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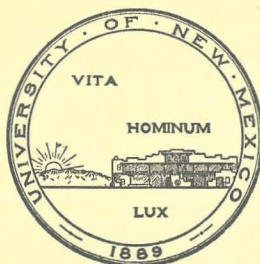
BULLETIN OF THE UNIVERSITY OF NEW MEXICO

CATALOGUE SERIES NO. 32. WHOLE NO. 94

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THE  
UNIVERSITY OF NEW MEXICO

TWENTY-EIGHTH ANNUAL CATALOGUE  
1918



ANNOUNCEMENTS  
1919

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ALBUQUERQUE  
PUBLISHED BY THE UNIVERSITY  
JANUARY, 1919

## PUBLICATIONS OF THE UNIVERSITY OF NEW MEXICO.

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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-XXXI; whole numbers 1-14, 40, 43, 46, 48, 50, 54, 55, 56, 59, 60, 64, 67, 70, 72, 74, 77, 78, 79, 80, 81, 82, 85, 86, 87, 90, 91, 92.

BIOLOGICAL SERIES, VOLS. I-III; whole numbers 15, 16, 19, 22, 29-39, 44, 47, 49, 65.

GEOLOGICAL SERIES, VOLS. I-III; whole numbers 17, 18, 20, 21, 23-28, 28a, 51, 76.

EDUCATIONAL SERIES, VOLS. I-II; whole numbers 41, 42, 52, 58, 61, 68, 69, 73, 83, 84, 89.

LANGUAGE SERIES, VOL. I; No. 1-3; whole numbers 45, 53, 88.

PHYSICS SERIES, VOL. I; No. 1; whole number 63.

SOCIOLOGICAL SERIES, VOL. I; No. 1-3; whole numbers 57, 62, 66.

CHEMISTRY SERIES, VOL. I; No. 1-2; whole numbers 71, 75.

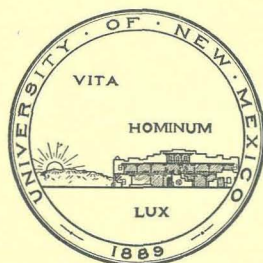
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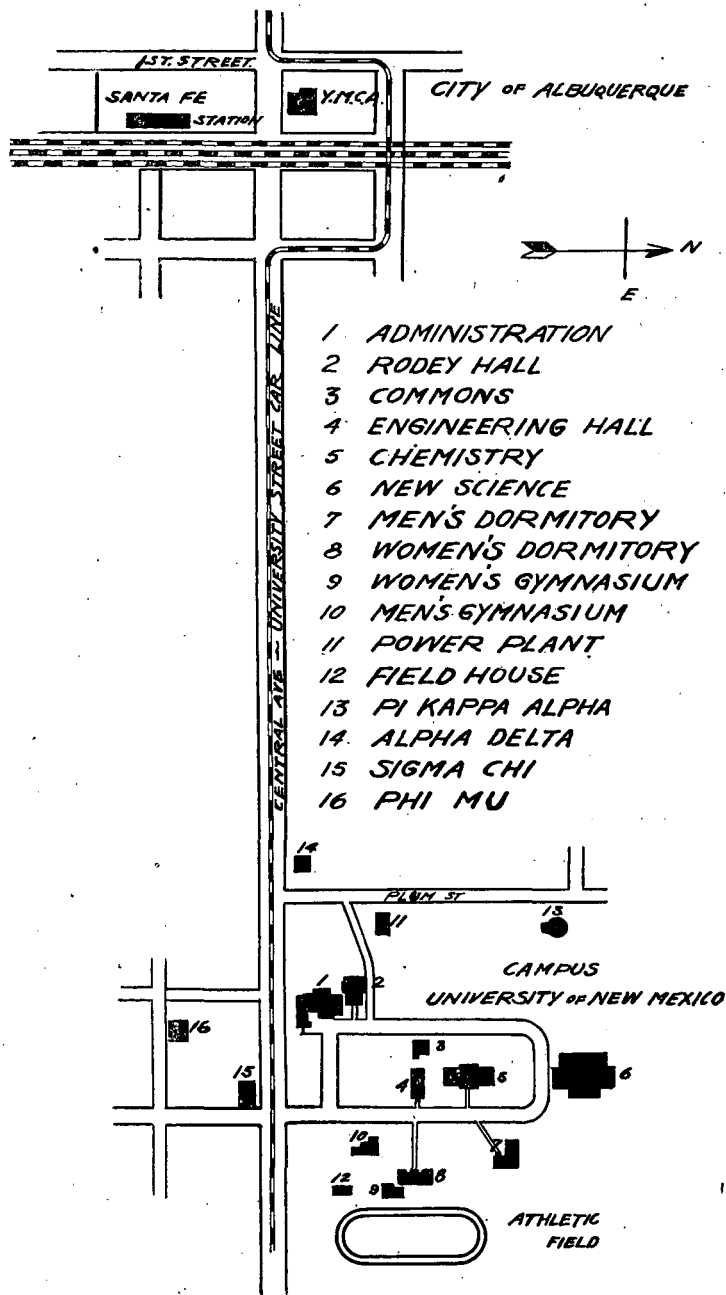
PRESS OF THE EVENING HERALD  
ALBUQUERQUE, N. M.  
1919

