

BULLETIN  
OF THE  
STATE UNIVERSITY OF KENTUCKY

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Number 2

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SUMMER SESSION  
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1911

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STATE UNIVERSITY OF KENTUCKY, LEXINGTON, KY.

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## GENERAL INFORMATION

THE STATE UNIVERSITY OF KENTUCKY offers this summer for the first time in its history a regularly organized SUMMER SESSION under the management of the University authorities. Courses of instruction will be given in all the departments of the University and credit will be allowed on the basis of work done at the regular sessions of the University.

LENGTH OF TERM.—The summer term will begin Tuesday, June 6th, and continue for eight weeks. A full corps of teachers will be employed to conduct the work.

ADMISSION.—There are no formal requirements for admission to the Summer Session and its courses are open to all students qualified to pursue them to advantage. If college credit toward a degree is desired, the student must first meet the usual entrance requirements.

COURSES.—In most of the departments courses are offered which are equivalent to those given during the regular terms of the University. Many students of this and other universities and colleges can take advantage of these courses so as to shorten materially the time necessary for graduation.

SPECIAL AND TECHNICAL COURSES.—In addition to the regular work, there are many courses which are of interest to the instructors in colleges and high schools, superintendents and principals, teachers, engineers and lawyers. A number of courses for college entrance are also offered for students whose preparation for the University work is slightly deficient.

CREDIT CERTIFICATES.—Students will, upon request, receive certificates of proficiency for all work satisfactorily performed.

REGISTRATION.—Students upon arrival at the University will report at the Registrar's office and be enrolled.

<sup>High School</sup>  
FEES.—Teachers in Kentucky Schools, Principals, and Superintendents will be charged no fee whatever for the Summer Session. All other students will be required to pay a fee of \$10.00. A certificate showing that this fee has been paid will admit the student to any courses which he may desire to take in the University. No student will be allowed, however, to carry more work than he can satisfactorily complete within the eight weeks.

BOARDING AND LODGING.—Patterson Hall, one of the handsomest and best appointed ladies' dormitories in the South, will be open to young women for the summer term. Furnished rooms, lights, bath, and meals cost \$3.00 per week. Students must furnish their bed linen and towels.

Young men may occupy either of the dormitories upon the campus for the sum of \$1.00 per month, this to include the use of the room, furniture, lights, and janitor service. The use of bed clothing can be ob-

tained during the time for a nominal sum. Meals may be had in the vicinity of the University at prices ranging from \$2.00 to \$3.50 per week.

**LIBRARY.**—The Carnegie Library, located upon the campus, will be open during the summer term for the use of students. An excellent opportunity will be given for the enjoyment of all library privileges. Students will also have access to the large City Library, which is in easy reach of the University.

**ASTRONOMICAL OBSERVATION.**—A small observatory is located upon the campus and may be used by the students under the direction of the professor in charge of observation work.

**MUSEUM.**—The State Museum has been placed in charge of the University for instructional purposes and contains extensive collections in Natural History, Mineralogy, etc.

**SPECIAL LECTURES.**—Arrangements will be made for the delivery of a number of special lectures on subjects pertaining to the University work and also by prominent speakers upon topics of general interest.

**EXCURSIONS.**—A number of excursions will be given during the term for the benefit of the students to enable them to see the points of interest in this section of the State.

**SUMMER EMPLOYMENT.**—Students who apply early will be enabled to secure employment during the summer that will enable them to pay a large part of their expenses.

**SPECIAL ATTRACTION.**—Lexington, the "Belle of the Bluegrass," the seat of the University, is located with ample railroad facilities and is accessible from all directions. It is surrounded by beautiful country and the most attractive and largest stock farms in the world.

The University campus contains 52 acres, occupying the highest point around Lexington. It is covered by beautiful shade trees and attractive shrubbery, and has upon it 14 large buildings. It is, in fact, an ideal place to spend the summer in study.

For further information address the Registrar.

## COLLEGE OF ARTS AND SCIENCE

*Arthur M. Miller, Dean.*

### 1 ✓ ENGLISH

*Professor Mackenzie.*

- I. Rhetoric and Composition.
- II. Modern English Drama.
- III. The English Romantic Movement, or Study of Tennyson and Browning.
- IV. Chaucer and other Medieval Writers.
- V. Comparative Literature.
- VI. Anglo-Saxon for beginners or advanced students.
- VII. English Language.
- VIII. Teachers' Course in English for Secondary Schools.

The University Library affords ample opportunity for collateral reading.

### 2 ✓ HISTORY

The study of history is fundamental in any plan which seeks to develop broad and liberal culture. The entire field, however, commonly called general history, is too large for satisfactory treatment in a summer session. Consequently, the University offers more detailed study of selected periods which may prove useful to both students and teachers. The library offers reading facilities to all who may take advantage of its collections, maps and periodicals.

PREPARATORY COURSES.—To assist in meeting entrance requirements, two courses will be offered: American history, based on Montgomery's *Leading Facts of American History*. Daily recitations. This will be supplemented by a course in Government, based on James and Sanford, or on Fiske. These two courses taken together will give one unit of credit.

COLLEGE AND ADVANCE COURSES.—Oriental History, corresponding to the first half of History I, taking up the ancient civilizations of Egypt, Assyria, Babylonia, India, China, Persia, Crete, and Troy. Texts, West and Seignobos. Map work and required reading at the option of the instructor.

Classical History, corresponding to the second half of History I, a course in the history and culture of Greece and Rome, with emphasis on the Roman Empire and the rise of Christianity. Texts as above, with similar requirements. Both courses may be taken by permission.

The Nineteenth Century, a course for advanced students and teachers. Required readings and class papers. Credit, three hours for the half year.

3 ✓  
**GREEK***Professor Glanville Terrell.\**

The courses in Greek will be adapted to the needs of students who desire work in Greek. Those students who have had one year of the Anabasis might read the remaining three works during the summer term, and enter the Freshman class the following year.

