BULLETIN

UNIVERSITY OF KENTUCKY

SUMMER SESSION
1921

JUNE 20 TO JULY 30

Published by the University of Kentucky, Lexington. Entered as Second Class Matter at the Post Office, Lexington, Kentucky, under the Act of July 16, 1894.

Vol. 13 No. 2

UNIVERSITY CALENDAR

Summer Session

1920
June 21 to July 30

General Session

1920

Sept. 16, 17, 18	Thurs. Fri. Sat.	Examinations for entrance.
September 20, 21	Mon. to Tues. 4 p. m.	Registration for first semester.
September 22	Wednesday	Instruction begins.
November 25	Thursday	Thanksgiving holiday.
Dec. 17 to Jan. 4	Friday noon to Tuesday 8 a. m.	Christmas holidays.

1921

Jan. 29 to Feb. 5	Sat. to Sat.	Mid-year examinations.
February 7	Monday	Registration for second semester.
February 8	Tuesday	Instruction resumed.
February 22	Tuesday	Washington's birthday.
Mar. 24 to 29	Thurs. to Tues. 8 a. m.	Easter holiday

Commencement Week

June 12	Sunday	Baccalaureate Sermon
June 13	Monday	Board of Trustees meets.
June 14	Tuesday	Class Day.
June 14	Tuesday	Alumni Banquet.
June 15	Wednesday	Fifty-fourth Annual Commencement.

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FRANK L. MCVEY, PH. D., LL. D.,
President of the University.

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State Superintendent of Public Instruction

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Director of the Summer Session

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Acting Director Summer Session

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Professor of Animal Husbandry, Head of Department

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Assistant Professor of Drawing

LEVI JACKSON HORLACHER, B. S. in AGR.
Assistant Professor of Animal Husbandry

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Columbus Rudolph Melcher, A. M.
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Alfred Charles Zembrod, A. M.
Professor of Romance Languages and Literature
Head of Department

GENERAL STATEMENT

THE PURPOSES OF THE SCHOOL

The Summer School of the University of Kentucky will be in session June 20 to July 30, a period of six weeks. The work of the summer session is designed for teachers, students and persons seeking information and training. With the instruction are to be given a number of special features during the six weks of the session. From the program of studies it will be possible to make up plans of work suitable for teachers and workers in many fields. The entire plant of the University is available for use, including laboratories, libraries and buildings. The faculty of the University of Kentucky for the summer session of 1921 has been greatly enlarged. Work will be offered to satisfy the demands of teachers in every field of school activity. It is no longer necessary for the high school teachers of the state, the city superintendents and members of college faculties to leave the state for university work during the summer. The Uuiversity of Kentucky is meeting the needs of the state in Agriculture, Engineering and all the Arts and Sciences. The multiplication and standardization of the high schools, the enlarged curricula of secondary schools and the new aims in education demand teachers qualified in many subjects and trained in the theories and practices of modern education, and the summer school of the University is organized largely to satisfy this demand.

SPECIAL ATTENTION

Is called to courses offered in the summer session this year to meet the needs of teachers and county superintendents who must qualify under the new Kentucky education legislation to teach in the elementary schools and to administer and supervise them. Note the large number of high school courses and the professional work outlined under the different department heads. Also courses in Physical education and Hygiene and the course for Attendance Officers and Vocational work.

LOCATION

Lexington, called the capital of the Blue Grass, is a beautiful city, and a delightful place to spend the summer. It is accessible from all parts of the state, and may be reached over the following roads: Queen & Crescent, Southern, L. & N., C. & O., L. & E., now under the management of the L. & N. Railroad

SPECIAL LECTURES

Special lectures of interest to teachers and other students will be given throughout the summer session by members of the faculty and other educators and men of distinction. Later announcements of non-resident lecturers will be made.

ADMISSION

No entrance examination is required for admission to any of the courses, but instructors must be consulted concerning prerequisite preparation in some courses.

CREDIT IN SUMMER SESSION

Students who have full entrance credits to the University will be given credit toward degrees for college work in the summer school.

Four semester credits will be given for one double course consisting of two hours a day for the session. Two semester credits will be given for a single course of one hour a day for the session..

No student will be allowed to make more than eight semester credits in the summer school.

VOCATIONAL AGRICULTURAL EDUCATION

There is a demand for teachers of vocational agriculture in the high schools of the state that erceeds the supply of available trained men. This condition also exists in most other states. For this reason, this work offers a promising field for those men reared on the farm and interested in agriculture.

