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BULLETIN

OF THE

University of New Mexico

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MARCH, 1909

VOLUME 18

CATALOGUE

1908-1909

ANNOUNCEMENTS FOR 1909-1910

ALBUQUERQUE, NEW MEXICO

PUBLISHED QUARTERLY BY THE UNIVERSITY OF NEW MEXICO
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PUBLICATIONS

OF THE

University of New Mexico

ALL the University Publications are issued as Bulletins. These are arranged in a continuous series, numbered consecutively. The Bulletins are classified according to subject matter and each class is given a separate title and carries its own volume number. These classes issued to date are as follows:

Catalogue Series, Vols. I-XVIII; whole numbers 1-14, 40, 43, 46, 47, 48, 50.

Biological Series, Vols. I, II; whole numbers 19-22, 29-39, 44, 47, (Hadley Laboratory Bulletin, Vols. I, III): Vol. III; whole number 49.

Geological Series, Vols. I, II; whole numbers 15-18, 23-28. (Hadley Laboratory Bulletin, Vols. I, II).

Educational Series, Vol. I; whole numbers 41, 42.

Language Series, Vol. I; whole number 45.

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OF
The University of New Mexico

CATALOGUE, 1908-1909

ANNOUNCEMENTS

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JOURNAL PUBLISHING COMPANY
ALBUQUERQUE, N. M.
1909

Advantages

THE UNIVERSITY OF NEW MEXICO offers the best of advantages for a thorough college education under the most healthful climatic conditions and at small cost.

There are many young men and women in the Northern and Eastern States compelled to give up their school work on account of ill health, who will find it possible to continue their studies here under the favorable climatic conditions, and to improve in health at the same time. To these the University offers special advantages, and solicits correspondence with them. You are cordially invited to visit the University at any time.

All requests for information should be addressed to the Registrar,

UNIVERSITY OF NEW MEXICO,
Albuquerque, N. M.

University Calendar

1909. Jan. 4, Monday,	Second Semester begins.
Feb. 22, Monday,	Washington's Birthday.
Feb. 26, Friday,	Intercollegiate Debate.
(By proclamation),	Arbor Day.
April 16, Friday,	University Play.
May 1, Saturday,	Intercollegiate Athletic Contest.
May 2, Sunday,	Baccalaureate Address.
May 4, Tuesday,	Oratorical contest.
May 5, Wednesday,	Second Semester examinations completed;
	Preparatory Commencement.
May 6, Thursday,	Class Day exercises;
	Alumni Banquet.
May 7, Friday,	University Commencement.
May 8, Saturday,	Summer vacation begins.
Aug. 23, Monday,	First Semester begins;
	assembly of students;
	examination and presentation of certificates; registration.
Sept. 6, Monday,	Labor Day.
Nov. 25, Thursday to	
Nov. 29, Monday,	Thanksgiving recess.
Dec. 10, Friday,	Declamation contest.
Dec. 23, Thursday,	Examinations for First Semester completed;
	registration for Second Semester.
Dec. 24, Friday,	Winter vacation begins.

1910. January 10, Monday,	Second Semester begins; registration.
Feb. 22, Tuesday,	Washington's Birthday.
Feb. 25, Friday,	Intercollegiate Debate.
(By Governor's Procla- mation),	Arbor Day.
April 15, Friday,	University Play.
April 23, Saturday,	Intercollegiate Athletic contest.
May 8, Sunday,	Baccalaureate Address.
May 9, Monday,	Oratorical contest.
May 10, Tuesday,	Second Semester exam- inations completed.
May 11, Wednesday,	Preparatory Commence- ment.
May 12, Thursday,	Class Day.
May 13, Friday,	Alumni Banquet.
	University Commence- ment.

Board of Regents

HIS EXCELLENCY GEORGE CURRY, Governor of the
Territory of New Mexico, ex-officio.

PROF. JAMES E. CLARK, Superintendent of Public In-
struction, ex-officio.

DR. JAMES H. WROTH, Term Expires 1909.

HON. E. S. STOVER, Term Expires 1910.

HON. FRANK W. CLANCY, Term Expires 1911.

REV. FLETCHER COOK, Term Expires 1913.

REV. A. M. MANDALARI, Term Expires 1914.

Officers.

HON. FRANK W. CLANCY, President.

DR. JAMES H. WROTH, Secretary and Treasurer.

Departments of the University

The departments of instruction of the University of New Mexico are the following:

- I. *College of Letters and Sciences*—
Courses leading to the degree of A. B.
- II. *School of Engineering*—
Complete four year course in Civil, Electrical and Mechanical, and Chemical Engineering.
- III. *School of Education*—
Courses providing thorough professional instruction in the Science of Education.
- IV. *Preparatory School*—
Complete four-year courses.
- V. *Commercial School*—
Complete four-year course of preparatory and commercial branches.

Faculty for 1908-1909

WILLIAM G. TIGHT, President,

Professor of Geology.

B. S., Denison University, 1886; M. S. ibid 1887; Ph. D., University of Chicago, 1901; Professor of Geology, Denison University, 1886-1900; President and Professor of Geology, University of New Mexico, 1901—.

JOSEPHINE S. PARSONS,

Associate Professor and Principal of Commercial Department.

A. B., University of New Mexico, 1904; Student Stanford University, 1896; Graduate Student University of California, 1904-'05; Principal Commercial Department University of New Mexico, 1893—.

CHARLES E. HODGIN, Dean and Registrar,

Professor of Education.

B. Pd., University of New Mexico, 1894; Indiana State Normal School, 1881; Principal Public Schools Trafalgar, Indiana; Instructor in Education Richmond Normal School, 1882-'84; Principal Albuquerque Academy, 1887-'91; Superintendent Albuquerque Public Schools, 1891-'97; Principal Normal School, University of New Mexico, 1897-'04; Graduate Student University of California, 1903-'04; Professor of Education, University of New Mexico, 1905—.

ETHEL A. HICKEY,

Associate Professor of English.

A. B., University of Kansas, 1898; Instructor in English and German, Hiawatha High School, Kansas, 1898-1901; Associate Professor of English, University of New Mexico, 1901—.

RUPERT F. ASPLUND,

Professor of Latin and Greek.

A. B., Illinois College 1896; Instructor in Illinois Public Schools, 1896-'98; Instructor in Illinois College, 1898-1900; Principal Whipple Academy, Jacksonville, Illinois, 1900-'02; Professor of Latin and Greek University of New Mexico, 1902—.

AURELIO M. ESPINOSA,*

Professor of Romance Languages.

A. B., University of Colorado, 1902; M. A., *ibid*, 1904; Assistant in Spanish and French University of Colorado, 1901-'02; Instructor, *ibid*, summer quarters, 1904 and 1905; Professor of Modern Languages, University of New Mexico, 1902-'06; Professor of Romance Languages, 1906—.

MARTIN F. ANGELL,

Professor of Physics and Electrical Engineering.

B. S., University of Wisconsin, 1902; M. A., *ibid*, 1905; Assistant in Physics, University of Wisconsin, 1902-'03; Professor of Physics and Mathematics, University of New Mexico, 1903-'04; Graduate Student and Assistant in Physics University of Wisconsin, 1904-'05; Professor of Physics and Electrical Engineering, University of New Mexico, 1905—.

JOHN H. CRUM,

Associate Professor of Elocution and Oratory.

B. O., Soper School of Oratory, 1904; M. O., *ibid*, 1905; Instructor in Elocution and Oratory Soper School of Oratory, 1903-'04; Associate Professor of Elocution and Oratory, University of New Mexico, 1904—.

DELLA J. SISLER,

Librarian and Associate Professor of Library Science.

B. L. S., University of Illinois, 1905; Library Cataloger, Kansas State Normal, 1900-'03; Librarian and Instructor in History, University of New Mexico, 1905-'06; Librarian and Associate Professor of Library Science, 1906—.

D. M. RICHARDS,

Associate Professor of History.

A. B., Oberlin College, 1876; Principal of Second Ward School, Stuart, Iowa; Superintendent of Schools, Gallup, N. M., 1893-1901; Principal of Preparatory Department, New Mexico College of Agriculture and Mechanic Arts, 1901-'06; Associate Professor of History, University of New Mexico, 1906—.

(*)—Absent on leave.

JOSEPH RALPH WATSON,

Associate Professor of Biology.

B. S., Baldwin University, 1897; A. M., Western Reserve University, 1899; Graduate Student, University of Chicago, 1906-'07; Instructor in Biology, Western Reserve University, 1899-1900; Instructor in Botany and Chemistry, Berea College, 1900-'02; Professor of Natural Science, Rochester College, 1903-'06; Instructor in Biology in Manitowoc High School, 1906-'07; Associate Professor of Biology, University of New Mexico, 1907—.

JOHN D. CLARK,

Associate Professor of Chemistry.

B. S., New Hampshire College, 1906 Assistant in Chemistry, New Hampshire College, 1906-'07; M. S., New Hampshire College, 1907; Associate Professor of Chemistry, University of New Mexico, 1907—.

HERMON H. CONWELL,

Assistant Professor of Mathematics.

B. S., Kansas State College, 1907; Employed in Testing Department General Electric Company, 1907-'08; Assistant Professor of Mathematics, University of New Mexico, 1908—.

CHARLES B. GIBBONS,

Assistant Professor of Engineering.

B. S., M. E., University of Illinois, 1907; Assistant in General Engineering Drawing, *ibid*, 1907; Instructor in General Engineering Drawing, *ibid*, summer session, 1907; Instructor in General Engineering Drawing, *ibid*, 1907-'08; Assistant Professor of Engineering, University of New Mexico, 1908—.

LEON B. STEPHAN,

Assistant Professor of German and Latin.

A. B., University of Indiana, 1908; Instructor in Public Schools of Indiana, 1903-'05; Principal High School, Markle, Indiana, 1906-'07; Graduate Student, University of Indiana, summer 1908; Assistant Professor of German and Latin, University of New Mexico, 1908—.

ANA JULE ENKE,

Instructor in Romance Languages.

Ph. B., University of Chicago, 1905; Graduate Scholar in Romance, University of Chicago, 1905-'06; Fellow in Romance, University of Chicago, 1906-'08; Official Tutor in Romance, University of Chicago, 1906-'08; Extension Instructor in Spanish, University of Chicago, 1905—; Instructor in Romance Languages, University of New Mexico Mexico, 1908-'09.

FLEDA EMMA SMITH,

Instructor in Domestic Science.

A. B., University of New Mexico, 1908; Student University of Chicago, summer quarter, 1908; Instructor Domestic Science, 1908—.

Standing Committees.

Catalogue.—Rupert F. Asplund, Chas. E. Hodgkin, Josephine S. Parsons.

Schedule and Curriculum.—M. F. Angell, D. M. Richards, Ethel A. Hickey.

Student Standing.—Chas. E. Hodgkin, Rupert F. Asplund, M. F. Angell.

Student Functions.—Josephine S. Parsons, M. F. Angell, John H. Crum.

Student Discipline.—M. F. Angell, Josephine S. Parsons, Joseph R. Watson.

Athletics.—M. F. Angell, John D. Clark, H. H. Conwell.

Rhodes Scholarship.—Rupert F. Asplund, D. M. Richards, Ethel A. Hickey.

Music.—John H. Crum, Josephine S. Parsons, Fleda E. Smith.

Commencement.—John H. Crum, Ethel A. Hickey, C. B. Gibbons.

Publications.—Rupert F. Asplund, Chas. E. Hodgkin, Della J. Sisler, Josephine S. Parsons, John H. Crum, L. B. Stephan, D. M. Richards.

Buildings and Grounds.—John D. Clark, H. H. Conwell, Chas. E. Hodgkin.

Class Advisers.

Seniors, Chas. E. Hodgkin; Juniors, M. F. Angell; Sophomores, Ethel A. Hickey; Freshmen, Rupert F. Asplund; Fourth Year, C. B. Gibbons; Third Year, John H. Crum; Second Year, D. M. Richards; First Year, Josephine S. Parsons.

General Information

Origin and History.

The University had its origin in an act passed February 28, 1889, by the Territorial Legislative Assembly of New Mexico, the bill being introduced by Hon. B. S. Rodey, who worked faithfully for its passage, and who has remained a firm friend of the institution.

The following extracts are taken from the act:

SECTION 1. There is hereby created and established within and for the Territory of New Mexico, an institution of learning to be known as "The University of New Mexico." Said institution is hereby located at or near the Town of Albuquerque, in the County of Bernalillo, within two miles north of Railroad Avenue in said town, upon a tract of good, high and dry land, of not less than twenty acres, suitable for the purpose of such institution, which said land shall, within six months from the passage of this act, be donated and conveyed free of any cost and expense, to the Territory of New Mexico, by G. W. Mylert; provided, that no improvements or buildings as hereinafter provided for, shall be made or erected upon said land until such deed is duly executed, recorded and filed in the office of the Secretary of the Territory, as hereinafter provided.

SEC. 7. The University of New Mexico, hereby created and established, is intended to be the State University, when New Mexico shall be admitted as a state into the Union, and as such is entitled to all the

donations of lands and other benefits under all acts of Congress, now in force or hereafter to be enacted, for the benefit of such educational institutions in the future state.

SEC. 8. The object of the University hereby created shall be to provide the inhabitants of the Territory of New Mexico and the future state, with the means of acquiring a thorough knowledge of the various branches of literature, science and arts.

SEC. 9. The management and control of said University, the care and preservation of all property of which it shall become possessed, the creation and construction of all buildings necessary for its use, and the disbursement and expenditure of all moneys appropriated by this act, shall be vested in a board of five Regents, to consist of five qualified voters, who shall be owners of real estate in this Territory.

SEC. 11. The Regents of the University and their successors in office, shall constitute a body corporate under the name and style of "The Regents of the University of New Mexico," with the right, as such, of suing and being sued, of contracting and being contracted with, of making and using a common seal, and altering the same at pleasure.

SEC. 14. The Regents shall have power and it shall be their duty to enact laws, rules and regulations for the government of the University.

SEC. 15. The University shall have departments, which shall hereafter be opened at such times as the Board of Regents shall deem best, for instruction in science, literature, and the arts, law, medicine, engineering, and such other departments and studies as the Board of Regents may, from time to time, decide upon, including military training and tactics.

SEC. 16. The immediate government of the several departments shall be intrusted to their respective faculties, but the Regents shall have the power to regulate the course of instruction, and prescribe the books and authorities to be used in the several departments, and also to confer such degrees and grant such diplomas as are usually conferred and granted by other Universities. The Regents shall have the power to remove any officer connected with the University, when in their judgment the interests require it.

(a) The University created by this act shall be open to the children of all residents of this Territory and such others as the Board of Regents may determine, under such rules and regulations as may be prescribed by said board, whenever the finances of the institution shall warrant it, and it is deemed expedient by said Board of Regents.

SEC. 17. No sectarian tenets or opinions shall be required to enable any person to be admitted as a student or employed as a tutor or other instructor in said University, but the same shall be forever non-sectarian in character. * * *

When the bill became a law, Governor L. Bradford Prince, then New Mexico's chief executive, appointed the following Board of Regents: G. W. Mylert, Henry L. Waldo, Mariano S. Otero, Elias S. Stover, Frank W. Clancy.

The Governor and the Superintendent of Public Instruction, then Amado Chaves, were ex-officio members of the Board.

The Regents who have been continued from the beginning are E. S. Stover and F. W. Clancy. Others whose names have appeared since are, W. B. Childers, J. H. Wroth, J. C. Armijo, E. V. Chaves, H. L. Waldo, Fletcher Cook, and A. M. Mandalari.

The first faculty elected consisted of President, E. S. Stover; Principal, George S. Ramsay; Alcinda L. Morrow, Marshall R. Gaines, Albert Cristy, G. R. Stouffer and Andrew Groh.

Many changes have since occurred in the faculty. Prof. Hiram Hadley was vice-president in charge from 1894 to 1897. Dr. C. L. Herrick, the second president of the institution, served from 1897 to 1901. Upon his resignation, Dr. W. G. Tight was chosen by the Regents.

After the passage of the act in the Legislature of 1889, creating the University, the first Board of Regents secured the required amount of land, and began the erection of a large building, as soon as the funds were available. The structure was completed and accepted by the Board in May, 1892.

The Normal School of the University was the first to be organized, and was opened on June 15, 1892, for a summer term. In September of the same year the Preparatory School was opened, and in November of 1893 the Commercial School was added.

In 1896 a gymnasium was erected and equipped with as much apparatus as the funds would permit.

The Hadley Laboratory, largely the gift of Mrs. Walter C. Hadley, supplemented by donations from friends in Albuquerque and in other parts of the Territory, was erected in 1899. This building affords accommodations for the science work with a special view to climatological investigations, a feature of research desired by Mrs. Hadley.

Dormitory facilities were made possible in 1902, when rooms for men were fitted up on the second floor of the main building, while a cottage on the campus was made into a girls' dormitory. In 1904, the men's quarters were moved to a separate building situated

quite near the campus. In 1906, two dormitories were erected and equipped with all modern conveniences. The cottage is now devoted entirely to the purposes of a dining hall, with its capacity greatly increased by a new addition during the last summer vacation.

In 1908, the Administration building was entirely remodeled in the Pueblo style of architecture and a large addition made for assembly purposes. This addition is called Rodey Hall.

A marked improvement has taken place on the University campus during the past six years. There is now in operation a complete irrigation system consisting of a two hundred and fifty foot well with a twenty foot windmill, tanks holding seven thousand gallons, and a reservoir with a capacity of a quarter of a million gallons. This system has made possible the growth of hundreds of trees and plants. Drives have been laid out with the best landscape effect, and the whole makes a beautiful park of a once barren mesa.

The course of study and the departments have been extended from time to time during the past thirteen years, until now the institution offers full preparatory and college courses of four years each. The Commercial School affords efficient training for a business career together with a general high school education. The School of Education gives a five years' course, including professional and academic branches. The School of Engineering offers four complete years of technical study.

