BULLETIN

OF THE

State University of Kentucky

Volume 2 MARCH, 1910 Number 3

SUMMER SCHOOL

NUMBER

PUBLISHED MONTHLY BY THE STATE UNIVERSITY OF KENTUCKY, LEXINGTON, KY.

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General Information

The Organization of the University includes: the Colleges of Agriculture, of Arts and Science, of Law, of Civil Engineering, of Mechanical and Electrical Engineering, and of Mining Engineering.

Location, Grounds and Buildings.—The University is located in the southern part of the city of Lexington. The site is elevated and commands a good view of much of the city and of the surrounding country. The seventeen buildings are constructed of stone and brick and are large, well planned, and well equipped for the various purposes for which they were built. There are two dormitories for men on the campus, and Patterson Hall, the residence of the women students, is within a quarter of a mile of the University.

Cost of Living.—The rooms of the dormitories are free of rent to all students of the Summer School. Those expecting to use these rooms should provide themselves with the necessary bed linen and such cover as they may need. Men also furnish their own mattresses and pay a small fee for janitor service. Table board may be had from two to three and a half dollars a week. Young women expecting to board at Patterson Hall should notify Mrs. Wallis in advance.

Business Statement.—Students desiring work peculiar to the College of Law, of Civil Engineering, of Mechanical and Electrical Engineering, or of Mining Engineering, should register and pay the fees as given in the respective announcements which follow.

Students desiring any of the work embraced under the head of the College of Arts and Science, will register and pay their fees to Professor Davis. They will then be given a card to the professor whose class they desire to enter, stating that they have registered and settled their fees. No student will be admitted to any class until his fees have been settled. The fee for tuition is usually ten dollars for a term's work in any subject. When the student desires to take as many as three subjects, a reduction is made and a single fee of twenty-five dollars is charged. No student is expected to take more than three subjects, and only in exceptional cases will it be permitted. A student paying a fee of $25 may select his subjects in any of the Colleges of the University.

For further information address either the Professor in charge of the work desired, or

J. Morton Davis,
340 Madison Place, Lexington, Ky.
Fayette Telephone, 1483.

College of Arts and Science

JUNE 6th—JULY 29th.

The Summer School of Arts and Science embraces all the courses herein offered in Education, Language, History, Mathematics, Astronomy, Physics, Chemistry, Zoology, Geology, Physiology, Botany and Agriculture, and courses preparatory to these.

Kentucky is calling for better things along educational lines and with this call comes a demand for more high schools and better ones. This means an increased and insistent demand for better prepared teachers—teachers who know more of a given subject than they expect to teach.

OBJECT OF THE SUMMER SESSION.

1. To furnish the teachers of Kentucky an opportunity to better fit themselves for their work.
2. To help students remove any condition they may have from the preceding years' work.
3. To advance students who desire to finish their course in a shorter time than that prescribed, or who may desire to take additional work.
4. To give students, expecting to enter the Freshman Class in September, an opportunity to make up any units of credit they may lack, or to obtain advanced credit at entrance.

PREPARATORY.

The Preparatory Courses cover the full work of the Academy, and offer an excellent opportunity for students to advance themselves or to make up deficiencies. The attention of students desiring to enter the Freshman Class is called to the fact that Solid Geometry, one year of Physics, and two years of some Foreign Language are required for entrance to the Freshman Class in any department of the University. This work will be under the direction of Professors Davis and Jones.

EDUCATION.

Courses in Methods will be offered in connection with the work of the various departments.

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. Plane Trigonometry.—This is readily done in one term by a well prepared student. Murray's Plane Trigonometry is used.

II. Spherical Trigonometry.—This is required for Civil Engineering students and is necessary in order to take an advanced course in Astromony.

III. 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 would be of great benefit to teachers.

IV. 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.

V. 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.

VI. 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.

Department of 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, Books VII.-XII., 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."

Modern Languages

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 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.

GERMAN.

First Course.—Bierwirth's Beginning Grammar, followed by Glueck Auf. Mueller and Wenckeback.

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

Third Course.—The work will be selected from such standard authors as Schiller, Goethe, Lassing, etc., etc.

FRENCH.

First Course.—Fraser and Squair's French Grammar, followed by light reading.

Second Course.—Selections to suit the wants of the class.

Courses in Physics

JUNE 6th—JULY 22.

