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Summer Session for 1905  
(June 10 to August 10)

COLUMBIA, MISSOURI



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Columbia, Missouri  
1905.

### CALENDAR.

Saturday, June 10.....	Registration
Monday, June 12.....	Lectures begin
Tuesday, August 8.....	Lectures close
Wednesday, August 9.....	} Examinations
Thursday, August 10.....	

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For catalogue of the University and for special circulars of the Academic Department, Graduate Department, Teachers College, College of Agriculture, Department of Law, Department of Medicine, and School of Engineering, address Fred Kelsey, University Publisher, Columbia, Missouri.



## FACULTY OF THE SUMMER SESSION.

- RICHARD HENRY JESSE, LL. D.,  
*President of the University.*
- ALBERT ROSS HILL, A. B., Ph. D.,  
*Professor of Educational Psychology, Director of the Summer Session.*
- JOHN SITES ANKENNEY, JR.,  
*Instructor in Freehand Drawing.*
- HENRY MARVIN BELDEN, A. B., Ph. D.,  
*Assistant Professor of English Language and Literature.*
- GEORGE WILLIAM BROWN, B. S., Ph. D.,  
*Professor of Chemistry.*
- JOHN TAGGART CLARK, A. B., A. M., Ph. D.,  
*Assistant Professor of Romance Languages.*
- WILLIAM HUTCHINSON COOK,  
*Instructor in Manual Training.*
- LUTHER MARION DEFOE, A. B.,  
*Professor of Mathematics in the Teachers College.*
- ARTHUR C. DUNCAN,  
*Instructor in Shopwork.*
- CLARENCE WILLIS EASTMAN, B. S., Ph. D.,  
*Assistant Professor of German.*  
*(Assistant Professor of German, University of Iowa.)*
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*Professor of Sociology.*
- ARTHUR H. R. FAIRCHILD, A. B., A. M., Ph. D.,  
*Instructor in English Language and Literature.*
- FRANK PIERREPONT GRAVES, A. B., A. M., Ph. D.,  
*Professor of History and Principles of Education.*
- EARL RAYMOND HEDRICK, A. B., Ph. D.,  
*Professor of Mathematics.*

- ISIDOR LOEB, B. S., LL. B., Ph. D.,  
*Professor of Political Science and Public Law.*
- CURTIS FLETCHER MARBUT, A. M.,  
*Professor of Physical Geography.*
- JUNIUS LATHROP MERIAM, A. B., A. M., Ph. D.,  
*Assistant Professor of Theory and Practice of Teaching.*
- FREDERICK BLACKMAR MUMFORD, M. S.,  
*Professor of Agriculture.*
- HOWARD S. REED, A. B., A. M.,  
*Instructor in Botany,*
- HERBERT M. REESE, A. B., Ph. D.,  
*Instructor in Physics.*
- WILBUR FISKE STARR, Mus. B.,  
*Instructor in Music.*
- OSCAR MILTON STEWART, Ph. B. Ph. D.,  
*Assistant Professor (in charge) of Physics.*
- EDGAR HOWARD STURTEVANT, A. B., Ph. D.,  
*Acting Assistant Professor of Latin.*
- NORMAN MACLAREN TRENHOLME, A. M., Ph. D.,  
*Assistant Professor (in charge) of History.*
- WILLIAM LINN WESTERMANN, A. B., Ph. D.,  
*Instructor in the History and Literature of Greece and Rome.*
- JOHN CHARLES WHITTEN, B. S., Ph. D.,  
*Professor of Horticulture.*
- ROBERT HENRY WOLCOTT, A. B., M. D.,  
*Professor of Zoology.*  
*(Professor of Zoology, University of Nebraska.)*
- 
- Lecturer on Primary and Kindergarten Methods.*

## SUMMER SCHOOL FOR 1905.

### **Purpose of the Summer Session:**

The aim of the Summer Session is to place the valuable equipment of the University at the service of persons who can not attend at other times. It is primarily for the teachers of the state, but others are admitted who are qualified to pursue the subjects taught. All work offered is given credit toward a degree from the Teachers College, and most of the work also counts toward a degree from the College of Liberal Arts. In fact, the Summer Session is an integral part of the regular University work, being the first term of the scholastic year.