Location and Environment.

The University campus is situated on the mesa, a short distance east of the city. The view of the valley of the Rio Grande and of the mountains is most beau-

tiful and inspiring. A more favorable location for health and out-of-door recreation could scarcely be found.

The walk to the University from the city is healthful exercise. For those who desire to ride, a conveyance is run at a low fare to accommodate instructors and students.

Albuquerque, the county seat of Bernalillo county, is pleasantly situated in the valley of the Rio Grande. It is easily reached from any part of the Territory, being centrally located on the lines of the Atchison, Topeka & Santa Fe, the Santa Fe-Pacific Railroad, and the Albuquerque Eastern (under construction). The climate is very even and the air so bracing that students unable to pursue their studies in other climates, may do so here and improve in health at the same time. On account of its climate and altitude the city is much frequented as a health resort.

Albuquerque is a modern city, with a population of about 15,000, having electric lights and street cars, a free public library, good streets, a variety of good mercantile and manufacturing establishments, four banks, two daily newspapers, and other accompaniments of modern civilization.

Albuquerque is an educational center. Besides the University, there are many schools of different kinds, including an excellent system of public schools.

During the year many musical and literary entertainments are given, and the large and refined audiences that patronize these give unmistakable evidence of the culture of the citizens.

The student who enters the University is at once surrounded by an educational atmosphere that cannot do otherwise than exert a refining influence and stimulate him to effort.

Albuquerque is a city of churches. Almost every religious denomination is represented. These all gladly welcome the students to their religious and social life.

Buildings.

The Administration Hall contains the President's office, the Library of about 8,000 volumes, the Assembly hall and numerous recitation rooms. The building is a large and commodious brick structure of three stories, besides the basement, and is well furnished throughout.

The Hadley Science Hall furnishes accommodations for the Department of Science. The building is the generous gift of Mrs. Walter C. Hadley, supplemented by donations from friends of education throughout the Territory. The laboratory was primarily established for climatological research and its arrangements are most satisfactory for scientific work.

The gymnasium is a substantial frame building of good size and well equipped with apparatus for physical culture. There is also an out-door gymnasium, constructed of iron pipes, affording a framework to which are attached chest-bars and weights, traveling and flying rings, trapeze, striking bags, and horizontal, parallel and vaulting bars.

The Dormitories, one for men and one for women, furnish accommodation for students who desire to live on the campus. These buildings are two-story structures and are equipped with all modern conveniences.

The Dining Hall is an attractive, modern cottage, where board by the month, week, day or meal may be secured.

The Central Heating Plant is housed in a separate building.

The Library.

The University library contains about 8,000 volumes, exclusive of unbound pamphlets and duplicates. This includes both the main library and the departmental libraries, which are shelved in rooms adjoining lecture rooms.

In exchange for the Bulletins of the University the library receives a large amount of valuable scientific literature. There are now more than one hundred societies and universities on the exchange list.

The University is one of the United States depositories for public documents. Many valuable reference books are received from this source. These books are accessible to the public during library hours.

A dictionary catalog is being made, listing all material by author, subject and title, thus making all the resources of the library readily accessible.

The library is open every day, except Saturday and Sunday, from 8:30 a. m. to 5:00 p. m.

Aside from complimentary periodicals and exchanges the library subscribes regularly for the following periodicals:

- American education
- American journal of sociology
- American magazine
- American naturalist
- American review of reviews
- Atlantic monthly
- Biblical world
- Book news monthly
- Bookman
- Botanical gazette
- Century
- Chemical abstracts

Classical journal
Classical review
Classical weekly
Current literature
Delineator
Dial
Economic geology
Educational foundations
Electrical world
Engineering magazine
Harper's monthly
Industrial magazine
Jahrbuch der radioaktivitat und elektronik
Journal of accountancy
Journal of American chemical society
Journal of American history
Journal of American medical association
Journal of education
Journal of geology
Journal of industrial & engineering chemistry
Journal of infectious diseases
Library journal
Literary digest
Lyceumite & Talent
McClure's magazine
Machinery
Modern language notes
Modern philology
North American review
Out west
Outlook
Pedagogical seminary
Philosophical magazine
Physical review
Popular science monthly

Power & Engineer
Public libraries
Putnam's monthly
Reader's guide to periodical literature
Records of the past
Revista de archivos bibliotecas y museos
Science abstracts-Physics
Scientific American
Scientific American supplement
Speaker
Stenographer
Technical world magazine
Woman's home companion
Ueber land und meer
Woodworker & Art metal worker
World's work
Zeitschrift fur Romanische philologie

Laboratories.

Few institutions so young as the University are so well supplied with the facilities for laboratory and research work. This is due to the fact constantly held in mind by the management that the first essential in all scientific work is experimentation and illustration, and the text books are of secondary importance. To this end the equipments are increased as rapidly as possible from the resources of the institution.

The Hadley Climatological Laboratory furnishes a home for the scientific departments. On the first floor are found the zoological, botanical and geological laboratories, each equipped with the usual apparatus. In the botanical department the collection of the native plants is especially worthy of mention. The equipment in geology is very complete and contains several thous-

and specimens, several lithological microscopes, etc. On this floor also is found a large lecture room for the use of the departments.

On the second floor are the departments of physics and chemistry. The laboratories are very well equipped for the courses offered and very great improvement has been made during the last few years. Equipment is now in hand for advanced work along these lines, many new instruments for precision work in higher electrical testing, gas analysis, etc., has increased greatly the efficiency of these departments. Instruments have been recently installed for observing carefully all climatological phenomena.

In the basement are located the assaying, laboratory, machine shops, and electrical testing laboratory. In assaying the equipment consists of a Bosworth furnace, rock crusher, rubbing board, etc., and it is quite complete. The shops are equipped with a gasoline engine, and steam engine for testing. Power is obtained from the city circuit which is used in running motors and shafting; and from this wood and iron lathes. Individual motors are also used on other lathes and a forge. There are also many kinds of wood and iron working tools and machinery.

In the electrical testing laboratory many recent additions of precise instruments for measurement of voltage, current and power for both direct and alternating current work have been added. Different types of generators and motors are on hand for testing under varying conditions.

The Hadley Laboratory was especially designed by its beneficent founder for the study of the effects of the various factors which enter into the remarkable climate of the semi-arid Southwest. This study was intended to bear more especially upon the problem of

tuberculosis and its cure by climatic agencies. To this end all the scientific departments of the University contribute.

At present there is an urgent need of funds for carrying out effectually the work in this line, and it is hoped that adequate resources may be provided at an early date. Such funds should be available for special apparatus not ordinarily found in the class room, and for carrying on physiological experiments.

During this year considerable progress in research work has been made, and a number of papers are now in preparation for publication. Several articles have appeared in the leading journals of America, such as the Journal of the American Medical Association, American Journal of the Medical Sciences, etc., and all will finally appear in the Bulletin of the University, which is published with the co-operation of Mrs. W. C. Hadley.

Natural History and Archaeological Museum.

The University has a fair nucleus of a working museum. All friends of the University are requested to assist in procuring materials illustrating the natural and economic resources of the Territory. It is of special interest to secure the remains of the works of pre-historic races before it shall be too late. All donations will be permanently stored in the University and will be accredited to the giver.

University Publications.

All the University publications are issued as bulletins. These are arranged in a continuous series, numbered consecutively. The bulletins are classified according to subject matter, and each class is given a separate title and carries its own number.

The Catalogue Series reaches the eighteenth volume with the present issue. It contains general information about the University, descriptions of requirements for entrance and graduation, courses of study, and a register of students, regents, faculty and alumni.

The Bulletin of the Hadley Climatological Laboratory contains articles on biological subjects and contributions from the University Geological Survey, giving opportunity for the publication of the results of research work. These are also numbered in the Biological and Geological series of the University Bulletin.

The Educational and Language series are each in its first volume. In the former two articles have been published dealing, one with School Laws, the other with School Lands. In the Language series there has been one publication, *Los Comanches*, a New Mexican manuscript of a play of 1817 with introduction and comments.

The Publications Committee of the faculty has supervision over all university and student publications.

Student Publications.

The U. N. M. Weekly is the publication of the student body and is devoted to University news, literary matter, and general college interests.

"The Mirage" is the college year book, or "annual." It is profusely illustrated and its pages offer opportunity for the expression of college life.

Student Organizations.

Voluntary literary societies, the Khiva for men, and the Estrella for the women, have proved very useful in affording opportunities for the cultivation

of literary tastes, and for familiarizing the students with parliamentary principles. The spirit of wholesome competition and rivalry lends interest to the efforts of the members of these societies. There are also a fraternity and a sorority. The Tennis Club has two splendid courts and numbers forty students. The Editorial Boards of the U. N. M. Weekly and the Mirage offer the students opportunity for the practice of energy and enterprise. In Dramatics, a strong organization stages several plays annually. The students of the Engineering Department are organized in the University of New Mexico Society of Engineers. The Oratorical and Debating Association arranges for contests in public speaking and class and intercollegiate debates. All these societies are subordinate to a general Student Body Organization, which insures the careful management of each, acting with the Student Functions Committee of the Faculty. The Tuesday Assembly period each week is devoted entirely to student enterprises.

Alumni Association.

The University of New Mexico Alumni Association was organized in 1894. Its purposes are to aid in promoting the interests of the University of New Mexico and to cultivate sociability and good fellowship among its members. The annual meeting and annual dinner occur at the University during commencement week. At this annual meeting all officers of the association are chosen. The present officers are: Chas. E. Hodgin, President; Blanche Perkins, Secretary and Treasurer.

University Extension.

The University, as a territorial institution, wishes to extend its advantages to as great a number of citizens as possible and it is hoped to greatly increase this extension work during the next few years. Extension courses may be taken without registration or special entrance requirements upon the payment of a small fee. Extension courses are now offered in Chemistry 16, Physics 17, 18, Shop Work, and Electrical Engineering.

The various members of the University faculty hold themselves ready to respond to calls for lectures before institutes, University extension centers, clubs, and assemblies, whenever such service does not interfere with the regular work in the institution. Several of the instructors who have had experience in the lecture field and in institute work, are ready to give regular instructions in the institutes of the state and in educational organizations. Calls for work should be addressed to the individual professors, or to the Registrar, Prof. C. E. Hodgkin.

Aim.

The University has enjoyed an honorable reputation for thorough work and high standards, and it is the endeavor of the Board of Regents and the Faculty to maintain these standards and to furnish the means for excellent mental discipline. Every effort will be made to develop the student physically, intellectually, socially, and morally, in the best possible manner. The policy of the University, while very strictly avoiding sectarianism in any form, is positively and strongly in favor of developing and maintaining high ethical and moral standards. All students, unless excused by the

Student Discipline Committee, are required to attend the regular Assembly exercises, which consist of music, scripture readings, and addresses by members of the Faculty and prominent men in all walks of life.

There is in Albuquerque one thriving church or more of almost every religious denomination, Jewish, Protestant and Catholic. These all gladly welcome the students to their religious and social life. It is desirable that each student identify himself with the church of his choice.

The Administration.

The College of Letters and Sciences, the School of Engineering, the School of Education, the Preparatory School, and the Commercial School are administered by their respective principals and faculties, under the direction of the general faculty. Upon matriculation the student obligates himself to observe the unwritten law of polite society, and to discharge faithfully all college obligations. Individual honor and loyalty to the institution, and the deportment of ladies and gentlemen are indispensable requisites to college residence.

The Territory of New Mexico offers the advantages of the University, at a merely nominal fee, to all persons of either sex who meet the entrance requirements. It therefore is the patron of those who seek its advantages and honors. It cannot be the patron of idleness or misconduct. It offers every assistance possible to those who assiduously pursue their work with diligence, and conduct themselves according to the accepted rules of propriety. In order to help students more effectively, class advisers are assigned from the members of the Faculty, one for each class in the institution. These advisers are appointed to give advice

to their respective classes and to the individual members of the class when assistance is needed in personal matters or University affairs.

Two other committees of the Faculty stand in very close relationship with student enterprises, whose purpose is to co-operate with and give assistance to such enterprises. One has charge of athletics, and the other, of student functions in general.

All college athletics are in charge of the Athletic Association. Football, baseball, basketball and track teams are run by the Association. All athletics bear the supervision of a board of control, consisting of three faculty and two student members. The faculty athletic committee has general supervision and forms the channel through which must pass all consideration of athletic matters between the board of control and the faculty. The Student Functions' Committee consists of three members of the faculty whose duty it is to approve the date and character of all entertainments given under the name of the University and participated in by the students; to see that proper chaperons are provided and that the date does not fall at such a time as will interfere with the regular work of the students. This committee interests itself in the character of the projected entertainment sufficiently to insure only that which will be creditable to the institution. Its province includes public athletics, dramatics, debates, banquets and such other affairs as may be given by the students as members of the University community.

Student Discipline Committee.

The students are directly responsible to the Discipline Committee for misconduct or neglect of their duty, whether in the class room or outside. In any case where the student does not appear to be benefited by

the advantages offered by the University, or manifests an unwillingness cheerfully to assist in maintaining good order, or indulges in practices which are detrimental to others or to the reputation of the college, his parents or guardian will be promptly and frankly informed of the facts in the case. If the student's conduct, or work, continues unsatisfactory thereafter, he will be dismissed, or his parents will be requested to withdraw him.

Diplomas and Certificates.

Diplomas of graduation from the Preparatory School will be conferred on all who complete satisfactorily sixteen units of work, including the ten and a half required units, and who maintain unimpeachable deportment. In addition to the above, those who complete the work of the School of Education receive its diploma.

Certificates of proficiency may be given upon the completion of subjects like Stenography, Bookkeeping, etc., and upon the satisfactory completion of the work of any one year.

Diplomas of graduation will be conferred upon students who complete a four years' course of study in the college. With this diploma is conferred the degree of Bachelor of Arts, which is the only baccalaureate degree conferred in the College of Letters and Sciences.

The degree of Bachelor of Pedagogy is conferred upon students who complete three years of college work in addition to the School of Education course, and who have given satisfactory evidence of two full years of successful teaching experience after graduation.

The University is prepared to offer courses leading

to the degrees of Master of Arts, and Doctor of Philosophy, along limited lines, and by special action of the Faculty.

No student will receive a diploma or degree from this University who has not been in residence at least one year, and no student will receive any diploma or degree who is not present in person at the commencement exercises to receive it.

Accredited Schools.

Students presenting diplomas of graduation or proper credentials from accredited schools are admitted without examination, provided, however, that if the student has not completed the $10\frac{1}{2}$ units of work required of all applicants for admission to the College of Letters and Science, the part lacking of this work will be entered on the records as a "condition" that must be made up and for which the student will receive no college credit. Accredited high schools of New Mexico are classified as follows:

(a) Admitting to the College of Letters and Science.

Artesia	W. L. Bishop, Superintendent.
Albuquerque	W. D. Sterling, Superintendent.
Carlsbad	V. L. Griffin, Superintendent.
Deming	J. F. Doderer, Superintendent.
Farmington	L. M. Garrett, Superintendent.
Las Vegas	Rufus Mead, Superintendent.
Portales	M. Z. Spahr, Superintendent.
Raton	T. W. Conway, Superintendent.
Roswell	M. H. Brasher, Superintendent.
Santa Fe	J. A. Wood, Superintendent.

(b) Admitting to the Fourth year of the Preparatory Department:

Clayton	O. F. Munson, Principal.
Clovis	John F. Taylor, Principal.
Dayton	A. A. Kaiser, Principal.
Gallup	E. P. Conwell, Principal.

- (c) Admitting to the Third year of the Preparatory Department:

Alamogordo	C. R. Shiffler, Principal.
Aztec	Eliza Robinson, Principal.
Estancia	W. R. Shelton, Principal.
Hagerman	D. A. Paddock, Principal.

- (d) Admitting to the Second year of the Preparatory Department:

Cimarron	Carl R. Pugh, Principal.
Dawson	C. E. Grover, Principal.
Lake Arthur	Carrie Childress, Principal.
Melrose	A. L. Lacey, Principal.
San Marcial	F. A. Boose, Principal.
Santa Rosa	Chas. L. Schreck, Principal.

Registration.

The student upon entering presents himself to the treasurer at the office, for the payment of matriculation, tuition, and other fees, and receives a matriculation card, after which he secures from the Registrar the necessary blanks for registration. He then goes to the instructors under whom he is to have work, for their signatures to his schedule card. This card he files with the Registrar, and so completes his registration. No student is considered registered as a member of the University until his registration is fully completed. If registration is not completed within five days after the opening of the semester an extra fee is charged.

Attendance.

It is highly desirable that students should begin their work with the first day of the semester as indicated in the calendar, since losses which are incurred then can never be fully made up and the student is at a disadvantage throughout the year. Students may be admitted at any time, but it is strongly recommended

that studies begin with the fall semester. This is considered so important that the Regents have fixed a fee for late registration. Every student in the preparatory department, unless excused by the Student Standing Committee, is required to attend four recitations or laboratory exercises daily. Parents or guardians who desire information concerning the conduct, class standing, or punctuality of the student, can obtain the same at any time by application to the Registrar, as a careful record is kept of the work and character of each student. Such a report will be regularly sent at the end of each semester.

Any student who falls behind in his work will be reported to his parents, or guardian, at the end of each month, and should such failure to do good work be the result of idleness, or misconduct, on the part of the student, the parents may be asked to withdraw the student at any time.

Absences.

After registering, students are required to attend all their class exercises. A failure to attend any such exercise is counted an absence, and will be marked zero. Students are responsible for all absences to the instructor in charge, but if repeated will be reported to the Discipline Committee. Any student is subject to account for absences at any time, and may be dismissed for such absences. Absences to the extent of 20 per cent. from any one class debars the student from receiving a passing grade in that class, except by special examination. For absences from Assembly and other general exercises, the student is accountable to the Student Discipline Committee.

