BULLETIN

OF THE STATE UNIVERSITY

NEW SERIES 1 MARCH 1908 NUMBER 1

SUMMER SCHOOL

PUBLISHED BY
THE STATE UNIVERSITY
LEXINGTON, KENTUCKY

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THE STATE UNIVERSITY.

LEXINGTON, KENTUCKY.

THE STATE UNIVERSITY, Lexington, Kentucky, offers the following courses, namely: Agriculture, Mechanical Engineering, Civil Engineering, Mining Engineering, Electrical Engineering, Classics, and seven Scientific courses, each of which extends over four years and leads to the Bachelor's degree; also a Department of Law, and a Department of Education. The last has been established instead of the Normal School. Persons who enter this department prepare for advance work in pedagogy and are granted a Bachelor's degree in this subject when completed.

County appointees receive free tuition, privilege of residence in the dormitories, fuel and light and traveling expenses, if they remain ten consecutive months, or one collegiate year.

The laboratories are large, well equipped, comprehensive and modern. Military Science is fully provided for as required by Congress.

Graduates in the several courses of study readily find employment with liberal remuneration. The total number of matriculates for the last year was 1125. Each department has a specialist at its head, with the necessary number of assistants.

Young women find an excellent home, with board and lodging, in Patterson Hall, which is well equipped with all modern conveniences, bath-rooms and hall for physical culture, at $3.00 per week. All courses of study in the University are open to women upon identical conditions with those applying to males.

The completion of the Agriculture, Mining Engineering Laboratory, and Education Buildings afford ample and commodious quarters for these departments, which are rapidly increasing in the number of matriculates.

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

JAMES K. PATTERSON, Ph. D., LL. D., PRESIDENT.

or to

D. C. FRAZEE, BUSINESS AGENT.

FALL TERM BEGING SEPTEMBER 10TH, 1908.

Attention is called to the following rules of the Faculty regarding the time for entrance:

That examination for entrance and examinations to remove conditions begin at 8 A. M. on the first Thursday in September and continue three days, and that all students who take such examinations must register and settle their fees on one of these three days.

That all other students must register and settle their fees on the following Monday or Tuesday.

That any student not registering as prescribed above will be considered as registering late and will be fined for late registration one dollar (1.00) for each day's delay; provided, however, that such fines shall not exceed five dollars.

The State University

Lexington, Kentucky

JAMES K. PATTERSON, PH. D., L. L. D., F. S. A., PRESIDENT.

SIXTH SESSION
of the
SUMMER SCHOOL

I. ARTS AND SCIENCES:

1. Mathematics and Astronomy.
2. Language and History.
3. Physics.
4. Chemistry.
5. Anatomy and Physiology.
6. Zoology and Geology.
7. Botany and Agriculture.
8. Academy.

II. ENGINEERING SCHOOLS:

1. Mechanical and Electrical.
2. Civil.
3. Mining.

III. DOMESTIC SCIENCE.

Prefatory Remarks

The General Assembly, during its late session, passed an act changing the style and title of the State College to that of "The State University." A handsome appropriation was made for additional buildings and for increase of revenue. This will enable the institution to improve its existing Departments and Courses of Study, and to add others. The Institution is justly proud of its record as a College. It is hoped that its future record as a University may be commensurate with that of the past.

The Summer School of The State University invites to its halls and laboratories any earnest student who desires during the summer vacation to pursue any of the various courses herein offered.

The Laboratories of The State University, chemical, physical, botanical, geological, zoological, entomological, physiological, anatomical, mechanical, and mining, excelling as they do all other such laboratories in the State, will be opened this summer. The teachers in charge of all departments during the summer term are almost exclusively the Professors and Assistant Professors who are in charge during the regular session.

The University, with its commodious dormitories for both men and women, situated in broad, shady, well-kept grounds, just within the southern limits of the city of Lexington, is an ideal place in which to spend a summer vacation.

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 necessary bed linen and such cover as they may need. Men also furnish their own mattresses. Table board may be had for two or three dollars a week.

All the schools begin the eighth of June. The length of term, and the fees charged, vary with the different schools and may be found in the announcements which follow.

School of Arts and Sciences.