In the arrangement of summer courses the interests of the following classes of persons have been kept especially in mind:

1. *Superintendents and Principals* of schools who desire to enrich their knowledge of special phases of subject matter or to pursue advanced work in Education.

2. *High School Teachers* who desire to study special subject matter and the most approved methods of treating subjects in the high school.

3. *Elementary and Rural School Teachers*. Such courses as those offered in Agriculture and Horticulture, Manual Training, and Music, and some of the courses in Education, are intended especially for grade and rural school teachers.

4. *Candidates for State Certificates* will find practically every subject for which credit is given in the list of courses outlined below.

5. *Regular Students of the University* will find in the Summer Session an opportunity to shorten the time of their course without overworking during the regular sessions.

6. *Persons desiring preparatory credits* for entrance to the University will find several courses open to them, e. g., beginning courses in French, German, and the Sciences. The courses offered in the Training School should be noted in this connection.

**Time of Opening.**

The session begins June 10 and closes August 10. It therefore represents in time one-half of one semester.

**Courses.**

Courses will be given in Agriculture, Botany, Chemistry, Civil Government, Education, English, Freehand Drawing, French, German, Greek, History, Horticulture, Latin, Manual Training, Mathematics, Music, Nature Study, Physical Geography, Physics, Sociology and Zoology.

All courses will begin at the opening of the session on June 10.

The lecture period will be sixty minutes as during the regular sessions.

**New Courses for 1905.**

Practically every department will offer some phase of its work that has not been represented in former summer sessions; but special mention may be made of the courses in Civil Government, Education, Music, Nature Study, and Sociology, which are practically all new courses.

The organization of the Missouri Teachers College as a Department of the University makes it possible to offer to the teachers of the state the very best opportunities for the study of the history, theory, and practice of teaching. A sufficient variety of courses in Education is offered to meet the needs of all grades of teachers, and the Training School gives an opportunity to observe good teaching or to review high school work.

**Daily Assembly.**

At 10 a. m. each day of the session the students and teachers will assemble for a period of thirty minutes. Simple religious exercises will be conducted and lectures on timely topics, educational, social, and religious, will be delivered. Excellent music will be provided under the leadership of Mr. Starr. Attendance at daily assemblies will be voluntary, but it is believed that the exercises will be sufficiently interesting and profitable to insure the regular attendance of the entire student body.



**General Lectures.**

In addition to the short lectures at the daily assembly, it is proposed to offer a series of evening lectures by prominent educators. These lectures will, as a rule, be illustrated. Detailed announcements will be made later.

**Terms of Admission.**

There will be no formal examinations for admission. Students will be admitted to such courses as they are prepared for. Such students as desire University credit for their work must meet the entrance requirements or enter under the rules as special students.

**Registration.**

Students should present themselves for registration at room 50 B, Academic Hall, on Saturday, June 10, between the hours of 8 a. m. and 4 p. m. Lectures will begin at 8 o'clock on Monday, June 12. It is important that every student be present on the opening day of the session.

**Examinations.**

At the close of the session stated examinations for those who desire credit will be held in the several courses.

**Credit for Courses in Summer Session.**

The number of hours' credit given for each course is stated in connection with the outline of the courses given later in this announcement. Students may not register for more than 7 hours without the consent of the Director. Students who attend less than *two-thirds* of the term will receive no credit whatsoever.

**Acceptance of Grades.**

A law enacted by the Forty-first General Assembly provides for the acceptance of the grades made in the Summer Session, as follows:

Grades made in the summer terms of the state educational institutions and in such other summer schools as may be approved by the State Board of Education shall be accepted by the State Superintendent and County Boards in lieu of examination in such subjects or parts of subjects outlined by the State Board. (Section 9666.)

The State Board has announced that no pupil shall be given

credit in grades for teachers' certificates who has not attended the summer school giving the grades at least six-sevenths of the term.

The grades made in this school by an experienced teacher will be accepted by the State Superintendent of Public Schools in lieu of an examination on such subjects for State Certificates.