Dismissal.

Students who desire to drop any study for which they are registered must get the permission of the Instructor and the Registrar.

A student who leaves the University before the close of a semester without permission of the President will not be considered as having been honorably dismissed.

Method of Grading.

Students are graded according to their class standing and by examination. An accurate record is kept of the work of each student in each class. Examinations are held in each class at the end of each semester. The average standing is found by combining the average class standing with the examination standing in the ratio of three to one; that is, the class standing counts three times as much as the examination standing. Students making a grade 90-100 are marked A; 80-90, B; 70-80, C; 60-70, D; below 60, E. Students whose daily standing is A are excused from final examinations. The following restrictions apply to preparatory students making a grade lower than A: Students making a B grade are limited to two functions or enterprises per semester outside of class work and C students, to one such function; those making a grade lower than C may not take part in any function such as athletics, dramatics, etc., until the work is brought up; preparatory students may not enter more than three outside functions per semester. College students making B in fifteen hours of credit will have one hour added to the total required for graduation for each fifteen hours of such credit and C students will have

one hour added for each seven hours of C work. In college no substitution may be made for failures or conditions towards graduation.

Examinations.

An examination is held at the close of each semester or on the completion of any subject.

All students are required to attend all examinations in the studies pursued, except those who have A grades.

When a student's general standing in any class falls below seventy, the instructor shall report the student to the Registrar as "conditioned". A student reported as "conditioned" may receive credit for the study if the condition imposed by the instructor is removed before the next semester in which the study is again offered. Conditions must be removed by special examination and payment of the usual fee. Otherwise the student must again pursue the study in the regular class in the same manner as the student whose study is reported as "not passed".

Special examinations, taken at other times than regularly with the class, and not entrance examinations or examinations for advanced standing, can be taken only by presenting to the examiner a permit card from the Registrar and by the payment of a special fee.

Class Standing.

To obtain class standing at entrance, or to maintain class standing during the pursuit of a course, the student's condition must not exceed one-third of the work required for that class. The Committee on Stu-

dent Standing has charge of all matters pertaining to entrance, amount of work, class standing, and graduation credits.

Prizes and Scholarships.

The Dr. J. A. Henry Scholarship Prize. Through the generosity of Dr. Henry an annual prize has been given to the student who maintained the highest general scholarship each year. No student was eligible to this prize two years in succession. Awarded in 1907-8 to John Marshall. This prize has been discontinued.

The Dr. W. G. Hope History Prize. Dr. Hope has established an annual prize for the best scholarship in United States History. Prize awarded in 1907-8 to Lawrence D. Sterling.

Citizens' Oratorical Prizes. Three cash prizes given by lawyers, ministers, and insurance agents, for special contests in oratory. First prize in 1907-8 awarded to Roy A. Baldwin. The winning of this contest gave the successful contestant the honor of representing the University in the Interscholastic Oratorical Contest. This contest was held at Albuquerque, December 28, and Roy A. Baldwin won first place in the higher institution division.

The American Oratory Declamation Contest. To Dr. L. H. Chamberlin is due the instituting of this contest for which he offered a valuable prize. Awarded in 1906-7 to Grover C. Emmons; honorable mention, Roy A. Baldwin.

The E. S. Stover Prizes. The work in the shop and the manual training department was greatly stimulated the past year through the kindness of one of the re-

gents of the University, E. S. Stover. Three prizes were offered by him, aggregating \$20. First prize in 1907-8 awarded to J. J. Saulsberry; second, Clarence Rogers; third, Walter R. Allen.

The Cecil Rhodes Scholarship. In accordance with the provisions of the will of Cecil Rhodes awarding two scholarships to each state and territory in the United States, New Mexico has the privilege of sending two students to Oxford, England, every three years. The appointing power for the Territory of New Mexico is vested in the Faculty of the University. Awarded in 1907-8 to Frank C. Light.

Dormitories and Dining Hall.

Two large dormitories were erected in the summer of 1906. They are two-story brick structures of Pueblo style of architecture. In these buildings students who desire to live on the campus will find the most modern conveniences, including bath, electric light and steam heat. The dormitories consist of suites of rooms, each suite containing a large study room and two sleeping rooms, and intended to accommodate two students. The study room is furnished with a table, book cases, chairs and shades. Each bedroom contains a single bedstead, with mattress and pillows, dressing table and closet. Each student, therefore, must supply bed clothes, such as sheets, pillow slips, blankets and coverlets for a single bed. Students must also supply towels and other necessary linen and electric bulbs. Eight candle power bulbs are regularly used, but higher power lights may be used by paying a small additional amount. All breakage of property in the dormitories is charged against the student in whose room such breakage occurs. The Proctor, who is

a member of the Faculty, will see that all the rooms in the men's dormitory are properly cared for and that the rules of government are strictly adhered to. A matron has full charge of the women's dormitory. Students must care for their own rooms, a requirement which is not so much a matter of economy as of discipline and education, as by this means are inculcated habits of cleanliness and thoughtfulness.

The general dining hall is an attractive, modern cottage where good board is supplied.

It is recommended to parents and guardians that students should room and board on the grounds, as they are then more directly under the supervision of the Faculty, the discipline required and the observance of study hours being more conducive to good work.

The cost of living at the University, including room, board, lights, and fuel, is \$20 per month. Students attend to their own laundry.

Living, at \$25 per month and upwards, can be obtained in the city in good private families, where students have the comforts of home, and are surrounded by good influences.

In selecting boarding places in the city, students should consult the President, who will cheerfully assist all in finding good homes. The Faculty claim the right, and consider it a duty, to exercise a supervisory care at all times over those who do not make their homes with their parents or other natural guardian. To this end the Faculty may properly object to students being at unsuitable places. Students may be called upon whenever it is necessary, to render an account of the manner in which they spend their time when not at the University.

Self-Support.

The University has but a small amount of work at its command to offer students, but it is usually possible for them to find congenial employment by which may be defrayed a large portion of their expenses. During the coming year a special effort will be made to assist students to find employment.

Expenses.

Tuition is free to residents of New Mexico; to others \$10 per semester.

An annual incidental fee of \$5 is required of all students; also a Library fee of 50 cents and a gymnasium fee of 50 cents.

Students in laboratory, field and shop courses pay a fee of \$1 per semester hour of credit. An additional deposit of \$1 per hour may be required by the head of any department to cover individual breakage, a part or all being returned to the student at the end of the year.

A fee of \$1 is charged for registration after the first five days of either semester.

Living at the University costs \$20 per month, including room, board, light and heat.

All University bills must be paid or satisfactory arrangements made, on date of entrance. No credit for work can be given until all bills are paid.

College of Letters and Sciences

REQUIREMENTS FOR ADMISSION

Students are admitted to the College of Letters and Sciences either on satisfactory examination in the required units for entrance, or upon the presentation of the diploma of the University Preparatory School or of an accredited high school (see page 29). Certificates of schools not accredited will be considered on the merits of the branches offered. Examinations will be held in all subjects required for admission at the time specified in the University Calendar. Students may, however, take these examinations at the close of the school year when the finals in the Preparatory School are held.

Applicants for admission as undergraduates must be at least sixteen years of age, must present certificates of honorable dismissal from the school previously attended and must have completed the requirements for admission as here described.

Fifteen units are required for admission. A "unit" is defined as a course in a subject covering one school year of thirty-six weeks, with five recitation periods of at least forty-five minutes each per week. The fifteen units must be distributed as follows:

English	3
Language other than English	2
Mathematics	2½
History	1
Science	2
Elective	4½

The $4\frac{1}{2}$ elective units may be chosen from the following:

English	1, 2
Greek	1, 2, 3
Latin	2, 3, 4
French	1, 2
German	1, 2
Spanish	1, 2
History	1, 2, 3
Civics	$\frac{1}{2}$
Psychology	$\frac{1}{2}$, 1
Solid Geometry	$\frac{1}{2}$
Trigonometry	$\frac{1}{2}$
Physical Geography	$\frac{1}{2}$, 1
Botany	$\frac{1}{2}$, 1
Zoology	$\frac{1}{2}$, 1
Chemistry	1
Physics	1

Other subjects offered may be accepted upon their merits by the committee on students' standing.

Students intending to pursue Latin and Greek must present 4 units in Latin.

Students intending to pursue science or engineering courses should present Solid Geometry.

DESCRIPTION OF PREPARATORY UNITS.

The following statements describe more fully the work to be covered in the different unit courses of particular subjects. The unit course of study is defined as a course covering a school year of not less than thirty-six weeks with five periods of at least forty-five minutes each per week.

English (4 Units).

1. *Rhetoric*. One composition each week. Class and general reading selected from the recommended lists for 1909, 1910, and 1911.

2. *Rhetoric*. One composition each week. Class and general reading selected from the recommended lists for 1909, 1910, and 1911.

3. *Brief Course in American Literature*. Reading of representative poems and prose selections. Brief course in English Literature and completion of college entrance requirements.

4. *English Literature*. Class and general study of representative poetry and prose from the time of Chaucer.

History (3 Units).

1. *American History, ½ Unit*. A study of United States History through the Constitutional period preparatory to Civics.

2. *Civics, ½ Unit*. A study of the forms of government of our nation, states, territories, and their subdivisions, their historical development and their governing principles.

3. *Ancient History*. A study of the civilization and governments of the Oriental nations, the Greeks, and the Romans, as found in Myers' Ancient History or its equivalent.

4. *Mediaeval and Modern History*. A study of the leading nations of the world from 800 A. D. to the present time, as given in Myer's Mediaeval and Modern History, or its equivalent.

Psychology (1 Unit).

1. For a unit's credit a course, at least equivalent to that of Gordy's New Psychology, including methods of studying Psychology, brain and nervous systems as basis for mind study, the problems of consciousness, etc.

Latin (4 Units).

1. *First Year.* A thorough drill in all forms, syntax and vocabulary. The student should be able to translate easy Latin sentences into English and simple English sentences into Latin.

2. *Caesar.* Four books of Caesar's Gallic War, or an equivalent amount taken from Latin of equal difficulty. Prose composition: Five English sentences translated into Latin daily. Book II of Caesar's Gallic War should be mastered.

3. *Cicero.* Six orations of Cicero, the Second Catalinarian to be the basis for examination as to points of syntax and translation. Prose composition: Five English sentences to be translated into Latin daily.

4. *Vergil.* Six books of Vergil's Aeneid. Written translation and questions on forms, syntax and prosody will be based on Book I.; oral translation from other books. Prose composition: One hour each week with review of forms and syntax.

Greek (3 Units).

1. *First Year.* Introductory lessons, with practice in forms, syntax, and in a limited vocabulary for reading Xenophon. The student should be able to trans-

late easy sentences from Greek into English, or English into Greek.

2. *Xenophon's Anabasis*. Four books should be read and five English sentences translated in Greek daily. The examination will consist of thorough and comprehensive questions on the first book and sight translations of easy Greek selections.

3. *Homer's Iliad*. Three books should be read carefully and others rapidly. There should be much practice in reading the Greek and mastery of Epic forms.

Spanish. (2 Units).

1. *First Year*. An elementary study of Spanish covering a year's work in the language. This should comprise: (1) Careful drill in pronunciations, an accurate study of inflections and conjugations, agreement of adjectives, participles and a knowledge of the regular and the more common of the irregular verbs, in the indicative and subjunctive tenses. (2) Ability to translate at sight ordinary Spanish into English, and easy prose into Spanish. (3) Familiarity with at least a limited vocabulary of spoken Spanish. (4) Translation and reading of about 150 pages of simple Spanish prose.

2. *Second Year*. A study of the language covering a second year in the study of Spanish. This should comprise: (1) An accurate pronunciation, and ability to converse in Spanish on familiar subjects. (2) A thorough knowledge of the forms of the language, with much drill in syntax. (3) The translation of about 500 pages of Spanish into English, and ability to translate with ease English prose into Span-

ish. (4) An accurate knowledge of the inflections and conjugations.

French (2 Units).

1. *First Year.* An elementary study of French, with emphasis on the following points: (1) Careful drill in pronunciation (Matzke's Primer is strongly recommended). (2) A knowledge of the more simple inflections and conjugations, including use of article, partitive sign, agreement of adjectives and past participles, and knowledge of the regular and the most common irregular verbs. (3) Drill in translating English into French, and ability to translate at sight easy prose from English into French. (4) Reading of about 200 pages of French prose with translation into English.

2. *Second Year.* An advanced study of French, for a second year. The course should include: (1) A thorough mastery of French pronunciation. (2) Careful drill in inflections and conjugations, with study of grammar completed. (3) Abundant practice in composition and conversation, based on texts read. (4) Reading and translation of about 600 pages of French.

German (2 Units).

1. *First Year.* Knowledge of elementary Grammar, including pronunciation, simple composition and conversation. Reading of about 200 pages of easy German.

2. *Second Year.* The reading of simple German poems, modern German prose, including several stories and plays, and at least two of Schiller's dramas or the works of Lessing.

Mathematics (3½ Units).

1. *Elementary Algebra.* The four fundamental operations, factoring, highest common factor, lowest common multiple, complex fractions, the solution of equations of the first degree containing one or more unknown quantities, radicals, zero, fractional and negative exponents.

2. *Plane Geometry.* Including the solution of numerical problems and original exercises.

3. (a) *Solid Geometry, ½ Unit.* Including properties of dihedral and polyhedral angles, pyramids, cylinders, cones, and spheres.

(b) *Advanced Algebra, ½ Unit.* Quadratic equations, the binomial theorem, progressions and the use of logarithms.

4. (a) *Plane Trigonometry, ½ Unit.* Including the six trigonometric functions, proof of important formulae, solution of right and oblique plane triangles.

Physics (1 Unit).

1. The required unit includes an amount of class work represented by Carhart and Chute's High School Physics, or Millikan and Gale's First Course in Physics. The instruction in the class room should be supplemented by work in the laboratory to the extent of at least two hours a week throughout the school year.

Chemistry (1 Unit).

1. To secure a unit's credit the student must have had a full year's work in descriptive Chemistry, covering both the metals and non-metallic elements, and their common compounds. Laboratory work must accompany the course.

Natural Science (3 Units).

1. *Botany, ½ or 1 Unit.* Special attention to the structure and morphology of phanerogamous plants. Complete written descriptions and the classification of a certain number of phanerogams are required. This work should be supplemented by lectures and demonstrations on the histology of phanerogamous tissue and on the structure and embryology of typical cryptogams.

2. *Zoology, ½ or 1 Unit.* Dissections should be made of the representative forms of the main groups of the animal kingdom. In this work written descriptions and drawings are required. In the use of the text and by means of lectures the evidence of a gradual development of animal forms may be reviewed. Principles and methods of classification illustrated by reference to collections.

3. *Elementary Physical Geography, ½ or 1 Unit.* A detailed study of the atmosphere, the ocean and the land forms, with special reference to their influence on the distribution of life. Recitations must be supplemented by laboratory work. Notebooks will be considered a part of the examination.

Deficient Preparation.

An applicant who does not pass the examination for admission on some of the required subjects or whose diploma or certificate does not cover the full requirements for admission may be admitted conditionally; provided, that the deficiency does not exceed two of the required units. This deficiency may be made up by pursuing the subjects in the preparatory school.

Advanced Standing.

Students coming from other institutions who have taken standard college work equivalent to the work offered in this college may enter the regular course for which they present a certificate without examination, or such examination only as is necessary to determine the class standing and the work for which they are fitted. Such students are also required to present certificates of honorable dismissal.

Special Students.

Persons who are not candidates for a degree or who for sufficient reason are not able to pursue a regular course may be entered as special students and may pursue such studies as they may desire and for which they are fully prepared. Such special students are subject to all the other requirements of the University.

REQUIREMENTS FOR GRADUATION

The preparation for admission to college must of necessity determine to an extent the character of the work pursued. Certain definite requirements are made of all students from certain groups of subjects, and all students must complete the prescribed work of some special line of study which runs through three or four years. At the same time the student is granted such freedom in the selection of his work as will be of most educational value, from the point of view of personal choice. Students are required to carry at least fifteen hours of work per week unless excused by the President and are not permitted to carry over eighteen hours without permission of the Faculty.

The completed work of eight semesters amounting to one hundred and twenty hours and the required two units in Public Speaking is the minimum necessary for graduation.

An "hour" is the conventional unit consisting of one hour of recitation or lecture work, or its equivalent of three hours laboratory, field or shop work, per week for one semester.

Prescribed Work.

Any student who is a candidate for a degree must take 43 hours of prescribed work as here indicated. At least 24 of these 43 unit hours should be taken during the Freshman year, including English and Trigonometry or College Algebra:

English	6
Mathematics	5
Science (Physics, Biology or Chemistry)	16
Language (other than English)	16
Total	43

The 16 units required in language, other than English, must consist of two years in one language, unless the student has had one year of a language which he pursues in college.

Two units in Public Speaking are required of all Freshmen, who in addition must make one public appearance each year. These public exercises will occur on Thursdays, when all students of the University are required to attend.

Elective Work.

Of the 120 hours required for graduation, 43 hours are outlined in the preceding section. In selecting the

remaining 77 hours the student must be guided by the system of major and minor electives. The major electives must be chosen at the beginning of the Junior year in some one department, which election terminates the course in which the student is entered. The minimum amount of work for a major is 24 hours and the maximum 40, according to the requirements of the department in which the major subjects are being taken. If any part of the prescribed work lies in that department it is included in the amount required for the major. At least eight hours of the major subject must be taken at this University. Majors may be taken in English, History, Latin, Greek, Romance Languages, Education, Physics, Mathematics, Biology, Chemistry, Geology, Engineering, and German.

All candidates for the degree A. B. must present a graduating thesis, if required, on a subject to be approved by the head of the department in which the candidate is doing the work. The thesis must represent some phase of the student's work in his major subject. It must be typewritten on good paper, 8x10 in size, and bound according to specifications by the Librarian of the University. Having been approved, and accepted by the head of the department and the Thesis Committee it becomes the property of the University, and with a fee for binding, must be deposited in the Library before May 1st.