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# MAP OF THE UNIVERSITY AND ALBUQUERQUE



JANUARY, 1919							FEBRUARY, 1919							MARCH, 1919						
Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S
..	..	..	1	2	3	4	..	..	..	..	..	..	1	..	..	..	..	..	..	1
5	6	7	8	9	10	11	2	3	4	5	6	7	8	2	3	4	5	6	7	8
12	13	14	15	16	17	18	9	10	11	12	13	14	15	9	10	11	12	13	14	15
19	20	21	22	23	24	25	16	17	18	19	20	21	22	16	17	18	19	20	21	22
26	27	28	29	30	31	..	23	24	25	26	27	28	..	23	24	25	26	27	28	29
..	..	..	..	..	..	..	..	..	..	..	..	..	..	30	31	..	..	..	..	..
APRIL, 1919							MAY, 1919							JUNE, 1919						
Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S
..	..	1	2	3	4	5	..	..	..	..	1	2	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14
13	14	15	16	17	18	19	11	12	13	14	15	16	17	15	16	17	18	19	20	21
20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28
27	28	29	30	..	..	..	25	26	27	28	29	30	31	29	30	..	..	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
JULY, 1919							AUGUST, 1919							SEPTEMBER, 1919						
Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S
..	..	1	2	3	4	5	..	..	..	..	..	1	2	..	1	2	3	4	5	6
6	7	8	9	10	11	12	3	4	5	6	7	8	9	7	8	9	10	11	12	13
13	14	15	16	17	18	19	10	11	12	13	14	15	16	14	15	16	17	18	19	20
20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27
27	28	29	30	31	..	..	24	25	26	27	28	29	30	28	29	30	..	..	..	..
..	..	..	..	..	..	..	31	..	..	..	..	..	..	..	..	..	..	..	..	..
OCTOBER, 1919							NOVEMBER, 1919							DECEMBER, 1919						
Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S
..	..	..	1	2	3	4	..	..	..	..	..	..	1	..	1	2	3	4	5	6
5	6	7	8	9	10	11	2	3	4	5	6	7	8	7	8	9	10	11	12	13
12	13	14	15	16	17	18	9	10	11	12	13	14	15	14	15	16	17	18	19	20
19	20	21	22	23	24	25	16	17	18	19	20	21	22	21	22	23	24	25	26	27
26	27	28	29	30	31	..	23	24	25	26	27	28	29	28	29	30	31	..	..	..
..	..	..	..	..	..	..	30	..	..	..	..	..	..	..	..	..	..	..	..	..
JANUARY, 1920							FEBRUARY, 1920							MARCH, 1920						
Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S	Su	M	Tu	W	Th	F	S
..	..	..	..	1	2	3	1	2	3	4	5	6	7	..	1	2	3	4	5	6
4	5	6	7	8	9	10	8	9	10	11	12	13	14	7	8	9	10	11	12	13
11	12	13	14	15	16	17	15	16	17	18	19	20	21	14	15	16	17	18	19	20
18	19	20	21	22	23	24	22	23	24	25	26	27	28	21	22	23	24	25	26	27
25	26	27	28	29	30	31	29	..	..	..	..	..	..	28	29	30	31	..	..	..
..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

## UNIVERSITY CALENDAR.

1919

Winter Quarter.

January 6, Monday—Registration Day for new students.

January 7, Tuesday—Instruction begins in all departments.

February 22, Saturday—Washington's Birthday, holiday.

March 20-26, Thursday-Wednesday—Registration Week for old students  
for Spring Quarter.

March 27-29, Thursday-Saturday—Quarter Examinations.



**Spring Quarter.**

March 31, Monday—Registration Day for new students.