#### **Libraries, Laboratories, Museums.**

The University has over thirty well equipped laboratories and museums, for practical instruction in the sciences.

The libraries, in the aggregate, contain over 60,000 bound volumes and several thousand pamphlets. The library of the State Historical Society contains 23,000 volumes. The general library will be kept open all day. Direct access to the shelves is permitted to all students. The special libraries of those departments in which courses are given will be accessible to students at certain hours.

#### **Gymnasiums.**

Rooms have been set aside in Academic Hall for a gymnasium for men and a gymnasium for women. These are well equipped with the necessary apparatus and adjoining rooms have been fitted with baths and lockers. While no instruction is offered in physical training in the Summer Session, both the gymnasiums will be kept open, in charge of persons competent to direct such students as desire to make use of the facilities for exercise that the gymnasiums afford.

#### **Out of Door Sports.**

In addition to the gymnasiums, there are athletic grounds, with baseball and football fields and tracks constructed for bicycling and running. There are many miles of gravel roads about Columbia, which are good for bicycling. There are several excellent tennis courts on the campus, and a short distance away on the Agricultural College farm, there are excellent golf links, laid out by an expert. Columbia is a delightful town of about 8,000 inhabitants. To teachers from the large cities, it offers all the comforts of an outing in the country.

#### **Expenses.**

The fee for admission is \$5 for the session of two months or any part thereof. This is payable upon entrance to the treasurer of the University. Each student who takes laboratory work in Agricul-

ture, Chemistry, Botany, Horticulture, Manual Training, Physical Geography, Physics, or Zoology is required to make a deposit of \$5.00 with the Secretary of the University to cover laboratory fee of \$2.50, and damage to or loss of University property.

Good board, including room and service, may be had in private families at from \$4.00 to \$5.00 per week. If the students choose to organize themselves into a club, the expense of living may be much reduced. Rooms for men may be rented in the University Boarding Club for from \$3.75 to \$8.25 for the entire time of the Summer Session. All students renting rooms in a club house are required to make a deposit of \$5.00 to cover damage to or loss of University property, and a fee of \$1.00 for matron's salary. Each room is furnished with a plain bedstead, table and two chairs. If two persons occupy one room the other furniture absolutely necessary may be bought or rented for the summer for eight or ten dollars. Table board in these clubs can easily be brought within \$2.00 a week. Rooms and meals for ladies may be had in Read Hall for \$5.00 a week.

The laboratory deposit and the room deposit will be refunded at the close of the student's course, less the amount deducted for laboratory fee, and for loss of University property or damage thereto.

#### **Railroad Rates.**

For five summers all the railroads of the State have granted a rate of one and a third fare to students of the Summer Session, and the same rate will no doubt be granted for the summer of 1905. The sale of the reduced fare tickets will be limited to *one week, viz., June 6, 7, 8, 9, 10, 11, and 12*. Such tickets will be good for return passage up to September 1. Tickets should be bought *from starting point through to Columbia and not to junction points*. A certificate (not a receipt) should be taken from the railroad agent at starting point. This certificate will show the name of the purchaser and the amount paid for the ticket. This certificate, when signed by A. R. Hill, Director of the Summer Session, will entitle the holder to purchase a return ticket at one-third fare.

### COURSES OF INSTRUCTION.

(The letter "s" prefixed to any course is used to distinguish such course from the one of the same number offered during the

regular session. The suffix "a" or "b" indicates that the course corresponds to the first or second semester respectively of the regular course of the same number. The number in parentheses after each course indicates the number of hours credit given.)

### 1. AGRICULTURE.

Professor MUMFORD.

The work in this subject is designed to meet the growing demand for definite instruction in Agriculture in the public schools. The first course, as arranged, meets the approval of the State Superintendent of Public Schools and is accepted for State Certificates.

2a. **Soils and Plant Studies, with reference to Agriculture.** An elementary course in the principles of plant production, including a discussion of soils in their relation to plant growth. *Six times a week*; (3 hours in T. C.).

3a. **Principles of Animal Breeding.** A study of variation, heredity, and selection, in reference to the origin and development of the domestic animals. *Six times a week*; (3 hours in Ag. and T. C.).