The summer school offers a large range of courses in technical agriculture, science and education for those who wish to prepare for the teaching of agriculture.

COURSE FOR ATTENDANCE OFFICERS

INTENSIVE COURSE FOR SCHOOL ATTENDANCE OFFICERS AND SOCIAL WORKERS. The University of Kentucky, in cooperation with the State Board of Education and the American Red Cross, gave a short course for attendance officers during the last summer session. Following up the need for training in the administration of the schools laws and the need for a more adequately trained personnel for attendance officers and social workers for Kentucky it has been deemed advisable to make this course a permanent feature of the summer school.

The course for schools attendance officers and social workers will begin with the regular summer session June 20th and continue for four weeks July 16.

The course will consist of the technique of administering the school attendance laws, survey of the machinery for enforcing the law, the duties and powers of the attendance officer, cooperation with other county officers, functions of the juvenile court and the relation of the probation officers to the attendance officer. A thorough study of the social agencies of Kentucky will be undertaken with the view of using these agencies for the betterment of the social conditions of the schools and the more adequate enforcement of the law. An attendance officer should be a trained social worker and should be able to work for the people of the community in recreation and general improvement as well as to enforce the school law.

It is suggested that students intending to take up this phase of social work register for courses in School Administration and Sociology.

GRADUATE WORK

Graduate work will be offered by special arrangement with the heads of departments and the Chairman of the Graduate Committee.

PATTERSON HALL AND BOARDING

Rooms may be had at Patterson Hall and Smith Hall for $1.75 up per week, according to the size and location of the room. Students must furnish their own linens. Application should be made for reservations before arriving.

The University Cafeteria will be open during the summer session; rooms and board may also be had in the city at convenient distances from the campus.

COURSES AND FEES

The work in the summer school is given in Double and Single Courses. A Double Course means that the subject is taken two hours a day throughout the session. A Single Course is taken one hour a day for the full session. The fees are as follows:

Single Course	$ 5.00
Double Course	7.50
One Double and One Single Course	10.00
Three Single Courses	10.00

INFORMATION

For information address the Registrar, University of Kentucky, Lexington, Ky.

DEPARTMENTS OF INSTRUCTION

AGRICULTURE

Professors Garman, Good, Hooper, Kelley; Associate Professor Karraker; Assistant Professors Olney, Martin, Horlacher; Instructor Fergus.

The College of Agriculture will not give any course offered here to fewer than seven students.

FARM MANAGEMENT. This course will consist of 36 lectures and 12 three-hour laboratory periods. The lectures will deal with the principles involved in the choice of a proper type of farming; the camparative merits of intensive and extensive farming; the relation of live stock to farm management; the best size of farm; the relation of capital to farm profits; farm rental systems; the management of men and horse labor and machinery for greatest profits; the layout of fields and farm buildings; farm accounts, including the annual inventory; the choice of a region for farming and important considerations in buying a farm; and other fundamental principles of farm organization.

The laboratory work will have two phases. The first phase will consist of field trips to successful and practical farms for the purpose of studying their organization in detail. These trips serve to bring out the personal element so essential in good farming and serve to reinforce and vitalize the truths of scientific agriculture as learned in the various other lecture and laboratory classes. The second phase will consist of practice work in farm accounts, including accounts of single crop or live stock enterprises and complete accounts on all of the farm enterprises. Professor ——— ———.

HORTICULTURE

VEGETABLE GARDENING. This course will consist of a series of twenty-four lectures and twelve field laboratory exercises, four lectures and two laboratory periods per week. The lectures will include a discussion of such fundamental subjects as location and arrangement of gardens, soil management, seed selection and improvement, seed testing, preparation of hot-beds and cold-frames, and manures and fertilizers. The more important classes of vegetables and particularly those requiring special or unusual treatment will be studied in detail.

The subject of spraying as related to vegetable gardening will be given attention in the lectures, and practice in the making and application of sprays will occupy a portion of the laboratory periods.

This midsummer session will provide an unusual opportunity to study many phases of vegetable gardening that cannot be observed so favorably during the usual college terms, and particular emphasis will therefore be placed upon the laboratory and field exercises. Assistant Professor Olney.

FRUIT GROWING. Four lectures and two laboratory periods per week. The summer course in this subject is arranged to supplement the course offered by this department in the summer of 1919, and the topics studied at that time will not be repeated in the present course, attention being directed mainly to apple orcharding and strawberry growing. The course will close, however, with a brief discussion of landscape horticulture with special reference to the improvement of home and school grounds.