4 ✓  
**LATIN***Professor T. T. Jones.*

The first three courses outlined below are intended mainly for teachers. Lectures will be given on the methods of teaching Latin, the course of study in the High School, equipment, etc.

Courses IV and V are identical with the work prescribed in our regular catalogue for the Freshman and Sophomore years. A well prepared student may take the first or second half of either of these courses during the Summer.

I. Latin Poetry: Virgil (Selections from the Aeneid and from the Georgics); Ovid (Selections); Catullus (Selections).

An effort will be made to give the student an intelligent appreciation of the literary merits of the authors. Scanning, mythology, and historical setting will receive special attention. Required reading from such books as Sellar's Poets of the Augustan Age; Comparetti's Virgil in the Middle Ages; Fairbanks' Mythology.

II. Cicero (De Amicitia; Selected Letters).

Special attention will be given to Cicero's career and to the public and private life of his time. If time will permit we shall also read the Fourteenth Philippic. Extensive reading will be assigned in the following books: Cicero and His Friends—Boissier; Roman Life in the Days of Cicero—Church; Forsythe's Life of Cicero.

III. Latin Prose Composition.

A review of declensions, conjugations, and the rules of Syntax. Particular attention will be given to the subjunctive, and conditional sentences.

IV. Livy (Book I); Horace (Odes).

V. Tacitus (Annals—Books I and II); Terence (Phormio); Pliny (Selected Letters).

For a description of the work done in Courses IV and V. consult our regular University catalogue under the heading "Department of Latin."

5 ✓  
**MODERN LANGUAGE***C. R. Melcher, Associate Professor of French and German.*

The courses offered in Modern Languages will be arranged to suit the wants of three classes of students, viz: of beginners; of those who

\*This work will be in charge of Prof. Jones.

already have a grammatical knowledge of the languages, and of those who desire advanced work. The selection of the work and the method of instruction will be adapted particularly to the needs of the High School teachers.

56 ✓ GERMAN.

FIRST COURSE.—Bierwirth's Beginning Grammar, followed by Glueck Auf, Mueller and Wenckeback, or Im Vaterland, Bacon.

SECOND COURSE.—Bierwirth's Elements of German, followed by such intermediate German as Storm's Immense; Hillern's Hoehere als die Kirche, or Eichendorff's Aus dem Leben eines Taugenichts, or equivalents.

THIRD COURSE.—The work will be selected from such standard authors as Schiller, Goethe, Lessing, etc., etc.

61 ✓ FRENCH.

FIRST COURSE.—Fraser and Squair's French Grammar, followed by light reading.

SECOND COURSE.—Selections to suit the wants of the class.

7 ✓ PHYSICS

*Professor M. L. Pence.*

I. A COURSE IN ELEMENTARY TEXT-BOOKS PHYSICS.—Required for entrance to the Freshman Class of the University.

II. A COURSE IN THEORETICAL PHYSICS.—This course is equivalent to the Freshman Engineer, or Sophomore Scientific, work in the University. It embraces Mechanics, Sound, Heat, Light, Electricity. These two courses will be fully illustrated by lectures and experiments with daily recitations.

III. AN ELEMENTARY COURSE IN THE PHYSICAL LABORATORY. Corresponding to the work of Course II above.

IV. Work is also offered in Advanced Theoretical Physics and in Advanced Physical Measurements. The special line of work will be selected by the student.

The above courses of study are offered to those who may be unable to attend the regular sessions of the University, and who may desire to prepare themselves for teaching Physics, or to do other work in Physical Science. These courses are also offered to students who wish to shorten their regular schedule of studies in the University. All persons who do any of the above work satisfactorily will receive the same credit as if the work had been done during a regular session of the University.

12 ✓ **MATHEMATICS AND ASTRONOMY**

*J. Morton Davis, Associate Professor of Mathematics.*

The courses planned are in the main identical with those offered during the regular session.

I. GEOMETRY AND ALGEBRA FOR TEACHERS.—This review course will include a brief treatment of the history and pedagogy of the subject.

II. PLANE TRIGONOMETRY.—This is readily done in one term by a well-prepared student.

III. SPHERICAL TRIGONOMETRY.—This is required for Civil Engineering students and is necessary in order to take an advanced course in Astronomy.

IV. COLLEGE ALGEBRA.—Fine's College Algebra is made the basis of this course. The subject is reviewed from the beginning and is treated in a more scientific manner than is usual. This course is of great benefit to teachers.

V. ANALYTICAL GEOMETRY.—This subject takes an entire year. Not more than half the subject can be covered by beginners in one summer. It is considered three terms' work.

VI. CALCULUS.—This is a year's work. It will be divided into three parts and a student in the Summer Session may take any part for which he is prepared. Text-book, Granville's Differential and Integral Calculus.

VII. ASTRONOMY.—The course offered will be of a somewhat elementary character. A general view of the subject will be given by text-book and lecture and by the frequent use of an 18-inch celestial globe. Class-room work will be supplemented by the identification of the principal constellations and by the use of the 8-inch refracting telescope in the observatory.

8 ✓ **ADVANCED PHYSIOLOGY**

*Dr. Joseph W. Pryor.*

A class in advanced Physiology will be organized under the supervision of the head of this department. The course will consist of lectures, demonstrations, and laboratory exercises.

The course includes instruction in Anatomy, Physiology, Histology and Hygiene as found in Martin's The Human Body, Advanced Course. The following subjects will be taken up: General Structure and Composition; Cells and Cell Growth; The Skeleton; Organs of Circulation; the Blood and Circulation of the Blood; the Organs of Digestion, Respiration, Secretion and Excretion, and the Essential Facts of Digestion, Secretion, Excretion, Absorption, Circulation, Respiration, etc.; the Nervous System and the Special Senses.

13 ~~A~~ SCHOOL OF EDUCATION

Professor J. T. C. Noe.

THE SCHOOL OF EDUCATION in the State University offers the following courses for the summer of 1911.

## I.

HISTORY OF EDUCATION.—A course of eight weeks will be given in the history of education, dealing chiefly with the rise of educational ideals and educational systems since the middle ages. Text-book, lectures, and reports. Five times a week.