### 2. BOTANY.

Mr. REED.

s1. **General Botany.** A laboratory study of plants as living organisms. The course deals with the nature and properties of protoplasm, the physiology of plants, and typical representatives from each of the great groups. Lectures, reading, laboratory work, and field trips. *Six times a week*; (3).

8b. **Histology and Cytology.** Cell structure, mitosis, tissue structure and organography, microtechnique and methods of preparing laboratory material in general. *six times a week*. (3).

### 3 CHEMISTRY.

Professor BROWN.

s1. **A Course in General Inorganic Chemistry,** mainly laboratory work, intended primarily for teachers and those wishing to review the fundamental basis of the science experimentally, in which the object is rather to impart scientific method than chemi-

cal facts by a comparatively few quantitative experiments carefully manipulated, accurately observed, and correctly interpreted. This course will be most profitable to those having some knowledge of Chemistry, but may be taken by those wishing to offer Chemistry for entrance to the University, for which it will be accepted. *Six times a week; (3).*

s2. **A course in Quantitative or Qualitative Chemical Analysis.** *Six times a week; (3).*

#### 4 CIVIL GOVERNMENT.

Professor LOEB.

2b. **Civil Government in the United States.** A description of the structure and functions of local, commonwealth, and national governments in the United States. The historical development of institutions will be considered and special stress will be placed upon the actual working of government. *Six times a week; (3).*

8a. **The Government of Missouri.** A detailed study of the organization and functions of government in Missouri. The development of local and commonwealth institutions will be traced from the Louisiana Purchase to the present time. *Six times a week; (3).*

#### 5 EDUCATION.

Professor HILL; Professor GRAVES; Assistant Professor MERIAM;  
Miss \_\_\_\_\_.

2b. **History of Education.** Recitations, lectures, and discussions. *Six times a week; (3).* Professor GRAVES.

3a. **School Supervision and Management.** The leading problems of school organization, administration and management will be dealt with. *Six times a week; (3 hours in T. C.)* Assistant Professor MERIAM.

5a. **Grade and Rural Teaching.** A course in the Theory and Practice of Teaching, with special reference to the needs of elementary and rural school teachers. *Six times a week; (3 hours in T. C.)*. Assistant Professor MERIAM.

10a. **Educational Psychology.** This course aims to present the main facts concerning the nature and development of the mind

during childhood and adolescence, with special reference to the meaning of these facts to the teachers. It presupposes a general course in Psychology or its equivalent. Emphasis will be placed upon a few important topics. *Six times a week*; (3). Professor HILL.

13b. **High School Problems.** The history, curriculum, organization, and administration of secondary education in the United States. In connection with this course a series of conferences regarding high school problems in Missouri will be conducted and these will be open, without credit, to students who are not enrolled in the course. *Six times a week*; (3 hours in T. C.). Professors GRAVES and HILL.

s6. **Primary Teaching and Kindergarten.** A course of lectures and discussions on the subject-matter and methods of the kindergarten and primary school, in connection with observation of expert primary teaching by the leader of the class. *Six times a week*; (3 hours in T. C.). Miss \_\_\_\_\_.

## 6 ENGLISH.

Assistant Professor BELDEN; Dr. FAIRCHILD.

s1. **English Composition and Rhetoric.** Themes, class room criticisms, and the rhetorical study of selected masterpieces. New-comer's Elements of Rhetoric will be used as text. *Six times a week*; (3). Assistant Professor BELDEN.

s2. **English Language.** A lecture course on the history of the language, based on Lounsbury's "History of the English Language." *Six times a week*; (3). Assistant Professor BELDEN.

3a. **History of English and American Literature.** A rapid survey, with readings to meet the requirements of the first semester of English 3, regular session. *Six times a week*; (3). Dr. FAIRCHILD.

7a. **Shakespeare.** A critical study of four or five selected plays, with collateral reading. *Six times a week*; (3). Dr. FAIRCHILD.

## 7 FREEHAND DRAWING.

Mr. ANKENEY.

1a. **Drawing and Design for Public Schools:** *Six times a week*; (3 hours in T. C.)