The lectures on apple growing will include a consideration of soils and sites, propagation, selection of stock and choice of varieties both for home and commercial uses, care of the young and mature orchard, pruning, etc., with special emphasis laid upon the employment of an effective spray program. To this end several lectures and laboratory periods will be devoted to the preparation and application of the various kinds of spray materials, together with a study of numerous types of spraying and dusting apparatus used for the control of insect and fungus enemies.

Strawberries will be studied from the standpoint of propagation, variety, character of both the standard and everbearing sorts, plant setting, culture, and harvesting and marketing. Assistant Professor Olney.

ANIMAL HUSBANDRY

Seven courses are offered in Animal Husbandry, namely: Farm Poultry Production, Advanced Poultry Production, Farm Dairying, Live Stock Feeding (2 courses), Types and Classes of Beef and Dairy Cattle, and Types and Classes of Sheep, Hogs, Horses and Mules.

2-S. FARM POULTRY PRODUCTION. This course treats of the production of poultry on the general farm. It includes the following subjects: breeds and varieties, feeding, housing, breeding, culling, incubation, brooding, and the marketing of poultry products. In the study of breeds and varieties the student learns to identify all of the more common varieties of chickens and becomes familiar with the standard points for which they are judged in the show room. He also learns the purpose for which each breed is kept and the value of each breed to the poultry industry. In the study of feeding, rations are balanced, using the feeds that are available in the community from which the student comes. In the housing work the student not only becomes

familiar with the essentials of a good poultry house but learns how to remodel, without a great expenditure, the outbuildings which are found on many farms. In the breeding and culling work a definite program to follow in breeding up the farm flock to a high state of egg production is mapped out. The laboratory work in culling thoroughly familiarizes the student with such points as the relation of the time of moulting and intensity of the shank and beak color to the hen's egg production. The student also secures a working familiarity with the more common incubators and brooders. In the marketing work he learns how to dry pick poultry and candle eggs. *Double course. Four credits.* Assistant Professor Martin.

3-S. ADVANCED POULTRY PRODUCTION. This is a continuation of Course 2-S, taking up the more advanced problems involved in breeding and selection, incubation, brooding, marketing, and diseases. The laboratory work consists of actual operation of incubators and brooders, grading and candling of eggs, and the treatment of diseased birds. Prerequisite, Animal Husbandry. *Double course. Four credits.* Assistant Professor Martin.

5-S. FARM DAIRYING. Instruction is given in the production of clean milk; the management of the dairy herd; the construction of dairy barns and the marketing of milk. Students are taught to test milk for butter fat, acidity, and use of the lactometer; the separation and care of cream; the ripening of cream and churning of butter. Practice is also given in the manufacture of soft cheese. *Double course. Four credits.* Professor Hooper.

7-S. (a). LIVE STOCK FEEDING. In this course a study of the classes of nutrients of feed stuffs and the uses of each to the animal. A study is also made of the process of digestion, absorption and assimilation. An exhaustive study is made of feed stuffs, nutritive rations for maintenance growth, fattening, milk and work. During the last two weeks of this course a comprehensive study is made of the feeding of hogs, including the use of forage crops. Occasional visits are made to the college farm to inspect experiments in progress in the feeding of hogs. *Single course. Two credits.* Professor Good.

7-S (b). LIVE STOCK FEEDING. This course is a continuation of 7-S (a) and will deal with the feeding of Beef Cattle, Dairy Cattle, Horses and Sheep. An inspection and study of the feeding of breeding and experimental animals on the college farm will be a part of the work. *Single course. Two credits.* Prerequisite Live Stock Feeding 7-S (a). Professor Good.

12-S (a). TYPES AND CLASSES OF BEEF AND DAIRY CATTLE. A thorough study is made of the types and classes of cattle, both beef and

dairy. Training is given in the scoring of individuals and in the comparative judging of groups of three or more animals. Special emphasis is laid upon nomenclature and the principles governing the selection of cattle for the feed lot, for market, and for breeding purposes. *Single course. Two credits.* Assistant Professor Horlacher.

12-S (b). TYPES AND CLASSES OF SHEEP, HOGS, HORSES AND MULES. A thorough study is made of the types and classes of sheep, hogs, horses and mules. Training is given in the scoring of individuals and in the comparative judging of groups of animals. Special emphasis is laid upon nomenclature and the principles governing the selection of these animals for meat, wool, work and breeding purposes. *Double course. Four credits.* Assistant Professor Horlacher.