A student may change his major subject only by permission of the Faculty, but in so doing the student must complete all the work required in his major for graduation, no matter how much may have been taken in other departments.

The minor electives are chosen by the student under the direction of the professor in charge of the major which he is taking from any department of the Uni-

versity. Upon the completion of one hundred and twenty hours and compliance with all the requirements for graduation, the degree of Bachelor of Arts will be conferred. Degrees are conferred and diplomas issued at the annual commencement. A student who does not lack, at the time of the annual commencement, more than eight hours to complete the work, may complete this work before the opening of the Fall Semester and receive a diploma bearing the date of the current year.

The following is a suggested outline of studies to be taken in the Freshman and Sophomore years:

Freshman.

<i>Required</i>	<i>Elective</i>
English, 6 hours.	History, 8 hours.
Mathematics, 2, 3, or 5 hrs.	Language, 8 hours.
Language, 8 hours.	Chemistry, 8 hours.
Science, 8 hours.	Mathematics, 2 or 3 hours

Sophomore.

<i>Required</i>	<i>Elective</i>
Language, 8 hours.	History, 8 hours.
Science, 8 hours.	Language, 8 hours.
Mathematics, 2 or 3 hrs.	English, 6 hours.

In his Junior and Senior years the student will pursue his major subject in some one department and take such minor subjects as the head of that department shall direct. A complete statement of each subject offered in the University will be found under the General Description of Courses.

School of Engineering

The Engineering School was organized in 1906 and the attendance and work done has been very encouraging. The purpose of this department is to train and prepare men to enter the various engineering professions, giving them a four years' college course, leading to the degree of A. B. in engineering. Our aim is always to make entrance requirements and requirements for graduation both up to the standard of leading engineering schools throughout the country. The courses have been outlined to include both professional and cultural studies, in order that the student may not only receive instruction in the theory and practice of engineering work, but may at the same time broaden his views and develop his ability to clearly and effectively present his views verbally or in written reports. Owing to the rapid development in engineering methods and practices, it is necessary that the young engineer should be trained to solve new problems and learn the general principles of applied science, rather than collect a large store of data, no matter how valuable it may be at present. The courses have been outlined so as to include enough of at least one foreign language to enable the graduate to read articles in the technical periodicals of that language. The theoretical and mathematical branches are taken up in the earlier part of the courses, while the application and specialization make up the latter part. Original investigation and experimental research will be taken up during the fourth year of the course.

Equipment.

In addition to the general library, which is at the disposal of all students, there are a number of engineering and other scientific periodicals and books on the reading table and in the departmental libraries of the Science Building.

The Engineering School has instruments for field work in surveying; there are farms laid out on the University grounds for the purpose of giving the student practice in the use of the various surveying instruments. Special attention is given to the use of the level, compass, and transit, with attachments.

The machine shops afford facilities for carpenter work, wood turning, forge work, bench and machine work in iron, pattern making, and installing and assembling of machinery.

The draughting room is equipped with desks and drawing boards, but each student is required to furnish his own instruments, T-squares, triangles, etc., for draughting work.

Realizing the value of an organization for presenting and discussing papers on engineering subjects, the students of the Engineering School have organized the University of New Mexico Society of Engineers. This organization combines club and literary society features with a study of current engineering literature.

Inspection Tours.

From time to time throughout the course inspection tours are made, under the direction of an instructor, to engineering and industrial establishments in the

city of Albuquerque. Through the courtesy of these concerns it is possible for the engineering students to get a much better idea of the actual process and methods in use in up-to-date, practical shops than could possibly be gained in the shops of an educational institution where the equipment must of necessity be limited and more or less obsolete. In this way the observation work in connection with the discussions and practical work at the University shops offer excellent opportunity for the student to become familiar with shop practice.

Special Students.

Special students, not working for a degree, may be permitted to take special studies without passing the entrance requirements upon giving satisfactory evidence that they can do so advantageously.

Entrance Requirements.

Entrance requirements are the same as those for admission to the College of Letters and Sciences, which are described at the beginning of the description of the College of Letter and Sciences.

Required Work.

All candidates for a degree in Engineering are required to present two units in Public Speaking and 140 hours of college work; of these the following 77 hours are required of all engineering students:

German, 3, 4, and 10; French or Spanish, 3 and 4	6
English	6
Mathematics	15
Chemistry	10
Physics	15
Mechanical Drawing	7
Structural Engineering	7
Hydraulic Engineering	2
Surveying	6
Steam Engineering	3
Total	77

Of the above list at least 28 hours must be taken the first year, and at least 20 hours the second year. In addition to the above list, the following work is required of candidates for graduation by groups:

CIVIL ENGINEERING GROUP.

Mechanical Engineering	6
Structural Engineering	7
Hydraulic Engineering	1
Surveying	15
Electrical Engineering	5

ELECTRICAL ENGINEERING GROUP.

Physics	7
Mechanical Engineering	6
Electrical Engineering	22
Shop Work	4

MECHANICAL ENGINEERING GROUP

Mechanical Engineering	21
Shop Work	10
Structural Engineering	2
Steam Engineering	3
Electrical Engineering	10

MINING ENGINEERING GROUP.

Structural Engineering	2
Surveying	7
Geology	10
Chemistry	18

Thesis.

The conditions governing work on thesis will be found set forth under the head of Elective Work in the College of Letters and Sciences, (see page 47).

Elective Work.

In selecting the remaining work the student is under the direction of the professor with whom he is taking his major work. The number of hours elective work for Civil Engineering students is 29, for Electrical Engineering students is 24, for Mechanical 17, and for Mining Engineering students 27. The detailed statements of Engineering branches will be found under General Description of Courses.

School of Education

The purpose of the Course of Education is to provide thorough professional instruction for teachers. The academic work is carried on with the University classes, the Normal students thus having the advantage of scholastic work with specialists in the various departments, of ample apparatus and equipment, of the large library, of lectures, of literary societies, and of all privileges incident to participation in University life.

The conscious aim of this department is to bring together the essentials of all that directly bears upon pedagogy from descriptive, physiological, and experimental psychology; from the history of education; from ethics, and from a comparative study of the present educational systems—to the end that students may gain such knowledge of the nature and function of the subjects to be taught, as will give ability and power in the process of teaching. But the primary object throughout the course is to secure for the teacher adequate intellectual and moral development, high educational ideas, and the unfolding of his own originality and resourcefulness.

The students of this department have most excellent opportunities for observing regular school work in the modern and progressive schools of the City of Albuquerque, where all grades are represented, including a well equipped and excellent High School. There is a decided advantage in observing work where there are several teachers of each grade. Visits are made under the direction of the Instructor at intervals throughout the year.

Before graduation each Normal student is required to teach a designated amount of time that there may be an opportunity for putting theory into practice.

All students who complete the regular Preparatory Course as outlined in the catalogue, or who have graduated from some accredited high school, may be admitted to the Course of Education, as the fifth year's work. The professional studies, however, may be interpolated throughout the Preparatory Course, under direction of the instructor in charge. Upon the completion of the Preparatory Course of four years and the year's professional work, a diploma will be granted. The holder of this diploma is entitled to a five years' professional certificate as issued by the Territorial Board of Education.

If a student completes all the work required in the School of Education and pursues for three years subjects offered in the College of Letters and Sciences including the prescribed work, he will be given the degree of A. B. If in addition to his work in the School of Education he completes three years of college work not including the prescribed units in the College of Letters and Sciences, he will be given the degree of B. Pd.

Complete statements of the courses required of students in the School of Education will be found under the heads of Education and Philosophy in the General Description of Courses.

GENERAL DESCRIPTION OF COURSES.

In the following detailed statements of courses a number and name are used to indicate each course in a department. The semester in which the course falls is given as is also the time of recitation. The figure and letter at the end of the italics indicate the number of unit hours of credit given for that course toward graduation, and usually the number of recitations or lectures per week. Starred(*) courses may not be given in the year 1909-10; students desiring such courses in 1909-10 should correspond with the head of the department.

English.

1. *Composition and Rhetoric. First Semester. 9:50.
3h.*
The elements of rhetoric. Three themes each week in exposition and argument. Required of all Freshmen.
2. *Composition and Rhetoric. Second Semester.
9:50. 3h.*
The elements of rhetoric. Three themes each week in narration and description. Required of all Freshmen.
3. *Applied Criticism. First Semester. 2h.*
(Not given in 1909-10.)
5. *Narration and Description. First Semester. 9:00.
M. W. F. 3 h.*
An advanced course intended particularly for Juniors and for those who in the opinion of the instructor are specially fitted for this course.

English Literature.

1. *History of English Literature. First Semester.* 3h.

An advanced course in the general history of English Literature for those who desire to specialize in English Literature and who have not had a four years English course in high school.

2. *History of English Literature. Second Semester.* 2h.

A continuation of Course I.

3. *Chaucer and Other Early Writers. First Semester.* 9:00 T. Th. 2h.

4. *Chaucer and Other Early Writers. Second Semester.* 9:00 T. Th. 2h.

5. *Development of the English Drama to Restoration of the Theatres. First Semester.* 2:20. 3h.

6. *Shakespeare. Second Semester.* 2:20 3h.

- 7.* *Shakespeare. First Semester.* 2:20. 3h.

9. *History of the English Novel. First Semester.* 2h.

(Not given in 1909-10.)

10. *History of the English Novel. Second Semester.* 2h.

(Not given in 1909-10.)

11. *Nineteenth Century Poetry. First Semester.* 3:10. 3h.

12. *Browning. Second Semester.* 3:10. 3 h.

- 13.* *Literature as a Fine Art. Second Semester.* 1h.

Greek.

1. *Elementary Course. First Semester.* 3:10. 4h.
Forms, syntax, vocabularies and composition.

2. *Xenophon. Second Semester.* 3:10. 4h.
The Anabasis, Books I and II. Prose composition.
3. *Xenophon. First Semester.* 11:30. 4h.
The Anabasis, Books III and IV. Prose composition.
4. *Homer. Second Semester.* 11:30. 4h.
The Iliad, Books I-III. Homeric grammar and prosody.
- 5.* *Hellenistic Greek. First Semester.* 10:40. 2h.
Reading and interpretation of St. Luke's gospel and Acts of the Apostles. (Not offered in 1909-10).
- 6.* *Lysias. Second Semester.* 10:40. 2h.
Selected orations. Study of Greek oratory. (Not offered in 1909-10).
7. *Greek Historians. First Semester.* 10:40. 2h.
Selections from Herodotus and Thucydides. Outlines of Greek History.
8. *Plato. Second Semester.* 10:40. 2h.
The Apology. Study of the history of Greek Philosophy.
9. *Advanced Greek Grammar. First Semester.* 9:50. 3h.
This course is offered for those students especially who are preparing for the Rhodes' Scholarship examinations.
- 10.* *Greek Drama. Second Semester.* 9:50. 2h.
Euripides' Iphigenia in Tauris, and Sophocles' Antigone. Reading Aeschylus' Prometheus Bound and Aristophanes' Clouds in translations. (Not offered in 1909-10).

12. *Greek Literature. Second Semester. 9:50. 2h.*
Outlines of Greek literature with historical settings. This course is based on selections from Greek prose and verse. Open to all college students.

Latin.

1. *Cicero and Livy. First Semester. 1:30. 4h.*
De Amicitia, with outlines of Roman philosophy. Selections from Livy, Books XXI, XXII.
2. *Horace. Second Semester. 1:30. 4h.*
Odes and Epodes. Latin versification. Other lyric writers in translations.
- 3.* *Latin Literature. First Semester. 9:50. 2h.*
Outlines of the literature with historical settings. The course is based on selections from Latin prose and verse. (Not offered in 1909-10).
- 4.* *Plautus and Terence. Second Semester. 9:50. 2h.*
The Trinummus of Plautus and the Phormio of Terence. Other plays of these writers will be read in translations. (Not offered in 1909-10).
5. *Advanced Latin Prose. First Semester. 9:50. 2h.*
This course is required of students taking courses 1, 2. It is open to others, especially to those preparing for the Rhodes' Scholarship examinations for Oxford.
6. *Roman Satire. First Semester. 9:50. 2h.*
Selections from Horace, Juvenal and Persius.
7. *Tacitus and Pliny. Second Semester.*
Tacitus' Germania. Pliny's Letters, Book X. Study of Roman history and literature.

*Romance Languages**Spanish*

1. *Elementary Course. First Semester.* 11:30. 5h.
Hills and Ford Spanish Grammar; Worman's First Spanish Book. The elements of grammar, reading and conversation.
2. *Elementary Course, continued. Second Semester.* 11:30. 5h.
Hills and Ford Spanish Grammar; Bransby's Spanish Reader; Echegaray's *El Poder de la Impotencia*. Essays in Spanish with drill in conversation.
3. *Intermediate Course. First Semester.* 2:20. 4h.
Ramsay's Spanish Grammar; Spanish Literature of XIX Century, especially prose. Essays and stories in Spanish with drill in conversation.
4. *Advanced Course Second Semester.* 2:20. 4h.
Modern Spanish Literature, especially the drama of Echegaray and Ayala. Composition and conversation. Occasional debates in Spanish.
5. *History of Spanish Literature. First Semester.* 9:50. 4h.
The History of Spanish Literature from its beginnings to modern times. Lectures and reports.
6. *Spanish Classics. Second Semester.* 9:50. 4h.
Cervantes and the dramatics of the Golden Age are given in alternate years.
7. *Old Spanish. First Semester.* 9:50. 4h.
Introduction to Spanish Philology. Lectures on Old Spanish Phonology and Morphology. The Sources of the Spanish Language; *El Poema del Cid* (Pidal); Pidal's "*Gramática Histórica Española*" (Madrid, 1905). Alternates with course 5.

French

1. *Elementary Course. First Semester.* 9:00. 4h.
Frazer and Squair's French Grammar; Francois and Giroud "Simple French." Grammar, Pronunciation and easy exercises in Reading and Conversation are the essential features of this course.
2. *Elementary Course. Second Semester.* 9:00. 4h.
Advanced study of Grammar, Reading and Conversation. Modern French novels and plays.
3. *Intermediate Course. First Semester.* 1:30. 3h.
Reading and translation from the works of Daudet, Maupassant, Merimée, and Labiche et Martin. Conversation and composition based on Francois' "Elementary French Prose Composition."
4. *Advanced Course. Second Semester.* 1:30. 3h.
The rise and development of the French drama. Corneille, Racine, Molière and Beaumarchais. Composition and conversation based on Francois' "Advanced French Composition."

Italian

1. *Elementary Course. First Semester.* 9:50. 2h.
Grandgents' Italian Grammar; Bowen's Italian Reader. Grammar, pronunciation and translation.
2. *Advanced Course. Second Semester.* 9:50. 2h.
Italian Literature of the XVIII and XIX Centuries. Advanced work in grammar and conversation. Goldoni's "Il Vero Amico," and some prose work of D'Annunzio or Fogazzaro.

German.

1. *Elementary Course. First Semester. 9:00. 4h.*
Elementary grammar, pronunciation, translation and conversation. Thomas' Practical German Grammar.
2. *Elementary Course. Second Semester. 9:00. 4h.*
Grammar and conversation continued, composition, and memorizing of simple German lyrics. Reading of Mueller and Wenkebach's "Glueck Auf", and Storm's "Geschichten aus der Tonne".
3. *Second Year Course. First Semester. 2:20. 4h.*
Conversation based on reading, composition, memorizing of lyrics. Von Hillern's "Hoher als die Kirche"; Nichol's "Two German Tales"; Bernhardt's German Composition.
4. *Second Year Course. Second Semester. 2:20. 4h.*
Reading, composition, and conversation. Life and works of Schiller; "Wilhelm Tell"; "Maria Stuart". Life and works of Lessing; "Minna von Barnhelm" or "Emilia Galotti".
5. *Third Year Reading. First Semester. 3h.*
Closer study of classical drama. Lessing, Schiller, and Goethe will be read, emphasizing the latter.
6. *Third Year Reading. Second Semester. 3h.*
Modern authors. Sudermann's "Frau Sorge", and "Johannes"; Fulda's "Das Verlorene Paradies"; Freytag's "Journalisten", and "Karl der Groze".
7. *Advanced Composition. First Semester. 2h.*
Pope's German Composition.
8. *Advanced Composition. Second Semester. 2h.*
Including advanced grammar and German discussion.

10. *Scientific German. Second Semester. 2h.*

About two years German presupposed. Brandt and Day's Scientific Reader.

History.

1. *Mediaeval History. First Semester. 9:50. 4h.*

A study of the emergence of the European nations from the confusion following the fall of Rome, feudalism, chivalry, the crusades, growth of the church, the renaissance and events up to the close of the Fifteenth Century.

2. *Modern European History. Second Semester. 9:50. 4h.*

A general survey extending from the close of the Fifteenth Century to the present time, showing the development of the civilization and governments of the modern European nations.

3. *English History. First Semester. 2:20. 4h.*

A general survey with especial reference to economic and social conditions. A few lectures on the English constitution are included.

Prerequisite: Courses 1 and 2. Alternate with course 7.

4. *Constitutional Period of United States History. Second Semester. 2:20. 4h.*

A study of the influences, from 1756 to 1776, which culminated in the Revolution, the formation of the Confederation, its weaknesses, the making of the Constitution, its adoption, national questions through Monroe's administration. The course includes readings and written reports.

Prerequisite: Courses 1 and 2.

5. *American Colonial History. First Semester. 9:00. 4h.*

Special emphasis will be given to the European influences, to the motives and methods of colonization, and to the social and economic history.

Prerequisite: Courses 1 and 2.

6. *History of New Mexico. Second Semester. 9:00. 4h.*

A detailed study of the History of New Mexico, including research work regarding the pueblos and Indian tribes, the earliest explorers, missions, settlements, etc. Written reports will be required on assigned topics and notes on lectures.