JUNE 8th—JULY 31st.

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

OBJECTS OF THE SCHOOL.

1. To furnish the teachers of Kentucky an opportunity to fit themselves better 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.
5. To instruct students desiring to enter any of the classes of the Academy. Many students might enter a year higher by spending eight weeks of the summer here.

BUSINESS STATEMENT.

Students desiring any of the work embraced under the head of The School of Arts and Sciences will register and pay their fees in Professor White's room, on the first floor of the Main Building. There they will be given a card to the professor, whose work they desire to take, 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. Where 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.

The registration room will be open Friday and Saturday, June 5th and 6th, and students are urged to register on those days so as to be prepared to enter on their work on Monday the eighth.

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

J. MORTON DAVIS,
340 PARK PLACE, LEXINGTON, KY.

Kentucky State Summer School for Teachers.

ATTENTION TEACHERS.

Instead of the usual Kentucky State Summer School for Teachers leading to County Certificate, State Certificate and State Diploma, The State University, this summer, in its desire to stimulate the educational awakening already begun in the state, will throw open the doors of every department of the Institution for eight weeks in order to furnish an opportunity for Higher Education at a time when the active teacher may take advantage of it.

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.

The University realizing the need, has, at considerable sacrifice, made this effort to meet it, feeling confident that the thoughtful, progressive teacher whether in the Common School, High School, Academy or College will be glad to take advantage of the opportunity.

Students who are already matriculated in the Department of Education in the University, or one preparing in the Summer School for matriculation, will receive credit for all work done in any subject in the Summer School.

Preparatory Courses.

A. G. McGregor—Assistant in the Academy.

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 is required for entrance to the Freshman Class in any department of the University.

Mathematics and Astronomy.

JUNE 8th—JULY 31st.

J. Morton Davis—Assistant Professor of Mathematics.

I. Mathematics—The courses planned are identical with those offered during the regular session, and embrace Murray's Plane and Spherical Trigonometry, Fine's College Algebra, Beman & Smiths' Solid Geometry, Nichols' Analytical Geometry, and Granville's Differential & Integral Calculus.

Students desiring special work in Higher Mathematics may be able to make arrangements for it.

II. Astronomy—Two courses will be offered: one as nearly identical with the course offered during the regular session as possible, for this a knowledge of Spherical Trigonometry is required; the other, a course in Popular Astronomy meant for those who have not the necessary mathematical basis, but who may wish to become better acquainted with the heavens. No credit will be given for this work in any of the courses of the University.

Language and History.

JUNE 8th—JULY 31st.

T. T. Jones—Assistant Professor of Latin and Greek.

C. R. Melcher—Assistant Professor of German and French.

I. Latin and Greek—While the prescribed course of the regular session is made the basis of the work in the Summer School, pains will be taken to arrange special work for students desiring it.

II. German, French and Spanish—The work will be arranged to suit the wants of the students as far as possible. Two courses, at least, will be offered in each language; the first for those just beginning, and the second for those who have already a grammatical knowledge of the languages. Advanced courses will be offered if desired.

III. English, Logic and History—While the Professors of English and History will not teach in the Summer School they are satisfied with those in charge and authorize them to offer any of the work of the regular courses, provided only, that those who take only one year's work in English, may not do more than two terms' work during the summer.

Courses in Physics.

JUNE 8th—JULY 17th.

PROF. M. L. PENCE.

I. A Course in Elementary Physics. The work of this course is that which is required for admission to the Freshman Class of the University. Gage's Elements of Physics will be completed.

II. A Course in Theoretical Physics. This course is equivalent to the Freshman Engineering, or Sophomore Scientific, work in the University. It embraces General Physical Phenomena, Mechanics, Sound, Heat, Light, Electricity and Magnetism. The work of these two courses will be fully illustrated by lectures and experiments with daily recitations.

III. An Elementary Course in the Physical Laboratory as given in Gage's Physical Experiments. This course may not be given unless ten or more apply for it.

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. Those who have tried to learn Physics from the text-book alone will appreciate this opportunity to see and do physical experiments.