AGRONOMY

1. SOILS. An introductory course in soils, dealing with their origin, formation, classification and physical properties in relation to soil water, soil air, soil temperature and tillage operations; crop requirements for plant food; sources of plant food; plant food in the soil and losses of plant food; farm manures, fertilizers, lime materials and their use; crop rotations and farming systems in relation to the productiveness of soils. Prerequisites, Chemistry 1 and 2, and Geology 3. *Lectures five 2-hour periods per week. Laboratory two 2-hour periods per week. Four credits.* Associate Professor Karraker.

24. GENERAL AGRICULTURE. A high school course covering the subject of soils in a more elementary way than the foregoing course; also dealing with the more important farm crops grown in Kentucky. *Six hours a week throughout the term.* Mr. Fergus.

FARM SHOP. In this course lectures and laboratory exercises will be given in the following: Uses, care and sharpening of shop tools; construction of equipment needed in a farm shop; joining, framing and rafter cutting; repairing of valves, water pipes, bearings, belts, etc. This course should be helpful in repairing of all kinds of farm equipment. There will be three three-hour periods per week which will consist of one hour lecture and two hours of shop work. The course will not be offered for less than seven nor more than 15 students. Professor Kelley.

FARM MACHINERY. Various types of tillage, seeding, harvesting and stationary gas engines are studied and compared in detail. Laboratory practice consists of examination of the mechanical construction and operation of these machines indoors and in the field. *Lectures and recitations six hours a week. Laboratory two 3-hour periods a week.* Professor Kelley.

1. Bookkeeping. This course will be based on a study of the structure of the honey bee, and its life-history, to be followed by studies of its food plants, enemies, diseases and their treatment, together with practis in handling bees, an opportunity being offered by colonies kept on the Experiment Farm. Features of the subject to which special attention will be given are the following: The structure of the honey bee; its life-history; bee varieties; food plants; enemies; diseases and their treatment; handling swarms, clipping queens, etc.; wintering; transferring from box hives and bee gums to moveable frame hives; keeping bees for comb honey; keeping bees for extracted honey; requeening. *Lectures one hour a week; laboratory two hours a week. Second semester.* Professor Garman.

2. Injurious Insects. This includes a study of a few typical insects and their transformations, followed by an examination of injurious species of importance, such as are to be encountered on the farm, in the orchard and the garden. Special attention will be given to species most troublesome in Kentucky. The following outline of the course will give a more definite idea of its character: The general structure of an insect; its manner of taking food; transformations; the nature and extent of insect injuries; general practis calculated to reduce insect injuries; direct treatment of crops for insect injuries; inspection of nurseries and orchards; insects injuring field crops; insects of truck crops; insects of fruits; insects of stored seeds; insects of forest trees; insects of ornamental and shade trees; insects attacking stock. *Lectures one hour a week; laboratory two hours a week. Second semester.* Professor Garman.

3. Economic Entomology in the Summer School. A course in this subject is offered for the special benefit of teachers taking summer work, and will cover ground similar to course No. 2. It will be arranged to serve the needs especially of those teaching biological subjects in the rural agricultural schools, attention being given to the habits and life-histories of species most available to the teacher, together with practis in collecting and preparing material for use in the school room. Insects of the farm, orchard, forest, garden and household will receive attention. *Lectures three hours a week; laboratory work two hours per week.*

4. Beekeeping in the Summer School. This course will duplicate course No. 3, except that it will be restricted to the honey bee and its management.

BOTANY

Professor Shull

1a. General Botany. A general survey of the plant kingdom, including classification, structure, function, distribution and uses of plants. Methods of collection and preservation of materials for class use. A course adopted to the needs of teachers of Botany in the high schools of the state. *Double course.*

High School Botany. Double course for high school students designed especially for those who are qualifying to teach in the elemen-tary schools.

109. Physiology of Reproduction in Plants. By appt. *Three hours credit.*

CHEMISTRY

Professor Tuttle, Assistant Professor Mitchell

1b. General Inorganic Chemistry. Continuation of 1a Chemistry of the metals. Lectures, class-room exercises and laboratory work. Prerequisite, Chemistry 1a. Assistant Professor Mitchell.

3. Inorganic Preparation. A practical laboratory course devoted to the preparation of inorganic compounds from the crude material. Prerequisite, one-half year's work in General Chemistry. Assistant Professor Mitchell.

7. Organic Chemistry. An elementary course for non-professional students. Prerequisite, Chemistry, 1b. Assistant Professor Mitchell.