## II.

PRINCIPLES OF EDUCATION.—This is a combined course of Psychology and Pedagogy. The following are some of the topics that will be discussed: Education as a factor of organic and social evolution; Heredity and education; From fundamental to accessory in education; Conditions of individual development; Recapitulation; Correlation between mind and body; Work, fatigue, and hygiene; The nature of the memory processes; Imitation in education; Educational agencies; Formal discipline. No text-book will be used in this course, which will consist of lectures, readings, and reports. Five times a week.

## 9 ✓ CHEMISTRY

Professor F. E. Tuttle.

The following courses of study will be offered by the Department of Chemistry at the 1911 session of the Summer School:

I. CHEMISTRY OF THE NON-METALLIC ELEMENTS AND THEIR COMPOUNDS. This course includes experimental lectures, conferences, and laboratory work and may be considered approximately equivalent to the work of one term in the University.

II. QUALITATIVE ANALYSIS. Laboratory work with conferences.

III. ORGANIC CHEMISTRY.—A course arranged for those who are beginning the subject.

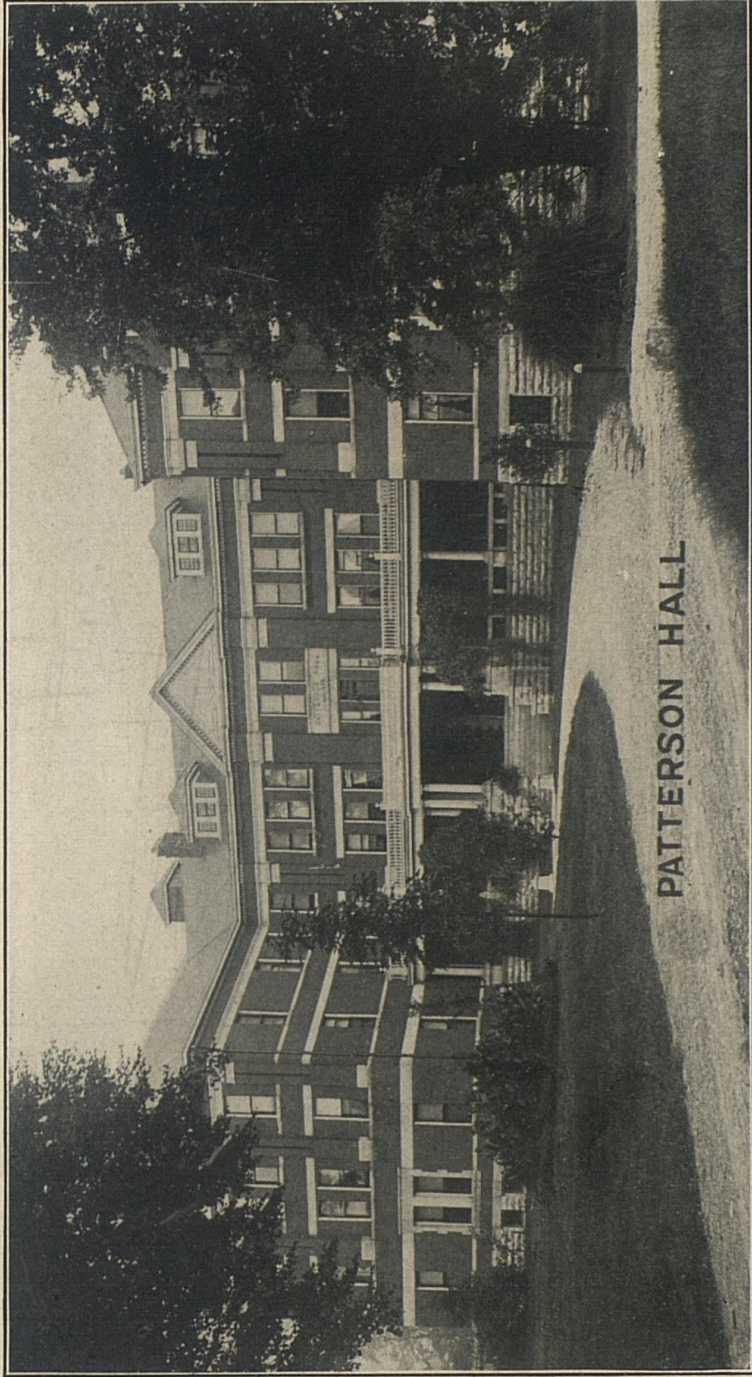
IV. QUANTITATIVE ANALYSIS.—The opportunity is given for pursuing elementary or advanced work in this subject. Students beginning work in quantitative analysis should be well grounded in general inorganic chemistry and qualitative analysis.

