plantings of strawberries, raspberries, and other bush fruits. *Lectures two hours a week first half semester; lecture one hour a week, and laboratory two hours a week second half semester.* Mr. Waltman.

110. VEGETABLE GARDENING. A study of the principles of vegetable gardening, classification and groups of vegetable crops, construction and management of hotbeds and cold frames, garden planning, sowing and planting, cropping systems, rotations, cultural methods, harvesting, and storing. Prerequisites, Botany 1a and 1b. *Lectures three hours, laboratory two hours a week. Second semester.* Mr. Waltman.

111. MARKET GARDENING. Devoted to the study and practice of the principles involved in the commercial production and utilization of vegetable crops. A critical study is made of the principal vegetable crops of commercial importance, including propagation, choice of varieties, soil adaptation, soil preparation, fertilizing, management, pest

control, harvesting and storing methods, and preparation of products for market. Prerequisites, Botany 1a and 1b, Horticulture 110. *Lectures two hours, laboratory four hours a week. Second semester. Mr. Emmert.*

115a-115b. SPECIAL PROBLEMS. This course is designed to permit advanced students to make intensive study of some phase of Horticulture in which they are particularly interested. The problem method requires the student to have an intimate knowledge of the material in question and is accompanied by a careful survey of the literature. *Three credits each semester.* Can be taken only with approval of the instructor. Professor Olney.

COLLEGE OF COMMERCE

EDWARD WIEST, A. M., Ph. D., Dean

102. LABOR PROBLEMS. A study of the labor market in its industrial phases, including such directly related topics as immigration, unemployment and labor organizations. Prerequisite, course 1. *Three hours a week. First semester.* Assistant Professor Troxell.

103. TRANSPORTATION. Growth of the railway net; pools and traffic associations; principles and practice of rate-making as exemplified by the decisions of the Interstate Commerce Commission and the courts; state and federal regulation, with comparison of policies in foreign countries. Prerequisite, course 1. *Three hours a week. Second semester.* Assistant Professor Troxell.

104. PUBLIC 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. Attention will be given to the current problems in taxation. Prerequisite, course 1. *Three hours a week. First semester.* Professor Martin.

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 and comparison with those of foreign countries. Prerequisite, course 1. *Three hours a week. Second semester.* Professor Wiest.

106a. ADVANCED ACCOUNTING. Corporation accounting, cost accounting, municipal accounting and auditing. Prerequisites, courses 7a, 7b and 117. *First semester.* Assistant Professor Haun.

106b. ADVANCED ACCOUNTING. *Second semester.* Assistant Professor 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. An essential course for specialists in these fields. Not open to freshmen and sophomores. *Recitation one hour, laboratory four hours a week. First semester.* Associate Professor Palmer.

108. INSURANCE. Fundamental aspects of insurance; principles and their main application; nature of the contract; policies and premiums; life, casualty, health, fire, marine and other hazards. Prerequisites, course 1 and Mathematics 14. *Three hours a week. Second semester.* Associate Professor Palmer.

109a. BUSINESS LAW. A course designed to fill the need for an elementary training in business law. It includes a survey of the principles of contracts, sales, bills and notes, and that portion of the law of

torts applicable to business practices. Not open to freshmen and sophomores. *Three hours a week. First semester. Mr. Rouse.*

109b. BUSINESS LAW. Continuation of 109a. *Three hours a week. Second semester. Mr. Rouse.*

110. BUSINESS CYCLES. In this course a study is made of the nature and characteristics of the economic factors which underlie the cyclical fluctuations in business conditions. Attention is also directed toward the methods of business and investment forecasting and their practical application. Prerequisites, courses 1 and 107. *Three hours a week. Second semester. Associate Professor 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 student is expected to do more work than the usual amount required per credit hour. Each student makes reports of his studies to the class which is conducted on a seminar basis. Prerequisite, course 1. *Two hours a week. First semester. Professor Wiest.*

112b. INDIVIDUAL WORK IN ECONOMICS. Continuation of 112a. *Two hours a week. Second semester. Professor Wiest.*

113. AUDITING. This course is designed especially for those who expect to enter the accounting profession. Emphasis is placed on the theory of auditing, the valuation of assets, analysis of accounting procedure, and the presentation of statements. Special problems applicable to particular business will also be presented. Prerequisites, courses 7a and 7b. *Three hours a week. Second semester. Assistant Professor Haun.*

114. SALESMANSHIP. Among the problems considered are the formulation of selling policies, the actual selling process, the creation of effective demand, sales campaigns, selecting and training salesmen and kindred subjects. Prerequisites, 1a, 10 and six hours of Advanced Commerce, including 111. *Three hours a week. First semester. Professor McIntyre.*

115. CONTEMPORARY ECONOMIC THOUGHT. A survey of current literature of theoretical economics. Special emphasis is placed on theories of value and distribution. Prerequisite, course 1. *Three hours a week. First semester. Professors Martin and Palmer.*

117. CORPORATION FINANCE. A study of the corporation primarily from the internal point of view. The course treats stocks and bonds; develops sound fiscal principles concerning the issue of securities, the management of the corporate income, the disbursement of dividends, the creation of sinking funds; and discusses reorganization procedure. Prerequisites, 1a and 9. *Three hours a week. Second semester. Professor Wiest.*

118. COST ACCOUNTING. This course deals with the place of cost accounting in the general field accounting. Special records and cost statistics are considered. Application to particular businesses is made. Prerequisite, courses 7a and 7b. *Three hours a week. First semester.* Assistant Professor Haun.

119. PRINCIPLES OF RETAILING. This course deals with the fundamental problems of the retail merchant. Among the topics considered are factors of selecting a business location, internal layout, departmentalization, merchandising control, store policies toward the public, training and management of personnel, and related subjects. Prerequisites, courses 1a, 10 and consent of instructor. *Two hours a week. Second semester.* Professor McIntyre.

120. ORGANIZATION OF ECONOMIC GROUPS. This course presents a survey of economic groups and deals with their economic and social relationships. It also analyzes the business organization aspects of farmers' organizations, chambers of commerce, trade and industrial associations. Prerequisite, course 1. *Three hours a week. Second semester.* Assistant Professor Troxell.

124. FEDERAL AND STATE TAXATION. An advanced course in public finance which deals with important theoretical issues and current problems in federal and state taxation. Attention is given to such matters as the income, inheritance, gift and excise taxes in the field of federal taxation. The classified property tax, the separation of sources of state and local revenue, the taxation of mines, forests and other natural resources, highway finance and similar problems are studied in relation to state taxation. Prerequisite, course 1a. *Three hours a week. Second semester.* Professor Martin.

125. ADVANCED ECONOMIC HISTORY OF EUROPE. This course is intended to serve as an economic background for students interested in European affairs. It discusses population, immigration, labor, agriculture, industry, and finance and the effects of the various lines of development upon national life. Not open to students who had course 2 except when doing graduate work. *Three hours a week. First semester.* Professor Jennings.

126. ECONOMICS OF PUBLIC UTILITIES. The following topics are discussed in this course: Growth and development of public utilities; valuation; rate-making; financing; the holding company; regulation; current problems; accounting. Prerequisite, Commerce 1a. *Three hours a week. First semester.* Assistant Professor Troxell.

127. INTERNATIONAL ECONOMIC POLICIES. Among the topics to be discussed in this course are the following: Medieval notions concerning trade; modern fallacies respecting foreign trade; free trade; protectionism; preferential tariffs; colonial tariff policies; dumping commercial treaties; international patent control; encouragement of foreign

shipping; international investments and the movement of capital; international debts; reparations. Special emphasis will be placed on current international economic problems. Prerequisite, course 1a. *Three hours a week. Second semester.* Professor Martin.

128. FOREIGN EXCHANGE. This course aims at an explanation of the theory and practice of foreign exchange. Topics discussed will include inter-bank relations, the exchange market, supply and demand for foreign exchange, types of foreign bills, the rate of exchange, international gold movements, dollar exchange, settlements without use of foreign exchange, investment and speculation in exchange, and disturbances due to World War. Prerequisite, course 1a. *Two hours a week. First semester.* Associate Professor Palmer.

129. CREDITS AND COLLECTIONS. This course includes the theory of credits; forms of credit; 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 1a and 10. *Two hours a week. First semester.* Professor McIntyre.

130. LABOR LEGISLATION. The increasing complexity of the problems of labor makes necessary a more detailed examination into the nature and principles of labor legislation than is possible in a general course such as Commerce 102. Emphasis is placed upon the nature and extent of the problem which given legislation seeks to solve rather than upon the technique or application of legislative methods. The following topics, among others, are discussed in this course: The status of labor law, mediation, conciliation, arbitration, the minimum wage, the eight-hour day, unemployment relief, safety and health legislation, and social insurance. *Three hours a week. Second semester.* Prerequisites, courses 1a. Assistant Professor Troxell.

131. INVESTMENTS. The aim of this course is to give the student a general understanding of the field of investments. Emphasis is placed upon problems which face the investor rather than the seller of securities. Topics discussed in this course include the following: 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 1a and 9. *Two hours a week. Second semester.* Offered in alternate years. Associate Professor Palmer.