1b. **Drawing and Design for Public Schools.** A more advanced course, covering about the same ground as the second semester's work of Course 1 in the regular session. *Six times a week*; (3 hours in T. C.).

## 8 FRENCH.

Assistant Professor CLARK.

s1. **Elementary Course.** This course is meant for beginners, and for those teachers whose elementary training in French has not been thorough. The grammar used will be Fraser and Squair's French Grammar. The very closest attention will be paid to the pronunciation. *Six times a week*; (3).

s2. **Advanced Course.** This course will be suited to those who have had one or two years' French. There will be a survey of the more important points in the grammar, together with some writing of French. In the matter of reading aloud, the students will receive the most careful attention to the end of training the ear. This course is meant to be of special value to those desiring to teach French. *Six times a week*; (3).

## 9 GERMAN.

Assistant Professor EASTMAN.

s1. **Elementary Course.** This will comprise a study of the grammar and structure of the language, easy prose reading, translation of English into German, German conversation. *Six times a week*; (3).

s2. **Goethe.** This course will begin with a study of Goethe's *Hermann and Dorothea*, to be supplemented by the reading of some selections from Goethe's prose writings. *Six times a week*; (3).

s3. **German Composition.** This course is intended for teachers of German and will include some discussion of grammars, texts, methods, etc. *Four times a week*; (2).

## 10 GREEK.

s9. **Greek Literature in English Translation.** This course is especially designed for non-classical students and for teachers who desire to obtain a knowledge of Greek Literature and its influence on Roman and modern literatures. *Twice a week*; (1).

s1. **Greek and Roman History.** For a statement of this course see announcement regarding History, course s1.

## 11 HISTORY.

Assistant Professor (*in charge*) TRENHOLME; Dr. WESTERMANN.

s1. **Ancient History.** A course in the general history of the ancient period beginning with a brief account of the Oriental peoples after which a more detailed study will be made of the Greek and Roman world. As an outline text for the work of the course students should procure West's "Ancient World" (Allyn and Bacon). *Six times a week*; (3). Dr. WESTERMANN.

s2. **Modern History.** A general course on the history of Europe since the fall of the Roman Empire. The Middle Ages will be first dealt with in a brief manner and then a more detailed study made of the Renaissance and Reformation movements and of the more strictly modern period. Robinson's "History of Western Europe (Ginn & Co.) will be used as the text. *Six times a week*; (3). Assistant Professor TRENHOLME.

s3. **English History and Government.** A course dealing with the political, social and governmental history of the English people from the earliest times to the present day. Larned's "History of England" (Houghton, Mifflin), will be used as the outline text, but will be supplemented by collateral reading. The University Library is especially strong in reference works for English History and students in this course will have an opportunity to acquaint themselves with both the sources and the secondary works. Those taking this course should already have some knowledge of general European history. *Six times a week*; (3). Assistant Professor TRENHOLME.

For courses on American History and Government see announcement of Civil Government above.

## 12 HORTICULTURE.

Professor WHITTEN.

1b. **Cultivated Plants.** How they grow under culture, their relation to their environment, and common methods of propagating and managing plants; the materials for a school garden and how to use them. This course is intended for those who are preparing to



teach in elementary schools. *Six times a week*; (3 hours in T. C.)

4a. **The Evolution of Cultivated Plants.** A study of organic evolution as applied to the modifications of plants, particularly those in cultivation. *Six times a week*; (3 hours in Ag. and T. C.)

### 13 LATIN.

Acting Assistant Professor STURTEVANT; Dr. WESTERMANN.

1a. **Cicero.** Selected Orations of Cicero, followed by the essay de Senectute, used as a basis for a study of Cicero's literary and political career. *Six times a week*; (3). Acting Assistant Professor STURTEVANT.

1b. **Vergil.** The course will cover four books of Vergil's Aeneid, which will be discussed in its relation to the literary aims of the circle of Augustus Caesar. Especially designed for High School teachers of Vergil. *Six times a week*; (3). Dr. WESTERMANN.

s1. **Latin Composition.** This course is intended to provide better equipment for teaching Latin Composition in the high schools. *Six times a week*; (3). Acting Assistant Professor STURTEVANT.

s2. **The Early Dramatists.** Terence's Phormio will be studied carefully, and three or four other plays by Terence and Plautus will be read. The course will be open to students who have had courses 1 and 3 in the regular session, or their equivalents. *Six times a week*; (3). Acting Assistant Professor STURTEVANT.