## 10 ✓ ZOOLOGY AND ENTOMOLOGY

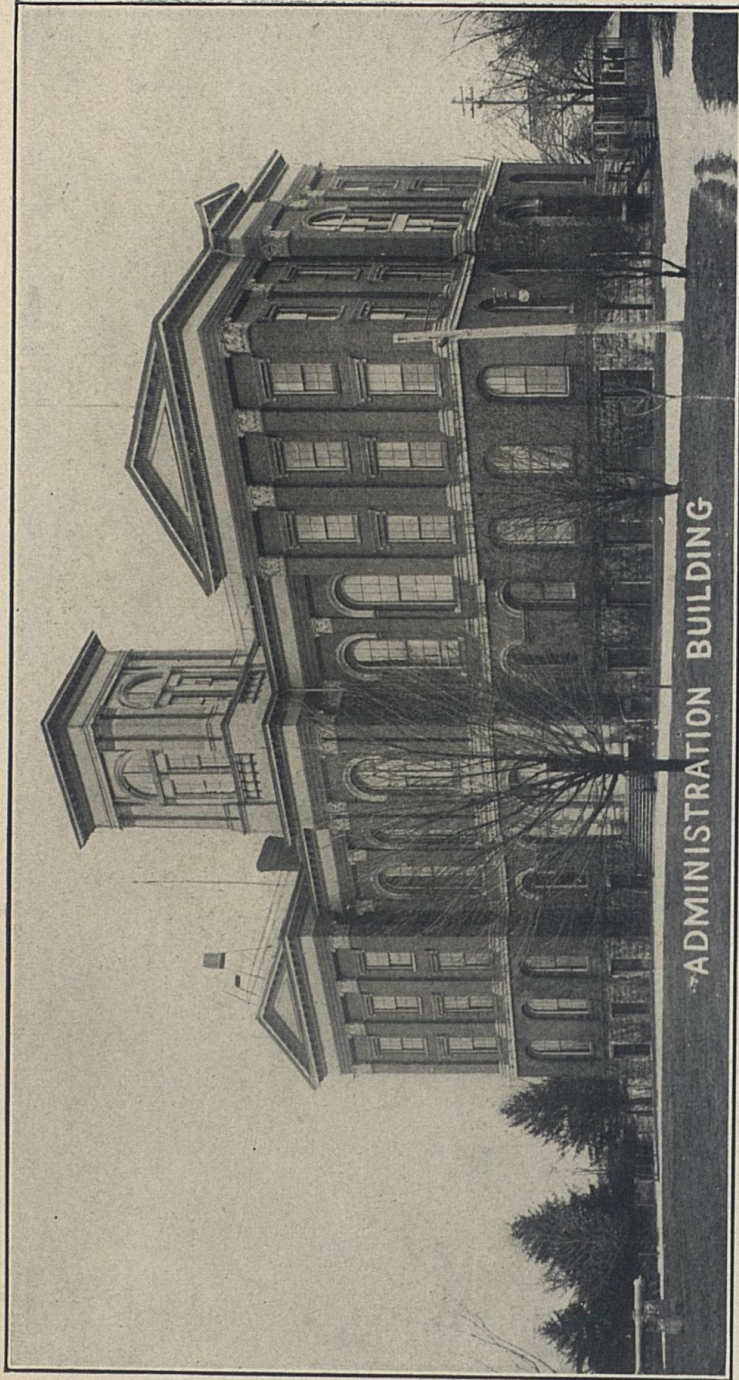
Miss S. D. McCann.

I. ZOOLOGY.—A general survey, with special reference to the structure, habits, and systematic position of the invertebrate. Some practice