132a. C. P. A. PROBLEMS. This course is designed primarily for those intending to write on C. P. A. examinations. It is entirely a problem course with class discussion centering about the advanced points of accounting theory illustrated in the problems. Among the

points covered are: 1. Application of Funds Statement. 2. Balance Sheet Criticism. 3. Bank Accounts. 4. Branch Accounts. 5. Burglary and Fire Loss. 6. Club Accounts. 7. Comparative Statements. 8. Consolidated Statements. 9. Construction Accounts. 10. Contractors' Accounts. 11. Estate Accounts. 12. Executors' Accounts. 13. Fraud. 14. Goodwill. 15. Institutional Accounts. 16. Municipal Accounts. 17. Professional Accounts. 18. Railroad Accounts. 19. Real Estate Accounts. 20. Realization and Liquidation. 21. Reserves. 22. Sinking Funds. 23. Statements of Affairs and the Deficiency Account. 24. Trustee Accounts. 25. Valuation of Assets. 26. Working Capital, et cetera. *Three hours a week. First semester.* Prerequisites, Commerce 106a and 106b. Assistant Professor Haun.

132b. C. P. A. PROBLEMS. Continuation of 132a. *Three hours a week. Second semester.* Assistant Professor Haun.

133. INCOME TAX PROCEDURE. This course consists wholly of preparing income tax returns for individuals and corporations of all classes and a practical application of principles of accounting. The returns prepared cover such points as: 1. Rates of tax. 2. Exemptions and credits. 3. What included and what excluded from gross income. 4. Deductions allowed. 5. Deductions not allowed. 6. Partnership returns. 7. Returns of estates and trusts. 8. Administrative provisions. 9. Definitions and general provisions. *Three hours a week. Second semester.* Prerequisites, courses 106a and 106b. Assistant Professor Haun.

134. ADVANCED ECONOMIC HISTORY OF THE UNITED STATES. This course is intended primarily as an economic background for social science students. It studies English colonial policy, population growth, immigration, territorial expansion, agriculture, manufactures, tariff, labor, industrial combinations, commerce, transportation facilities, money and banking, and conservation. Not open to students who had course 3 except when doing graduate work. *Three hours a week. Second semester.* Professor Jennings.

135. PROBLEMS IN MARKETING. An advanced course in Marketing requiring reading in the literature of the field and the discussion of 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 and consent of instructor. *Three hours a week. First semester.* Professor McIntyre.

203. HISTORY OF ECONOMIC THOUGHT. This course is a survey of the history of economic thought from the ancient period to the present. The relation of economic theory to general philosophic thought is noted. A more or less intensive study of capital, value and distribu-

tion, is made beginning with the Classical School and carried forward to the more recent writers. Prerequisite, course 1. *Three hours a week. Second semester.* Professor Wiest.

204. ECONOMIC HISTORY OF THE UNITED STATES PRIOR TO 1860. This course is offered exclusively for graduate students. An examination of original sources and class reports will be required. An intensive investigation of all the subjects in detail prior to 1860 will be made. Not open to students who had course 134 except by special permission of instructor. *Two hours a week. First semester.* Professor Jennings.

205. ECONOMIC HISTORY OF THE UNITED STATES SINCE 1860. This course is a continuation of course 204, but may be taken independently. Not open to students who had course 134 except by special permission of instructor. *Two hours a week. Second semester.* Professor Jennings.

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. Weekly reports will be submitted at hours to be arranged. *First semester.* Professors Wiest, Martin and Jennings.

202b. SEMINAR. Continuation of 202a. *Second semester.* Professors Wiest, Martin and Jennings.

COLLEGE OF EDUCATION

WILLIAM S. TAYLOR, Ph. D., Dean

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 35 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.

AGRICULTURAL EDUCATION

280. METHOD IN TEACHING VOCATIONAL AGRICULTURE. This course attempts to apply the principles of method to the teaching of vocational agriculture. It is designed for men with experience in teaching. *Two credits. In summer only.* Professors Hammonds and Woods.

181. TEACHING VOCATIONAL AGRICULTURE. A course designed to acquaint men with and prepare men for the job of the teacher of vocational agriculture. About one-half of the course consists in practice. *Seven credits. Both semesters.* Professors Hammonds and Woods.

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

185. APPRENTICE TEACHING. A course in which the man in training assists in a regular department of vocational agriculture, under supervision. In order to enter this course the student must have Agricultural Education 181. *Two credits. Both semesters.* Professors Hammonds and Woods.

287. ADVANCED PROBLEMS IN AGRICULTURAL EDUCATION. The specific problems considered vary according to the needs of the group. *Two credits. Both semesters.* Professors Hammonds and Woods.

188. FARM-PRACTICE SUPERVISION. Actual practice and directed study are given in supervising the farm-practice work of pupils in vocational agriculture departments. *One credit. Second semester.* Professors Hammonds and Woods.

189. RESEARCH IN AGRICULTURAL EDUCATION. A course in which the student works on some problem of importance to agricultural education. *Three credits. Both semesters.* Professors Hammonds and Woods.

ELEMENTARY EDUCATION

151. NORMAL SCHOOL PROBLEMS. A discussion of the modern development of the normal school; a comparison of the methods of different states; the relation of the training school to the academic department with special emphasis upon the problems of the critic teacher. *Three credits. Not given 1929-30.*

EDUCATIONAL ADMINISTRATION

101. SCHOOL ORGANIZATION. An elementary course in the field of administration treated from the viewpoint of the teacher. Graduate students with considerable teaching experience are advised not to take this course but to take Education 201 instead. *Three credits. First semester. Repeated second semester.* Prerequisite, Education 16 or equivalent.

102. KENTUCKY SCHOOL LAW. A comparison of the school laws of Kentucky with school laws of other states. Prerequisite, Education 101 or equivalent. *Two credits. Not offered 1929-30.*

125. THE SUPERVISION OF INSTRUCTION. This course has been designed especially for teachers who are preparing for work in supervision or who desire a better understanding of the relationship between teacher and supervisor, and for supervisors and principals who are interested in a more thorough understanding of the fundamental principles that underlie the supervision of instruction in the elementary schools. Prerequisite, Education 101 or equivalent. *Three credits. First semester. Repeated second semester.* Mr. Whitehead.

190a. TECHNIQUE OF THE REGISTRAR'S OFFICE. The technical and professional functions of the registrar's work. Open to students whose major field of interest is in the registrar's work. Other students in administration may be admitted with the approval of the major professor. The course is designed to cover the technical organization and administration of the registrar's office. Special attention is given to the admission and classification of college students; records and transcripts; the allocation of administrative duties; the organization of the data in the registrar's office, so as to make the office a laboratory for the administration and the department of education. *Two credits. First semester.* Professor Gillis.

190b. TECHNIQUE OF THE REGISTRAR'S OFFICE. A continuation of Education 190a. *Two credits. Second semester.* Professor Gillis.

202. CITY SCHOOL ADMINISTRATION. An intensive analysis of problems of city school administration based upon a study of typical school surveys. Prerequisite, Education 101 or equivalent. *Three credits. Second semester.* Assistant Professor Chamberlain.

204. 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. *Two credits. First semester.*

206. PROBLEMS OF COLLEGE TEACHING. *Two credits. Second semester.*

213. STATE AND COUNTY SCHOOL ADMINISTRATION. A study of the principles and practices governing the organization and administration of state and county school systems. Prerequisite, Education 101. *Three credits. First semester.* Assistant Professor Chamberlain.

231. FINANCING PUBLIC EDUCATION. A critical study of the costs of education and of methods for providing funds to meet these costs. *Three credits. First semester.*

232. HIGH SCHOOL ADMINISTRATION. A course in the organization and management of high schools, with particular references to Kentucky high schools. Prerequisites, Education 101 and 150. *Three credits. First semester.* Professor Ligon.

301a, b. RESEARCH PROBLEMS IN EDUCATIONAL ADMINISTRATION. A course for graduate students who are writing doctor's dissertations in educational administration. Prerequisites, Education 202 and 213. *Three credits. First semester. Repeated second semester.*

302. SPECIAL PROBLEMS IN EDUCATIONAL FINANCE. Under the guidance of the instructor the student chooses a research problem in edu-

cational finance. The work of the course is carried on by means of individual conferences. A written report covering the analysis of the problem is required. Open only to students who hold master's degrees. Prerequisite, Education 231. *Three credits. First semester. Repeated second semester.*

304. SPECIAL PROBLEMS IN SCHOOL SUPERVISION. Under the guidance of the instructor the student chooses a research problem in school supervision. The work of the course is carried on by means of individual conferences. A written report covering the analysis of the problem is required. Open only to students who hold master's degrees. Prerequisite, Education 231. *Three credits. First semester. Repeated second semester.*

307. SPECIAL PROBLEMS IN HIGH SCHOOL ADMINISTRATION. Under the guidance of the instructor the student chooses a research problem in high school administration. The work is carried on by means of individual conferences. A written report covering the analysis of the problem is required. Open only to students who hold master's degrees. Prerequisite, Education 232. *Three credits. First semester. Repeated second semester.* Professor Ligon.