8. Quantitative Analysis. A laboratory course accompanied by lectures and class-room exercises. Gravimetric and volumetric methods of analysis are studied in detail. Prerequisite, Chemistry 4. Professor Tuttle.

9. Quantitative Analysis. A lecture and laboratory course devoted to the analysis of ores, alloys, etc. Prerequisite, Chemistry 8. Professor Tuttle.

11. Agricultural Analysis. An introductory course in quantitative analysis arranged for the students in the course in agriculture. The elements of quantitative analysis are studied with special reference to the constituents of soil, fertilizers and agricultural products. Prerequisite, one year's work in General Chemistry. Professor Tuttle.

12. Advanced Agricultural Analysis. A laboratory course having for its object the complete analysis of fertilizers, feeds, soils and agricultural products. Prerequisite, Chemistry 8 or 11. Professor Tuttle.

14. Advanced Quantitative Analysis. The analysis of iron and steel, slags and rocks. Prerequisite, Chemistry 9. Professor Tuttle.

ECONOMICS AND SOCIOLOGY

Professor E. E. Snoddy

PRINCIPLES OF ECONOMICS. A study of production, distribution and the consumption of wealth; the application of principles to some social and economic problems. *Double course.*

INTRODUCTORY SOCIOLOGY. A study of social origins, social evolution and social institutions and their relation to biology, psychology and economics. The study will be illustrated by references to concrete social problems. *Single course.*

ECONOMIC HISTORY OF THE UNITED STATES. An account of the national development in agriculture, manufacture, transportation, commerce and finance. *Single course.*

EDUCATION

Professors Bowers and James, Associate Professor Baker

15a. PROBLEMS IN CITY SCHOOL ADMINISTRATION. A general course including a consideration of recent city surveys, city superintendents' annual reports, finances, age-grade distribution, standard units of measurements, and principles of constructive supervision. Lectures, class discussions and reports on assigned readings. *Double course.* Associate Professor Baker.

13a. PROBLEMS IN STATE AND COUNTRY SCHOOL ADMINISTRATION. This course is designed specifically for county superintendents in the state of Kentucky qualifying under the regulation imposed by the State Department of Education. Lectures, class discussions and reports on assigned readings. *Double course.* Associate Professor Baker.

7b. HISTORY OF EDUCATION. A general course with particular reference to the 17th, 18th and 19th century theorists, emphasizing Milton, Locke, Rousseau and Montessori. Lecture, class discussions and reports on assigned readings. Lectures will be illustrated with lantern slides. *Double course.*

16. EDUCATIONAL PSYCHOLOGY. The laws of mental development, structure and function. Special attention to the laws of memory, habit, attention and their application to education. *Double course.*

HIGH SCHOOL EDUCATION. The principles and practice of teaching designed for teachers in the elementary schools. This course will satisfy the five weeks professional training required of all teachers in the district schools of Kentucky.

28. Agricultural Education. The course will deal with the organization and teaching of agricultural courses in high schools of the state. It has to do with selection of subject matter, laboratory and library material, the home project and problems of the vocational agricultural teacher. *Double course.*

29. Vocational Education. This course is designed especially for those who are specializing in some form of vocational education. It deals with the aims, problems and history of vocational education. *Single course.*

ENGLISH

Professor Dantzler, Professor Farquhar, Miss Allen

High School English. Courses in High School English will be given to meet the needs and demands of students.

1a. English Composition. The principles of composition will be studied to facilitate a clear and accurate expression of thought. Themes will be required in the practice of writing of English and some study will be made of the art of composition as illustrated in collateral reading. *Double course.*

3as. History of English Literature. This course is designed to make a general survey of English literature. Any period of literary activity may be selected as the instructor sees fit. Extensive readings.

110s. Shakespeare. Intensive study of Shakespeare in tragedy. The course is both historical and literary. The Oxford edition is recommended in interests of a uniform text. *Double course.*

116. The Contemporary Drama. Development and tendencies in continental, British, and American dramatic literature, 1850-1918. Representative readings. *Double course.*

28. Book Selection for Children and Young People. The purpose of the course is to determine the principles of selection thru the discussion of about 100 selected titles. Students are required to read a number of the books, to write annotations and to tell stories. Miss Allen.

ELECTRICAL ENGINEERING AND DRAWING

Assistant Professor Horine, Mr. Dicker, Mr. Thurman

1a. Mechanical Drawing. Required of all freshmen in Engineering. Comprising: (a) Freehand lettering; (b) Exercises in the use of instruments; (c) Projections from Pictorial Views and descriptions; (d) Exercises in tinting and shading; (e) Tracing; (f) Blue printing. *Double course.* Professor Horine.