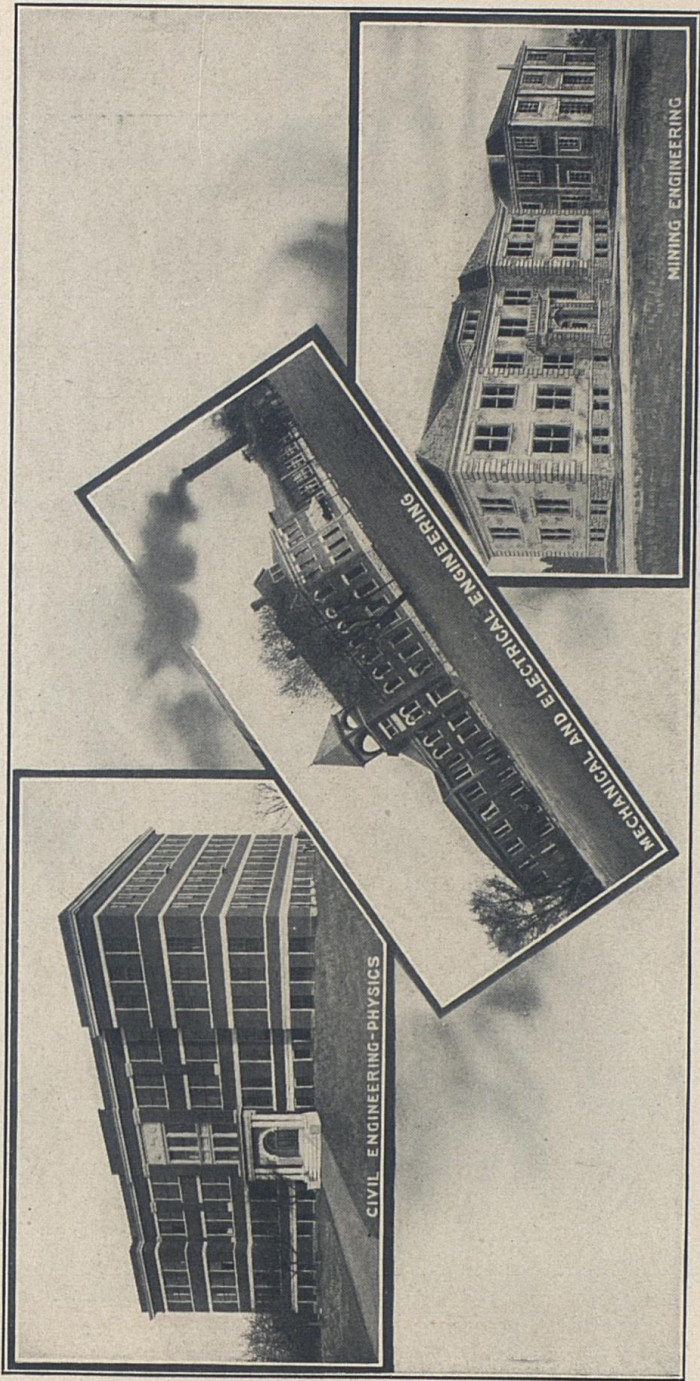




PATTERSON HALL



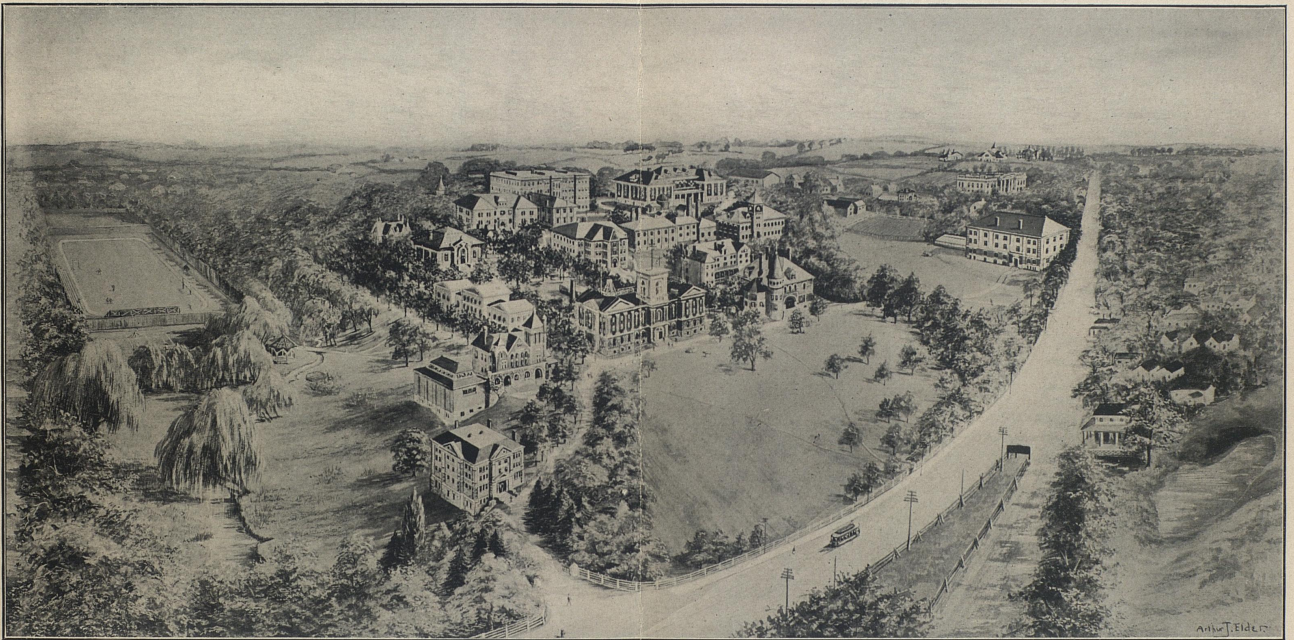
ADMINISTRATION BUILDING



MINING ENGINEERING

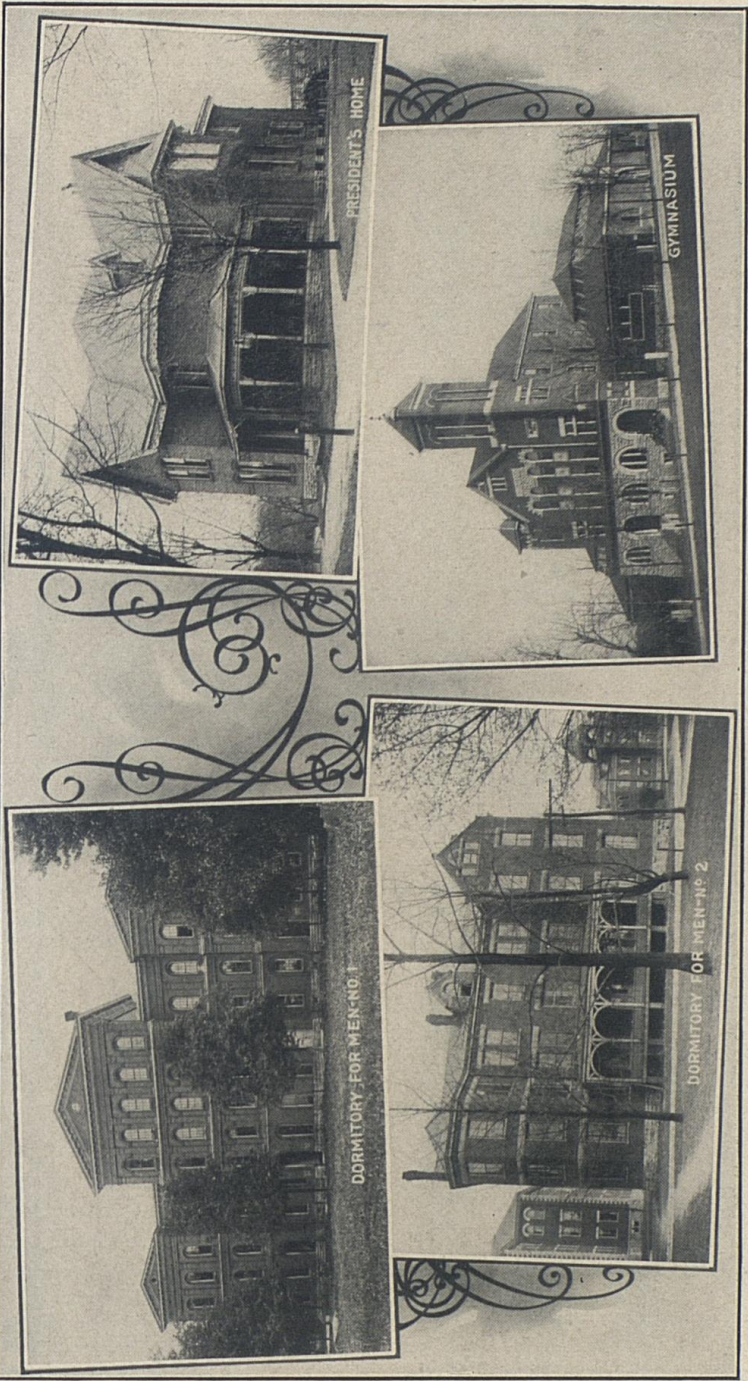
MECHANICAL AND ELECTRICAL ENGINEERING

CIVIL ENGINEERING - PHYSICS



STATE UNIVERSITY, LEXINGTON, KY.