308. SPECIAL PROBLEMS IN ELEMENTARY SCHOOL ADMINISTRATION. Under the guidance of the instructor the student chooses a research problem in elementary school administration. The work of the course is carried on by means of individual conferences. A written report covering the analysis of the problem is required. Open only to students who hold master's degrees. Prerequisite, Education 202. *Three credits. First semester. Repeated second semester.*

309. SPECIAL PROBLEMS IN RURAL SCHOOL ADMINISTRATION. Under the guidance of the instructor the student chooses a research problem in rural school administration. The work of the course is carried on by means of individual conferences. A written report covering the analysis of the problem is required. Open only to students who hold master's degrees. *Three credits. First semester.*

321a, b. SPECIAL PROBLEMS IN HIGHER EDUCATION. Under the guidance of the instructor the student chooses a research problem in higher education. The work of the course is carried on by means of individual conferences. A written report covering the analysis of the problem is required. Open only to students who hold master's degrees. Prerequisites, either Education 204 or 205. *Three credits. First semester. Repeated second semester.*

EDUCATIONAL PSYCHOLOGY

122a. EDUCATIONAL TESTS AND MEASUREMENTS. A course in the theory and practice of measuring educational products and processes. *Two credits. First semester.* Professor Ross.

122b. EDUCATIONAL TESTS AND MEASUREMENTS. A continuation of Education 122a. *Two credits. Second semester.* Professor Ross.

146. FOUNDATIONS OF ELEMENTARY EDUCATION. *Three credits.* Not given 1929-30.

147. FOUNDATIONS OF SECONDARY EDUCATION. This course aims to develop the fundamental principles of secondary education. It will include a discussion of the development of the secondary curriculum and its relationship to college. *Three credits. First semester.* Professor Ligon.

152. PROBLEMS IN EDUCATIONAL PSYCHOLOGY. This course will take up for more critical discussion some of the more important problems in educational psychology. *Three credits. Second semester.* Professor Ross.

216. SEMINAR IN EDUCATIONAL TESTS AND MEASUREMENTS. This course will consider the current problems in educational tests and measurements. There will be class discussions and problems, and reports on outside readings by individual students. *Three credits. Second semester.* Professor Ross.

223. STATISTICAL METHODS IN EDUCATION. A course in statistics. This is a course that deals with statistics in their relation to education. Designed primarily to aid students in statistical procedure in education. *Three credits. First semester.* Professor Ross.

HISTORY OF EDUCATION

117a. HISTORY OF EDUCATION. This course is a survey of the history of education from Greece to the beginning of education in America. *Three credits. First semester.* Professor Noe.

117b. HISTORY OF EDUCATION. A continuation of 117a. *Three credits. Second semester.* Professor Noe.

120. 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. *Three credits. Second semester.* Professor 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 apprecia-

tion of the aims and purposes of modern public education. *Three credits. First semester.* Professor Noe.

220. COMPARATIVE EDUCATION. A course giving comparisons of systems of education. *First term. Two credits.* Professor Noe.

HOME ECONOMICS EDUCATION

160. TECHNIQUE OF TEACHING HOME ECONOMICS. *Three credits. Both semesters.* Professors Parker and Spickard.

162. DIRECTED TEACHING IN HOME ECONOMICS. *Conference two hours a week. Laboratory ten hours a week. Six credits. Both semesters.* Professors Parker and Spickard.

163. CURRENT PROBLEMS IN HOME MAKING EDUCATION. A study of aims based on the needs and interests of girls in different types of schools; recent development in home economics education; the relation of the home economics teacher and department to the rest of the school; coordination with the home; community activities contributing to home making instruction; publicity and promotional work. *Two credits. Summer session only.* Professors Parker and Spickard.

165. PROBLEMS IN VOCATIONAL HOME ECONOMICS EDUCATION. A professional course dealing with aims, methods and contemporary secondary educational theories and practices. Designed for those already engaged in teaching home economics. *Three credits. Second semester.* Professors Parker and Spickard.

166. SEMINAR IN HOME ECONOMICS EDUCATION. Work on special problems in home economics education. *Two credits. Both semesters.* Professors Parker and Spickard.

167. THE TEACHING OF RELATED ART. *Three credits.* Not offered 1928-29.

INDUSTRIAL EDUCATION

170. PART-TIME GENERAL CONTINUATION TEACHER TRAINING. This is a course designed to meet the needs of teachers and administrators of part-time legislation. It includes the supplying of proper content, a discussion of methods and instructional management, and the finding of the auxiliary agencies essential to the teaching of part-time classes in urban school systems. *Three credits. Second semester.* Professor May.

171. VOCATIONAL EDUCATION. (Information course.) Designed to inform students, teachers, administrators, welfare workers and laymen in general of the vocational education movement in our country and abroad. *Two credits. Second semester.* Professor May.

SECONDARY EDUCATION

105. **TECHNIQUE OF TEACHING.** This course deals with methods of teaching in the high schools. Motivation and the project method will be given special attention. *Three credits.* Not offered 1929-30.

126. **THE JUNIOR HIGH SCHOOL.** Course designed to give to school administrators in general the plans underlying junior high school organization, the development of junior high schools in the United States and their place in the public school program of the state. *Three credits. First semester.* Professor Ligon.

129. **MATHEMATICS IN THE HIGH SCHOOL.** *Two credits.* Summer session only.

130a. **THE TEACHING OF HEALTH IN THE PUBLIC SCHOOLS.** *Two credits.* Summer session only.

130b. **THE TEACHING OF HEALTH IN THE PUBLIC SCHOOLS.** *Two credits.* Summer session only.

134. **ENGLISH IN THE HIGH SCHOOL.** *Two credits.* Summer session only.

135. **THE SOCIAL SCIENCES IN THE HIGH SCHOOL.** *Two credits.* Summer session only.

136. **THE BIOLOGICAL SCIENCES IN THE HIGH SCHOOL.** *Two credits.* Summer session only.

137. **THE PHYSICAL SCIENCES IN THE HIGH SCHOOL.** *Two credits.* Summer session only.

138. **LATIN IN THE HIGH SCHOOL.** *Two credits.* Summer session only.

139. **FRENCH IN THE HIGH SCHOOL.** *Two credits.* Summer session only.

150. **THE SENIOR HIGH SCHOOL.** This course is designed to give to school administrators and to instructors who plan to be high school principals a knowledge of the organization of the senior high school, the problems that arise in its administration, with particular emphasis upon such problems as the purpose of the home room, extra curricula activities in the senior high school, records and reports to be kept, and objectives of high school instruction. *Three credits. Second semester.* Professor Ligon.

153. **DIRECTED TEACHING IN ENGLISH.** Required of all seniors in the College of Education who are planning to teach English. The student is required to spend five hours a week during the entire semester in actual observation and teaching under the direction of the critic teacher. Each student is required also to meet two hours a week for group discussion of the problems of teaching. This time is devoted to the selection, organization and presentation of materials in

literature and composition for high school instruction; a study of accepted teacher and pupil activities; classroom procedures; typical units of work; lesson plans; and a consideration of testing and measuring pupil progress, individual needs, and classroom equipment. Prerequisites: 18 hours of English and 18 hours of education. *Five credits. Both semesters.* Miss Anderson.

154. DIRECTED TEACHING IN LANGUAGES. This course is required of all seniors in the College of Education preparing to teach Latin or French in high school. Each student is required to meet five hours a week the entire semester for observation and practice teaching under the direction of the critic teacher of the subject selected. The student actually observes class room work, assists in different capacities, and finally has full charge of the class. The minimum number of lessons to be taught by each student teacher is eighteen. Each student teacher is also required to meet two hours a week to discuss class room procedure, planning of subject matter; different methods; class room equipment; testing and measuring students' work; and critical study of text-books. Prerequisite: 18 hours Latin or 18 hours French; 18 hours education. *Five credits. Both semesters.* Miss West.

155. DIRECTED TEACHING IN THE SCIENCES. The practice teacher is required to be present at each meeting of the science class in which he elects to do his directed teaching. At these meetings a part of the time will be spent in observation and a part in teaching under the guidance of the critic teacher. It is the aim of the course to develop the highest type of teaching possible and conditions which are as nearly normal to the average teaching situation as can be secured are supplied. These classes meet five days a week. The discussion or conference group meets on Tuesday and Thursday of each week. At these group meetings the general aims and objectives of teaching science are presented; principles of selection and organization of the materials for the course of study are taken up; methods of instruction are studied, development of tests carried out and the most recent research on problems of science teaching are reviewed. Prerequisite: 18 hours in science; 18 hours in education. *Five credits. Both semesters.* Mr. Kemper.

156. DIRECTED TEACHING IN MATHEMATICS. Required of all seniors in the College of Education who are preparing to teach mathematics. Each student is required to meet daily throughout the semester with any mathematics class in which he desires to do directed teaching. This time is to be spent in observation of class room procedure and teaching under the direction of the critic teacher. In addition to this each student will meet with the group two hours a week for discussion of objectives of secondary school mathematics, beginning with the seventh grade, classroom and pupil equipment, activities of the class

period, selection and organization of instructional materials, teaching procedures, standardized tests and scales and practical use of new type tests, and consideration of the needs of individual pupils. Prerequisite: 18 hours mathematics; 18 hours education. *Five credits. Both semesters.* Mr. Mitchell.