Prerequisite: Courses 1 and 2.

7. *History of France. First Semester. 2:20. 4h.*

A course in the history of France from the earliest times to the present, noting the development of the civilization, socially, religiously and politically.

Prerequisite: Courses 1 and 2. Alternate with course 3.

8. *Economics. Second Semester. 11:30. 3h.*

A general study of the principles of economics and the development and significance of modern problems. Assigned readings and reports by students.

10. *Money and Banking. Second Semester. 11:30. 2h.*

Organization of National Banks, privileges and restrictions, operation of clearing houses, etc. Lectures, reading and reports.

Library Science.

1. *Elementary Course. First Semester. 9:00. 2h.*

The purpose of this course is to teach students how to use the library and to give them a general idea of library work. Special emphasis will be given to the principles which should guide in the selection of books for a school library and to the relation of the public library to the public school.

2. *Elementary Course. Second Semester. 9:00. 2h.*

The purpose of this course is to teach students how to care for a library. The following subjects will be included in the course: How to order books and periodicals, trade bibliography, accessioning, classification, author numbers, shelf listing, simple cataloging, mechanical preparation of books for the shelves, how to care for gifts and exchanges.

3. *Advanced Course. First Semester. 9:00. 2h.*

Open to students who have completed Library 2. Advanced work in cataloging, classification and reference. Other subjects included in the course are: Care of serials, binding, charging systems, library legislation, organization and administration.

Education.

1. *History of Education. First Semester. 1:30. 5h.*

Education in the Orient, the ancient classical nations, and in Europe before and after the Reformation, including discussions of great educational leaders. Reference texts: Davidson, Monroe and Painter.

2. *Education in the United States. Second Semester. 1:30. 4h.*

Educational conditions in colonial, revolutionary, and reorganization periods. Study of leading educational institutions and state systems. Influence of the church on education. Work presented by topical outlines, questions, lectures and library readings. Dexter's History of Education in the United States, the special reference, with Brown's Making of Our Middle Schools.

3. *Orthoepy. First Semester. 9:00. 3h.*

The purpose of the work in orthoepy is to give a scientific basis for teaching the sounds of the language, an intelligent use of the dictionary, and the cultivation of the voice. The subject is viewed under the following topics: Vocal physiology as the basis for voice production; phonology; analysis and classification of vocal elements; diacritical marking; imperfections of English orthography; noted attempts at perfect phonetic representation; orthoepic elements — syllabication, accentuation, articulation; vowels and consonants in unaccented syllables; special dictionary study; comparisons of systems of dictionary markings; onomatopoey; theories of the origin of speech and language; difference between speaking and singing tones. Special reading work will involve a consideration of rhythm in human speech and animal utterances, the discovery and significance of inflection, and the employment of gesture.

4. *School Management. Second Semester. 1:30. 1h.*

The fundamental laws of the school. The law evolving the organism. The organism executing

the law. Influence of social combinations. School economy. Text: 'Tompkins' School Management.

5. *General Method. First Semester. 2:20. 5h.*

In the general view of the subject consideration is given to the nature and principles of education; the teaching process; analysis and synthesis; induction and deduction; empirical and scientific method; concentration; the educational value of apperception; the doctrine of interest; correlation; theory of the culture epochs, etc.

Consideration is given to the use and abuse of text-books, and to the best literature on the subject of General Method.

Reference texts, White's "Elements of Pedagogy", Thorndike's "Principles of Teaching", Horne's "Psychological Principles of Education".

[This course was given the second semester of 1908-'09.]

6. *Special Method. Second Semester. 9:00. 5h.*

In this course application of the general principles is made, and steps pointed out in teaching the various school subjects.

Reading. Nature of reading, its general and comparative value. Analysis of the reading process. Mental steps in expression. Reading as a mode of thinking. Relative importance of silent and oral reading. Various methods of teaching reading. Supplementary reading.

Numbers. Special stress is placed upon the development and close relation of the various phases of arithmetic. Psychical nature, origin, and development of number, which is the measurement of energy. Form, size and weight defined as results of energy. The decimal system.

Roman notation, its regular varying scale. Practical presentation of the important subjects of fractions and percentage.

Geography. The scheme of concentration with geography as the center. What it includes as a science. Logical and chronological analysis of geographical facts. The earth as a whole and as a member of the solar system. Knowledge to be gained by observation, by inference, by testimony. Study of type forms. Use and abuse of text-books, and maps. Importance of local geography. Consideration of a course of study in geography for the grades. Correlation of history with geography.

History. The method work in history seeks to turn the student from the lifeless forms of memorized dates and diagrams to the dynamical interpretation of history as the movement of a people toward freedom. The two factors involved are mind and the facts of history. Historical forces. The organizing principle—the growth of institutional life. Educational and ethical value of correct interpretation. History in the grades. Use of biography. Historical reading for grades and comparison of text-books in history.

Child Study. Attention is given to different methods of studying the child, historical accounts of child study movement, records of results from experiments and observation, children of uncivilized peoples, child character in history and fiction, abnormal conditions in children, physical characteristics, plays, secret languages, fears, affections, ideas of punishment and reward.

Attention will be given to methods in physiology, penmanship, and orthography.

Philosophy.

1. *Psychology. First Semester. 11:30. 5h.*

The General subject matter of psychology. Prevailing methods in psychological study. Relation of psychology to other subjects. The brain and nervous system as the physical basis of conscious activity. Conditions of effective mental action—consciousness, attention, habit. Study of sensation. Investigations of the processes of knowing involving a study of presentation—perception; representation—memory and imagination; reflection—judgment, reasoning. Feeling. Willing. Psychic Phenomena.

2. *Psychology. Second Semester. 11:30. 4h.*

Psychology applied to education as the basis of rational pedagogic work. Course 1 or equivalent required for admission to this course. General operations of the mind—acquisition, assimilation, reproduction, with emphasis placed on their educational relation. Constant attention is given in the study of psychology to its bearing upon life and character, and to the application of its principles in the regular school work. Lectures, and readings in Gordy's and Roark's psychologies.

3. *Ethics. First Semester. 9:00. 2h.*

Theoretical ethics. Aim and motive of action, free agency, problem of evil in the world. Schools of Hedonism, Rigorism, Rationalism. Christian ethics. Application of theory through the various institutions of life, friendship, home, marriage, civil society, state, and a consideration of man's ethical relation to the lower animals.

4. *History of Philosophy. Second Semester. 11:30. 1h.*

Brief survey of systems of philosophy, ancient and modern. Lectures and assigned readings. Special references, Hunter's History of Philosophy and Rogers' Student's History of Philosophy.

5. *Logic. First Semester. 11:30. 3h.*

History of Logic, nature, terms, propositions, deductive and inductive methods, logical analysis and criticism of fallacies.

Oratory and Elocution.

1. *Public Speaking. First Semester. 1h.*

Practice in the preparation and presentation of the various forms of public discourse. Required of all Freshmen.

2. *Public Speaking. Second Semester. 1h.*

Continuation of course 1. Required of all Freshmen.

3. *Elocution. Beginning Course. First Semester. 4h.*

Principles of voice; forms of voice; qualities of voice; principles of gesture; exercises for poise of body; studies in varied expression.

4. *Elocution. Beginning Course. Second Semester. 4h.*

Continuation of course 3. Emphasis and modulation; gestural expression; selected readings from English and American classics.

5. *Elocution. Advanced Course. First Semester. 4h.*

Poetic and dramatic interpretation; scenes from classic and modern dramas and masterpieces of poetry; characterization and dialect forms of speech; artistic drills.

6. *Elocution. Advanced Course. Second Semester. 4h.*

Continuation of course 3, with special attention to the production of artistic effects.

7.* *Elocution. Normal Course. First Semester. 3h.*

Study of the evolution of expression; methods of teaching reading and public speaking. This course is designed especially for students wishing to teach reading and rhetoricals in high schools.

Prerequisite: Courses 3, 4, 5, 6. (Not offered in 1909-10).

9.* *Oratory. First Semester. 2h.*

Sources of oratorical effects as distinguished from other forms of public discourse. Study of masterpieces of oratory in forensic, political, sacred and occasional styles.

10.* *Oratory. Second Semester. 2h.*

Continuation of course 9. Oratorical gestures; practice in oratorical masterpieces with special consideration as to distinctions between ancient and modern oratory.

8. *History of Oratory. Second Semester. 2h.*

History of Oratory from the attict orators to the present day. Study of extracts from the orations of various orators.

12. *Parliamentary Law. Second Semester. 1h.*

Study of rules governing parliamentary procedure; class practice. (Courses 8, 11 and 9 may be taken together.)

11. *Argumentation and Debate. First Semester. 2h.*

Preliminary course in the logic and principles of debate; practice in the various ways of building up and breaking down arguments.

14. *Debate and Public Discussion. Second Semester. 2h.*

Continuation of course 11. Practice in the finding and using of evidence; discussion of public questions.

15. *Extemporaneous Speaking. First Semester. 1h.*

Lectures on the nature of extempore oratory, supplemented by a study of models from the great extemporizers and class practice in extempore speaking and oral debate.

16. *Extemporaneous Speaking. Second Semester. 1h.*

Continuation of course 15. (Courses 15 and 16 may be taken with courses 9 and 10.)

17. *Elocution. First Semester. 2h.*

A short course designed for students who wish practical work, but who have not sufficient time to take up regular courses. Work will be largely individual. Opportunity will be given the student to participate in frequent contents and public programs. (Credit for this course will depend upon the work done by the individual student.)

18. *Dramatic Expression. Second Semester. 2h.*

Design of course is the same as in course 17.

Lectures on stage technique; practice in dramatic expression with frequent appearance in plays. (Credit same as in course 17.)

19. *Oratory. First Semester. 2h.*

Design of course same as in courses 17 and 18. Practice in preparation and presentation of original orations. (Credit same as in courses 17 and 18.)

20. *Debate. Second Semester. 2h.*

Design same as in courses 17, 18 and 19. Practical work in argumentation and debate. (Credit same as in courses 17, 18, and 19.)

Mathematics.

1. *University Algebra. First Semester. 11:30. 3h.*

Theory of limits; ratio and proportion; arithmetical, geometrical and harmonical progressions; binomial theorem; arrangements and groups; the theory of probability; convergence, divergence, and summation of series; undetermined coefficients; derivatives; logarithms; separation of roots and an introduction to the general theory of equations.

2. *Plane Analytic Geometry. Second Semester. 11:30. 3h.*

Prerequisites: Courses 1 and 3.

Rectangular and polar coordinates, straight line, circle, parabola, ellipse, hyperbola, and general equations of the second degree and higher plane curves.

3. *Plane and Spherical Trigonometry. First Semester.* 11:30. 2h.

Solution of plane triangles; essentials of goniometry; oblique triangles; application to surveying and navigation. Development of formulas in spherical trigonometry; solution of problems, and applications to astronomy.

4. *Analytic Geometry of Three Dimensions. Second Semester.* 11:30. 2h.

Prerequisite: Course 2.

Equation of a surface; the ellipsoid; hyperbola, sphere, cone, elliptic paraboloid, hyperbolic paraboloid and general equations of degenerate and non-degenerate quadrics.

5. *Differential Calculus. First Semester.* 9:00. 4h.

Prerequisite: Course 2.

Differentiation of algebraic and transcendental functions; expansion of functions; indeterminate forms; partial differentiation; and the applications of calculus principles in finding tangents, normals, asymptotes, points of inflection, radii of curvatures, evolutes, involutes, the osculating circle, envelopes, singular points and the maxima and minima of curves.

6. *Integral Calculus. First Semester.* 9:00. 1h, and
Second Semester, 2:20. 2h.

Prerequisite: Course 5.

A course in simple and successive integration, with applications of calculus principles for finding length of curves, surfaces, volumes and the moments of inertia.

This course is begun in the first semester and finished in the second.

Text used: Nichols Calculus.

8. *Differential Equations. Second Semester. 9:00. 3h.*
Prerequisite: Course 6.
Ordinary and partial differential equations with geometric and mechanical applications.
Murray's Differential Equations used as a text.
9. *Differential Equations. First Semester. 3h.*
Prerequisite: Course 8.
10. *Advanced Differential Calculus. Second Semester. 3h.*
Prerequisites: Courses 5 and 9.
- 11.* *Advanced Integral Calculus. First Semester. 2h.*
Prerequisites: Courses 8 and 10.

Physics.

1. *Mechanics, Sound and Light. First Semester. 11:30. 5h.*
Lectures, recitations and two hours' laboratory work per week.
Prerequisite: Courses 1 and 2 in mathematics, solid geometry and preparatory physics.
2. *Heat, Electricity and Magnetism. Second Semester. 11:30. 5h.*
Lectures, recitation and two hours' laboratory work per week.
Prerequisites: Same as for course 1.
May be taken without having had course 1.
3. *Advanced Electricity and Magnetism. First Semester. 1:30. M. W. F. 3h.*
Prerequisite: Courses 2 and 6, in mathematics.
A lecture course in advance of the general course, using calculus methods.

5. *Electrical Measurements. First Semester.* 1:30. 2h.

A laboratory course, designed to accompany course 3, but may be taken separately. Required of electrical engineers; elective for others. Laboratory work, 2 hours.

6. *Electrical Measurements. Second Semester.* 1:30. 2h.

A continuation of course 5. Required of electrical engineers. Laboratory work, 2 hours.

- 7.* *Advanced Work in Light. First Semester.* 3h.

Preston's Theory of Light is used as a text, and may be taken with or without the laboratory work.

Prerequisite: Mathematics 4 and 6; Physics 1 and 2.

- 9.* *Advanced Work in Light. First Semester.* 1:30. 2h.

A laboratory course designed to accompany course 3, but may be taken separately.

Prerequisite: Mathematics 4 and 6; Physics 1 and 2.

8. *Analytic Mechanics. Second Semester.* 9:50. 5h.

The principles of dynamics and kineties, for engineers. Harmonic motion; graphic statics; balance of machines.

Prerequisite: Mathematics 4 and 6. Physics 1.

- 11.* *Theoretical Mechanics. First Semester.* 3h.

Ziwet's Mechanics.

Prerequisite: Mathematics 4 and 6. Physics 1.

13 and 14. *Thesis Work. Two Semesters. 5h.*

Special attention is paid to students taking this work, which consists of a thorough investigation along a particular line, with research work directly under the charge of the instructor.

15 and 16. *Physics Seminar. Two Semesters. 1h.*

A course designed for advanced students in science, with presentation and discussion of current periodical literature.

17. *Elementary Electricity and Magnetism. First Semester.*

A ten weeks extension course for those who wish in a few weeks a working knowledge of the subject. No previous knowledge of the subject is required and the course of instruction will be made up to suit the ability of those taking the course.

18. *Elementary Dynamo Electric Machinery. Second Semester.*

An extension course similar to course 17, which will treat in an elementary manner the construction and management of electrical machinery.

Surveying.

1. *Elementary Surveying. First Semester. 3h.*

Johnson's Surveying and Smith's Field Manual. Class work covering adjustments and uses of the surveyor's compass, level and transit. Two hours' field work. Required of Freshmen in engineering.

2. *Elementary Surveying. Second Semester. 3h.*

Continuation of course 1. Class work covering solar attachments, plane table and sextant, and methods of U. S. Land Survey. Field work

with compass, level and transit. Two hours' field work. Required of Freshmen in civil and mining engineering.

3.* *Advanced Surveying. First Semester. 2:20. 3h.*

Continuation of course 2. Class work covers a study of higher instruments of precision. Field work a continuation of course 2, with map work in draughting room. One hour field work. Required of Sophomores in civil and mining engineering.

Prerequisite: Courses 1 and 2.

4.* *Topography. Second Semester. 2:20. 2h.*

Pen and water color work, conventional signs, mapping. Required of Sophomores in civil engineering.

Prerequisite: Courses 1, 2 and 3.

5.* *Railway Engineering. First Semester. 3:10. 5h.*

Theoretical study of surveying and construction work in connection with railway surveying. Three hours' field work.

Prerequisite: Courses 1, 2 and 3.

6.* *Railway Engineering. Second Semester. 3:10. 3h.*

Maintenance of way, improvement and reconstruction.

7.* *Geodesy. First Semester. 2h.*

Johnson's Curveying.

Prerequisite: Courses 1, 2 and 3.

Mechanical Drawing.

1. *Elements of Mechanical Drawing. First Semester. 4h. 10:40, 2:20, 4:50. Wed and Fri.*

Notes on Practical Mechanical Drawing, Wil-

son and McMaster. Lettering, geometrical drawing isometric, cabinet, and orthographic projection. Conventions of working drawings, working drawings of machines from free hand sketches, tracing. Required of all engineering students.

2. *Descriptive Geometry. Second Semester. 4h.*
10:40, 1:30, 4:00, *Wed. and Fri.*

Generation and classification of lines and surfaces. Intersections and developments. Required of all engineering students.

Prerequisite: Course I.

Hydraulic Engineering.

- 2.* *Hydraulics. Second Semester. 1:30. 2h.*

The flow of water over weirs, through orifices and pipes, water wheels, turbines, hydraulic power development. Required of all Juniors in engineering.

Prerequisite: Courses 5 and 6 in Physics.

- 4.* *Hydraulic Laboratory. Second Semester. 1:30.*
1h.

Elementary experiments in connection with course 1. Required of all Juniors in engineering. (Not given except with course 1.)

Structural Engineering.

1. *Mechanics of Materials. First Semester. 11:30.*
5h.

Merriman's Mechanics of Materials. Tension, compression, and shearing. Cantilevers and simple beams. Moment of inertia of plane figures.

Strength and stiffness of beams, columns, and shafts. Combined stresses. Required of Juniors in engineering.

2. *Materials of Construction. Second Semester.*
11:30. 2h.