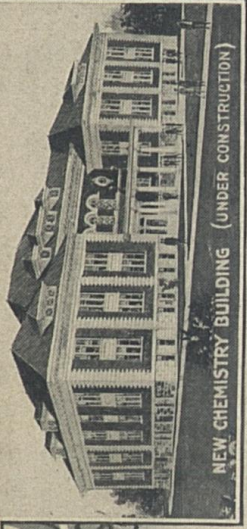
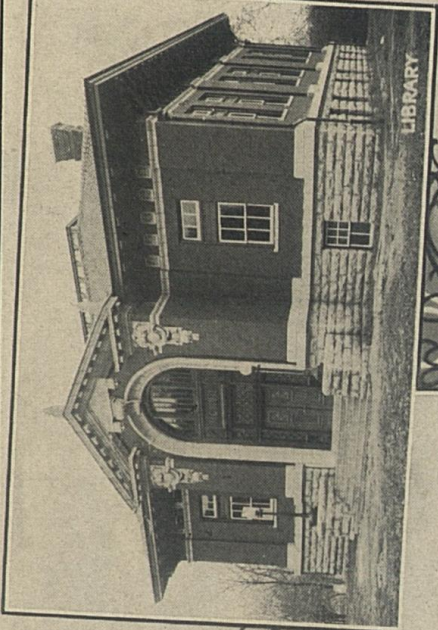
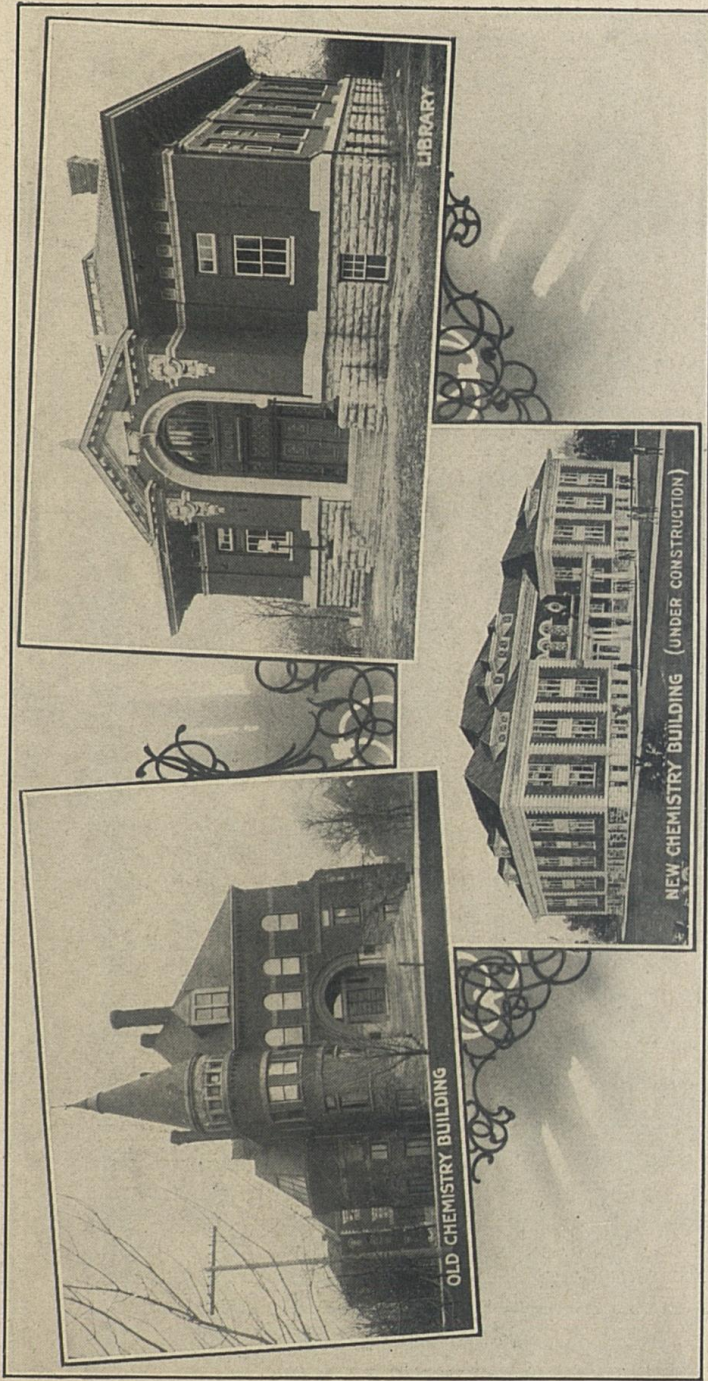


PRESIDENT'S HOME

GYMNASIUM

DORMITORY FOR MEN-NO. 1

DORMITORY FOR MEN-NO. 2



will be given in the collection and preservation of materials for class use, and in the preparation of tissues as permanent mounts for microscopical study.

Lectures and laboratory work. Three two-hour periods per week.

II. GENERAL ENTOMOLOGY.—Comprises the study of the structure, habits, and life-histories of the commoner insects. Practice will be given in the rearing and collecting of insects and in preparing them for the cabinet.

Text, laboratory, and field work. Two two-hour periods per week.

## // ✓ GEOLOGY

*Dean A. M. Miller.*

If there is sufficient demand for it, a course will be offered in general Geology. While Professor Miller cannot be present all the time, he will see that the work is in competent hands, and will give a series of lectures to the class.

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## COLLEGE OF CIVIL ENGINEERING

*Walter E. Rowe, Director.*

### COURSE IN DETAIL

STRUCTURAL DRAFTING.—The work in Structural Drafting consists of fifteen plates of structural detail and covers nearly every phase of structural detail met in actual practice.

MECHANICAL DRAWING.—Free-hand and mechanical lettering; geometrical problems; detail and dimension drawing; pen topography.

PLANE SURVEYING.—This course consists of an elementary course in land surveying methods and in the use of surveying instruments—recitations, lectures and field work.

GRAPHIC STATICS.—Principles and Methods: Roof Trusses; Bridge Trusses; Locomotive Wheel Loads; Trusses with broken chords.

RAILWAY ENGINEERING.—Simple and compound curves. Changing radius. Shifting curve. Turnouts from straight track. Turnouts from curved track. Railroad location. Earthwork computation.