157. DIRECTED TEACHING IN THE SOCIAL SCIENCES. This course is required of all seniors in the College of Education planning to teach the social sciences in the high school. Each student is required to devote five hours a week during the entire semester to observation and directed teaching under the direction of the critic teacher, having full charge of the class for at least eighteen hours. Each student is required to meet two hours a week for group discussions of such problems as selection and organization of material in the social sciences, library and laboratory equipment, special methods of procedure, tests, examinations and aids for beginning teachers. Prerequisite: 18 hours social sciences; 18 hours education. *Five credits. Both semesters.* Miss Peck.

PHILOSOPHY OF EDUCATION

114a. EDUCATIONAL SOCIOLOGY. A study of the development of the social mind with special reference to education. *Two credits. First semester.* Professor Adams.

114b. EDUCATIONAL SOCIOLOGY. A continuation of 114a. *Two credits. Second semester.* Professor Adams.

127a. PROBLEMS IN CURRICULUM CONSTRUCTION. A critical study of the content of the curriculum and of the principles which should guide us in curriculum building. *Two credits. First semester.* Professor Adams.

127b. PROBLEMS IN CURRICULUM CONSTRUCTION. A continuation of 127a. *Two credits. Second semester.* Professor Adams.

140a. PHILOSOPHY OF EDUCATION. An integrating course in modern educational philosophy conducted on the discussion plan. Particularly valuable for principals and superintendents. *Two credits. First semester.* Professor Adams.

140b. PHILOSOPHY OF EDUCATION. A continuation of 140a. *Two credits. Second semester.* Professor Adams.

200. ADVANCED COURSE IN PHILOSOPHY OF EDUCATION. *Three credits. First semester.* Professor Adams.

205. REVIEW OF CURRENT EDUCATIONAL LITERATURE. *Three credits. Second semester.* Professor Adams.

222a. THESIS COURSE. *Three credits. First semester.* Dean Taylor.

222b. THESIS COURSE. *Three credits. Second semester.* Dean Taylor.

COLLEGE OF ENGINEERING

F. PAUL ANDERSON, M. E., DEAN

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.

201. CONSTRUCTION. Advanced work in plain and reinforced concrete. Lectures, recitations, reading, report writing and designing. *Twenty hours a week. Throughout the year.* Professor Terrell.

231. HIGHWAY ENGINEERING. Advanced course, designed for graduate civil engineers who wish to enter the field of highway engineering. Lectures, recitations, reading, laboratory work and design. *Twenty-four hours a week. Throughout the year.* Professor Terrell.

241. RAILROAD ENGINEERING. Advanced work in location, construction and maintenance. Lectures, recitations, reading and report writing. *Fifteen hours a week. Throughout the year.* Professor Newman.

251. SANITARY ENGINEERING. Advanced work in sewer systems and disposal plants. (Courses in water analysis, sewage analysis and bacteriology should be taken in connection with this course.) Lectures, recitations, reading, report writing, design and laboratory work. *Twenty hours a week. Throughout the year.* Professor Terrell.

271. STRUCTURAL ENGINEERING. Advanced work in theory of structures. Detail drawing, lectures, recitations, report writing. *Eighteen hours a week. Throughout the year.* Professor Carrel.

ELECTRICAL ENGINEERING

201a. ADVANCED ALTERNATING CURRENTS. *Lectures and recitations five hours, laboratory ten hours, and drawing ten hours a week. First semester.* Professor Freeman.

201b. ADVANCED ALTERNATING CURRENTS. A continuation of course 201a. *Lectures and recitations five hours, laboratory ten hours, and drawing ten hours a week. Second semester.* Professor Freeman.

202. TELEPHONE ENGINEERING. *Lectures and recitations five hours, laboratory ten hours, and drawing ten hours a week. First semester.* Professor Freeman.

203. ILLUMINATION. *Lectures and recitations five hours, laboratory ten hours, and drawing ten hours a week. Second semester. Professor Freeman.*

MECHANICAL ENGINEERING

201a. AUTOMOTIVE ENGINEERING. *Recitations five hours a week, design ten hours a week, and laboratory fifteen hours a week. First semester. Professor C. H. Anderson.*

201b. AUTOMOTIVE ENGINEERING. *A continuation of 201a. Recitations five hours a week, design ten hours a week, and laboratory fifteen hours a week. Second semester. Professor C. H. Anderson.*

202a. POWER PLANTS. *Recitations five hours a week, design fifteen hours a week. First semester. Dean Anderson, Professor O'Bannon.*

202b. POWER PLANTS. *A continuation of 202a. Recitations five hours a week, design fifteen hours a week. Second semester. Dean Anderson, Professor O'Bannon.*

203a. HEATING AND VENTILATION. *Recitations five hours a week, design twenty hours a week. First semester. Dean Anderson, Professor O'Bannon.*

203b. HEATING AND VENTILATION. *A continuation of 203a. Recitation five hours a week, design twenty hours a week. Second semester. Dean Anderson, Professor O'Bannon.*

MINING ENGINEERING

207. ADVANCED PROSPECTING. *Discussion of the modern methods of determining value, position, and extent of mineral deposits in the earth's crust. Includes study of the seismic, differential mass, and electro-magnetic methods of geophysical prospecting, in so far as they are of interest to the Mining Engineer. Prerequisite, full completion of undergraduate course in Mining or Metallurgical Engineering. Lectures two hours a week. One semester. Two credits. Assistant Professor Emrath.*

208. COAL DUST INVESTIGATIONS. *Research in investigating the factors influencing the explosibility of native coal dusts. Range of significance of laboratory scale work along these lines. Prerequisite, full completion of undergraduate course in Mining or Metallurgical Engineering. Laboratory eight hours a week for one semester. Four credits. Professor Crouse, Assistant Professor Emrath.*

209. ADVANCED MINE ENGINEERING. *An advanced course in mine surveying, mapping, and the preparation of charts for the compilation and coordination of all mine engineering data. Lectures and recitations three hours a week, laboratory eight hours a week for one se-*

mester. Seven credits. Prerequisite, full completion of undergraduate course in Mining or Metallurgical Engineering. Professor Crouse, Assistant Professor Emrath.

210. MINE ORGANIZATION AND OPERATION. A course in the fundamentals of financing, organizing, and operating mining projects, with a resume of the basic principles of mine accounting methods. Prerequisite, full completion of course in Mining or Metallurgical Engineering. *Lectures and recitations four hours a week for one semester. Four credits.* Assistant Professor Emrath.

METALLURGICAL ENGINEERING

205. HEAT TREATMENT OF METALS AND ALLOYS. This course comprises a thorough study of the constitutional diagrams, cooling curves and solid decomposition of the metals and alloys involved together with any allotropic changes that may take place and is designed to be flexible enough so that specialization may be carried out in iron and steel, in the nonferrous metals and in alloys, as the case may be. In addition methods of heat treatment will be studied together with heat treating furnaces, means of measuring high temperatures and metallographic analysis of structure. The laboratory work comprises the practical application and study of the above outlined principles. This course requires collateral reading and independent work. *Lectures and recitations two hours a week, laboratory eight hours a week for one semester. Six credits.* Prerequisite, B. S. in Metallurgical Engineering or its equivalent. Professor Crouse.

206. OIL SHALE TECHNOLOGY. The course embodies all phases of the problem of the production of oil from shales from both the technical and practical standpoints, including work in the testing of shales for oil and by-products and experimental work in the eduction of oil from shale under different conditions of temperature, pressure and steam, with allied problems. Prerequisites, Chemistry 10, Physics 3a and 3b. Would also be desirable to have some knowledge of physical and organic chemistry. *Lectures and recitations, three hours a week, laboratory twelve hours a week for one semester. Nine credits.* Professor Crouse.

207. TECHNOLOGY OF ALLOYS. This course comprises a study of the constitution of alloys in relation to their physical properties and is designed to be flexible enough so that specialization may be done in either ferrous or nonferrous alloys. The laboratory work will include the production, casting, and testing of alloys with correlation of all factors involved. This course requires collateral reading and independent work. Prerequisite, B. S. in Metallurgical Engineering or its equivalent. *Lectures and recitations two hours a week, laboratory eight hours a week for one semester.* Professor Crouse.

208. ADVANCED METALLOGRAPHY. This course is a continuation of Metallurgy 22 and includes a close study of the physical structure of metals, particularly in respect to physical properties, and also includes metallographic methods. The laboratory work is an application of the class work and includes a thorough study of the microphotographs and the interpretation of results. This course requires collateral reading and independent work. Prerequisite, B. S. in Metallurgical Engineering or its equivalent. *Lectures and recitations two hours a week, laboratory eight hours a week for one semester.* Professor Crouse.

209. ADVANCED ORE DRESSING. This course is a continuation of Metallurgy 17 and is designed to be flexible enough to permit of specialization in any one of the several branches of mechanical metallurgy. The course comprises a thorough study of the principles and practices employed in the particular branch selected. The laboratory work will include an application of the principles studied in class and various ores and methods will be used and deductions drawn. This course requires collateral reading and independent work. Prerequisite, B. S. in Metallurgical Engineering or its equivalent. *Lectures and recitations two hours a week, laboratory eight hours a week for one semester.* Professor Crouse and Assistant Professor Enrath.

210. THE TECHNOLOGY OF LOW TEMPERATURE CARBONIZATION. This course comprises the history, development and present status of the technology of the low temperature and carbonization of carbonaceous materials as distinguished from ordinary high temperature coking practice. The laboratory work covers tests on various carbon bearing substances under low temperature conditions, particular emphasis being laid on bituminous and cannel coals. Prerequisite, B. S. in Metallurgical Engineering or its equivalent. *Lectures and recitations two hours a week, laboratory eight hours a week. Six credits.* Professor Crouse.