1b. Mechanical Drawing. Continuation of Drawing 1a. *Double course.* Professor Horine.

3a and 3b. Descriptive Geometry. Required of all freshmen in Engineering. This work includes, first, the discussion of descriptive geometry as a branch of pure mathematics. Later comes a consideration of the application of descriptive geometry principles as an aid to engineering drawing. The lectures and recitations are supplemented by work in the drawing room. Prerequisite, Mathematics 2. *Double course.* Professor Horine.

4a. Advanced Drawing. Required of all sophomores in Engineering. Comprising: (a) Working drawings of parts of machines and complete machines, both detail and assembly; (b) Technical sketching; (c) Plotting of surveys. Prerequisites, Drawing 1a and 1b. *Double course.* Professor Horine.

4b. Advanced Drawing. Continuation of Drawing 4a. *Double course.* Professor Horine.

Electrical Engineering

2. Direct Current Dynamos. Required of juniors in Mechanical and Electrical Engineering. This course involves a more intensive study of direct current generators and motors than is covered in Course 1. Prerequisite, Electrical Engineering 1. *Single course.*

3. Alternating Currents. Required of all juniors in Engineering. Elective for juniors or seniors in Industrial Chemistry. This work involves a study of the fundamental laws of alternating current measuring instruments, generators, motors, transformers and converters. Prerequisite, Electrical Engineering 1. Mathematics 7b (Calculus, second part), must have been completed or be taken coordinately. *Single course.*

7. Dynamo Design. Required of juniors in Mechanical and Electrical Engineering. This work involves all the calculations necessary in the design of a direct current generator or motor, together with a complete set of detailed drawings. Each student is assigned an individual problem. Prerequisite, Electrical Engineering 1. Electrical Engineering 2 must have been completed or be taken coordinately. *Double course.*

9b. Electrical Laboratory. Required of all juniors in Engineering. Elective for juniors or seniors in Industrial Chemistry. This is a continuation of Course 9a and is intended to parallel Course 3. Prerequisite, Electrical Engineering 9a. Electrical Engineering 3 must have been completed or be taken coordinately. *Two hours a day, twice a week.*

Mechanics of Engineering

6. Analytical Mechanics. Required of all juniors in Engineering. This subject is given with a view of encouraging original analysis, logical proofs and rational conclusions with respect to the treatment of the equilibrium and motion of bodies under the action of forces. The application of the fundamental principles of mechanics to engineering problems is treated in a way calculated to interest the student in the application of analytical mechanics in his engineering work. Prerequisite, Physics 3a. Mathematics 7b (Calculus, second part), must be completed or taken coordinately. *Double course.*

Practical Mechanics

1. Wood Working. Required of all freshmen in Engineering. This work includes: (a) Recitations on the forms of wood-working tools and the cutting and peculiarities of timber. (b) Lectures on the operation of the various forms of wood-working machinery. (c) Bench work in wood, including exercises in the following operations: planing, sawing, rabbeting, plowing, notching, splicing, mortising, tenoning, dove-tailing, framing, paneling and the general use of carpenters' tools. (d) Wood-turning, involving the various principles of lathework in wood. *Four hours a day.* Mr. Dicker.

2. Pattern Making. Required of all freshmen in Engineering. This is a continuation of the course in wood-working, and is intended to give the student experience in the construction of patterns for use in making iron and brass castings. The work in the shop is supplemented by frequent lectures and recitations on the theory of pattern making. *Four hours a day.* Mr. Dicker.

4. Force Shop Work. Required of all sophomores in Engineering. Exercises in iron and steel forging. Prerequisites, Practical Mechanics 1 and 2. *Four hours a day.* Mr Thurman.

5. Machine Shop Work. Required of all sophomores in Engineering. (a) Exercises in vice work in metal. (b) General machine work. including screw cutting, drilling, planing and the milling of iron, brass and steel. Prerequisites, practical Mechanics 1 and 2. *Four hours a day.* Mr. Thurman.