Professor M. L. Pence.

I. A COURSE IN ELEMENTARY TEXT-BOOK 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 better 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.

The fee for Course III. will be $12. For each of the other courses $10. For Course III and any other courses $20.

For further information address

M. L. PENCE,
364 Marino St., Lexington, Ky.

Chemistry

The Department of Chemistry will be busy moving into the new building and will not offer a course this summer.

Zoology and Geology

No courses will be offered this summer.

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.

This course is intended to prepare persons who expect to teach in the public schools.

Full credit in the regular University courses will be given for work done during the Summer Term.

The fee for the course will be $10.00 (ten dollars).

Botany

Botany—Professor Clarence W. Mathews and Assistant.

I. Elementary Botany.—Comprises the study of the structure and physiology of the seed plants, and is conducted mainly upon the laboratory plan of study. The plant laboratories of the College of Agriculture are abundantly supplied with microscopes and various forms of physiological and other apparatus. Nine laboratory hours per week, by appointment.

II. The Morphology and Classification of the Lower Plants.—Begins with a preliminary study of the compound microscope and its uses, and comprises a general survey of the morphology and classification of the Thallophytes, Bryophytes, and Pteridophytes. Nine laboratory hours per week.

III. Plant Histology.—Is designed to give instruction and training in the various methods of preparing vegetable tissues for microscopic study, accompanied by a systematic study of the various plant tissues thus prepared. The advanced laboratory for this purpose is equipped with ovens, microtomes and all other necessary apparatus for conducting this work in an effective manner. Nine laboratory hours per week.

IV. Principles of Plant Culture.—Includes a study of the fundamental activities of plant life, with special reference to the flower and vegetable garden and the orchard; the influences of normal and abnormal temperature, the proper supply of water, light, food, etc.; the effect of insect and plant parasites and other conditions. Further study is made of such practical details as propagation, seed selection, seed sowing, transplanting, pruning, spraying etc. Lectures and practical exercises. Six hours per week.

Six is the minimum number of students for which any of the above courses will be offered.

The fee for any one course will be $10.00 (ten dollars).

A laboratory deposit of $5.00 (five dollars), to cover cost of possible breakage, etc., will be required.

Domestic Science

Isabella West Marshall.

The following courses in Domestic Science are offered to students of the Summer School.

The courses are designed to meet the needs of teachers who desire to acquire a knowledge of the subject sufficient to teach in elementary schools under the direction of a Supervisor of Domestic Science.

It may also be taken as an introduction to the subject by students who wish to continue the course either during the regular University session or during a future Summer Session.

The department is thoroughly equipped for a proper presentation of the subject.

Besides a lecture room, there is a large, cool laboratory, fitted up with individual gas burners, cooking apparatus and all the conveniences of modern sanitary plumbing.

Classes will be held during the cool morning hours.

Laboratory period, 1½ hours. Lecture period, ½ hour.