ROOF AND BRIDGE DESIGN.—Theory and design of roofs, bridges, stand-pipes, towers and other problems of structural interest.

STONE CUTTING.—Plane-sided surfaces; Structures containing developable surfaces; Structures containing warped surfaces; Structures containing double-curved surfaces.

HIGHWAY ENGINEERING.—In addition to the course of study as outlined above there will be given a course in Plane Surveying, Leveling, Mapping and Highway Location and Construction. This course will be given to all County Surveyors and Road Supervisors free of charge.



## COLLEGE OF MECHANICAL AND ELECTRICAL ENGINEERING

*F. Paul Anderson, Director.*

A. M. Wilson,  
Joseph Dicker,

F. T. Hudgins,  
John B. Dicker.

### DEPARTMENTS OF WORK

1. STEAM AND GAS ENGINEERING.
2. ELECTRICAL ENGINEERING.
3. MACHINE DESIGN AND MECHANICS.
4. MECHANICAL DRAWING.
5. SHOP WORK.

### STEAM AND GAS ENGINEERING

**THERODYNAMICS.**—A theoretical study of the underlying principles of heat engines, involving the application of higher mathematics. Thorough investigation of modern analyses of the fundamental laws of thermodynamics, Carnot's and Rankin's cycles as applied to vapor engines, and the relations between entropy and temperature. The underlying principles of gas and gasoline engine operation will also be considered. This course will involve a knowledge of college mathematics.

**STEAM BOILERS.**—This is a combined practical and theoretical study of modern steam boiler practice and will involve both recitation and drawing room work. This course may be made as elementary as conditions require.

**VALVE GEARS.**—Recitations and lectures on modern practice in valve gear construction and theory, and some problems to be solved in the drawing room.

**INTERNAL COMBUSTION ENGINES AND GAS PRODUCERS.**—A series of lectures and recitations on standard practice, and the development of modern types. May be of such a character as to involve no previous mathematical training.

**STEAM AND GAS LABORATORY PRACTICE.**—A wide range of experimental work is available. The character of the work done will naturally depend upon previous theoretical training and practical experience. Abundant opportunity is afforded to investigate natural gas and gasoline engines, and the equipment commonly found in connection with modern steam plants.

### ELECTRICAL ENGINEERING

ALTERNATING CURRENT MACHINERY.—Two courses are offered, one involving higher mathematics to a considerable extent, and the other presenting the characteristic modern a. c. apparatus in a descriptive manner.

ALTERNATING CURRENT DESIGN.—A series of design problems will be provided to suit the conditions.

ALTERNATING CURRENT LABORATORY.—Experiments as may be necessary, covering the fundamental principles of alternating current machinery and apparatus. A varied assortment of measuring instruments is available and a comprehensive series of experiments may be performed with the laboratory equipment.

TELEPHONY.—A course of combined recitation and laboratory work covering the principles of telephony.

DIRECT CURRENT MACHINERY.—Class room instruction involving description of modern types of d. c. machinery and apparatus.

ELEMENTARY ELECTRICAL ENGINEERING.—Theoretical study of the fundamental principles involved in d. c. instruments and apparatus chiefly, although the measurements of capacity, hysteresis, and eddy currents are discussed. Considerable time is devoted to primary and secondary batteries, galvanometers, and laboratory apparatus.

DIRECT CURRENT DESIGN.—A series of problems will be provided covering the various phases of standard practice.

DIRECT CURRENT LABORATORY.—A wide variety of direct current experiments may be easily arranged to suit individual cases.

ILLUMINATION AND PHOTOMETRY.—A course of combined lecture and laboratory work covering the principles of modern illumination.

### MACHINE DESIGN AND MECHANICS

STRENGTH OF MATERIALS.—Class room instruction covering the ordinary materials used in engineering construction.

ANALYTICAL MECHANICS.—This course involves such instruction as is usually given in college work, with a text-book of the character of I. P. Church's.

KINEMATICS.—Class room instruction, in connection with problems, to be worked out on the drawing board, covering the ordinary methods of transmitting motion mechanically.

MACHINE DESIGN.—A series of problems in the design of simple machines, or parts of machines, with recitations as may be necessary.

LABORATORY WORK IN TESTING MATERIALS.—A comprehensive series of tests of the materials commonly used in engineering construction.

DESCRIPTIVE GEOMETRY.—Combined recitation and drawing room work preparatory to design.

**MECHANICAL DRAWING**

The work under this head is of an elementary character, and is similar to the freshman drawing. It is particularly intended for those who wish to learn the use of drawing instruments and drawing room practice. High school graduates may be able to obtain credit for freshman drawing by taking this course.

**SHOP WORK**

**MACHINE SHOP PRACTICE.**—Practice in drilling, chipping, filing, thread cutting, etc., and in running lathes, shapers, planers, and milling machines.

**FORGING.**—A series of exercises covering the usual operations in hand forging.

**FOUNDRY PRACTICE.**—Exercises in making molds and cores, and in casting brass and iron.

**WOODWORKING.**—Exercises involving the use of woodworking tools and machinery in pattern-making, wood lathe operation, and carpentry.

**LECTURES ON PRACTICAL MECHANICS.**—As occasion may require, a series of lectures will be given in connection with the shop work.

**EQUIPMENT**

The buildings and equipment ordinarily used for the regular college work are available for use during the Summer Session.

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**COLLEGE OF AGRICULTURE**

*Dr. M. A. Scovell, Director.*

The summer courses in agriculture, while well suited to the needs of the ordinary student in such branches and also of the practical farmer and prospective farmer, are designed primarily to equip teachers who are fitting themselves to teach the sciences, agriculture, nature study and the like. The instruction will be given in the nature of lectures, garden and field work, and practical work in live stock and dairying.

By recent arrangement the Elmendorf Farm, which is perhaps the finest live stock farm in the world, is placed at the disposal of the students of the University, so that for actual field work, both as regards crops and live stock, the students are given on the College Farm and at Elmendorf advantages that are perhaps surpassed by no other place in the world.