April 1, Tuesday—Instruction begins in all departments.

May 9-10, Friday-Saturday—Annual Interscholastic Track and Field Meet.

May 29, Thursday—Memorial Day, holiday.

June 2-7, Monday-Saturday—Registration Week for old students for Summer Quarter.

June 8, Sunday—Baccalaureate Sunday.

June 9-11, Monday-Wednesday—Quarter Examinations.

June 12, Thursday—Phi Kappa Phi Address, and University Concert.

June 13, Friday—Last University Assembly, Commencement, Alumni Association Annual Meeting and Dinner.

**Summer Quarter—First Term.**

June 14, Saturday—Registration Day for new students resident in Albuquerque.

June 16, Monday—Registration Day for all other new students.

June 17, Tuesday—Instruction begins in all departments.

July 4, Friday—Independence Day, holiday.

July 23-24, Wednesday-Thursday—Examinations for First Term of Summer Quarter.

**Summer Quarter—Second Term.**

July 23-24, Wednesday-Thursday—Registration Days for new students.

July 25, Friday—Instruction begins in all departments for Second Term of Summer Quarter.

August 21-27, Thursday-Wednesday—Registration Week for old students for Autumn Quarter.

August 28-30, Thursday-Saturday—Examinations for Second Term of Summer Quarter.

**Autumn Quarter.**

September 29, Monday—Registration Day for new students resident in Albuquerque.

September 30, Tuesday—Registration Day for all other new students.

October 1, Wednesday—Instruction begins in all departments.

November 27-30, Thursday-Sunday—Thanksgiving Recess.

December 11-17, Thursday-Wednesday—Registration Week for old students for Winter Quarter.

December 18-20, Thursday-Saturday—Quarter Examinations.

**1920****Winter Quarter.**

January 5, Monday—Registration Day for new students.

January 6, Tuesday—Instruction begins in all departments.

March 19-25, Thursday-Wednesday—Registration Week for old students for Spring Quarter.

March 26-28, Thursday-Saturday—Quarter Examinations.

# COLLEGES, SCHOOLS, CURRICULA, AND DIVISIONS OF THE UNIVERSITY.

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COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCES.

CURRICULUM PREPARATORY TO LAW.

CURRICULUM PREPARATORY TO MEDICINE.

GRADUATE SCHOOL OF ARTS, PHILOSOPHY, AND SCIENCES.

COLLEGE OF FINE ARTS.

CURRICULUM IN PIANO.

CURRICULUM IN VOICE.

COLLEGE OF ENGINEERING.

CURRICULUM IN CHEMICAL ENGINEERING.

CURRICULUM IN CIVIL ENGINEERING.

CURRICULUM IN ELECTRICAL ENGINEERING.

CURRICULUM IN GEOLOGICAL ENGINEERING.

CURRICULUM PREPARATORY TO MECHANICAL ENGINEERING.

CURRICULUM PREPARATORY TO MINING ENGINEERING.

CURRICULUM PREPARATORY TO SANITARY ENGINEERING.

DIVISION OF UNIVERSITY EXTENSION.

DIVISION OF PHYSICAL TRAINING AND ATHLETIC SPORTS.

DIVISION OF PREPARATORY STUDIES.

## REGENTS OF THE UNIVERSITY.

HIS EXCELLENCY THE GOVERNOR OF NEW MEXICO,  
Ex-Officio.

THE STATE SUPERINTENDENT OF PUBLIC INSTRUCTION,  
Ex-Officio.

GEORGE L. BROOKS.....Albuquerque  
J. A. REIDY, M. D.....Albuquerque  
HONORABLE NATHAN JAFFA.....Roswell  
HONORABLE ANTONIO LUCERO.....Las Vegas  
JOHN R. McFIE, JR.....Gallup

## OFFICERS OF ADMINISTRATION.

### REGENTS.

GEORGE L. BROOKS.....President  
J. A. REIDY, M. D.....Secretary and Treasurer

### UNIVERSITY.

Title, name, office, office hours, residence.

President: DAVID ROSS BOYD. Adm. 11, 10-12. 123 South  
High.

Vice-President: CHARLES E. HODGIN. Adm. A, 9:30. Uni-  
versity Hill.

Dean: LYNN BOAL MITCHELL. Adm. 10, 10 and 2. Uni-  
versity Hill.

Financial Secretary: JOSEPHINE S. PARSONS. Adm. 12,  
10-12 and 1-2. 901 West Tijeras.