COLLEGE OF LAW

ALVIN E. EVANS, Ph. D., J. D., Dean

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. *Three hours a week. Second semester.* Professor Chalkley.

106a-106b. CIVIL PROCEDURE 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. *Three hours a week. First and second semesters.* Mr. Ragland.

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. *Three hours a week. Second semester.* Professor Black.

161a-161b. CONSTITUTIONAL LAW I AND II. Hall'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. *Two hours a week. First and second semesters.* Professor 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. *Three hours a week. First and second semesters.* Professor Evans.

107a-107b. CRIMINAL LAW. Sayre's Cases. Nature of the crime problem, the theory of punishment, procedure, characteristics of particular crimes. *Two hours a week. First and second semesters.* Professor Moreland.

121a-121b. EQUITY I AND II. Cook's Cases, Volume I and II. Methods of enforcing and legal effects of equitable decrees, relation of common law and equity, powers of course 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 Limitations, partial performance with compensation, the Statute of Frauds,

equitable conversion, equitable servitudes, misrepresentation, mistake, hardship, plaintiff's conduct as a defense. *Three hours first semester. Two hours second semester.* Professor Moreland.

124a-124b. EVIDENCE I AND II. Hinton's Cases. Court and jury, presumptions and burden of proof, admission 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, statements of pedigree, spontaneous statements, the opinion rule, circumstantial evidence, best evidence rule, parole evidence rule. *Two hours a week. First and second semesters.* Professor 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. *Three hours a week. Second semester.* Professor 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. *One hour a week. First and second semesters.* Professor 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. *Two hours a week. First and second semesters.* Mr. Ragland.

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. *Three hours a week. First semester.* Professor Randall.

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. *Three hours a week. Second semester.* Professor Randall.

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. *Three hours a week. First semester.* Professor Moreland.

162. PROPERTY IV. Future Interests. Kale's Cases on Future Interests. Rights of entry, possibilities of reverter, reversions, remain-

ders, executory limitations, limitations to classes, powers, rule against perpetuities and illegal restraints and conditions. *Three hours a week. Second semester.* Professor 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. *Three hours a week. Second semester.* Professor Moreland.

102a-102b. TORTS I AND II. Ames and^c 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. *Two hours a week. First and second semesters.* Professor Black.

120a-120b. TRIAL PRACTICE 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. *Two hours a week. First and second semester.* Professor 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 to trust, the transfer by the cestui to trust, who are bound, liabilities of the trustee, investment of funds, termination of trusts. *Four hours a week. Second semester.* Professor 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, inventory, inheritance tax, payment of debts, legacies and distributive shares. *Three hours a week. First semester.* Professor 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. *Three hours a week. First semester.* Professor 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. *Two hours a week. Second semester.* Professor Moreland.

146. BANKRUPTCY. Holdbrook 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. *Two hours a week. Summer session.* Professor Roberts.

154. DAMAGES. Beale's Cases. Nature of damages, avoidable consequences, counsel fees, certainty, compensation, damages for nonpecuniary injuries, pain, inconvenience, mental suffering, aggravation value, interest, special rules in certain actions, damages for death, eminent domain. *Two hours credit. (Summer session.)* Professor Chalkley.

148. DOMESTIC RELATIONS. McCurdy's Cases. Marriage and divorce, property interests of husband and wife, mutual obligations of the spouses, parent and child. *Three hours a week. Second semester.* Professor Chalkley.

145. INSURANCE. Woodruff's Cases. Insurable interests, the contract, concealment, representations and warranties, implied conditions, waiver and estoppel, constructions. *Two hours a week. Second semester.* Professor Roberts.

140. INTERNATIONAL LAW. Evans' Cases. Sources, international persons, jurisdiction and state sovereignty, diplomatic representatives, belligerency, prize law, blockade, neutrality. *Two hours a week. Second Semester.* Professor McVey.

143. MORTGAGES. Campbell's Cases. Elements of the mortgage, equitable mortgages, redemption, foreclosure, statutory redemption, foreclosure, statutory redemption after sale, accounting, discharge, priorities, assignment and marshalling. *Two hours a week. Second semester.* Mr. Ragland.

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. *Two hours a week. First semester.* Professor Black.

152. OIL AND GAS. Klup'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. *Two hours credit. Summer session.* Professor Roberts.

141. PARTNERSHIP. Crane and Magruder's Cases. Elements, formalities of organization, powers of partners, partnership obligations,

duties, insolvency and bankruptcy, dissolution, accounting, estoppel. *Three hours a week. First semester. Professor Chalkley.*

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. *Three hours a week. Second semester. Professor Roberts.*

147. QUASI-CONTRACTS. Thurston's Cases. Nature of quasi-contract, benefits conferred by mistake, benefits conferred where further performance is impossible or contract is illegal or unenforceable, benefits conferred without contract or under compulsion. *Two hours a week. First semester. Professor Chalkley.*

151. SURETYSHIP. Ame's Cases. Nature of suretyship, Statute of Frauds, surety's defenses, subrogation, indemnity, contribution and exoneration, creditor's right to surety's remedies. *Two hours a week. First semester. Professor Roberts.*

153. TAXATION. Casebook to be selected. Jurisdiction, public purpose, classification, exemptions, taxation of governmental agencies, direct and indirect taxes. *Three hours a week. First semester. Professor 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. *One hour a week. Second semester. Professor Moreland.*

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. *Two hours a week. First semester. Professor Moreland.*

GRADUATE STUDENTS

FELLOWS

J. L. Miller	Brooksville
William E. Spicer	Danville, Va.
William K. Smith	Louisville
James W. Singer	Georgetown
Roy O. Owsley	Bowling Green

SCHOLARS

Robert Spicer	Lexington
William L. Maschmeier	Paducah
Cyrus A. Poole	Lexington
Thomas D. Clark	Oxford, Miss.
R. Smith Park	Richmond
Margaret B. Tandy	Murray
Samuel F. Shawhan	Georgetown
Virginia Robinson	Lexington
David P. Morris	Buechel

OFFICERS OF GRADUATE CLUB

PRESIDENT

R. Smith Park	Richmond
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VICE PRESIDENT

George V. Moore	Lexington
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SECRETARY

Emily Ford	Georgetown
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REGISTER OF GRADUATE STUDENTS 1928-1929

Name	Major	Address
Aaron, W. G.	Education	Russell Springs
Alexander, Irene	Education	Paris
Allen, Harry R.	Chemistry	Lexington
Allison, E. E.	Education	Minerva
Allison, Nathan B.	Mathematics	Columbia
Alton, Helen F.	Psychology	Lexington
Armistead, Wm. C.	Engineering	LaCrosse, Wis.
Arnold, Coleman	English	Paint Lick
Asher, E. J.	Psychology	Lexington
Atkins, Louise	Political Science	Versailles
Atkins, Mary Elizabeth	Hygiene	Louisville
Babb, Harvey A.	Education	Mt. Sterling
Bablitz, A. A., Jr.	Engineering	Brooklyn, N. Y.
Bacon, J. R.	Education	Owensboro
Bailey, Joseph H.	Engineering	Chicago, Ill.
Bailey, Virgil C.	Education	Parkersburg, W. Va.
Baldree, W. H.	Education	Melber
Barret, Mary	Education	Lexington
Barrow, Kate T.	Home Economics	Winchester
Beck, J. E.	Education	Henderson
Beebe, Morris Wilson	Metallurgy	Lexington
Bell, Ella	Education	Hartford
Bell, George A.	Romance Languages	Lexington
Belt, Rupert A.	Education	Tolar
Bishop, Maryleona	French	Murray
Black, Margaret	Art	Harrodsburg
Black, Robert, Jr.	Physics	Lexington
Bogard, Frank	Engineering	Ruston, La.
Boling, James P.	Education	Danville
Boling, Martha F.	Education	Danville
Bondurant, John H.	Agriculture	Hardin
Bonham, Mary J.	Botany	Evansville, Ind.
Borders, W. C.	Education	Flemingsburg
Borders, Mrs. W. C.	Education	Flemingsburg
Borman, Eugene K.	Bacteriology	New Brunswick, N. J.
Boswell, James M.	Mathematics	Cynthiana
Bowen, James Wm.	Education	Carlisle
Boynton, Juanita C.	Psychology	Lexington
Branaman, Doris	Education	Lexington
Brauer, Alfred		Lexington
Brewer, Grace B.	Mathematics	Lexington
Brooks, David	Education	Parksville