GERMAN

Professor Melcher

1. Elementary German. Grammar with easy reading, composition and conversation based on matter read. Course will cover essentials of grammar. *Single course.*

2. Intermediate German. Rapid reading of elementary German with grammar drill, composition and conversation. Selected prose and poetry committed. *Single course.*

3. Scientific German. A course in introductory scientific German intended for students of science and journalism. *Single course.*

4. Advanced Reading and Composition. A course designed for those who have had at least three years of German. The literary merit of work read will be discussed, together with the period to which it belongs. *Single course.*

HISTORY AND POLITICAL SCIENCE

Assistant Professor Jones

51a. Advanced Course in the Study of American Government. *Single course.*

4b. Europe Since 1789. A study of the political, social and economic movements. The French Revolution, nineteenth century and recent history, based on Hazen. *Single course.*

High School History and Civics

Courses in High School History and Civics will be offered to meet the demands of students.

LATIN AND GREEK

Professor Jones

1. Beginning Latin. A thorough drill in declensions, conjugations, simple rules of syntax. A special effort will be made to show the close connection between Latin and English. *Double course.*

2. Caesar (Selections). The equivalent of four books will be read, but the selections will be taken mainly from the fifth, sixth and seventh books which portray the customs of the Britons, Germans and Gauls. Exercises in prose composition. *Single course.*

3. Cicero and Sallust. The four speeches of Cicero against Catiline, and Sallust's Catiline will be read. A comparative study of the orator and the historian. *Double course.*

4. Virgil. The first, second, fourth and sixth books of the Aeneid will be read. Special attention to the meter and to mythology. *Single course.*

5. Livy or Horace. The students registered in the course will select the author to be studied. *Single course.*

6. Beginning Greek. Declensions, conjugations, rules of syntax. English derivatives for Greek words will be noted. *Single course.*

MATHEMATICS

Dean Boyd, Professor Davis, Assistant Professor Le Sturgeon

2s. SECOND YEAR ALGEBRA. A second course which will be fitted to the needs of the class desiring it. *Double course.*

3a. PLANE GEOMETRY. This course will complete as much of the Plane Geometry as possible. *Double course.*

4s. SOLID GEOMETRY. A thorough course open to public school teachers and to those desiring to increase their credits for college entrance and to high school students who have been conditioned in the subject. *Single course.*

5s. TRIGONOMETRY. A standard course in Plane Trigonometry. *Double course.*

6s. COLLEGE ALGEBRA. This course covers the same ground as the usual freshman work. *Double course.*

7s. ANALYTICS. Plane and Solid Analytics for college credit. *Double course.*

8s. DIFFERENTIAL CALCULUS. Differential calculus covering a semester's work as usually given. *Double course.*

9s. INTEGRAL CALCULUS. The usual semester's work will be given. *Double course.*

MUSIC

Professor Lampert

This department seeks not only to supply means of self-expression, but also practical and technical assistance toward the development of men and women who wish to serve as supervisors of music, leaders of bands and orchestras, and as choir directors.

1a. SIGHT SINGING. This course develops speed in reading notes and skill in their vocal production, and is very helpful for *all* forms of musical activities. *One hour a week. First semester.*

1b. SIGHT SINGING. Continuation of Music 1. *One hour a week. Second semester.*

2a. MUSICAL APPRECIATION. The object of this course is to provide material and methods for teaching history and appreciation of music in schools, and to enable all even tho unable to play an instrument to become acquainted with the art and really enjoy good music when they hear it. *One hour a week. First semester.*

2b. MUSICAL APPRECIATION. Contination of Music 3. *One hour a week. Second semester.*

3a. HARMONY. The aim of this course is to give practice in chord combinations and writing of melodies. This work forms the

basis for the study of musical theory in the public schools. *Two hours a week. First semester.*

3b. HARMONY. Continuation of 5. *Two hours a week. Second semester.*

5a. GENERAL HISTORY OF MUSIC. This course is designed to cover the historical evolution of music and to develop an appreciation of its wide significance as an educative factor. *Two hours a week. First semester.*

PHYSICS

Associate Professor Kemp

For those seeking freshman credits, or one entrance unit. No previous Physics training required.

PHYSICS 1a. First hour daily recitation, 3rd and 4th hour daily laboratory for the first three weks. Credits 3. Dr. Kemp.

PHYSICS 1b. Second hour, daily recitation, 3rd and 4th hour, daily laboratory for the second three weeks. Credits 3. Dr. Kemp.

These two courses taken together will give entrance credit to freshman class, or will be accepted as equivalent to Freshman Physics, and will give entrance to medical schools which require only one year of Physics for entrance For description of courses see catalogue.

FOR SOPHOMORE CREDIT. For those who have had at least one year of Physics and Trigonometery.

For high school teachers having had one year of college Physics, or who have been teaching Physics for at least one year.