Registrar, and Executive and Student Employment Secretary:  
JOHN P. WILLIAMS. Adm. 11, 10-12. University Hill.

Librarian: PEARL ANJANET STONE. Adm. 14, 10-12.  
University Hill.

## FACULTY AND OTHER OFFICERS OF INSTRUCTION.

Name, title, office, office hours, residence, professional career. Adm.—Administration Building. Ro.—Rodey Hall. Eng.—Engineering Hall. Chem.—Chemistry Building. Gym.—Men's Gymnasium. Names of officers are arranged alphabetically in groups according to the year of appointment to present title.

**DAVID ROSS BOYD, President.**

Adm. 11, 10-12.

123 South High.

A. B., College of Wooster, 1878, A. M., 1881, Ph. D. (Psychology and Education), 1896. Superintendent of Schools, Van Wert, Ohio, 1878-1888; Superintendent of Schools, Arkansas City, Kansas, 1888-1892; President, University of Oklahoma, 1892-1908; Superintendent of Education, Presbyterian Board of Home Missions, 1908-1912; President, University of New Mexico, 1912—. Phi Kappa Phi.

**CHARLES E. HODGIN, Professor of Education, and Vice-President.**

Adm. A, 9:30.

University Hill.

Graduate, Indiana State Normal School, 1881; B. Pd., University of New Mexico, 1894. Graduate Student, University of California, 1903-1904, Summer Sessions, 1901, 1915, 1918. Instructor in Education, Richmond (Indiana) Normal School, 1882-1884; Principal, Albuquerque Academy, 1887-1891; Superintendent of Public Schools, Albuquerque, 1891-1897; Principal of the Normal School, University of New Mexico, 1897-1903; Professor of Education, 1904—, Dean, 1904-1917, Vice-President, 1917—. Foreign Travel, 1911-1912. Phi Kappa Phi.

**LYNN BOAL MITCHELL, Professor of the Latin and Greek Languages and Literatures, Acting Professor of History, and Dean.**

Adm. 10, 10 and 2.

University Hill.

B. A., Ohio State University, 1903; A. M., Cornell University, 1904, Ph. D., 1906. Graduate Scholar in Latin and Greek, Cornell University, 1903-1905, Teaching Fellow, 1905-1906; Instructor in Latin and Greek, Winona Academy, 1906-1908; Professor of Latin and Greek, William and Vashti College, 1908-1912, Registrar, 1911-1912; Associate Professor of Latin and Greek, University of New Mexico, 1912-1913, Professor, 1913—, Acting Professor of History, 1918—, Registrar, 1915-1917, Dean, 1917—; Professor of Latin, Oklahoma University, Summer Session, 1917. Phi Beta Kappa, Phi Kappa Phi.

**JOHN D. CLARK, Professor of Chemistry.**

Chem. 2, 9-10 and 1-2.

University Hill.

B. S., New Hampshire College of Agriculture and Mechanic Arts, 1906, M. S., 1907; Ph. D., Leland Stanford Junior University, 1914. Assistant Professor of Chemistry, University of New Mexico, 1907-

1908, Associate Professor, 1908-1913, Professor, 1913—, Dean of Summer Session, 1912; Associate Professor of Chemistry, University of California, Summer Sessions, 1910, 1912. Sigma Xi; Phi Kappa Phi; American Chemical Society; Fellow, American Association for the Advancement of Science; Geological and Mining Society of American Universities; Associate Member, Naval Consulting Board; President, New Mexico Association for Science.

**ASA ORRIN WEESE**, Professor of Animal Biology and Botany.  
Chem. 8, 1. 1213 East Central.

B. A., University of Minnesota, 1909; M. A., University of Illinois, 1917. Graduate Student, University of Minnesota, Summer Sessions, 1909, 1910; University of California, Summer Session, 1913; University of Chicago, Summer Quarter, 1914; University of Illinois, Summer Sessions, 1916, 1917, First Semester, 1917-1918. Assistant Professor of Animal Biology and Botany, University of New Mexico, 1911-1913, Associate Professor, 1913-1914, Professor, 1914—. Sigma Xi, Phi Kappa Phi.

**PROCTOR FENN SHERWIN**, Professor of Rhetoric and the English Language.

Adm. 24, 9. University Hill.

B. A., St. Lawrence University, 1912. Graduate Student in English, University of Chicago, Summer Quarter, 1913, Spring and Summer Quarters, 1914, Summer Quarter, 1917. Associate Professor of Rhetoric and the English Language and of History, University of New Mexico, 1914-1915, Professor of Rhetoric and the English Language, 1915—. Phi Kappa Phi.