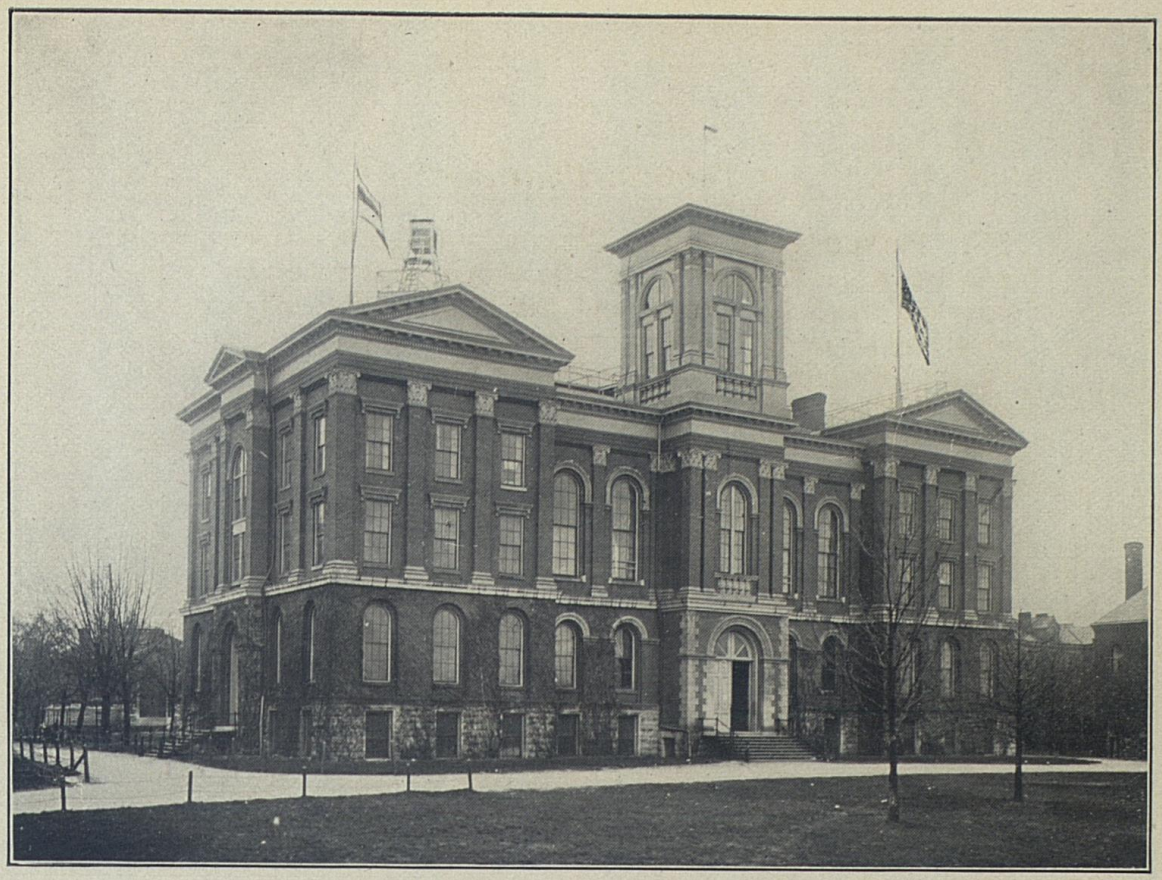
COURSES.

1. Practical Cookery, including discussion of the various kinds of foods.

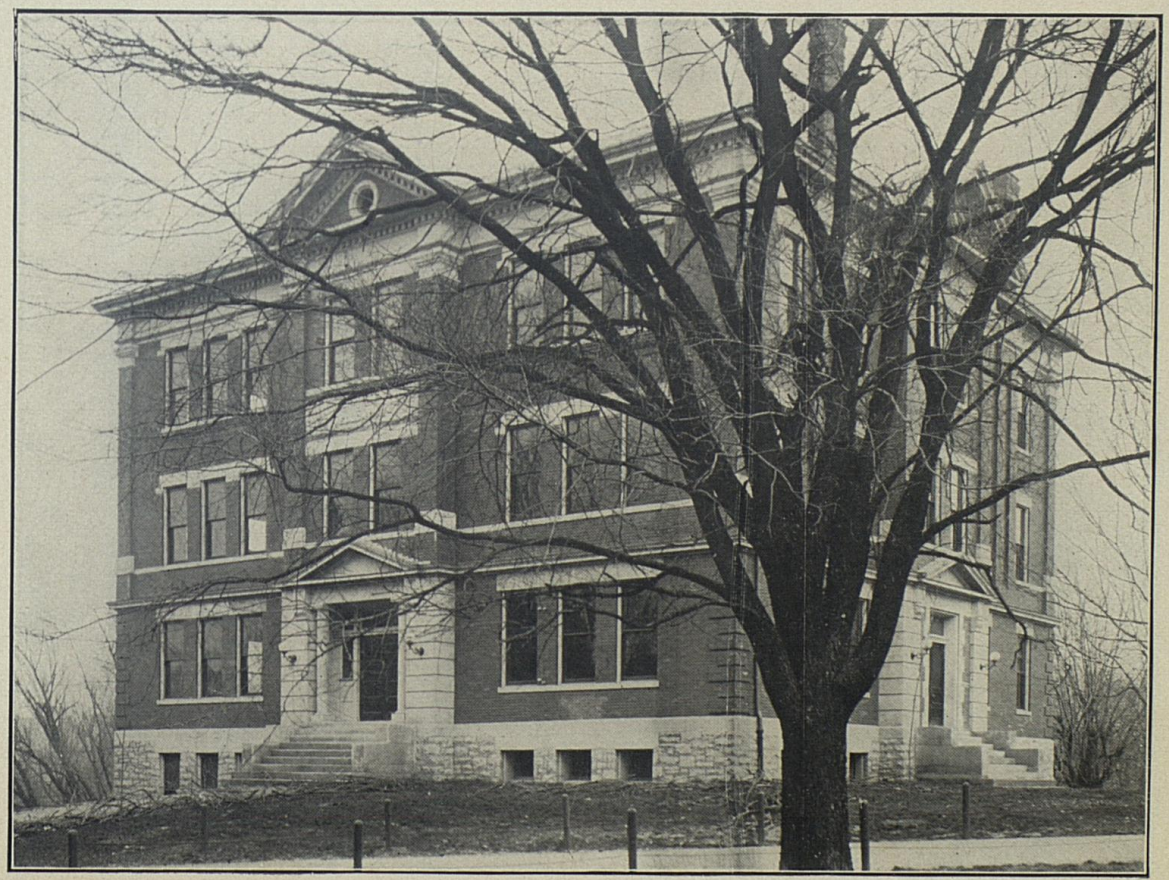
2. Lectures upon Food Production and Manufacture.