Name	Major	Address
Brown, Charles S.	Education	Caneyville
Brown, Marion C.	Mathematics	Lexington
Brumback, Hattie M.	Ancient Languages	Erlanger
Bruner, Jacob Franklin	Education	Whitesville
Bryant, G. Orman	Education	Richmond
Bryant, Thomas R.	Farm Economics	Lexington
Burdeshaw, Rhoda A.	Education	Dothan, Ala.
Burnes, Valeria C.	English	Van Arsdell
Burnette, H. C.	Education	Nicholasville
Burrows, Justus G.	Chemistry	Stamping Ground
Butler, Ellen V.	German	Lexington
Calkins, Hugh S.	Education	Lexington
Cammack, James W., Jr.	Education	Owenton
Campbell, Elizabeth R.	Home Economics	Myers
Canaday, Emmett J.	Mathematics	Lexington
Canon, C. T.	Education	Russellville
Card, Dana G.	Agriculture	Lexington
Carpenter, D. B.	Education	Burlington
Carpenter, Katie D.	Education	Harrodsburg
Carroll, Sarah G.	Mathematics	Cynthiana
Carter, Carroll S.	Engineering	Domino
Cartwell, Richard B.	Education	Maysville
Case, William Loren	Education	Springfield
Cassity, Glover W.	Education	Georgetown
Caulkins, Bruce D.	Physics	Hillsdale, Mich.
Cawood, Nancy M.	English	Winchester
Chambers, W. W.	Mathematics	Lexington
Chavis, Alexander	Education	Jefferson City, Tenn.
Chen, Keh-Ching	Psychology	Kuchowfu, China
Christian, V. L.	Education	Horse Cave
Clark, Thomas D.	History	Louisville, Miss.
Clay, Elizabeth S.	Philosophy	Lexington
Clay, William M.	Plant Pathology	Myers
Cleveland, Forrest F.	Chemistry	Lexington
Clifford, Carolyn J.	French	Hardburly
Clifton, Louis	Education	Lexington
Cloyd, Mrs. Louise T.	Home Economics	Lexington
Clutter, Minnie F.	Education	Waynesburg, Pa.
Cogar, James L.	History	Midway
Coleman, Elise E.	Commerce	Stanford
Coleman, John W., Jr.	Engineering	Lexington
Coleman, Levi O.	Engineering	Louisville
Connell, Helen L.	German	Paris
Connor, Anna Louise	Education	Lexington

Name	Major	Address
Conroy, Katherine F.	Education	Mt. Sterling
Coop, Jesse James	Physics	Peytonsburg
Cooper, John R.	Education	Providence
Cooper, Mary Hester	Mathematics	Lexington
Cox, John K.	Education	Burgin
Cox, L. B.	Education	Spurlington
Cracraft, Edna E.	Education	Georgetown
Crick, H. W.	Education	White Plains
Crowe, Robert Scott	History	Lexington
Cruickshank, Grace A.	Political Science	Lexington
Curry, B. L.	English	Bowling Green
Curry, L. C.	History	Bowling Green
Curry, Daniel P.	Education	Cave City
Dabney, Mrs. O. B.	Education	Lexington
Dagley, Eva	Art	Lexington
Darnaby, Ernest	Education	Mt. Sterling
Davidson, Thomas C.	Education	Jackson
Davis, E. C., Jr.	History	Cave City
Davis, Grace A.		Lexington
Davis, H. Haldean	English	Sturgis
Davis, Pearl V.	Education	Lexington
Day, Clarice A.	Education	Lexington
Denney, Sam J.	English	Lexington
Dennis, Wm. L.	French	Georgetown
Devary, Evyline	English	Winchester
Dingus, Mrs. Wm.	Education	Austin, Tex.
Dixon, Jack D.	Education	Clinton
Dodd, Anna	English	Lexington
Dotson, John Andrew	Education	Benham
Dotson, John Henry	Bacteriology	Maysville
Douthitt, Slayden W.	English	Farmington
Duncan, Henry T.	Law	Lexington
Dunn, D. Y.	Education	Dexter
Dunne, Catherine H.	Romance Languages	Lexington
Easley, Willie K.	Education	Stamping Ground
Ebbert, Sprigg C.	Engineering	Birmingham, Ala.
Elam, James A.	Education	Lexington
Elkins, Mrs. Maida W.	English	Lexington
Ellis, Justus L.	Education	Almo
Ely, Dikka H.	Art	Lexington
Engle, Fred A.	Education	Richmond
Ennis, James M.	History	Paris
Ensminger, William W.	Education	Harrodsburg
Evans, Douglas V.	Education	Lynchburg, Va.

Address	Name	Major	Address
Mt. Sterling	Ewan, Mrs. Julia R.	Education	Lexington
Peytonsburg	Ewen, Florian Cox	Education	Bethel
Providence	Farmer, J. Lucille	French	Murray
Lexington	Fields, Davis S.	Political Science	Grayson
Burgh	Fields, Essie L.	English	Brooksville
Spurlington	Finn, Bernice K.	Home Economics	Anita, Iowa
Georgetown	Fisher, Glennie B.	Education	Carlisle
White Plains	Fisher, Helen Virginia	French	Steubenville, Ohio
Lexington	Fithian, George W.	English	Paris
Lexington	Fluty, Maude	Education	Shelbyville
Bowling Green	Ford, Edith	Education	Richmond
Bowling Green	Ford, Emily E.	History	Georgetown
Cave City	Ford, Thomas H.	Education	W. Louisville
Lexington	Fossit, Flavius J., Jr.	Education	Foster
Lexington	Foster, Nettie Belle		Lexington
Mt. Sterling	Fouch, Thomas Edgar	Education	Covington
Jackson	Fowler, Frank C.	English	Lexington
Cave City	Fraas, Willie Ann	Education	Lexington
Lexington	Franklin, Mary K.	History	Waddy
Sturgis	French, Irene	Education	Owensboro
Lexington	Frye, Garnett M.	Anatomy and Physiology	Lexington
Lexington	Gabbard, James L.	Chemistry	Lexington
Lexington	Gabbard, Thomas F.	Political Science	Stanton
Georgetown	Gaffin, Otho Rogers	Animal Husbandry	Mackville
Winchester	Galloway, Mrs. W. F.	Latin	Lexington
Austin, Tex.	Galliher, Lecom	Botany	Lexington
Clinton	Galloway, O. F.	Education	Lexington
Lexington	Galloway, Z. L.	Commerce	Utica
Benham	Gard, Paul D.	Education	Louisville
Maysville	Garnett, Wayne W.	Mathematics	Hillsboro
Farmington	Garrett, Paul L.	Education	Versailles
Lexington	Gibson, Ernest Willis	Commerce	Ceredo, W. Va.
Dexter	Givens, James W.	Physics	Beckley, W. Va.
Lexington	Glasgow, A. W.	Education	Vanceburg
Stamping Ground	Glenn, Marvin	English	Calhoun
Birmingham, Ala.	Gonferman, Wm. Lee	Zoology	Crafton
Lexington	Gotherman, Edward E.	Education	Lexington
Lexington	Gotherman, Jessie F.	Education	Lexington
Almo	Grable, Mrs. Joe C.	Education	Gordonsville
Lexington	Graddy, Juan C.	Agriculture	Lexington
Richmond	Graham, Ross	Education	Columbus
Paris	Gray, Harry B.	Education	Briston
Harrodsburg	Greene, Elma R.	English	Lexington
Lynchburg, Va.	Green, Todd	Commerce	Carrollton

Name	Major	Address
Greer, Mary E.	Commerce	Lexington
Gregory, Grover K.	Education	Hardinsburg
Griffin, Hallie K.	Home Economics	Henderson
Groves, Howard H.	Education	Lexington
Grubert, Anna M.	Education	Westfield, Mass.
Hackney, Paul A.	Education	Frenchburg
Hall, Joe K.	Political Science	Springfield
Hammack, David W.	Education	Paint Lick
Hancock, Lois	History	Lexington
Harbold, Lucile Lee	Political Science	Lexington
Hardesty, Llewellyn C.	Engineering	Scotia, N. Y.
Harding, Kenneth H.	Education	Lexington
Harding, Mary Frances	Romance Language	Winchester
Hare, Lucile B.	Education	Nicholasville
Harlowe, Julian C.	Education	Prestonsburg
Harp, Laura L.	Education	Lexington
Harris, Marshall D.	Agriculture	Science Hill
Harris, William J.	Agriculture	Lexington
Harris, William T.	Education	Warsaw
Harrison, Robert A.	Education	Lexington
Hart, M. C.	Education	Nicholasville
Hatfield, Forrest	English	Morgantown, W. Va.
Haven, Seth E.	Psychology	Lexington
Hearin, Marshall E.	Education	Boxville
Heavrin, Gertrude	Education	West Palm Beach, Fla.
Heird, James B.	Sociology	Versailles
Hendrick, Harry E.	Education	Smiths Grove
Henry, Nellye P.	Education	Versailles
Hervey, Henry J.	Education	Wilmore
Hester, Francis	Education	Wilmore
Hieronymus, George H.	Education	St. Helens
Higgins, Herbert T.	Education	Pulaski
Hilliard, David Moss	Chemistry	Memphis, Tenn.
Hinson, Ellery	Education	Frankfort
Holland, John W.	Agriculture	Winchester
Holloway, James B.	Education	Frankfort
Holtzclaw, James B.	Education	Stanford
Hood, F. W.	Education	Sadleville
Hooks, Bessie	English	Mosgrove, Pa.
Hooks, Mrs. Nall T.	History	Eddyville
Hopkins, Porter H.	Education	Somerset
Houston, Hugh L.	Zoology	Murray
Howton, Ernest A.	Education	Bansana
Hubbard, D. B.	Education	Covington