**ETHEL HICKEY**, Professor of English Literature, and Student Adviser.

Adm. 26. T Th 10 and M W F 1. 111 North Walter.

B. A., Kansas University, 1898. Instructor in English, University of New Mexico, 1901-1914, Associate Professor of English Literature, 1914-1916, Professor, 1916—.

**JOSEPH SAMUEL LANDERS**, Professor of Psychology and Philosophy.

Eng. 2a, 10. 111 North Elm.

B. S., Valparaiso University, 1895; A. B., University of Colorado, 1917, A. M., 1918. Principal of High School, The Dalles, Oregon, 1896-1899; Superintendent of Schools, The Dalles, Oregon, 1899-1906; Superintendent of Schools, Pendleton, Oregon, 1906-1915; Professor of Education, Western Summer Institute, Portland, Oregon, 1898-1913; Instructor in Psychology and Education, Oregon Agricultural College, Summer School, 1913-1915; Professor of Psychology and Philosophy, University of New Mexico, 1918—. Kappa Delta Phi, Phi Beta Kappa. Phi Kappa Phi.

**CHARLES ANTHONY BARNHART**, Professor of Mathematics.

Adm. 30. 623 South Fifth.

A. B., University of Illinois, 1905, A. M., 1911. Principal of High School, Anna, Illinois, 1905-1908; Principal of High School, Normal,

Illinois, 1908-1909; Assistant in Mathematics and Graduate Student in Mathematics, University of Illinois, 1909-1912; Instructor in Mathematics, Summer Session, 1912; Acting Instructor in Mathematics, Illinois State Normal University, Second Summer Term, 1913; Professor of Mathematics, Carthage College, 1912-1917; Instructor in Mathematics, Colorado College, 1917-1918; Professor of Mathematics, University of New Mexico, 1918—. Mathematical Association of America.

**GROVE SAMUEL DOW**, Professor of Sociology and Government.

Adm. 22.

University Hill.

A. B., William Jewell College, 1909; A. M., Brown University, 1911. Scholar, Brown University, 1910-1911; Scholar, Harvard University, 1911-1912; Scholar and Assistant in Sociology, University of Chicago, 1913-1914; Professor of History, Maine Central Institute, 1912-1913; Professor of Sociology, Olivet College, 1914-1918; Professor of Sociology and Government, University of New Mexico. 1918—.

**CHARLES BAILE DRAKE**, Professor of the Romance Languages and Literatures.

Student, Law School, University of Missouri, 1904-1907; B. A., University of Missouri, 1908; B. S. (Education) Missouri State Normal, 1909. Graduate student, University of Kansas, Summer, 1909; University of Chicago, Summer Quarters, 1911, 1916, 1917, 1918; Alliance Francaise, Paris, Summer, 1912; University of Paris (Sorbonne), 1912-1913 and the Guilde Internationale, 1912-1913; Diplome, 1913; Ateneo Literario, Madrid, Summer, 1913; University of Madrid (Universidad Central), 1913-1914. Instructor in Modern European History, Missouri State Normal, 1908-1909; Principal and Superintendent of Schools, Virginia City, Montana, 1909-1912; Instructor in Romance Languages, University of Kansas, 1914-1916; Instructor in Spanish under the Carnegie Foundation for International Peace, Summer, 1915; Department of Romance Languages, McKinley High School, St. Louis, Missouri, 1916-1917; Instructor in Spanish, University of Chicago, 1917-1918; Professor of Romance Languages, University of New Mexico, 1918—.

**RAYMOND DUHADWAY**, Associate Professor of Mathematics and Physics.

Adm. 31,11.

409 Occidental Building.

A. B., Delaware (State) College, 1895; A. M., University of Chicago, 1910. Graduate Student, University of Pennsylvania, 1899-1901; University of Gottingen, three semesters, 1905-1906, 1913-1914; University of Chicago, 1909-1910, Summer Quarters, 1911, 1912, 1913. Principal of Schools, Delaware, 1896-1899; Principal of Government Schools, Philippine Islands, 1901-1905; Instructor in Mathematics and Analytical and Theoretical Mechanics, Syracuse University, 1906-1909; Iowa State University, 1910-1912; New York University, 1912-1913; Washington University, 1914-1915; Professor of Pure and Applied Mathematics, Highland Park College, 1916-1917; Professor of Mathematics and Astronomy, Aurora College, 1917-1918; Associate Professor of Mathematics and Physics, University of New Mexico, 1918—. Foreign Travel, 1905-1906, 1913-1914. Phi Kappa Phi.