Johnson's Materials of Construction. Strength of materials used in various construction, methods of making strength tests.

Prerequisite: Courses 5 and 6 in Physics.

- 3.* *Masonry Construction. First Semester. 2h.*

Theoretical consideration of foundations and other masonry structures, such as arches, dams, etc.

- 4.* *Bridge Stresses. Second Semester. 2h.*

Theoretical consideration of stresses in simple bridge trusses, general consideration of various bridges.

Prerequisite: Course 1.

- 5.* *Bridge Design. First Semester. 1h.*

Draughting room work in connection with course 3.

Not given except with course 3.

Electrical Engineering.

1. *Direct Current Machinery and Systems. First Semester. 4:00. 3h.*

Theory of the magnetic circuit. Fundamental principles of motors, generators, and other direct current apparatus and machinery. Systems of distribution, losses, efficiencies, lighting and storage batteries. Required of Juniors in electrical and mechanical engineering.

2. *Direct Current Machinery and Systems. Second Semester. 4:00. 3h.*

Continuation of course 1 with special reference to the design of direct current dynamos. Required of Juniors in electrical and mechanical engineering.

3. *Direct Current Laboratory. First Semester. 2h.*

Measuring instruments. Operation of electric machinery. Characteristics of different types of direct current machines. Required of Juniors in electrical and mechanical engineering. Laboratory work, 2 hours.

4. *Direct Current Laboratory. Second Semester. 2h.*

Continuation of course 3, with special attention to losses, efficiencies, laboratory and shop tests of direct current machines. Required of Juniors in electrical and mechanical engineering. Laboratory work, 2 hours.

5. *Alternating Currents and Alternating Current Machinery. First Semester. 9:00. 3h.*

The generation and utilization of alternating electric currents. The design, construction, and operation of single-phase alternating current generators and transformers. Methods of testing alternating current machinery. Required of Seniors in electrical engineering.

6. *Alternating Currents and Alternating Current Machinery. Second Semester. 9:00. 3h.*

Characteristics and regulation of alternators. Losses and efficiencies. Polyphase apparatus and systems. Required of Seniors in electrical engineering.

7. *Testing Alternating Current Machinery and Apparatus. First Semester. 9:00. 2h.*

The testing and operation of single-phase alternating current generators, motors, transformers, and other appliances. Required of Seniors in electrical engineering. Laboratory work, 2 hours.

8. *Testing Alternating Current Machinery and Apparatus. Second Semester. 9:00. 2h.*

Continuation of course 9. Determining of losses and efficiencies. Operation and testing of polyphase machinery. Required of Seniors in electrical engineering. Laboratory work, 2 hours.

9.* *Electric Lighting and Transmission of Power. First Semester. 3h.*

Crocker's Electric Lighting, Vol. II will form the basis of this course which will include the theory and practice in the construction, distribution and operation of both direct and alternating current systems.

13.* *Direct Current Motor Design. First Semester. 2h.*

The complete design of a direct current motor, including specifications and drawing.

Prerequisite: Mechanical Drawing 1; Physics 1, 2.

Steam Engineering.

1. *Thermodynamics. First Semester. 3h. 9:00.*

Principles of transformation of heat into mechanical energy, perfect, saturated and superheated vapors, refrigeration. Required of all Juniors in engineering.

Prerequisite: Physics 1 and 2.

2. *Steam Engines and Boilers. Second Semester.*
3h. 9:00.

Construction, operation and testing of various types of engines and boilers. Required of Juniors in mechanical and electrical engineering.

Prerequisite: Course 1.

Mechanical Engineering.

1. *Mechanism. First Semester.* 3h. 2:20, 4:50.
M. W. F.

Kinematics of Machinery. Linkages, gears, cams, gear-trains, cone pulleys, etc. Must be accompanied by Math. 3. Required of Sophomores in Mechanical, Electrical and Engineering.

2. *Machine Design. Second Semester.* 3h. M. W. F.
2:20, 4:50.

Fastenings, transmissive machinery. Required of Sophomores in Mechanical, Electrical Engineers.

Prerequisite: Mechanical Engineering 1.

3. *Graphic Statics and Dynamics. First Semester.*
3h. 2:20, 4:50 M. W., 2:20 F.

Required of Juniors in Mechanical Engineering.

Prerequisite: Mechanical Engineering 1.

4. *Machine Design. Second Semester.* 4h. 2:20
T, 4:50 M. W. F., 1:30 M.

The application of the principles of mechanics to calculations of machine parts. Adaptation of design to processes of manufacture. Required of Juniors in Mechanical Engineering.

Prerequisite: Mechanical Engineering 2.

5. *Advanced Machine Design. First Semester. 4h.*
Design of hoisting machinery. Required of Seniors in Mechanical Engineering.
Prerequisite: Mechanical Engineering 4.
6. *Advanced Machine Design. Second Semester. 4h.*
Design of machine tools, punching and shearing machines. Required of Seniors in Mechanical Engineering.
Prerequisite: Mechanical Engineering 5.
7. *Heat Motors. First Semester. 3h.*
The principals of operation and design of internal combustion engines. Required of Seniors in Mechanical Engineering.
Prerequisite: Steam Engineering 2.
8. *Steam Turbines. Second Semester. 3h.*
Required of Seniors in Mechanical Engineering.
Prerequisite: Mechanical Engineering 7.
9. *Mechanics of Machinery. First Semester. 4h.*
Advanced study of the efficiency of machines, friction, gears, etc. Required of Seniors in Mechanical Engineering.
Prerequisite: Mechanical Engineering 3; Physics 8.
10. *Mechanics of Machinery. Second Semester. 3h.*
Continuation of course 9.

Shop Work.

Courses in shop work are given with a view to teaching the student in engineering, processes of manufacture. In general, the student spends one hour in recitation and six hours in the shop per

week—receiving three hours credit. Lectures and visits to shops familiarize the student with the operation and installation of machine shop, forge and foundry equipment.

Chemistry.

1. *Inorganic Chemistry. First Semester. 1:30. 5h.*

Lectures and recitations on general and theoretical chemistry, illustrated by experiments, charts, specimens, etc. Solution of chemical problems is required.

2. *Qualitative Analysis. Second Semester. 1:30. 5h.*

This course consists of laboratory practice in the separation and detection of the common acids and bases. Occasional lectures and examinations will be given. A full set of notes is required. Laboratory work, 5 hours.

Prerequisite: Course 1.

3. *Quantitative Analysis. Either Semester. 2:20. 5h.*

This course consists wholly of laboratory work. Gravimetric methods are taken and volumetric work started. Laboratory work 5 hours.

Prerequisite: Course 2.

4. *Quantitative Analysis. Either Semester. 2:20. 5h.*

A continuation of volumetric work. Laboratory work, 5 hours.

5. *Quantitative Analysis. Either Semester. 2:20. 5h.*

This course gives practice in the greatest variety of manipulation. Types of the important methods are taken up. Analysis of ores, metals, slags, alloys, fuels, soils, fertilizers, dairy products, food stuffs, waters, urine, poisons, drugs,

gases and oils will be taken. The needs of the individual student will be considered in this work. Laboratory work, 5 hours.

Prerequisite: Courses 3 and 4.

6. *Quantitative Analysis. Either Semester. 2:20. 5h.*

A continuation of course 5. Laboratory work, 5 hours.

7. *Organic Chemistry. First Semester. 9:00. 4h.*

Lectures, laboratory work and recitations on the chemistry of the carbon compounds. Laboratory work, 2 hours. Given alternate years.

Prerequisite: Courses 1 and 2.

8. *Physical Chemistry Lectures. Second Semester. 9:00. 4h.*

This work consists of advanced study of chemical theory. Practice experiments will be performed with the aid of the student in the determination of vapor density, molecular weights, specific heats, etc., and the study of isomorphisms, diffusion of gases, solutions, ionization, electrolysis, molecular and atomic volumes, thermo chemistry, equilibrium, the phase rule, etc., will take up much of the time. Given alternate years.

Prerequisite: Courses 1, 2, 3 and 4.

9. *Mineralogy. First Semester. 9:00. 4h.*

An introduction to crystallography, a short course in blowpipe analysis, followed by laboratory work in the determination and study of minerals with special reference to their economic value. Laboratory work, 4 hours. Given alternate years.

Prerequisite: Courses 1 and 2.

10. *Assaying. Second Semester. 4h.*
Practical work largely on New Mexico ores, by both wet and furnace methods. Laboratory work, 4 hours. Given alternate years.
Prerequisite: Courses 3, 4, and 6.
12. *Chemistry of Food and Nutrition. Second Semester. 9:00. 1h.*
This subject includes the composition of foods and of the animal body, the assimilation of the former by the latter and the principles underlying a rational diet. Particularly a practical course for women students.
- 13* and 14.* Advanced work for individual students.
- 16.* *Assaying. Second Semester.*
This course is offered as an extension course and is designed to meet the needs of business men who care to become acquainted with the fundamentals of fire assaying for the precious metals.
Consult head of department before electing.

Biology.

1. *Invertebrate Zoology. First Semester. 9:00. 5h.*
A study of the comparative morphology, physiology and life history of invertebrate animals. Beginning with the Protozoa the development of the animal types will be traced to the vertebrates. It is highly desirable that a student electing this course should have had an elementary course in Zoology such as the one in our preparatory department. Laboratory work, 3 hours.
2. *Vertebrate Zoology. Second Semester. 9:00. 5h.*
A continuation of course 2. The comparative morphology and the origin and development of

vertebrates are studied. A tunicate, amphioxus, several types of fishes, an amphibian, a reptile, a bird and a mammal will be carefully dissected. Laboratory work, 4 hours.

4. *Cryptogamic Botany. Second Semester.* 1:30. 5h.

This course is a study of the representative types of cryptogams by the use of the microscope. The morphology and life history of the types are taken up with special reference to bringing out the relations of the groups and the development of the plant kingdom. Laboratory work, 3 hours.

5.* *General Physiology. First Semester.* 11:30. 3h.

A reading course in Verworn's General (Comparative) Physiology. It is the study of physiology in its broadest and most fundamental sense, the study of the physiology of the cell and its living substance. The history of the subject is taken up quite thoroughly. Invaluable for those intending to study medicine or to specialize in biology.

Prerequisite: Chemistry 1; Elementary Physics, Elementary Physiology.

Given alternate years, beginning in 1908-09.

6.* *Human Physiology and Histology. Second Semester.* 11:30. 5h.

Physiology and Histology are often studied separately, but it is felt that the study of a structure and its function should never be separated. However the student may take either part without the other, if he so desires. Howell's Physiology will be used as a text. The students will be taught to make their own preparations in part

thus affording practice in microtechnique. The various animal tissues will be studied under the microscope in connection with their physiology.

Prerequisite: Chemistry 1; Elementary Physiology and Zoology.

7.* *Phaenogamic Botany. First Semester. 1:30. 5h.*

This is a continuation of course 4 and it is given alternate years, beginning 1909-10. Laboratory work, 3 hours.

9.* *Bacteriology. First Semester. 3:10. 4h.*

The biology of bacteria, together with the preparation of media and of pure cultures. Laboratory work, 2 hours.

10.* *Bacteriology. Second Semester. 3:10. 4h.*

A continuation of course 9, which is required. The disease forms are studied and the important questions of sanitation are considered from the bacteriological point of view. Laboratory work, 2 hours.

11.* *Field Zoology. First Semester. 10:40. 5h.*

A field study of the habits and distribution and the succession of the animals about Albuquerque. A conference or lecture on Wednesday and Friday. A six hours' field trip on Saturday.

Offered alternate years, beginning with 1908-1909.

12.* *Ecology or Field Botany. Second Semester. 4:00. 5h.*

A study of the local flora, including the distribution of the species, their succession and the factors which determine the same. A conference, lecture, laboratory or short field trip on Wednes-

days and Fridays, and six hours of field work on Saturdays.

Prerequisite: Elementary Botany. A student may take the Wednesday's and Friday's work alone, receiving 2 hours credit.

Offered in alternate years, beginning with 1908-1909.

13.* *Elementary Forestry. First Semester. 5h.*

A study of the chief forest trees of the U. S., their identification, character, uses, distribution, enemies of the forest, its management. Saturday field trips to the mountains will be a feature. Laboratory work, 2 hours.

Prerequisite: Elementary Botany, Zoology and course 4.

Offered alternate years, beginning with 1909-1910.

14.* *Organic Evolution. Second Semester. 2h.*

The course will consist of lectures, assigned reading, and a thesis on some topic connected with the course. The evolution of the evolution idea from the Greeks to Darwin and since. Method or Factors in Evolution. Natural Selection, Lamarkian Factors, Mutation. Late experiments. Laws of heredity. Mendel's Law, Weismannism, artificial fertilization, origin of death. Evidence for and against evolution. Lectures T. W. F.

15.* *Cytology. First Semester. 3h.*

A study of the cell including its behavior in development and heredity. Both animal and

vegetable cells will be studied. Laboratory work, 2 hours.

Prerequisite: Histology part of course 5.

Given in 1909-10.

16.* *Embryology. Second Semester. 5h.*

A study of the development of the frog and the bird. The student will largely prepare his own material thus getting training in microscopical technique. Very valuable for one intending to study medicine as well as for the biologist. Laboratory work, 3 hours.

Offered on alternate years, beginning with 1909-10.

17.* *Research Work.*

For properly prepared students.

Geology.

1 and 2. *Dynamic, Structural and Historical Geology. First and Second Semesters. 11:30. 5h.*

The subject as presented in Le Conte's textbook is supplemented by lectures, laboratory and field work. Laboratory work, 3 hours.

3. *Petrography. First Semester. 9:50. 5h.*

After a brief study of the rock-forming materials and the principles of crystallography, the principal rocks of the Rocky Mountains are studied microscopically. Field work is carried on in connection with the laboratory investigation. This subject may be taken only by students who have an adequate preparation in chemistry

and physics. The technique of the patrographic microscope is acquired by practical work. Sections are made by the use of the lithological lathe. Laboratory work, 3 hours.

4. *Meteorology. Second Semester. 9:50. 5h.*

The text-book used is Davis' Meteorology, with lectures and laboratory work. Special attention is given to the study of meteorological conditions of this region with reference to the climate problems, under the investigation of the climatological laboratory in compliance with the original design of Mrs. W. C. Hadley, the founder of the laboratory. Laboratory work, 3 hours.

6. *Paleontology. Second Semester. 1:30. 5h.*

This course is devoted to a critical study of the fossils of certain geologic formations, with especial reference to the geology of New Mexico. Laboratory work, 3 hours.

7 and 8. *Geological Research. First and Second Semesters. 5h.*

Opportunities for research in the unworked field of the Territory are unlimited. Major for thesis.

Commerce.

1 and 2. *Advanced Accounting Practice. 9:00. 5h.*

(Open only to those who have had Accounting A.) A year's course in which the student, already familiar with the principles of accounting, is led to the scientific application of recognized rules pertaining to accounts in general. Analytical statements, revealing the strong and weak points of a

business, installation of accounting systems, points of similarity and difference in approved methods, and C. P. A. problems are subjects for class-room discussion.

3. *Business Law. First Semester. 5h.*

This course covers the principles of contract; particular contracts concerning goods; particular contracts concerning credits; agency; business associations; property in land and movables.

4. *Money and Banking. Second Semester. T. and Th. 2h.*

This course begins with the origin and treats of the development of a medium of exchange and standard of value; metallic money; Government paper money; bank currency. A thorough analysis of the work done by banks of deposit and issue is a feature, as well as the tracing of the origin and development of banking institutions and a comparison of the chief banking systems of the world.

6. *Financial History of United States. Second Semester. M. W. F. 3h.*

The facts of our financial history will be so presented that the student may divine their cause and trace their influence. This course is given in connection with Money and Banking as outlined above, in the belief that the whole will thoroughly familiarize the student with our financial system.

Household Science.

1. *Plain Cooking. First Semester. 2:20. M. W. F. 3h.*

A study of household fuels; cooking apparatus

and its uses; the nature and uses of food; chemical composition of foods; the effect of heat, cold and fermentation on foods. Laboratory work, 2 hours.

2. *Plain Cooking. Second Semester. 2:20. M. W. F. 3h.*

Continuation of course 1. Laboratory work, 2 hours.

5. *Advanced Cooking. First Semester. 9:50. M. W. F. 3h.*

Prerequisite: Courses 1 and 2.

Fancy cooking; chafing dish cooking; serving.

6. *Advanced Cooking. Second Semester. 9:50. M. W. F. 3h.*

Continuation of course 3.

3. *Plain Sewing. First Semester. 2:20. T. Th. 2h.*

Hand sewing; simple machine sewing; drafting of patterns; making of garments.

4. *Plain Sewing. Second Semester. 2:20. T. Th. 2h.*

Continuation of course 5.

GENERAL SCHEDULE OF RECITATIONS.