For more elementary courses in Latin see announcement of the Training School below.

### 14 MANUAL TRAINING AND SHOP WORK.

Mr. COOK; Mr. DUNCAN.

**Course 4a.** This course is designed for the needs of the teacher of the first three grades of the elementary school and consists of a system of handwork within the reach of any city or rural school. The lines of work include basketry in simple form, clay-modeling, construction in paper and cardboard, knotting, plaiting and weaving of raphia, the weaving of woolen yarn, etc.

*Three hours credit in the Teachers College.*

**Course 4b.** In this course the work is so designed as to be suitable for the grades after the third and up to the high school.

The course parallels 4a, but the work is in most cases essentially different. The work in paper and card-board will be omitted in this course and work of another character substituted.

(a) **Clay.** The work in this course will take on largely the nature of pottery and questions of glazing, underglaze color, and firing will be discussed and work of more difficult nature attempted than in the previous course. The potter's wheel will be used to considerable extent.

(b) **Raphia.** In raphia the work will consist of the basketry forms worked out as in the Indian basket, and other more difficult work will be done.

(3). **Weaving.** The student in this course will be required to work out some designs in either linen or wool or both. The looms used will be made by each student and the work of making will form part of the requirement in elementary benchwork.

(d) **Macrame.** Some work in macrame may be given, but only such as time will permit.

(e). **Rattan.** Considerable work in rattan will be given and this popular basketry course will be thoroughly treated.

(f). **Bent Iron.** This will be a thorough course in the Venetian Iron work and some additional work with the use of heat in the manner of ordinary forge work.

(g). **Elementary Benchwork.** Introduced by the familiar "Whittling Sloyd," this course will take up the simpler bench operations and a fairly thorough contact with wood-working tools will be given.

*Three hours credit in the Teachers College.*

**Course 5a.** This course is in natural sequence with the previously described benchwork course, and in it is required a very much more thorough use of tools, and some work is given in forging and wood turning. The student must become familiar with the methods of keeping tools in order, their relative merits, and their cost.

Mechanical drawing is required as part of this work and the student is also required to make selected readings from the small but well selected reference library of manual training works.

By lecture and quiz the questions of the economic and educational bearings of the subject are made familiar.

An exceptional opportunity for original work is made possible to the students of the summer session by reason of the extensive manual training equipment, and every effort along original lines

of handiwork will be heartily encouraged if it promises new advance in the manual training field.

Students desiring any of these courses are advised to confer with the instructor or the Director as to the other studies carried.

*Three hours credit in the Teachers College.*

**Course 5b.** This course consists of Forging, Pattern making, and Foundry Work, together with a short course in mechanical drawing. The models are selected with an especial reference to the needs of the high school. *Three hours daily throughout the session; (3 hours in Eng. and T. C.).*

**Course 6.** This course consists of the work in metals known as machine-shop work and is designed for teachers of this subject. *Three hours daily during the session; (3 hours in Eng. and T. C.).*

## 15 MATHEMATICS.

Professor HEDRICK; DEFOE.

1a. **Trigonometry.** Regular course in Plane and Spherical Trigonometry. *Six times a week; (3).* Professor DEFOE.

1b. **Analytic Geometry.** The regular course. *Six times a week; (3).* Professor HEDRICK.

2a. **Advanced Algebra.** The course begins with a hasty review of elementary algebra, embracing quadratic equations. It covers the ground of the regular course in advanced algebra. *Six times a week; (3).* Professor HEDRICK.

3a. **Elementary Differential Calculus.** This course corresponds to the course offered for academic students, and not to that required for students of engineering. *Six times a week; (3).* Professor HEDRICK.

3b. **Elementary Integral Calculus.** The academic, not the engineering course. *Six times a week; (3).* Professor HEDRICK.

For courses in elementary mathematics see announcement of Training School below.