Address	Name	Major	Address
Lexington	Huber, Elmer L.	Education	Maysville
Hardinsburg	Huddle, O. E.	Education	Georgetown
Henderson	Huddleson, Beth	Political Science	Fulton
Lexington	Hukle, Roy Miller	Engineering	Kenmore, N. Y.
Westfield, Mass.	Hulse, Anna M.	Ancient Language	Winchester
Frenchburg	Hunt, Mary L.	Education	Lexington
Springfield	Hunt, Russell A.	Education	Nicholasville
Paint Lick	Hurt, Lester E.	Education	Bremen
Lexington	Hutchcraft, Helen	Political Science	Paris
Lexington	Hutchinson, James D.	Mathematics	Urbana, Ill.
Scotia, N. Y.	Ingles, Sue R.	English	Millersburg
Lexington	Inman, B. T.	Education	Benton
Winchester	Irwin, Francis M.	Education	Paducah
Nicholasville	Jasper, Mary K.	Sociology	Richmond
Prestonsburg	Johnson, Lena O.	Education	Lexington
Lexington	Jones, Fairy	Art	Richmond
Science Hill	Jones, John S.	Education	Bonty
Lexington	Jones, Mary Joe	Education	Lexington
Warsaw	Jones, Warren F.	Education	Campbellsville
Lexington	Judy, Edmund L.	Psychology	Lexington
Nicholasville	Juergensmeyer, Charles W.	Education	Warrenton
Organtown, W. Va.	Kefauver, William G.	Engineering	Cincinnati, Ohio
Lexington	Keffer, J. L.	Chemistry	Ashland
Boxville	Keller, Wayne H.	Chemistry	Lexington
st Palm Beach, Fla.	Kemper, D. C.	Education	Georgetown
Versailles	Kendoll, George G.	Education	Smiths Grove
Smiths Grove	Kerr, Willie B.	History	Edmonton
Versailles	Kidwell, Ben F.	Education	Russell
Wilmore	Kilpatrick, Elmer J.	Agriculture	Lexington
Wilmore	King, Mary Sue	Education	Falkville, Ala.
St. Helens	Kingsley, George R.	Chemistry	Greenville, Tenn.
Pulaski	Kintner, Otis C.	Education	Wilmore
Memphis, Tenn.	Kirkendall, C. L.	Education	Jenkintown, Pa.
Frankfort	Knight, Roy T.	Education	Paris
Winchester	Lair, Jesse Lee	Education	Hustonville
Frankfort	Lampert, Marcia E.	Education	Lexington
Stanford	Larson, Arthur H.	Education	Cookston, Minn.
Sadlerville	Lawrence, Armon J.	Education	Richmond
Mosgrove, Pa.	Lee, Ata L.	Education	Somerset
Eddyville	Leger, Joy Edd	Education	Prospect
Somerset	Lewis, Jesse K.	Education	Grayson
Murray	Lewis, Junius	Education	Hardin
Banana	Lewis, Marguerite S.	German	Lexington
Covington	Link, H. F.	Agricultural Econ.	Lexington

Name	Major	Address
Lloyd, Edith M.	Education	Kanawha, W. Va.
Loudenslager, Ellen	Ancient Language	Wilmore
Loudenslager, R. L.	Sociology	Wilmore
Louthan, Ross O.	Education	Shephardsville, W. Va.
Lowance, Franklin E.	Physics	Roanoke, Va.
Lutkemeier, Carolyn	Home Economics	Frankfort
McChesney, Harry V.	Law	Frankfort
McClaskey, Addah B.	English	Bloomfield
McCollum, Emma E.	Political Science	Paris
McDaniel, Minerva P.	English	Cynthiana
McDowell, G. W.	Mathematics	Waynesville, N. C.
McInteer, Maude	Education	Lexington
McKeon, Catherine P.	Education	Nazareth
McKinney, Jane	Political Science	Chilesburg
McLaughlin, Marguerite	Political Science	Lexington
Mackey, Flora B.	Education	Williamsburg
Maggard, French A.	Education	Hindman
Mainhart, Donald T.	Education	Richmond
Maney, Charles A.	Education	Lexington
Mansfield, William	Economics	Stanton
Marshall, William F.	Engineering	Greendale
Martin, Mary F.	History	Fulton
Maschmeyer, W. L.	Metallurgy	Paducah
Mathews, Ruth E.	English	Lexington
Maupin, Carey J.	Agriculture	Lexington
May, L. H.	Agriculture	Georgetown
Maynard, Fred	Education	Greene
Meadar, Arthur L.	Bacteriology	Lexington
Melton, Frank G.	Animal Husbandry	Kevil
Mercer, Forrest G.	Education	Owensboro
Meredith, Miles W.	Animal Industry	Paducah
Meuth, Beulah M.	Home Economics	Henderson
Miller, Ernest R.	Education	Waterloo, Ohio
Miller, E. M.	Education	Beverly
Miller, J. Lester	Agricultural Economics	Brooksville
Mills, Hubert H.	Education	Bowling Green
Mills, Howard H.	Education	Covington
Mills, Otto	Agriculture	Flat Lick
Milton, Mary Page	Education	Lexington
Mintz, James H.	Education	Midway
Mitchell, Anna P.	Psychology	Lexington
Mitchell, J. S.	Education	New Castle
Mock, Clifton O.	Engineering	Lexington

Address	Name	Major	Address
Kanawha, W. Va.	Mohney, Gayle	Political Science	Lexington
Wilmore	Moore, Allie Ruth	Home Economics	Richmond
Wilmore	Moore, Anderson B.	Education	Paducah
phardsville, W. Va.	Moore, George V.	Education	Campbellsburg
Roanoke, Va.	Moore, Paul K.	Education	Macksville, N. C.
Frankfort	Moore, R. Sharon	English	Butler
Frankfort	Moore, William J.	Education	Richmond
Bloomfield	Morgan, Eva Frances	English	Lexington
Paris	Morgan, John	English	Emmalena
Cynthiana	Morgan, Luther F.	Agriculture	St. Helens
Waynesville, N. C.	Morris, David P.	Agriculture	Richmond
Lexington	Morton, Samuel D.	Political Science	Owensboro
Nazareth	Moss, Mary B.	Education	Millersburg
Chilesburg	Muldrow, M. W.	Animal Industry	Little Rock, Ark.
Lexington	Murphree, John D.	English	Lexington
Williamsburg	Naff, Lucile Gay	English	Lexington
Hindman	Nagcotte, Joseph C.	Animal Industry	Mt. Sterling
Richmond	Nance, Gordon B.	Agricultural Econ.	Kevil
Lexington	Neal, John T.	Education	Georgetown
Stanton	Needy, John A.	Engineering	Ada, Ohio
Greendale	Neihoff, Edward	Agriculture	Paducah
Fulton	Neisz, Cecil	Education	Dawson Springs
Paducah	Neisz, Homer B.	Education	Lewisburg
Lexington	Nichols, Guy G.	Education	Taylorsville
Lexington	Nickel, Robert J.	Education	Morehead
Georgetown	Nickell, Clarence	Education	Hardburly
Greenup	Nickell, Robert	Education	Greenup
Lexington	Nooe, Delos	Psychology	Cynthiana
Kerit	Norton, Egbert F.	Education	Mt. Vernon
Owensboro	O'Connell, Ann Marie	Zoology	Lexington
Paducah	Ogden, Willie May	French	Slaughters
Henderson	Overby, Perry	English	Mt. Olivet
Waterloo, Ohio	Owen, Margaret E.	Education	Lexington
Beverly	Owen, John Jacob	Chemistry	Nicholasville
Brooksville	Owen, Sarah C.	Latin	Danville
Bowling Green	Owsley, Roy H.	Political Science	Sonora
Covington	Palmer, Mary A.	English	Winchester
Flat Lick	Park, Mercy W.	History	Paris
Lexington	Park, R. Smith	Mathematics	Richmond
Midway	Parker, George T.	Education	Murray
Lexington	Parsons, Noah J.	Education	Frankfort
New Castle	Patrick, Guy M.	Education	Salyersville
Lexington	Patton, George W.	Commerce	Birmingham, Ala.