PHYSICS 11. The teaching of Physics one hour per week by appointment. Credits 2. Dr. Kemp.

PHYSICAL EDUCATION AND ATHLETICS

Professor Boles

6s. BASEBALL. Theory and Practice in batting; base running; proper methods of fielding each position; team work and coaching methods; study of the rules; physical condition; methods of indoor practice. Lectures and practical work. *Double course.*

7s. BASKETBALL. Instruction will be given in basketball with the idea of fitting men to coach. The course will cover passing, goal throwing, dribbling, team play, how to condition a team, and the different styles of play used by the leading coaches. Lectures and practical work. *Double course.*

8s. FOOTBALL. The theoretical work will take up the rules from the standpoint of coach players and officials; the several styles of

offense and defense with consideration of their special strength and weaknesses; generalship and strategy. The practical work will include: training, conditioning and player's equipment; punting, drop kicking, place kicking, kick off, and forward passing; tackling dummy and charging sled; special drills for linemen, ends and backs; following the ball, interference and team work; fundamental plays, freak plays, and signal systems. Lectures and practical work. *Double course.*

9s. Schoolroom Games and Gymnastics. The possibilities of exercise for elementary grades and high school will be shown. A review of schoolroom hygiene, with emphasis on proper seating, lighting, ventilation and exercise. *Single course.*

10s. Mass Athletics. Methods of arrangement and squad division. Practical experience of adults in plays and games, progressively arranged. Particular attention to games that will employ a large number in a limited space. *Single course.*

PSYCHOLOGY

Professor Stone

1. Elementary General Psychology. A course for those who have never had any Psychology, covering the fundamental facts and laws of normal human consciousness. The ground covered is equivalent to a complete one semester course. Lectures, recitations and demonstrations. *Double course.*

2. Experimental Psychology. A general laboratory course in which student is made familiar with the operation and manipulation of standard apparatus. This course covers in an experimental way the ground covered in theory in Course 1. Prerequisite, Course 1 or a similar elementary course. *Double course.*

105a. Mental Tests. A course designed for training teachers in the fundamentals of mental diagnosis. Various tests are studied until the student is made proficient in the manipulation of at least one standard scale. This course prepares the student for conducting work in the Psychological Clinic. *Single course.*

ROMANCE LANGUAGES

Professor Zembrod

Elementary Spanish. *Double course.*
Elementary French. *Single course.*
Advanced French *Single course.*

ZOOLOGY

Professor Funkhouser

2s. General Zoology. A study of types of the principal phyla of animals with dissections and demonstrations. Equivalent to one semester of regular college General Zoology. Lectures, recitations and laboratory. *Double course.*

5. High School Zoology. A special course in Elementary Zoology designed particularly for teachers who desire this subject to fulfill the requirements of the recent state law. The equivalent of one year of High School Zoology. Lectures, recitations and laboratory. *Double course.*

DEPARTMENT OF HYGIENE AND PUBLIC HEALTH

Professor Holmes

These courses are planned to meet the state requirements in Hygiene and Physical Education for certification of teachers.

General Hygiene. This course includes such topics as diet, the use of stimulants, heredity in relation to health, superstitions in relation of disease, causes of disease and how to prevent them, etc. The principles of Hygiene as related to the school equipment, the school child and the teachers, epidemics, water and food supplies and their relation to the spread of diseases, etc. *Two hours daily.*

Principles of Physical Education. This course will include a short history of physical education, a discussion of the various schools of physical education, the physiology of exercises, an interpretation of the State Manual of Hygiene and Physical Education, etc. *Two hours daily.*

DO YOU KNOW?

That the University of Kentucky has an enrollment of 2,421 students in all departments for 1920-21, from 115 counties of the state.

That there are 131 members of the teaching staff, 73 members of the Experiment and Agricultural Station and 81 county and home demonstration agents.

That the University has a campus of 54 acres and an experimental farm of 240 acres.

That the library numbers 42,931 volumes.

That there are 28 buildings in addition to the farm buildings.

That there are 3,620 classes held on the campus each week.

That the Agricultural Extension Division reached 300,000 people last year through its movable schools, boys' and girls' clubs and the county agents and home demonstration agents.

That the State of Kentucky has established the University for the higher education of the youth of the state and that its doors are open to aspiring men and women.

ORGANIZATION

UNIVERSITY OF KENTUCKY

Lexington, Kentucky

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For information regarding courses and catalogs, address Registrar, University of Kentucky, Lexington, Kentucky.