## 16 MUSIC.

Mr. STARR.

s1. **Elementary Course in Music,** intended for teachers in the elementary schools. It includes the following topics: Interval

drills; theory of scale and transposition; time and rhythm; note and note singing; phrasing and dynamics; pitch-pipe and tuning fork; elements of voice training—(a) removal of muscular restraint (b) breathing, (c) the use of vowels, (d) placing, (e) resonance, (f) flexibility, (g) expression and its development. *Six times a week*; (3 hours in T. C.).

s2. **Advanced Course**, for teachers who have had some experience in teaching music in the public schools. The following topics indicate the nature of the course: advanced exercises in reading; conducting, (the use of the Baton to mark rhythm and time); advanced work in voice training; ear training—(a) relative pitch (diatonic major scale), (b) notation, (c) motives and short phrases, (d) the minor mode, (e) chromatic progressions, (f) intervals, (g) elements of harmony. *Six times a week*; (2 hours in T. C.).

### 17 NATURE STUDY.

Professors WOLCOTT and MARBUT.

s1. A course of lectures and field work on the subject-matter and methods of nature study in the elementary school grades. *Six times a week*; (3 hours in T. C.).

### 18 PHYSICAL GEOGRAPHY.

Professor MARBUT.

2a. **Physiography**. A course of study in the principles of physiography as illustrated in the physical features of North America. The subject will be taken up from the point of view of the needs of the high school teacher of Physiography, and will include the subject-matter as well as the equipment necessary for presenting it. The work will consist of laboratory and field work with occasional lectures and conferences. *Six times a week*; (3).

6a. **Physical Geography**. This is a course of study in general physical geography, covering the ground of the average high grade text book. It will be presented as a lecture, library, and laboratory course and may be taken as a preparation for more advanced geographic work or for teaching the subject in high schools. *Six times a week*; (3).

### 19 PHYSICS.

Assistant Professor (*in charge*) STEWART; DR. REESE.

1a. **General Physics, Mechanics, Heat, and Sound**. Lectures, recitations and laboratory. *Six times a week*; (3).

1b. **General Physics, Light, Magnetism and Electricity.** Lectures, recitations and laboratory. *Six times a week; (3).*

Courses 1a and 1b are together the equivalent of Course 1 given during the regular session.

12a. **Light, or Electricity and Magnetism,** one of the two. A more advanced course. Open to those who have had Course 1 or its equivalent. Calculus not required. *Six times a week; (3).*

3b. **General Physics, Light, Magnetism and Electricity.** This is the second semester's work of the Physics required in the Engineering courses. This course will be given if there is a sufficient demand for it. *Twelve times a week; (6).*

For elementary physics see announcement of Training School below.

## 20 SOCIOLOGY.

Professor ELLWOOD.

1a. **Elementary Sociology.** Lectures on certain fundamental problems in sociology; such as, the relation of sociology to the other sciences, the methods of sociology, the relation of sociology to evolutionary theory, the origin of the family, the evolution of the family, the historical development of the family, the modern divorce problem, the origin and evolution of property, the growth of population, the Malthusian theory of population. Special attention will be given to the relation of education to social problems. Text-book: Small and Vincent's Introduction to the Study of Society. *Six times a week; (3).*

3a. **Modern Philanthropy.** Lectures on the causes of poverty, the causes of degeneracy, the history of philanthropy and the Poor Law, the principles of relief, public outdoor relief, organized charity, almshouse administration, the treatment of the vagrant, the care of dependent children, the care of the destitute sick, the care of the insane, the feeble-minded, and the epileptic, the education of the blind and the deaf. Special attention will be given to the problem of educating defectives. Text-book: Warner's American Charities. *Six times a week; (3).*

## 21 ZOOLOGY.

Professor WOLCOTT.

s1. **General Zoology.** A course intended to give a general survey of the field of zoological science, and to familiarize the student with a typical series of animal forms. In the laboratory the student

studies, by means of the microscope and dissection, selected animals, from the simpler forms, such as the amoeba, to the complex, such as the earthworm and the frog. *Six times a week; (3).*

s2. **Osteology.** A study in morphology illustrated by reference to the skeletal structures. The course is intended to be independent and may be taken without previous training in zoological studies. *Six times a week; (3).*

### *TRAINING SCHOOL OF MISSOURI TEACHERS COLLEGE.*

Several courses preparatory to University studies will be offered in the Training School during the coming summer session of the Teachers College. It is the aim of the Training School to afford to students in the Teachers College opportunities for observation of and practice in teaching of high school subjects. The school is managed and the teaching supervised by the faculty of the Teachers College. Professor Frank P. Graves is acting principal of the school.