Text-books.—1. Practical Cooking Manual. 2. Human Foods—Harry Snyder.

A fee of ten dollars ($10.00) will be charged for one or all the courses.

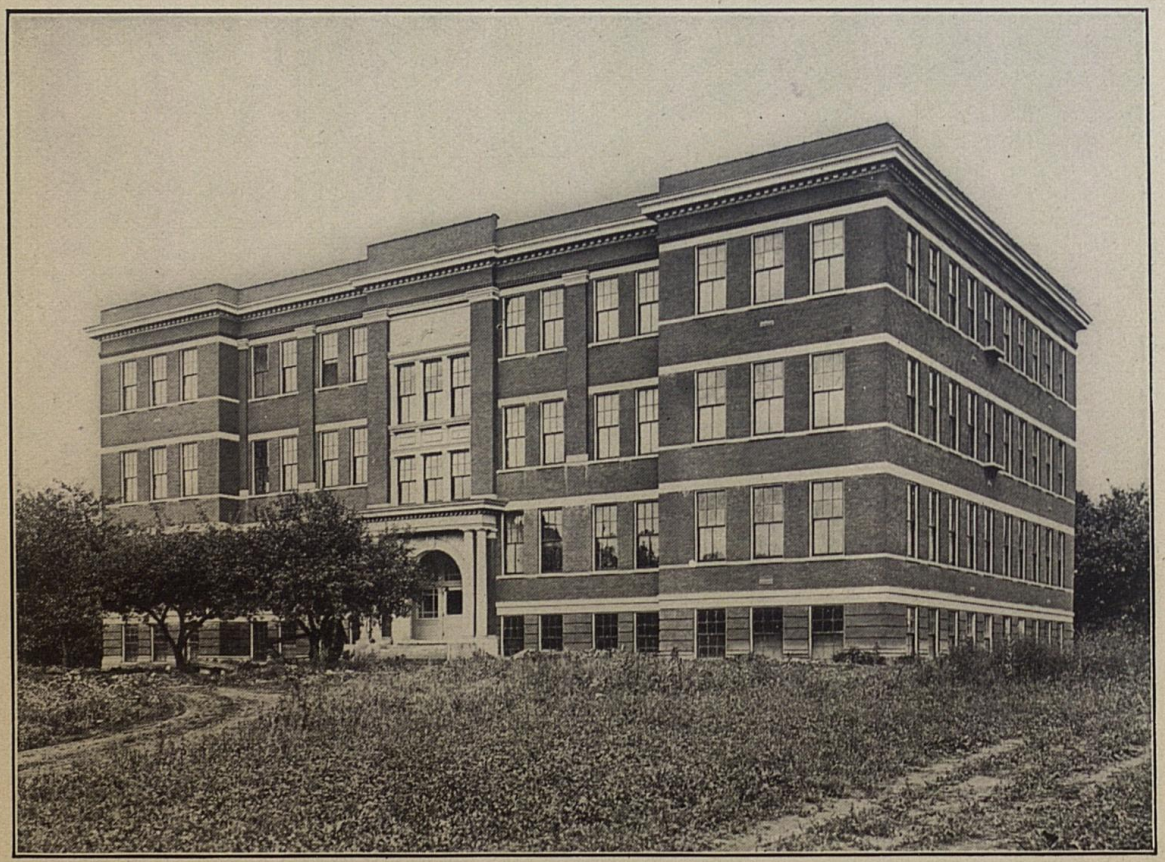


ADMINISTRATION BUILDING

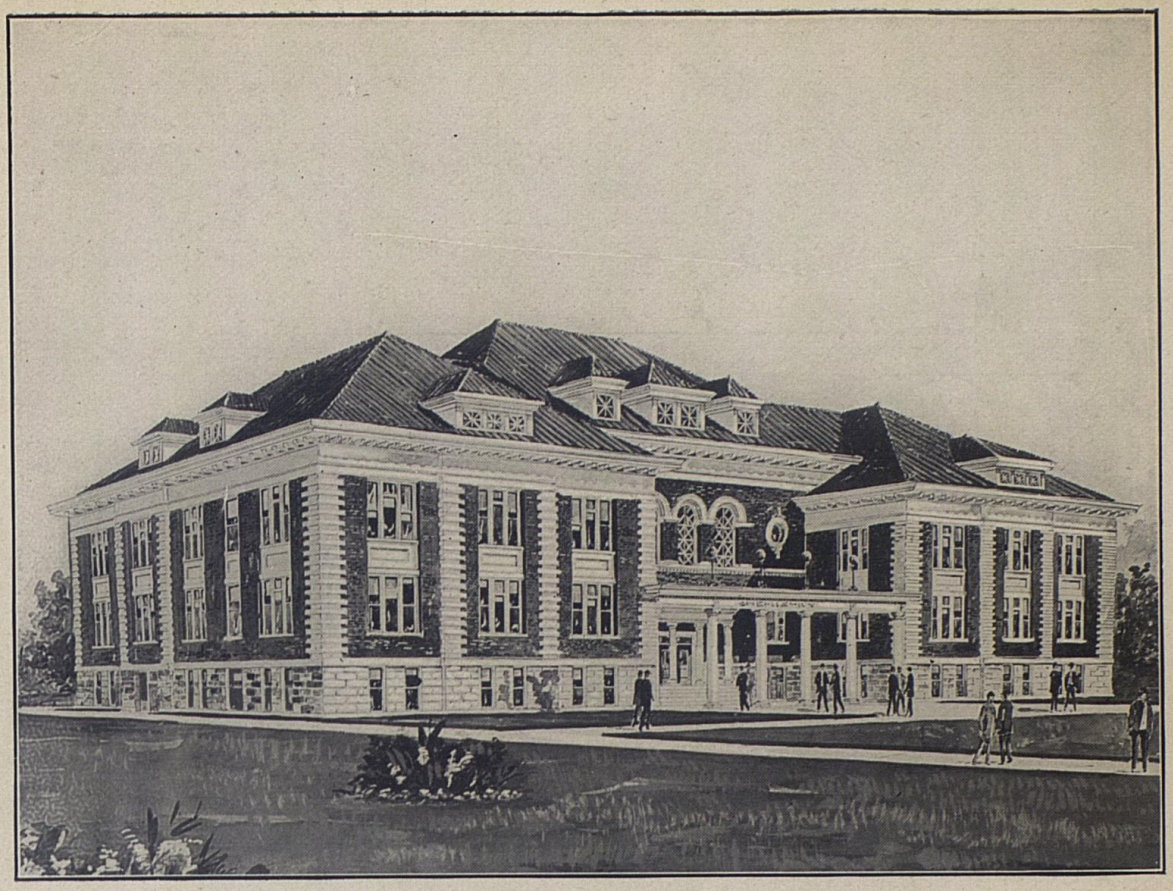


EDUCATION BUILDING

NATURAL SCIENCE BUILDING



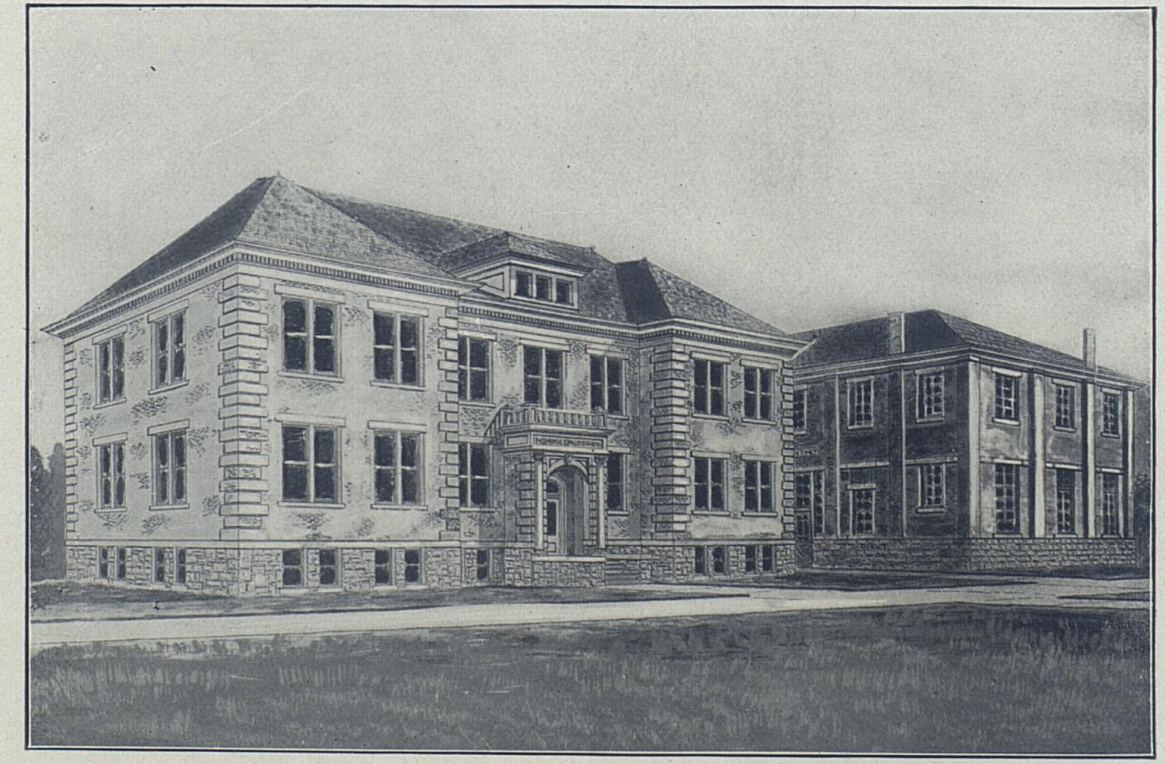
PHYSICS AND CIVIL ENGINEERING



NEW CHEMISTRY BUILDING

AGRICULTURAL HALL

MECHANICAL HALL



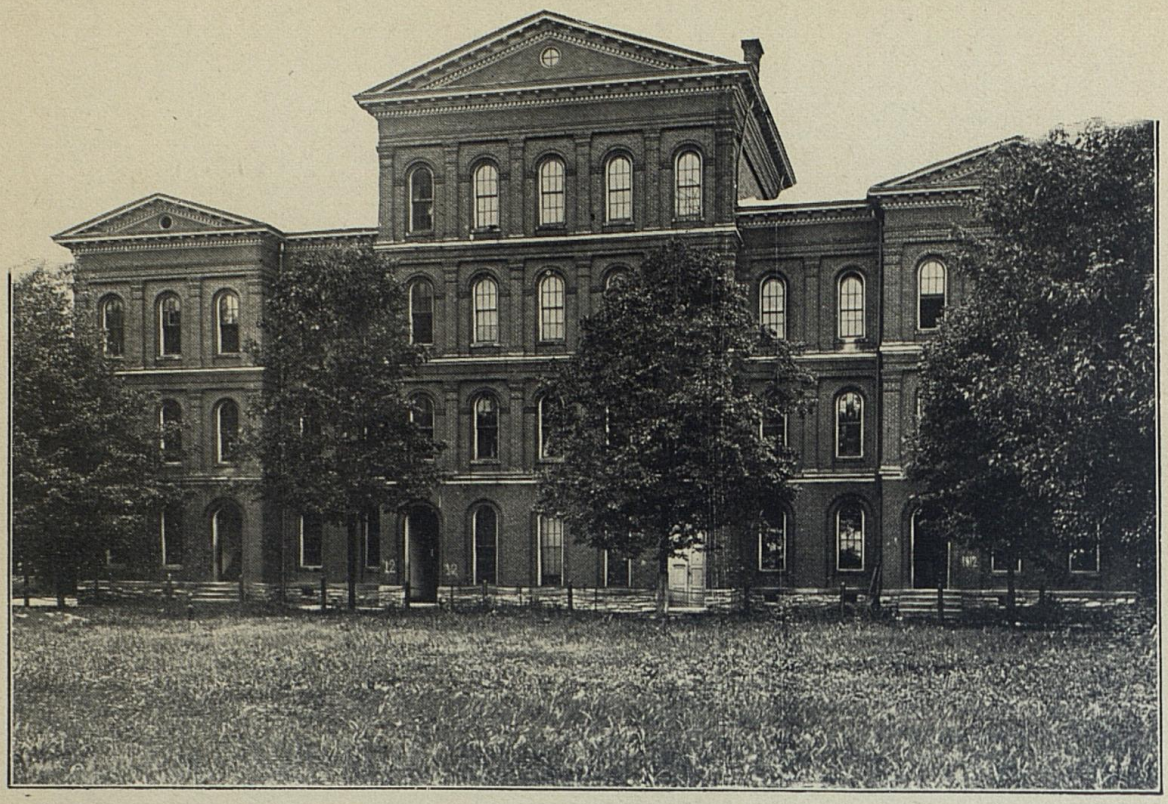
MINING BUILDING

LIBRARY

EXPERIMENT STATION

GYMNASIUM

PATTERSON HALL



MEN'S DORMITORY, No. 1

MEN'S DORMITORY, No. 2

Civil Engineering

JUNE 6th—JULY 30th.

Walter E. Rowe, Director.

Students who wish to secure additional credit, or make up deficiencies, will find the Summer School of the College of Civil Engineering decidedly advantageous.

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.

EXPENSES.—A fee of ten dollars, payable in advance, will be charged for any course, and five dollars each for all additional courses.