This work is also offered to students who wish to shorten their regular University schedule of studies. 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 Department of Physics is well equipped with all apparatus needed in the above work. Students will be given opportunities to see and learn something about X-rays, radium, and wireless telegraphy.

The fee for Course 1 will be $10; for Course 2, $10; for Course 3, $12 for Course 1 or 2 and Course 3, $20.

During the Summer Session of 1907, there were 69 students enrolled in Physics.

Courses in Chemistry.

JUNE 8th—JULY 31st.

R. N. MAXSON,
Assistant Professor of Chemistry.

The following courses in Chemistry are offered for the Summer Session of 1908.

ELEMENTARY CHEMISTRY, INORGANIC.

I. The descriptive chemistry of the non-metals and metals will be studied together with the fundamental laws of the science. Instruction will be given by means of lectures and recitations. *One hour daily.*

II. The descriptive chemistry of the metals will be studied by means of lectures and recitations. *One hour daily.*

III. The characteristic reactions of the metals and non-metals with special reference to their analytical applications, will be studied in the laboratory. *Two hours daily.*

IV. QUALITATIVE CHEMICAL ANALYSIS.
The identification of both positive and negative ions will be studied and systematic qualitative examination made of salts, alloys and industrial products. *Three hours daily.*

V. GAS ANALYSIS.
The typical methods for the analysis of gases and their practical applications will be studied in the laboratory.

GENERAL STATEMENT.

The work of Courses I, II and III are especially adapted to those who wish to prepare themselves for elementary chemical instruction.

Regular college students having conditions in these subjects, have an opportunity to repeat the work in preparation for the removal of their conditions.

Five students is the minimum number for whom these courses will be given.

The work of Course IV will meet the requirements of that larger class whose interest is chiefly with the disciplinary side of the subject or with general preparation for other lines of work.

EXPENSES.—A fee of $10.00 (ten dollars), payable in *advance*, will be charged for any course described above.

A deposit of $5.00 (five dollars), to cover the cost of breakage, will be required for all laboratory courses.

For further information, address

R. N. MAXSON, 522 Rose Street,
Lexington, Ky.

Courses in Zoology and Geology.

JUNE 8th—JULY 31st.

SUE D. McCANN.

I. General Zoology.

Lectures, laboratory and field work. Lectures will treat of the systematic position, habits and development of animals. Laboratory periods will be devoted to the study of the form and structure of invertebrates and will involve an extensive use of the compound microscope. Some practice will be given in the determination of species and in the preparation of tissues as permanent mounts for microscopical study. Field work will be devoted to the study of the fauna about Lexington. The course is equivalent to the course in Invertebrate Zoology given in the University. Three two-hour periods per week.

II. General Entomology, Entomotaxy.

Lectures on the characteristics of the orders, sub-orders and important families of insects accompanied by field work. Much time will be spent in familiarizing the student with the more important injurious insects and with the methods of combating them.

In Entomotaxy, practice will be given in collecting insects and in preparing them for the cabinet. Two two-hour periods per week.

III. General Geology.

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.

EXPENSE.—A fee of ten dollars ($10) each, payable in advance, will be charged for Courses I., II. and III.

A deposit of five dollars ($5) to cover cost of any breakage will be required for each laboratory.

Course in Advanced Physiology.

JUNE 8th—JULY 31st.

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 following subjects will be taken up in the order named :

MUSCLE.—In treating the subject of muscle the gross appearance, histology, chemical composition, general and special physiology will be considered. This includes a description and demonstration of the electrical apparatus used in connection with nerve-muscle preparations. Graphic records are made with the Kymograph. The various kinds of stimuli and the phenomena of muscle contraction are exhibited and explained.

HAEMODYNAMICS.—The circulation of the blood and lymph are explained and demonstrated.

The artificial circulation scheme used shows both arterial and venous blood pressure which are measured with the mercury manometer. It also shows the conversion of an intermittent into a continuous flow. Incompetence and stenosis of the aortic and mitral valves are demonstrated and pulse tracings are made with a thistle tube and Kymograph that compare favorably with those made by the Sphygmograph. Sphygmographic tracings are made by members of the class and compared with those from the artificial circulation scheme.