## COURSES IN TRAINING SCHOOL SUMMER OF 1905.

### LATIN.

Dr. WESTERMANN (*in charge*).

A. **Beginning Course in Latin.** Collar and Daniell's First Latin Book will be made the basis of class work. *One unit for entrance.*

B. **Caesar.** A study of the first three books of Caesar's Gallic War with composition based thereon. *One unit for entrance.*

### MATHEMATICS.

Professor DEFOE (*in charge*).

A. **Plane Geometry.** *One unit for entrance.*

B. **Solid Geometry.** *One-half unit for entrance.*

C. **Algebra (second year).** *One unit for entrance.*

**PHYSICS.**

Assistant Professor STEWART (*in charge*).

**A. High School Physics.** *One unit for entrance.*

Courses in other subjects can be provided if there is a demand for them.

For further information in regard to the Summer Session of the University or of the Training School, address

ALBERT ROSS HILL, Director,  
Columbia, Missouri.

## MISSOURI TEACHERS COLLEGE.

### A Department of the University of Missouri.

The Department of Education of the University has been reorganized and developed into a Teachers College, with a four years' course of study leading to the degree of Bachelor of Science (B. S.) in Education. The college also confers Teachers' Certificates authorizing the holders to teach for life or for two years within the State of Missouri, the length of time for which the certificate is awarded depending upon the amount of training which the student has received in academic and professional lines. These certificates indicate whether the holder is fitted to teach in the elementary schools, or in the high schools, and, if in the latter, what subject or subjects in particular he is qualified to teach.

The distinctive feature of the work in the Teachers College is the study of the history of education, educational psychology, theory and practice of teaching, and school administration, combined with actual practice in teaching under guidance and observation of the teaching of experts. No one will be awarded a Life Certificate until he has made a careful study of educational problems and has demonstrated by actual practice his ability to teach; but a certificate good for two years may be awarded to persons of less professional training and experience upon the completion of certain minimum courses of study. By further study in the Teachers College, either in the regular or the summer session, and successful experience in teaching, the Life Certificate may in due time be secured.

These certificates are awarded not only to graduates of the Teachers College but to A. B. graduates of this University and others of similar standing who have pursued in the Missouri Teachers College the courses of professional study and practice required of its graduates. In general the equivalent of about one year of professional training is required of graduates of colleges in the Missouri College Union. This requirement may be fulfilled, either in whole or in part, by attendance at the Summer Sessions when the work in educational theory and practice is strongly represented.



Graduates of Colleges and Normal Schools who desire to work for the degree of Bachelor of Science in Education are given such advanced standing as their previous course of training entitles them to.

In order to carry out the purposes for which the Teachers College was organized, the Board of Curators of the University has established a Practice School, and employed four Professors of Education, each representing a special phase of the work. There has also been appointed a Faculty for the instruction of teachers in the best methods of teaching Botany, Freehand Drawing, English, German, History, Latin, Manual Training, Mathematics, Music, Nature Study, and other branches of school instruction. Thus the professional training offered is concrete and practical, and adapted to the needs of teachers in all grades.

Situated as it is in the midst of all the libraries and laboratories of the State University, the Missouri Teachers College is able to offer better facilities for the training of teachers than any such institution on a separate foundation could. All the resources of the College of Liberal Arts and of the College of Agriculture are at the service of its students. The instructors of the Teachers College arrange their courses with a view to the needs of teachers, and teachers' courses in other departments can be provided when there is a demand for them. The Summer Session of the University is practically a session of the Teachers College.

For particulars regarding courses for the degree and for the several grades of teachers' certificates, address

ALBERT ROSS HILL, Dean,  
Columbia, Missouri.



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