**BOTANY**

The different courses in botany will be arranged to cover the following branches:

1. **ELEMENTARY BOTANY** comprising a study of the physiology and structure of the seed plants.

2. THE MORPHOLOGY AND CLASSIFICATION of the Lower Plants, including a careful study of the use of the compound microscope.
3. PLANT HISTOLOGY or a microscopic study of the structure of plants.
4. PRINCIPLES OF PLANT CULTURE, embracing a study of the fundamental activities of plant life with special reference to the flower and vegetable garden, small fruits and the orchard; also including such practical details as propagation, seed selection, seed sowing, transplanting, pruning, spraying, etc.

#### AGRONOMY

In agronomy the courses will involve:

1. ELEMENTARY PRINCIPLES of soil physics and soil fertility.
2. SELECTION, care and testing of seeds and cultivation of farm crops, including rotations, leguminous crops and the relation of various crops to soil fertility.
3. FARM EQUIPMENT AND MANAGEMENT.

#### ANIMAL HUSBANDRY

In animal husbandry the courses will embrace:

1. LIVE STOCK JUDGING, feeding, management and breeding.
2. DAIRYING, the production and handling of milk, and butter making.
3. THE CARE OF FARM ANIMALS with special reference to the prevention of disease; also the detection and cure of the commoner ailments of farm animals, embracing a careful study of the application of the tuberculin test.

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## COLLEGE OF MINES AND METALLURGY

### THE MINE FOREMAN COURSE IN MINING

*Professor Norwood, Assistant Professor Easton, and Assistant Barr.*

Although this is one of the three regular courses authorized by the Board of Trustees to be given in the College of Mines and Metallurgy, namely, the Four Years Course, leading to a degree, the Two Years Course, and the Mine Foreman Course, in which certificates of proficiency are awarded, it is necessarily given during the summer months, to meet the convenience of those for whom it is intended; hence this announcement for the coming session of ten weeks (June 6th to August 12th) is included in the Bulletin relating to the Summer Session of University. It is hoped that ultimately the course may be given earlier in the year.

The course is intended especially for practical miners, mine foremen, and mine managers who desire to improve their knowledge of the principles that underlie the methods of coal mining. Instruction will also be given to others, however, who may wish to acquire some knowledge of mining. It is understood that, if not the only course of the particular kind given in the United States, this is the first one of the sort to be definitely established.

There are no entrance requirements. Any person having a knowledge of elementary arithmetic is equipped to solve all mathematical problems presented to him, and those who are weak in mathematics are strengthened. A man is dealt with according to his attainments and capacity; for those who can take advanced work, such work is provided.

The course includes instruction in—

1. THE DIFFERENT SYSTEMS OF MINING COAL.—Laying out the workings. Methods for thin and thick seams, and for flat and pitching seams. Causes and management of squeezes, etc.

2. BLASTING.—Various explosives. Pointing and loading holes. Evils resulting from improper blasting. Dangerous and safe methods. Dangers from black powder and dynamite. Precautions in blasting.

3. VENTILATION.—Necessities for ventilation. Composition of mine air. Wholesome air. Methods of obtaining and increasing ventilation. Study of furnaces and fans. Methods of coursing, splitting and regulating the current; overcasts and undercasts, etc. Measuring the ventilation; use of anemometer, water gauge, etc.

4. MINE GASES.—Nature and origin of each. Indications of the presence of each. Testing for explosive gas and black damp. Principle of the safety lamp, and various types of such lamps. Use of safety lamps, etc. The instruction in mine gases is illustrated with experiments, and the effect of different percentages of marsh gas on the safety lamp flame is shown.

5. EXPLOSIONS.—The various causes. Relation of coal dust to explosions, and management of dust. Relation of blasting to coal dust and other explosions. Prevention of explosions.

6. SUPPORTING EXCAVATIONS.—Including the principles underlying timbering, the different methods of timbering, computing the strength of pillars, etc.

7. SAFETY APPLIANCES FOR SHAFT AND SLOPE MINES.

8. HAULAGE, PUMPING.—Electric and Compressed Air mine machinery. Such instruction in these subjects will be given as may be encompassed within the time allotted for the course, and according to the limitations affecting the students in attendance.

9. SURVEYING.—Including use of compass (or of transit, as the case may be), putting up sights, marking off rooms at various angles, grading track (use of level), laying out curves, etc. Also, drawing the mine map.

10. MINE ACCIDENTS.—Causes, and methods of rescue. Training in the use of Oxygen Helmets for mine rescue work will be given.

The instruction is illustrated with demonstrations and experiments wherever possible. The equipment includes a mine fan, which may be used to illustrate the principles both of the forcing fan and of the exhaust fan system. Also, anemometers, water gauge, safety lamps of various types. Baldwin acetylene mine lamps, explosion box, surveying instruments, means for studying compressors, etc.

Students will be expected to provided themselves with drawing tools and material, which may be purchased in Lexington, if necessary, at reasonable rates.

Persons desiring to take examinations for mine foremen from time to time, and others who already hold certificates, will find the course quite helpful. Those who are now or have been taking "correspondence courses" will also find the ten weeks of personal instruction very beneficial.

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## COLLEGE OF LAW

*W. T. Lafferty, Dean.*

In connection with the summer courses of instruction in other departments of State University, the College of Law will offer special courses in law, beginning June 6, 1911, and continuing eight weeks. These courses will be given on many of the subjects set out in the regular courses, and are offered for the benefit of those who have not completed the work of the previous year, and wish to continue the law course to its completion; for those who are preparing for admission to the bar, but have had no training in a law school; for those who wish to review the law to familiarize themselves with the theory, or to prepare for advanced standing in pursuing the law course to graduation in this University.

Practice court will be conducted each day in which instruction will be given in the proceedure in all matters, both civil and criminal.

Work successfully completed during the Summer term will be credited as if done during any term of a regular session.

The Dean of the College of Law will conduct the Summer School, assisted by members of the Law Faculty; and during the term arrangements will be made for special lectures.