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. Other studies may be taken but will be charged for as stated above.

This course will extend over a period of six weeks.

For information concerning the Summer School address

PROF. R. C. TERRELL,
395 Virginia, Avenue, Lexington, Ky.

Mechanical and Electrical Engineering

SUMMER SCHOOL IN MECHANICAL ARTS.
JUNE 11th—AUGUST 6th.

Professor F. Paul Anderson, Director.

OBJECTS OF THE SCHOOL.

The Summer School in Mechanical and Electrical Engineering was first established to give to machinists, carpenters, metal workers, engineers, firemen, superintendents of electric light plants, public buildings, having power plants, and artisans of all classes that training in engineering subjects which they have been unable to secure in the ordinary plans proposed by correspondence schools and technical books. The courses are especially adapted to young men who are contemplating taking up engineering work. High-school students are enabled to carry shop-work courses and drawing-room courses during the summer, so as to relieve themselves of the great burden of carrying this work in connection with the four-year courses in engineering. For most of the work in connection with the industrial arts, it is not necessary for a man to have a full and comprehensive course for four years, such as is given in an engineering college.

A working knowledge of mechanical drawing is almost indispensable to a mechanic in every line of work. The ability to make drawing is not only of value in itself, but the study of mechanical drawing develops the power to read and interpret mechanical and architectural drawings properly. Elementary courses have been projected in the Summer School in all of the branches taught in the full four-year course in mechanical and electrical engineering, and all of these subjects are presented from an elementary standpoint, without the aid of higher mathematics. Courses are provided in testing of steam and electrical machinery, and all problems relative to the transmission of power. The main object of the Summer School is to give the greatest possible freedom in the selection of those subjects in which any man may be interested.

ENTRANCE CONDITIONS.

No detailed educational requirements will be specified for entrance in the Summer School. Every applicant will be allowed to pursue any course that he elects, and the course chosen may be pitched on a thoroughly fundamental plane.

A speaking and writing knowledge of the English language is desired, together with a knowledge of elementary arithmetic. It is intended that no man shall be handicapped on account of his

previous education, for an attempt is made to put all courses on such a basis that they are within the reach of every man.

SUMMER SHOP WORK COURSES FOR STUDENTS IN ENGINEERING.

Those students who are matriculated in the full four-year engineering courses of any engineering school will be given such instructions as will enable them to clear up the shop work and receive credit for this work in connection with their full engineering courses.