Hour	Dr. Tigt	Miss Hickey	Mr. Asplund	Mr. Espinosa	Mr. Stephan	Mr. Richards	Mr. Hodgkin	Mr. Crum
9:00- 9:50	Office	Eng.Lang. 5, 6 M. W. F. Eng. Lit. 3, 4 T. Th.	Latin B	French 1, 2 M. W. Th. F.	German A	History 5, 6 T. W. Th. F.	Education 3 M. W. F. Philosophy 3 T. Th. Education 5	English A
9:50-10:40	Geology 3, 4	Eng.Lang. 1, 2 M. W. F.	Latin 5, 6 W. F. Greek 9, 12 M. T. Th.	Spanish 5, 6 M. W. Th. F.	Latin D	History B		Eng. Lit. 1, 2 M. W. F.
10:40-11:30			Greek 7, 8 W. F.		German 10 W. F.			Rhet. A, W Rhet. B, F
11:30-12:20	Geology 1, 2	English B	Greek 3, 4 T. W. Th. F.	Spanish A 1, 2	Latin C	Philosophy 5 M. W. F. History 8 M. W. F.	Philosophy 1 2, 4	Pub. Spk. 1, 2 M. Ele. Eloc.
12:20- 1:30								
1:30- 2:20	Geology 6	English C	Latin 1, 2 T. W. Th. F.	French 3, 4 M. W. F.	.	History A	Education 1 2, 4	
2:20- 3:10		Eng. Lit. 7 M. W. F.	Latin A	Spanish B 3, 4 M. W. Th. F.	German B 3, 4	Hist'ry 3 or 7, 4 M. W. Th. F.	Office	Eng. Lit. 5, 6 M. W. F.
3:10- 4:00		Eng. 11, 12 M. W. F.	Greek 1, 2 T. W. Th. F.					
4:00- 4:50								

Hour	Mr. Conwell	Mr. Angell	Mr. Gibbons	Mr. Clark	Mr. Watson	Miss Parsons	Miss Sisler	Miss Smith
9:00- 9:50	Mathematics 5, 6, 8	El. Engr. 7, 8 W. F. El. Engr. 5, 6 M. T. Th.	Steam Engr. 1, 2 M. W. F. Surveying 1, 2	Chemistry 9, 10 M. W. Th. F. Chemistry 12 T	Biology 1, 2	Commerce 1, 2	Library Science 1, 2, 3	
9:50-10:40	Mathematics A	Physics A	Physics 8		Science B	Accounting A		Household Science 5, 6
10:40-11:30		Physics A W. F.	Mech. Dr. 1, 2 W. F.		Biology 14 W. F.			
11:30-12:20	Mathematics 1, 3, 4	Physics 1, 2 M. W. F.	Struct. Engr. 1, 2		Biology 5 M. W. F. Biology 6	Commerce 3, 4, 6		
12:20- 1:30								
1:30- 2:20	Mathematics B	Physics 1, 2 T. Th. El. Engr. 7, 8 M. W.	Mech. Engr. 4	Chemistry A 1, 2	Science A			
2:20- 3:10	Mathematics C	Physics 1, 2 T. Th. El. Engr. 7, 8 M. W.	Mech. Engr. 1, 2 M. W. F. Mech. Engr. 3, 4	Chemistry 2, 3, 4, 5, 6	Biology 4, 7	Stenography B		Household Science A. B. 1, 2, 3, 4
3:10- 4:00		El. Engr. 3, 4 T. Th. El. Engr. 1, 2 M. W. F.	Mech. Engr. 1, 2 M. W. F. Mech. Engr. 3, 4	Chemistry 3, 4, 5, 6	Biology 9, 10			Household Science A. B. 1, 2
4:00- 4:50		El. Engr. 3, 4 T. Th.	Mech. Engr. 1, 2 M. W. F. Mech. Engr. 3, 4		Biology 12 W. F. S.			

Note—If days are not given the course comes daily.

Odd numbered courses come in the first semester and even numbered courses in the second.

The Preparatory School

The Preparatory School is conducted by the University for the purpose of providing a high standard of college preparatory education. Its course is four years in length and is designed to give a good general education as well as to prepare the student for college. Its special object is to meet the needs of pupils from localities in New Mexico which are not provided with good High Schools.

Requirements for Admission.

Pupils are admitted to the first year of the Preparatory School either by certificate or examination. When admitted by certificate, pupils from large towns are required to present a certificate, properly signed by teacher and superintendent, stating that the work of the primary and grammar grades, including the eighth, has been satisfactorily done. A student from a rural district should bring a certificate of graduation from the eighth grade, signed by the county superintendent. If this is not possible, a statement from the teacher of the school will be considered.

Applicants for admission who can not produce a certificate are required to pass a satisfactory examination in the following branches: Arithmetic, English grammar, United States history, geography, reading, spelling, composition, and penmanship. Candidates for admission to advanced standing are required to furnish satisfactory evidence that they have done the work of the course preceding the class they wish to enter. Such evidence may be given either by certifi-

Requirements for Graduation.

cate or by examination, as in case of a student applying for entrance to the first year class.

The Preparatory Course covers four years, with a standard requirement of four whole year subjects. Each student must carry full work at the rate of four subjects per semester, each study involving an hour and a half of daily preparation. A student may be excused from a part of his work by the Student Standing Committee upon presentation of a doctor's certificate or upon the recommendation of the head of a technical department. More than four subjects cannot be carried, except by special permission of the Faculty. Such permission is usually granted to students who show diligence and ability enough to complete the course in three years. No student is allowed to remain in school who does not maintain a passing grade in at least half of his work.

Special graduation exercises are held on the University campus on Wednesday of commencement week for the Preparatory and Commercial schools. These exercises consist of two orations, two essays and two declamations by representatives chosen by the faculty. The speakers at the 1908 graduating exercises were the following: Essays—Chas. Lembke, Imelda Espinosa. Declamations—Elsie Sackett, Mae McMillin. Orations—John Marshall, Lillian Winders.

In order to graduate, a preparatory student must complete sixteen units, a unit being defined as a subject pursued through one year of thirty-six weeks, with daily recitations of fifty minutes each, or laboratory periods of two hours each.

The units necessary for graduation are described as follows:

English	3
Mathematics	2½
Language	2
History	2
Science	2
Elective	4½
Total	<hr/> 16

The four and one-half elective units may be selected from the following:

English, 1, 2.	Domestic Science, ½, 1.
History, 1, 2, 3.	Psychology, ½, 1.
Latin, 2, 3, 4.	Physical Geography, ½, 1.
Greek, 1, 2.	Zoology, ½, 1.
Spanish, 1, 2.	Botany, ½, 1.
French, 1, 2.	Chemistry, 1.
German, 1, 2.	Stenography, 1.
Accounting, 1.	

Students who are intending to take work in Latin and Greek in college should take four units of Latin.

Students electing a language must pursue that language at least two years.

Two years rhetorical work is required of all students for graduation to consist of one hour's class work per week in first and third years and one public appearance in each of those years.

OUTLINE OF PREPARATORY COURSES.

<i>First Year:</i>	REQUIRED.	ELECTIVE.
	English A.	Science A.
	Mathematics A.	Latin A.
	History A.	Spanish A.
<i>Second Year:</i>	English B.	Latin B.
	Mathematics B.	German A.
		Spanish B.
		Science B.
<i>Third Year:</i>	English C.	Latin C.
	Mathematics C.	German B.
	History B.	Stenography.
		Shop Work.
		Household Science.
<i>Fourth Year:</i>	Physics A.	Chemistry A.
		Latin D.
		Shop Work.
		Mechanical
		Drawing.
		Accounting.

DESCRIPTION OF COURSES.

In the following detailed statement of courses, each course is known by a letter and a name. The year in which it should be taken and the hour of recitation are also indicated. Recitations are usually daily and are marked 5*h*, signifying five recitations a week. Two recitations a week are marked 2*h*, and for such a course pursued through the year the student receives two-fifths of a unit credit.

*English.**A. Composition and Rhetoric. First Year. 9:00. 5h.*

One composition each week supplemented by written and oral exercises; stories, letters, essays, study of theme, plan, and paragraph.

Class and outside reading of classics drawn from the recommended lists for 1909, 1910, and 1911.

B. Composition and Rhetoric. Second Year. 11:30. 5h.

One composition each week, supplemented by written and oral exercises; stories, letters, essays, study of sentence structure and of choice and use of words, and study of paragraphs.

Class and outside reading of classics drawn from the recommended lists for 1909, 1910, and 1911.

C. Literature and Composition. Third Year. 1:30. 5h.

Study of the general history of English literature. Class and outside reading of classics drawn from the recommended lists for 1909, 1910, and 1911.

One composition each week. Principles of narration and description, exposition and argument.

*History.**A. (1). Greek History. First Semester. 1:30. 5h.*

A detailed study is made of Greek civilization, including art, literature, and philosophy. This course includes a study of the peoples of Western Asia, with special reference to the elements of civilization originated by them and transmitted to the people of the West.

- (2). *Roman History. Second Semester.* 1:30. 5h.

A history of Rome from its foundation to its fall in 476 A. D. and a brief account of the succeeding governments down to the time of Charlemagne.

- B. (1). *Mediaeval History. First Semester.* 9:50. 5h.

A study of the emergence of the European nations from the confusion following the fall of Rome, feudalism, chivalry, the crusades, the growth of the church, the renaissance and the events up to the close of the Fifteenth Century.

- (2). *Modern European History. Second Semester.* 9:50. 5h.

A general survey extending from the close of the Fifteenth Century to the present time, showing the development of the civilization and governments of the modern European nations.

Latin.

- A. *Beginner's Course. First Year.* 2:20. 5h.

A study of forms and elementary syntax. A limited vocabulary must be mastered. Translations of easy Latin into English and of simple English sentences into Latin. The class will read short connected passages of Latin prose.

- B. *Caesar. Second Year.* 9:00. 5h.

The first semester will be devoted to a thorough review of forms, syntax and vocabulary and the reading of Caesar's Helvetian War. In the second semester the class will read Books II, III and IV of Caesar's Gallic Wars. Five English

sentences to be translated into Latin daily. The times of Caesar, Roman methods of warfare and other subjects will be studied as supplementary work.

C. *Cicero. Third Year. 11:30. 5h.*

Four orations of Cicero will be read carefully and others rapidly; also Sallust's Catalinarian War. Five sentences to be translated into Latin daily. Classical history and Roman life and customs will be studied in connection.

D. *Virgil. Fourth Year. 9:50. 5h.*

Selections from Books I-VI; also selected passages from Ovid. Prose composition and review of forms and syntax, one period a week. Literature and mythology of Rome. Prosody and scansion of part of Book I of the Aeneid.

Spanish.

A. *Beginners' Course. First Year. 11:30. 5h.*

Hill and Ford's "Spanish Grammar"; Worman Spanish Readers; Echegaray's "El Poder de la Impotencia"; Essays and stories in Spanish, with practical drill in conversation. Special emphasis is laid on the acquisition of a correct pronunciation and a speaking knowledge of the language is one of the ends in view.

B. *Second Year Course. Second Year. 2:20. 5h.*

Essays in Spanish, with bi-weekly exercises in composition and conversation. Occasional debates in Spanish.

Spanish Literature of the XIX Century three days a week. Novels and plays from the works of Galdós, Alarcón, and José Echegaray.

German.

- A. *Beginners' Course. First Year. 9:00. 5h.*
Thomas' "Practical German Grammar"; reading of easy German stories. Elementary work in composition and conversation.
- B. *Second Year Course. Second Year. 2:20. 5h.*
Composition and conversation. Reading of modern German stories. During the second semester the historical drama of Schiller will be read...

Mathematics.

- A. *Elementary Algebra. First Year. 9:50. 5h.*
The four elementary processes of whole numbers and fractions, simple equations, involution, evolution, theory of exponents and radical quantities.
- B. *Geometry. Second Year. 1:30. 5h.*
A course in plane and solid geometry, complete in one year.
- C. (1). *Advanced Algebra. Third Year. First Semester. 2:20. 5h.*
A rapid review of simple equations, followed by a thorough course in quadratics, graphic representations of equations, theory of indices and logarithms.

Physics.

- A. *Preparatory Physics. Fourth Year. 9:50. 5h.*
An elementary course in Mechanics, Sound, Light, Heat, Electricity and Magnetism. Recitations and laboratory work by the students, in connection with lectures by the instructor. Laboratory work, 2 hours.

Prerequisites: Advanced algebra and solid geometry. Students can enter either semester. Laboratory work, 2 hours each semester.

Shop Work.

- A. *Shop Work. Both Semesters. 10:40. 3h.*

Six hours per week of bench-work, lathe-work, forging and welding of iron and steel. Shop work, 2 hours.

Mechanical Drawing.

- A. *Mechanical Drawing. First Semester. 11:30. 3h.*

Six hours per week in the use of drawing instruments and lettering.

Chemistry.

- A. (1). *Inorganic Chemistry. First Semester. 1:30. 5h.*

A general course in theoretical chemistry, illustrated by experiments, charts, specimens, etc.

- A. (2). *Qualitative Analysis. Second Semester. 1:30. 5h.*

Laboratory practice in the separation and detection of the common acids and bases. A full set of notes is required. Laboratory work, 5 hours.

Science.

- A. (1). *Physiology and Hygiene. First Year. First Semester. 2:20. 5h.*

A thorough course in physiology is recognized as furnishing a basis for all future work in the

natural sciences. For this reason it precedes the work in botany and zoology. Especial emphasis is placed upon the laws of hygiene. The microscope is frequently used, and experiments in connection with the text form an important feature of the course. Laboratory work, 1 hour.

A. (2). *Physical Geography. First Year. Second Semester. 2:20. 5h.*

A detailed study of the atmosphere, the ocean and the land form with special reference to their influence on the distribution of life. The course involves the use of a text-book and regular laboratory work. It is designed to be a second course following the elementary Physical Geography usually given in the grammar grades. Laboratory, 1 hour.

B. (1). *Elementary Zoology. Third Year. First Semester. 9:50. 5h.*

In the laboratory, dissections are made of the representative forms of the main groups of the animal kingdom. In this work written descriptions and drawings are required. In the use of the text and by means of lectures the evidence of a gradual development of animal forms is reviewed. The principles and methods of classification are illustrated by reference to collections. Laboratory work, 2 hours.

B. (2). *Elementary Botany. Third Year. Second Semester. 9:50. 5h.*

Special attention is given to the structure and morphology of phanerogamous plants. Complete written descriptions and the classification of a certain number of phanerogams are required. This

work is supplemented by lectures and demonstrations on the histology of phanerogamous tissue and on the structure and embryology of typical cryptogams. Laboratory work, 2 hours.

Household Science.

A. *Plain Cooking.* 3h.

A study of household fuels, cooking apparatus and its uses; the nature and uses of food; chemical composition of foods; the effect of heat, cold and fermentation on foods. Laboratory work, 3 hours.

B. *Plain Sewing.* 2h.

Hand sewing, simple machine sewing, drafting of pattern and making of garments.

Rhetoricals.

A. *Rhetoricals. First and Second Semesters.* 10:40.
W. 1h.

Practice in the preparation of essays and presentation of original compositions and declamations. Required of all First Year Preparatory students.

B. *Rhetoricals. First and Second Semesters.* 10:40.
F. 1h.

Continuation of course A. Review of books and short stories; discussion of current events. Required of all Third Year Preparatory students.

C. *Elocution. Elementary Course. First and Second Semesters.* 2h.

Principles of conversation; principles of breathing; vocal interpretation; forms of voice; light calisthenics for control of body; practice in the various forms of composition. Elective for Fourth Year Preparatory students.

The Commercial School

The courses offered in the Commercial School differ from those of the Academic Preparatory School by the substitution of commercial branches for ancient languages, and higher mathematics.

A diploma is given to those who satisfactorily complete the four years of study as outlined, or who offer an equivalent amount of training. Students whose preparation has been adequate will, on the recommendation of the instructor, be permitted to pursue the exclusive commercial branches, and to complete them in as brief time as natural aptitude and application render possible. A certificate of proficiency in stenography or accounting is granted to special students whose qualifications have permitted them to pursue those subjects alone, and whose attainments justify such recognition.

Experience has proved that for students in this school thorough training in prescribed preparatory (high school) work is essential. Immaturity has been found a serious obstacle to satisfactory progress and for this reason the courses named are open only to students who have successfully completed the second year of the Academic Preparatory School, or of a standard high school.

The courses outlined are as follows:

THIRD YEAR.

English C; Algebra C (1) and an elective; Spanish A, or German A; Stenography A. (Open also to Preparatory Seniors.)

FOURTH YEAR.

Physics A; Spanish B, or German B; Elective; Accounting A. (Open also to Preparatory Juniors.)

Description of Technical Commercial Courses.

- A. (1). *Stenography. Third Year. First Semester.*
2:20. 5h.

Principles, formation of outlines, vocalization, sound, analysis of words, unvocalized outlines, sight reading of moderately difficult shorthand (engraved extracts from writings of good English authors) business letters.

- A. (2). *Stenography. Third Year. Second Semester.* 2:20. 5h.

(Open only to those who have satisfactorily completed course A.) Sight reading of engraved extracts from the works of standard English writers on law, science, history, etc. Rapid dictation of miscellaneous matter; accurate recording of evidence; verbatim reporting.

Standard of speed 100 words per minute. Special stress laid upon the reading of notes.

In both courses A and B, a type-written transcript is required, which must be accurate, and correctly spelled and punctuated.

- A. (1). *Accounting. Fourth Year. First Semester.*
9:50. 5h.

From the fact that all book-keeping is based upon the same general principles and the require-

ments of different houses necessitate a different elaboration of the system, the following points are emphasized:

Introduction of practical forms from the beginning; relation of accounts and their uses; practice work illustrated by continuous business; thorough drills in ledger closing, balance sheets, statements, etc.; introduction of cash, sales, invoice and bill books as books of original entry in the early part of the work; special rulings; special drills; the receiving and giving of actual business papers. The work of the first semester embraces the keeping of records for wholesale and retail houses.

A. (2). *Accounting. Fourth Year. Second Semester. 9:50. 5h.*

This is a continuation of course A, and instruction is given in the keeping of records for commission houses, manufacturing plants, (voucher systems) and national banks. Books and papers used are such as are employed in modern business life.

Students

COLLEGE DEPARTMENT.

Graduate Students.

Bryson, Walter Ernest • Cunningham, Kate C.
Clark, J. D. • Harsh, Rose M.
Conwell, H. H.

Seniors.

• Baldwin, Roy A. • Rogers, Clarence E.
• Bryan, Hugh M. • Ross, Edmund
• Bryan, Kirk • Spicer, Eva M.
• Davis, Harriet K. • Spitz, Lillian E.
• Emmons, Grover C. • Wroth, William Burke
• McGuinness, Michael J.

Juniors.

• Allen, Walter R. • Walker, Edith
Saulsberry, Joshua Joel

Sophomores.