NORMAL HAEMATOLOGY.—Clinical examinations of the blood are made, including the enumeration of blood corpuscles with the Thoma-Zeiss Haemacytometer; the estimation of haemaglobin with Fleischl's Haemometer, and the staining and fixing of blood corpuscles.

The student will have the opportunity of making a microscopic observation of the circulating blood and graphic records of ventrical contraction of the frog's heart.

THE SPECIAL SENSES.—The anatomy of the eye and ear and the physiology of these organs will be treated as fully as time will permit.

This course is intended to illustrate some of the fundamental laws of physiology and the phenomena upon which these laws are based. Full credit in the regular University courses will be given for work done during the Summer Term.

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

Courses in Botany and Elementary Agriculture.

JUNE 8th—JULY 17th.

BOTANY—Prof. Clarence W. Mathews and Assistant.

AGRICULTURE—Prof. J. J. Hooper.

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.

V. Elements of Agriculture.—The Course presents a study of soils and fertilizers, the crops of the farm, and live-stock judging, feeding and managment. The subject of dairying is discussed from the point of milk production and butter making. Lectures and practical exercises. Six hours per week.

Six students is the minimum number for which any of the above courses will be offered. The fee for any one course will be $10. A laboratory deposit of five dollars ($5) to cover cost of possible breakage, etc., will be required in botany.

Domestic Science.

ISABELLA WEST MARSHALL.

JUNE 8th—JULY 17th.

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

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, cookery apparatus and all the conveniences of modern sanitary plumbing.

Time for classes will be arranged during the cool morning hours.

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

COURSES.

1. Practical Cookery, including discussion of foods belonging to the following classes:

   (a) Heat-giving and energy-supplying foods: Cereals, bread, potatoes, etc.
   (b) Tissue-forming foods: Meat, milk, eggs, fish, etc.
   (c) Foods containing excess of mineral salts: Fruits, vegetables, including salads.
   (d) Sugars—candy.
   (e) Beverages: Tea, coffee, chilled non-alcoholic beverages.
   (f) Special diets.
   (g) Ices and gelatine mixtures.

2. Lectures upon Food Production and Manufacture.

   (b) Consideration of Nature, Nutritive Constituents and Relative Value of Foods.
   (c) Amount of Food Required in Health and Influence of Various Conditions Upon Amount of Food Required.
   (d) Consideration of Different Kinds of Foods, together with percentages of nutritive constituents found in them.

Fee of $10 will be charged for one or all the courses.

The School of Mining Engineering.

JUNE 15th—AUGUST 8th.

PROFESSOR NORWOOD AND ASSISTANT EASTON.

This 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.

Instruction will be given 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 for 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. Rescue work.

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 mine.

8. Mine fires. Causes and management.

9. Surveying, including use of compass, putting up sights, marking off rooms at various angles, grading track (use of level), laying out curves, etc.

10. Map drawing.

The instruction is illustrated with demonstrations and experiments wherever possible. The equipment includes a mine fan, which may be used to illustrate the principles of both the compressive (forcing fan) and vacuum (exhaust fan) system of ventilation; also, anemometer, water gauge, safety lamps of various types, surveying instruments, etc.

Students will be expected to provide themselves with drawing tools, which may be obtained in Lexington at reasonable prices.

Persons desiring to take examinations for mine foremen from time to time will find the course quite helpful.

The session begins June 15th and ends August 8th. Fee, $10.00.

Rooms for a limited number free. Table board trom $2 to $3 per week.

For further information address

C. J. NORWOOD or H. D. EASTON,
Lexington, Ky.

Summer Session of the School of Civil Engineering.

Students who wish to secure additional credit or make up deficiencies in order to shorten their regular collegiate schedule of studies or lighten their work for the ensuing year will find the course offered directly adapted to meet their needs, and will receive the same credit therein as if the work had been given during a regular college session.

Short courses will be especially arranged for those who are unable to attend the regular college session, but who desire to prepare themselves for more advanced engineering work.

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.

PLANE SURVEYING.—An elementary course in land surveying methods and the use of surveying instruments.

GRAPHIC STATICS.—Principles and methods. Roof trusses. Bridge trusses. Locomotive wheel loads. Trusses with broken chords.