HIGH-SCHOOL STUDENTS AND THOSE CONTEMPLATING TAKING AN ENGINEERING COURSE.

Students in high schools will be able during their summer vacations to practically complete all of the shop work, and a great deal of the elementary mechanical drawing required in the advanced courses in engineering while carrying on their academic studies preparatory to taking up their college engineering work later.

STUDENTS FROM OTHER COLLEGES.

Many young men who are pursuing courses in Arts, Letters and Science in schools throughout the South will be enabled to obtain a proficiency in certain technical branches that are not given in the courses in which they are matriculated.

REMOVING CONDITIONS.

Students in the egineering courses who have been conditioned in any subject in the regular course will be enabled during the session of the Summer School to clear up such deficiencies. No guarantee will be given that any student can remove conditions. Ample opportunity will be afforded to all students to do the work that is necessary to remove conditions in any subject occurring in the regular course in mechanical and electrical engineering. The results obtained in making up work during the summer session will depend largely upon efforts of the individual student.

ENGINEERING STUDENTS.

Both actual and prospective, will be enabled to complete subjects that are required in the regular course of Mechanical and Electrical Engineering in which they are deficient. Shop-work courses may be taken during this summer session.

Manual Training School Teachers can, during this summer session, obtain the requisite shop practice.

MECHANICAL DRAWING.

Special courses in Mechanical Drawing are provided. During the eight weeks' period of this Summer School a student may acquire sufficient skill in the use of drawing instruments to take up the simpler work in an architect's office or in the drafting room of a machine-building establishment.

CERTIFICATE OF COMPLETION OF WORK.

No diplomas or formal certificates will be given for work done in the summer courses, but the Dean of the School of Mechanical and Electrical Engineering will present to each student, upon completion of a certain line of work, a statement that certain work has been accomplished and that certain proficiency has been attained.

The hours of recitation, shop work, drawing-room and laboratory exercises will extend from 8 a. m. to 1 p. m., and from 2 p. m. to 5 p. m., and on Saturdays from 8 to 12 m., and every student is expected to put in forty-three hours each week on his work.

THE DEPARTMENT OF WORK.

I. Courses in Steam and Gas Engineering.
II. Courses in Applied Electricity.
III. Machine Design and Mechanical Draming.
IV. The Materials of Construction and Transmission of Power.
V. Shop Work.

FEES AND EXPENSES.

A uniform fee of $25.00 (twenty-five dollars) will be charged every student in the Summer School. No fees will be refunded except in a case of sickness or unavoidable withdrawal before the middle of the session. The total expense for the eight weeks of the Summer School in Mechanical and Electrical Engineering, including board and room rent, may be kept between fifty and sixty dollars. Of course, cost of living depends largely upon the degree of comfort and luxury desired.

FOUR-YEAR PROFESSIONAL COURSES.

A bulletin pertaining to the full Four-year Course in Mechanical and Electrical Engineering of the State University of Kentucky can be obtained on application.

For all information relative to Sucmer School in Mechanical and Electrical Engineering, address

A. M. Wilson, M. E.
Lexington, Ky.

Mining Engineering

THE MINE FOREMAN COURSE IN MINING.

Professor Norwood, Assistant Professor Easton, and Assistants Quickel and Barr.

Although this is one of the three regular courses authorized by the Board of Trustees to be given in the College of Mining Engineering, 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 Summer Schools. 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 knid 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., 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. Prin-

ciple 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.

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 provide 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.

The course opens June 6th and closes August 12th. Fee $10.00.

Room and board, $2.50 to $3.50 per week.

For further information, address

C. J. Norwood or H. D. Easton,
Lexington, Ky.

College of Law

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, 1910, and continuing eight weeks. These courses will be given on 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 advance standing in pursuing the law course to graduation in this University.

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

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

The entire fee for the summer term will be $10.00, payable at the time of matriculation.

For further information, address

W. T. LAFFERTY,
Dean of Law College, State University,
Lexington, Ky.

The State University of Kentucky

Lexington, Kentucky

JAS. K. PATTERSON, Ph. D., LL. D., F. S. A., President
JAMES G. WHITE, A. M., Vice-President

Fall Term Begins September 8, 1910

For catalogues, methods of obtaining appointments, information regarding courses of study and terms of admission, apply to

JAMES G. WHITE, A. M.
Vice-President.