• Albright, Elwood Mills • Lee, Lawrence Fred
• Browning, Fred Louis • Pride, Myrtle
• Hubbs, Jean Edna • Sterling, Donald L.
• Lane, David R. • Wagner, John G., Jr.

Freshmen.

Anderson, Helen • Brown, Katherine Diana
Armijo, Teresa Cook, Miriam Florence
Borradaile, Adelina G. Cox, Guy

- | | |
|-----------------------------|-----------------------------|
| • De Tullio, Stella Dolores | • Marshall, John |
| • Edie, Lucy La Verne | • Miller, John W. |
| • Grunsfeld, Reina Helen | • Parrish, Marie Louise |
| • Kunz, Harriett E. | • Reed, Mayme Eleanor |
| • Lembke, Charles H. | • Schreiber, Alice Caroline |
| • Mabry, Thomas J. | • Sewell, Robert Tullis |
| • McCain, Florence L. | • Shoemaker, Chas. C. Jr. |
| • McLaughlin, Gladys G. | • Walker, Gertrude |
| • McMillin, Sadie Mae | • Walsh, Jane |
| • Marsh, Harold | • Winders, Lillian M. |

Special.

- | | |
|--------------------------|-----------------------|
| • Allen, Laura Chase | • McConnell, Clalmers |
| • Childers, Gladys McCaw | • Overton, Jessie M. |
| • Divine, Grover | • Patchen, Edna |
| • Dobson, Sue Patton | • Price, Robert C. |
| • Ellis, George E., Jr. | • Safford, Edward L. |
| • Gould, Ralf Fisher | • Schuster, Margaret |
| • Hess, Verne E. | • Sturges, Lloyd E. |
| • Irwin, William Clark | • Wade, Howard |
| • Johnson, C. Gerry | • Welsher, Earl |
| • Mayo, Joseph Glover | |

PREPARATORY DEPARTMENT.

Fourth Year.

- | | |
|--------------------------------|----------------------------|
| • Bates, B. Manning | • Hunsaker, Margaret |
| • Brison, Janet I. | • Kelly, Clyde |
| • Cornish, Percy Gillette, Jr. | • McClellan, Eunice L. |
| • De Shon, Pearl | • McMillen, Eileen |
| • De Tullio, Violet Carmen | • Noyer, Helen |
| • Emmons, Jesse Eugene | • Snoeberger, Hilda B. |
| • Emmons, John J. | • Wells, Elizabeth Helen |
| • Espinosa, Gertrude | • Willmunder, Henrietta A. |
| • Forbes, Fred B. | • Wilson, William Arthur |

Third Year.

- | | |
|------------------------|--------------------------|
| • Abbott, Lyle E. | • Menaul, Paul L. |
| • Boldt, Ira V. | Monahan, Lena |
| Brown, Benjamin Oscar | Morris, Myrtie Sophronia |
| Bonem, Hannah Pauline | • Notley, Harriet Lois |
| • Durling, Nethie Nina | • Schraeder, Erna Louise |
| • Hunt, Eva Mable | • Selva, Lawrence L. |
| Lindsey, Howard W. | • Smith, Charles Roy |
| • McCollum, W. Arthur | • Thompson, Ruth Mae |

Second Year.

- | | |
|---------------------------|--------------------------|
| Arens, Ralph Waldo | • Marsh, Myrta E. |
| Baldrige, Kenneth J. | • Notley, Lester Lyle |
| • Becker, Freida C. | • Orr, Frank |
| • Brockway, Mary Jennie | Patton, Omar Harry |
| Cahoon, Wynema A. | • Shaw, Robert Colwell |
| • Campfield, Josephine J. | • Silva, Joseph L. |
| • Collins, Eula Josie | Spitz, Frank |
| • Davis, Cecil Clair | • Stone, Mabel Irene |
| Donnalley, Grace M. | • Twelvetrees, George R. |
| Espinosa, Ramon J. | • Ulibarri, Victor |
| • Faber, Myrtle May | Wells, Lorena L. |
| Hoffman, Anna Grace | Werning, Neil Andrew |
| Irvine, Ella Amanda | Wigeley, Floyd Reynolds |
| • Kelly, Iva Cleo | • Woodbury, John Leo |
| McCollum, Laura H. | • Woolcock, Nella May |
| McKee, John Miller | Yrisarri, Edward C. |
| • McMillin, Alice Lillian | |

First Year.

- | | |
|-------------------------|------------------------|
| Allen, Jay K. | Boldt, Irene Anna |
| Analla, Julia | Burleson, Fred |
| Arens, Winfried Bernard | Burton, Thomas Spencer |

Cox, Hazel Bernice	Kelly, David
Devlin, Grace Dowling	Kinnett, Bertha Jane
Devlin, Naomi Beatrice	Long, Jessie May
Gallegos, Acasio Ed.	Martin, George A.
Goben, Nellie Irene	Skinner, James Cole
Hoffman, Minnie Marie	Snow, Harriet May
Hopping, William Bryce	Walton, Joe K.
Hern, Edith Eleanore	White, Fred A.
James, Robert	Wright, William Roy

University Extension Course.

Bennett, Frances	McGinn, Mary
Berry, Nora	McGeeney, Alice
Bitner, Mrs. D. A.	McMillen, Mrs. A. B.
Clark, Mrs. J. D.	Stephan, Mrs. L. B.
Hunsaker, Catherine	Stroup, Mrs. A. B.

Summary.

COLLEGE DEPT.		PREPARATORY DEPT.	
Graduate Students . . .	5	Fourth Year	18
Seniors	11	Third Year	16
Juniors	3	Second Year	33
Sophomores	8	First Year	24
Freshmen	26		
Special	19		
	<hr/> 72		<hr/> 91
Graduate students			5
College students			67
Preparatory students			91
Extension Course students			10
			<hr/>
Total number students			173

Alumni Directory

OFFICERS FOR 1909.

President—Charles E. Hodgkin.

Vice-President—Fleda E. Smith.

Secretary and Treasurer—Blanche I. Perkins.

Corresponding Secretary—Nellie C. Brewer.

Chairman Executive Committee—Hugh M. Bryan.

-
- Adams, Katherine Orbin, '94 (Teacher Public
Schools).....Albuquerque N. M.
Alger, Mabel, '97 (Mrs. Bruce Kinney).....
.....Topeka, Kans.
Allen, Anna May, '06 (Government Service).....
.....Washington City
Allen, Walter R., '06 (University of N. M.).....
.....Albuquerque, N. M.
Anderson, Mabel E., '00 (Mrs. H. B. Allen).....
.....Flushing, N. Y.
Atkeson, Walter R., '03 (Civil Engineer).....
.....Visalia, Calif.
Barth, Freda, '01 (Mrs. Tyroler) .. Los Angeles, Calif.
Bean, Ray, '04 (Dentist).....San Francisco, Calif.
Becker, Louis Carl, '03 (Cashier First National
Bank).....Belen, N. M.
Bell, Thomas Sidney, (Formerly Rhodes Student,
Fellowship Columbia University).....New York
Bendratt, Rev. T. A., M. S., '00 (Minister).....
.....Constableville, N. Y.

- Bieghler, Harriet Kyle, '03 (Teacher) .Rawlins, Wyo.
 Bittner, Harvey P., '01 (Newspaper Reporter) Seattle, Wash.
 Bliss, S. Mabel, '01 Albuquerque, N. M.
 Boatright, Stella, '04 (Music Teacher) Albuquerque, N. M.
 Booth, Helen, '95 (Deceased).
 Bowden, Bessie, '01, (University of Kansas) Lawrence, Kans.
 Bowie, Morris Ramsey, '03 (Physician) . Paonia, Colo.
 Brewer, Nellie C., '02 (Attorney) .Albuquerque, N. M.
 Bronson, Gilbert, '04 (Railroad Service) Albuquerque, N. M.
 Brooks, Herbert, '99 (Manager San Jose Market) Albuquerque, N. M.
 Brooks, Lewis C., '98 (Manager American Oyster Co.) Neosho, Wis.
 Bryan, Hugh M., '05 (Princeton University) Princeton, N. J.
 Buchanan, Bessie, '95 (Mrs. Nelson) .Winslow, Ariz.
 Butts, Frances, '01 (Mrs. Stevenson) Albuquerque, N. M.
 Childers, Gladys McCaw, '03) Albuquerque, N. M.
 Clayton, Deo M., '00 Albuquerque, N. M.
 Clayton, Edmund Mills, '96 (Physician) Albuquerque, N. M.
 Coghill, George Ellett, '99 (Professor of Biology, Denison University) Granville, Ohio
 Craig, Minnie E., '02 (Teacher Las Vegas Public Schools) Las Vegas, N. M.
 Crocker, Bertha, '01 California

- Cunningham, Kate Carthage, '07 (Teacher)
 Gallup, N. M.
- Custers, Maud E., '99 (Teacher) St. Louis, Mo.
- Custers, Ruby, '01 Long Beach, Calif.
- Dieckmann, Bruno E., '02 (Violin Instructor)
 Kansas City, Mo.
- Dieckmann, Lisa Christine, '06 . . . Albuquerque, N. M.
- Duckworth, Lucile, '03 (Mrs. McCrary)
 Roswell, N. M.
- Espinosa, Marie, '05 (Teacher) Barelbas, N. M.
- Everitt, Edyth L., '98 (Teacher Public Schools) . .
 Albuquerque, N. M.
- Everitt, Olivia, '01 (Stenographer, District Attor-
 ney Clancy) Albuquerque, N. M.
- Faber, Lena, '05 (Mrs. Wm. Cote)
 Albuquerque, N. M.
- Ferguson, Erna, '06 (Teacher Public Schools) . . .
 Albuquerque, N. M.
- Fitch, Hereford G., '98 (Attorney) . Hollywood, Calif.
- Fitch, James G., '99 (Attorney) . . . Hollywood, Calif.
- Fox, Florence Leslie, '03 (Public Stenographer) . .
 Albuquerque, N. M.
- Graves, Maud C., '05 (Supervisor Manual Train-
 ing) San Bernardino, Calif.
- Hall, Sarah M., '06 (Teacher) . . . Las Duranes, N. M.
- Halloran, Etta C., '01 Berkeley, Calif.
- Halloran, Frances, '99 (Mrs. O. N. Marron) . . .
 Albuquerque, N. M.
- Halloran, Ralph A., '02 (Chemist) . . Richmond, Calif.
- Hamm, Josephine, '95 (Mrs. Williamson)
 Douglas, Ariz.

- Harding, Maynard C., '97 (Physician) .Denver, Colo.
Harsch, Rose May, '07 (Stenographer, U. S. For-
estry Service).....Albuquerque, N. M.
Hazeldine, Lucy, '00 (Teacher Public Schools)
.....Albuquerque, N. M.
Hazeldine, May, '04 (Stenographèr, Klock &
Owen).....Albuquerque, N. M.
Heald, Clarence E., '05 (Surveyor)...Douglas, Ariz.
Heald, Elizabeth, '05 (Pomona College)..California
Herrick, Harry N., '00 (Chemist University Cali-
fornia) Berkeley
Hodgin, C. E., '94 (Principal, Normal Department,
University N. M.).....Albuquerque, N. M.
Hoffman, Dorothy L., '06 (Teacher).....
.....Martinez, N. M.
Holden, Blanche, '97 (Mrs. Morgan)...Omaha, Neb.
Hughes, Elizabeth, '00 (Mrs. French).....
.....Ashtabula, Ohio
Hughes, Lou, '02 (Stenographer)...Santa Fe, N. M.
Huggett, Lillian G., '06 (Fellowship Northwestern
University) Evanston, Ills.
Hunt, Mabel C., '02 (Mrs. M. Summers).....
.....Albuquerque, N. M.
Huntzinger, Rose, '04 (Mrs. T. Hughes).....
.....Albuquerque, N. M.
Ilfeld, Lawrence Adolph, '06 (Harvard University)
..... Cambridge, Mass
Irwin, Lloyd, '05 (University of Wisconsin).....
..... Madison, Wis.
Irwin, Sarah Frances, '03 (Teacher)..Elk City, Okla.
James, Mary, '94 (Mrs. Daniel Scruggs).....
.....Albuquerque, N. M.

- Jasper, Anita Manila, '07.....Pasadena, Calif.
 Johnson, Dr. Douglas W., '01 (Assistant Professor
 of Physiography, Harvard University).....
 Cambridge, Mass.
 Johnson, Eva W., '01 (Trained Nurse).....
 Los Angeles, Calif.
 Johnson, Ida, '01 (Mrs. Linus Shields).....
 Jemez Hot Springs, N. M.
 Keleher, Margaret Mary, '06 (Teacher Public
 Schools) Albuquerque, N. M.
 Keleher, Eugenia (Teacher).... Las Duranes, N. M.
 Keller, Allan French..... Pajarito, N. M.
 Keleher, Thomas F., '02 (Clerk, Bank of Com-
 merce)..... Albuquerque, N. M.
 Kempenich, Henry, '96 (Merchant).....
 Holbrook, Ariz.
 Krawinkle, Laura, '01..... Los Angeles, Calif.
 Kunz, George Gilbert, '96 (Physician) . Tacoma, Wash.
 MacDonald, May, '99 (Mrs. Goodrich).....
 Los Angeles, Calif.
 Magnusson, Gustav Alfred, '03 (Medical Student,
 University of Wisconsin)..... Madison, Wis.
 Maltby, Frank S., '99 (Deceased).
 Manwarin, Edna, '02 (Mrs. M. F. Mason).....
 Newkirk, Okla.
 Maxon, J. G., '01 (Hahneman Medical College) ..
 Chicago, Ill.
 Mayo, Joseph G., '06 (Expert Miner) ... Kelly, N. M.
 McCallum, Agnes C., '06 (Mrs. Paul Scott)
 Albuquerque, N. M.
 McMillen, Jessie, '01 (Mrs. A. B. Stroup).....
 Albuquerque, N. M.

- Menaul, Elizabeth, '94 (Mrs. Nicholson).....
 Bridgeport, Okla.
- Messenger, J. Franklin, '00 (Professor of Pedagogy, State Normal School).....Farmersville, Va.
- Muensterman, Carl Arno, '96 (Chemist)..Peoria, Ill.
- Murphy, Beatrice, '07 (Teacher)....Wellsfleet, Neb.
- Nash, Nellie Enola, '07 (Teacher)..Magdalena, N. M.
- Nelson, Raymond, '02.....South Africa
- Niles, Edith, '00.....Chicago, Ill.
- Niven, Isobel Oglivie, '07 (Teacher Wilmington High School)..... California
- Nowlin, Frances, '94 (Mrs. Wittmer) (Deceased).
- Parsons, Josephine S., '04 (Principal Commercial School, University of N. M.)..Albuquerque, N. M.
- Pearce Lenore, '06.....Albuquerque, N. M.
- Perkins, Blanche Irene, '06 (Teacher Public Schools).....Albuquerque, N. M.
- Pinney, Vida, '07 (Teacher Public Schools).....
Las Cruces, N. M.
- Pole, Frances, '00 (Librarian).....Palo Alto, Calif.
- Powers, Elizabeth, '03 (Librarian A. T. & S. F. Reading Room).....Albuquerque, N. M.
- Pratt, Helen, '04 (Teacher of Music).....
Albuquerque, N. M.
- Price, Robert C., '06 (University of N. M.).....
Albuquerque, N. M.
- Ridley, Furn, '05.....Albuquerque, N. M.
- Kieth, Jessie, '94 (Mrs. Ruth).....Pomona, Calif.
- Self, William Dennis.....Little Rock, Ark.
- Shields, Linus L., '02 (Sup't San Diego Land Grant for Jemes Land Co.)....Jemes Hot Springs, N. M.
- Sleight, Beatrice Irene, '06 (Teacher Public Schools).....Albuquerque, N. M.

- Smith, Fleda E., '05 (Instructor Domestic Science,
University of N. M.).....Albuquerque, N. M.
- Stamm, Roy A., '98 (Merchant).Albuquerque, N. M.
- Stover, Roderick, '99 (Electrical Engineer).....
.....Albuquerque, N. M.
- Sturges, Lloyd, '05 (University N. M.).....
.....Albuquerque, N. M.
- Sweet, Emma Belle, '06 (Teacher Public Schools)
.....Santa Fe, N. M.
- Tascher, Irma, '02.....Chicago, Ill.
- Tascher, John Ralph, '03 (Northwestern University
Law School).....Chicago, Ill
- Telfer, Elizabeth, '06 (Teacher Public Schools)....
.....Albuquerque, N. M.
- Terry, John B., '99 (Chemist).....Richmond, Calif.
- Towner, Norah, '02 (University of Arizona)....
.....Tucson, Ariz.
- Turner, Mary M., '01 (Mrs. C. W. Ward) (Deceased).
- Tway, Mata E., '01 (Teacher Public Schools)....
.....Albuquerque, N. M.
- Vann, Florence, '99 (Stenographer Continental Oil
Co.).....Albuquerque, N. M.
- Vann, Katie, '01 (Mrs. Blair)....Albuquerque, N. M.
- Vaughn, Ada, '05 (Teacher Public Schools).....
.....Albuquerque, N. M.
- Vaughn, Etta C., '95 (Mrs. Oliver).Blackrock, N. M.
- Van Wagnen, Oliver J., '02 (Minister).Auburn, Calif.
- Wakefield, Mabel, '98 (Mrs. Moffit)...Tucson, Ariz.
- Ward, Charles W., '97 (Attorney)..Las Vegas, N. M.
- Weinzirl, John, '98 (Professor of Biology Univer-
sity of Washington).....Seattle, Wash.
- Werner, Norah, '02 (Mrs. Gilchrist).Albuquerque, N. M.
- Worth, W. H., '05 (University of Chicago).Chicago, Ill.
- Wroth, James S., '01 (Electrical Engineer).....
.....Tonopah, Nev.

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