Name	Major	Address
Payne, Virgil F.	Education	Lexington
Pearce, Albert	Political Science	Hiram, Ohio
Pearson, Eugene L.	Education	Richmond
Perkins, Olivia M.	History	Williamsburg
Perry, George E.	Education	Lexington
Peters, Daisy Elizabeth	English	Morehead
Petrie, Charles J.	Education	Pembroke
Phillips, Mount V.	History	Hazel Green
Phillips, Robert J.	Education	Grange City
Plummer, Eleanor H.	Romance Language	Irvine
Poole, Cyrus A.	Physics	Lexington
Prewitt, John W.	Education	Shelbyville
Proctor, Roy E.	Agricultural Education	Owenton
Propps, Thomas B.	Engineering	Wichita, Kansas
Pruitt, Elizabeth R.	Education	Millersburg
Pryse, Thomas C.	Education	Beattyville
Puckett, Herbert W.	Education	Owenton
Puntney, Albert T.	Education	Wilmore
Purdom, Christopher	Education	Mitchellsburg
Purdy, Martha P.	Education	Paris
Puterbaugh, Allen S.	Education	Arcanum, Ohio
Pyles, Henry M.	Zoology	Winchester
Qualls, Daniel W.	Education	Berry
Ramsay, Bertrand P.	Physics	Lexington
Ramsey, Dell Mack	Engineering	Hamburg, N. Y.
Record, Paul R.	Chemistry	Paintsville
Rees, Janie	English	Maysville
Richardson, F. B.	Bacteriology	Maysville
Roberts, Martin	Agriculture	Bowling Green
Roberts, N. Frances	Chemistry	Lexington
Roberts, Roland	Education	Wilmore
Roberts, V. D.	Education	
Robertson, Thelma	History	Bardstown
Robinson, Virginia L.	English	Lexington
Robinson, Mary Agnes	Hygiene	Lexington
Roettinger, Ruth L.	German	Wilmore
Rose, Edith Belle	English	Bement, Ill.
Ross, Aaron T.	Education	Red House
Ross, Marvin H.	English	Hartford
Ross, J. J., Jr.	Economics	Flemingsburg
Ross, Rebecca	Education	Flemingsburg
Rudolph, A. S.	Bacteriology	Little Cypress
Russell, Clem W.	Education	Bowling Green

Address	Name	Major	Address
Lexington	Russell, John D.	Education	Lexington
Hiram, Ohio	Russell, William F.	Education	Bloomfield
Richmond	Sageser, Ethel	Education	Wilmore
Williamsburg	Salzer, Harold A.	Education	Louisville
Lexington	Sammons, Eugene	English	Raceland
Morehead	Sams, Daisy B.	Romance Language	Georgetown
Pembroke	Sanders, Paul R.	English	Nicholasville
Hazel Green	Schneider, Ora S.		Nicholasville
Grange City	Schooler, Lucile	Education	Berea
Irvine	Scott, Caroline	Zoology	Lexington
Lexington	Scott, Ellen	History	Paris
Shelbyville	Scott, Frank D.	Education	Carlisle
Owenton	Shadoan, William P.	Education	Lexington
Wichita, Kansas	Shawhan, Sam F.	Engineering	Lexington
Millersburg	Shelton, A. M.	Commerce	Georgetown
Beattyville	Shelton, Allie	Education	Newtown
Owenton	Shelton, Mrs. W. A.	Education	Versailles
Wilmore	Shelton, W. A.	Education	Versailles
Mitchellsburg	Short, Lupie B.	Sociology	Lexington
Paris	Shultz, Leslie G.	Mathematics	Horse Branch
Arcanum, Ohio	Sibert, Martha D.	Education	Bowling Green
Winchester	Singer, James W.	Latin	Stamping Ground
Berry	Skidmore, Hugh P.	Education	Harrodsburg
Lexington	Skinner, Helen	Education	Arlington, N. J.
Hamburg, N. Y.	Skinner, T. W.	Education	Lancaster
Paintsville	Slater, Evelyn	Home Economics	Covington
Maysville	Sleet, Rebecca	English	Walton
Maysville	Smith, Cornelius C.	Chemistry	Winchester
Bowling Green	Smith, Ina Kay	Education	Lexington
Lexington	Smith, Jean L.	Commerce	Lexington
Wilmore	Smith, John Willis	Education	West Liberty
	Smith, Robert R.	Engineering	Chicago, Ill.
Bardstown	Smith, Mrs. Meredith	Education	Lexington
Lexington	Smith, Roy G.	Education	Winchester
Lexington	Smith, Virginia P.	Education	Versailles
Wilmore	Smith, Wallace	Mathematics	Bowling Green
Bement, Ill.	Smith, William K.	Metallurgy	Louisville
Red House	Smoot, Ellen M.	History	Owenton
Hartford	Snapp, Carlos V.	Education	Van Lear
Flemingsburg	Snider, Artie L.	Education	Lexington
Flemingsburg	Sommerlad, Roy	Education	Berea
Little Cypress	Soper, Oma S.	English	Russell
Bowling Green	Speak, Ida N.	Education	Boxville

Name	Major	Address
Spears, John D.	Agriculture	Morgantown
Spears, Howell D.	Chemistry	Lexington
Spencer, Ella Stone	French	Winchester
Spicer, R. W.	Engineering	Lexington
Spicer, William E.	Chemistry	Danville, Va.
Spillman, Claude O.	Education	Stanford
Stamatoff, Gelu S.	Chemistry	Lexington
Stamler, Jennie L.	Home Economics	Lexington
Steele, Annetta	English	Winchester
Stellar, Mary L.	Home Economics	Louisville
Stephens, Mary	Education	Morning View
Stewart, Jesse J.	Commerce	Bowling Green
Stone, Guy A.	Physics	Lexington
Stone, Sarah	English	Bloomfield
Streyffeler, D. O.	Mathematics	Lexington
Strother, J. Park	Education	Blue Diamond
Sturgill, Virgil L.	Education	Ashland
Suiter, William O.	Agriculture	Lexington
Sweeney, James H.	Education	Mackville
Talbert, Nancy E.	English	Carlisle
Tandy, Margaret	English	Murray
Tartar, Add	Education	Russell Springs
Taylor, Annasteele	French	Nicholasville
Taylor, Eva	English	Somerset
Taylor, J. Milburn	Education	London
Taylor, Lewis N.	Education	Lexington
Terrass, Milford E.	Commerce	Akron, Ohio
Terrill, Ethel	English	Berea
Thomas, Ellen B.	Mathematics	Georgetown
Thomas, Cecil H.	History	Lawrenceburg
Thompson, Cecil A.	Agriculture	Sedalia
Thorne, Sarah L.	Bacteriology	Lexington
Thorne, Sarah T.	Chemistry	Lexington
Threlkeld, Ernest J.	Education	Marion
Threlkeld, Hilda	Psychology	Maysville
Tilton, Jesse Lee	Political Science	Lexington
Todd, Jarvis	Physics	Wareland, Ind.
Townsend, Arlie L.	Education	Lebanon
Traylor, E. G.	Education	Georgetown
Traylor, Louis B.	Mathematics	Hazard
Triplett, Ishmael	Political Science	Lackey
Tucker, Harry B.	Anatomy and Physiology	Lexington
Tucker, Verna W.	Education	La Grange
Van Horne, Edward C.	Engineering	Detroit, Mich.

Address	Name	Major	Address
Morgantown	Vaughn, Erasmus	Psychology	Stinnett
Lexington	Vaughn, Morris B.	Education	Henderson
Winchester	Vaughan, William O.	Chemistry	Mayfield
Lexington	Vincent, Clyde E.	Education	Graham
Danville, Va.	Wagers, Lawrence	Hygiene	Manchester
Stanford	Wallis, Elizabeth W.	Education	Lexington
Lexington	Waltman, C. S.	Agronomy	Lexington
Lexington	Walton, Hattie M.	History	Lexington
Winchester	Ware, William T.	Education	Morganfield
Louisville	Warner, Hattie C.	Commerce	Nicholasville
Morning View	Warren, C. O.	Education	Ewing
Bowling Green	Warren, W. A.	Education	Lynn Grove
Lexington	Watson, Barney L.	Zoology	Georgetown
Bloomfield	Watts, Cleone M.	Education	Nicholasville
Lexington	Watts, Wilson W.	Law	Nicholasville
Blue Diamond	Weissinger, Elizabeth	Chemistry	Danville
Ashland	Welch, J. Dewey	Engineering	Paintsville
Lexington	Wells, Lincoln J.	Education	Yosemite
Mackville	Wells, Mrs. Pearl	Commerce	Lexington
Carlisle	Wesley, H. M.	Education	Sonora
Murray	Wesley, W. M.	Education	Burgin
Russell Springs	West, Mary Lucile	Education	Walton
Nicholasville	Westfield, Y. D., Jr.	Education	Wilmore
Somerset	Whalin, E. B.	Education	Corinth
London	Wiley, Bell Irvin	Education	Halls, Tenn.
Lexington	Wiley, Patrick H.	History	Halls, Tenn.
Akron, Ohio	Wiley, Patrick Henry	History	Wilmore
Berea	Wiley, Robert F.	Education	Halls, Tenn.
Georgetown	Wilking, Amy Ringo	Education	Lexington
Lawrenceburg	Wilkinson, W. V.	Education	Maysville, N. C.
Sedalia	Willis, Robert G.	Education	Madisonville
Lexington	Williams, John D.	Education	Falmouth
Lexington	Williams, Ella G.	Botany	Lexington
Marion	Williams, W. L., Jr.	Bacteriology	Henderson
Maysville	Wilson, Ella B.	Education	Lexington
Lexington	Wilson, Homer	Education	Lexington
Wareland, Ind.	Wilson, Lucile G.	Education	Lexington
Lebanon	Wilson, Mary E.	Education	Lexington
Georgetown	Wilson, Nancy M.	Latin and Greek	Lexington
Hazard	Wilson, Theda Brown	French and German	Wagersville
Lackey	Wilson, Thomas B.	Political Science	Endee
Lexington	Winkler, Eugene N.	Engineering	Birmingham, Ala.
La Grange	Wood, Charles F.	Engineering	Williamsburg
Detroit, Mich.	Wood, Mary I.	History	Pleasureville

Name	Major	Address
Woodward, Christine	Education	Helmo Station
Worten, Emma Lou	English	Smithland
Wright, W. Theo	Commerce	Louisville
Yates, James A.	Education	Lexington
Zopff, William M.	Geology	Louisville