RAILWAY ENGINEERING.—Location curves. Compound curves. Changing radius. Shifting curve. Turnouts from straight track. Turnouts from curved track. Sidings and cross-overs. Location and earthwork computation.

ROOF AND BRIDGE DESIGN.—Theory and design of roofs, bridges, standpipes, 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 one course, and five dollars each for additional courses.

For additional information send for regular College Catalogue, or write

WALTER E. ROWE, 518 Rose Street,
Lexington, Ky.

Mechanic Arts.

JUNE 8th—JULY 30th.

OBJECTS OF THE SCHOOL.

The Summer School in Mechanic Arts 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 drawings 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.

The entrance requirements for advanced courses in engineering are beyond many men. 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 same will 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.

THE FACULTY OF INSTRUCTION.

All instructors in the Summer School of Mechanic Arts will be men thoroughly competent to handle the subjects assigned to them, and every effort will be made to give that training which is substantial and thorough.

REMOVING CONDITIONS.

Students in the engineering courses who have been conditioned in any subject in the regular course will be enabled during the Summer School session 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 Traiuing 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.

ELECTION OF SUBJECTS.

All students contemplating the summer work are expected to report at the beginning of the summer term and remain for a period of eight weeks. Considerable freedom will be allowed in the selection of studies, and every student will be allowed to take all the work that he can carry.

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 DEPARTMENTS OF WORK.

I. Courses in Steam Engineering.

II. Courses in Applied Electricity.

III. Machine Design.

IV. The Materials of Construction and Transmission of Power.

V. Shop Work.

FEES AND EXPENSES.

A uniform fee of twenty-five ($25.00) 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.

FOUR-YEAR PROFESSIONAL COURSES.

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

The most satisfactory arrangement for work in the Summer School can be made by personal correspondence, and it is suggested that all those contemplating work in the Summer School in Mechanic Arts of the State College should enter into correspondence with the Registrar.

F. PAUL ANDERSON, M. E., Director of the School of Mechanical and Electrical Engineering, State University.

For all information relative to Summer School in Mechanic Arts, address

A. M. WILSON, M. E., Registrar,
Lexington, Ky.

A NEW LAW

Concerning the Granting of Teachers' Certificates.

Extract from Section 1, House Bill 140, passed by the Legislature of 1908 and approved March 14, 1908.

That the Normal Department of said University, as it now exists, be eliminated, and there be established instead thereof a Department of Education, in said University with collegiate rank leading to the usual degree in pedagogy as maintained in other similar State Institutions. That degrees of Bachelor of Arts in Education, and Bachelor of Science in Education, conferred in this Department, shall, with the approval of the State Superintendent of Public Instruction, entitle the holder thereof to the privilege of teaching in the common schools and high schools of the Commonwealth without further examination, during life or good behavior. The diplomas granting degrees may be revoked for cause by the said Board of Trustees or by the State Superintendent of Public Instruction. The Board of Trustees shall have power and authority, subject to the approval of the State Superintendent of Public Instruction, to confer, under its corporate seal, upon students of said department, the following certificates: One, an elementary certificate upon the completion of one year's work, which shall entitle the holder thereof to teach in any public school of this State for the period of two years from the date thereof, without further examination Two, an intermediate certificate upon the completion of two years work, which shall entitle the holder thereof to teach in any public school of this State for a period of four years from the date thereof, without further examination. Three, an advanced certificate upon the completion of three years' work, which shall entitle the holder thereof to teach in any public school of the State for a period of three years from the date thereof without further examination, and if at the end of three years, a teacher holding an advanced certificate shall present to the Board of Trustees which granted the same, satisfactory evidence of successful teaching during said period, and of good moral character, then the advanced certificate may be extended for life or good behavior by said Board, subject, however, to the approval of the State Superintendent of Public Instruction, and it shall so be endorsed by the said Board, and the holder thereof shall be entitled to teach in any public school in this State, during good behavior, without further examination. The official endorsement of the State Superintendent of Public Instruction shall be necessary to validate any of the said three certificates, or extension thereof above named. Any certificate may be revoked for cause by said Board of Trustees or by the State Superintendent of Public Instruction.