**ROBERT W. ELLIS, Professor of Geology.**

Eng. 1, 9.

611 North Eighth.

B. Sc., University of South Dakota, 1897; M. A., University of Wisconsin, 1910. Field work, South Dakota, 1896, 1901; Indiana, 1905, 1907; Minnesota, 1906; Nebraska, 1916, 1917. Instructor and Museum Preparator, University of Nebraska, 1913-1918; Professor of Geology, University of New Mexico, 1918—. Sigma Xi.

**ARNO K. LEUPOLD, Professor of Practical Mechanics.**

Eng. 7, 9.

University Hill.

B. S. in E. E., University of New Mexico, 1914. Graduate Student, University of Colorado, Summer Session, 1916. Instructor in Practical Mechanics, University of New Mexico, 1914-1916, Associate Professor, 1916-1918, Professor, 1918—.

**LAWRENCE EDWARD McCARTY, Professor of Physics, and Acting Professor of Electrical Engineering.**

Eng. 3a, 11.

Occidental Building.

Graduate, Sam Houston Normal Institute, 1907; A. B., University of Texas, 1917; A. M. (Mathematics and Physics), 1918. Teacher and Principal in High Schools, Texas, 1907-1913; Assistant in Physics, University of Texas, 1915-1917; Department of War, Washington, D. C., 1917-1918; Professor of Physics, and Acting Professor of Electrical Engineering, University of New Mexico, 1918—.

**RUSSELL M. HOWARD, Acting Professor of Economics and Business Administration.**

B. S., Oregon Agricultural College, 1914. Instructor in Accounting and Economics, Oregon Agricultural College, 1914-1918; Personnel Adjutant, U. S. A., 1918; Acting Professor of Economics and Business Administration, University of New Mexico, 1919—. Alpha Kappa Psi.

**WILLIAM HARVEY PARTRIDGE, Assistant Professor of History and the Latin Language and Literature.**

A. B., Oberlin College, 1894, A. M., 1904. Graduate Student, University of Chicago, Summer Quarters, 1898, 1905, 1911, 1914, Autumn Quarter, 1914, Summer Quarter, 1917; University of Jena, Autumn, 1905; University of Berlin, Winter, 1906; University of Tübingen, Spring, 1906. Instructor and Principal in High Schools, Wisconsin, Indiana, and Ohio, 1896-1905, 1908-1910; Professor of History and Latin, Fargo College, 1906-1907; Instructor in History, Latin, and Greek, Ohio Wesleyan University, 1910-1913; Professor of Latin, Baker University, 1913-1914; Professor of Latin and Greek, Indiana Central University, 1915-1917; Educational Secretary, Army Y. M. C. A., Camps Taylor and Travis, 1917-1918; Assistant Professor of History and the Latin Language and Literature, University of New Mexico, 1918—. Foreign Travel, Summers, 1900, 1906, 1909, 1910, 1913.

**HENRY FOOTE PERRIN, Assistant Professor of Piano, Theory of Music, and Voice.**

Ro.

University Hill.

Hon. Mus. Dgc., Oskaloosa College, 1915. Student, School of Music, Yale University, 1897-1899; Graduate, Stern Conservatory, Berlin,

1901; Raff Conservatory, Frankfort, 1902; Abgangs Zeugnis, Xaver Scharwenka, Royal Professor, Berlin, 1904; Student (Vocal Music), Rudolph Schmalfeld, Royal Professor, Berlin, 1905; Musical Editor, Berlin English and American Register, 1903-1906; Student, Leschetizsky School, Vienna, 1913; Student (Vocal Music), Delma Heide, Officer of the Academy, Paris, 1914; European Representative, Chicago Musical News, 1913-1914. Instructor in Piano, Colorado College, 1906-1907; Instructor in Music, Limestone Female College, 1907-1908; Mary Connor College, 1912-1913; Scarritt-Morrisville College, 1914-1915; Southern Seminary, 1916-1917; Professor of Piano, California Temple of Art, 1917-1918; Assistant Professor of Piano, Theory of Music, and Voice, University of New Mexico, 1918—. Member, American Guild of Organists.

**ELIZABETH P. SIMPSON**, Assistant Professor of Home Economics.

Adm. B.

University Hill.

Graduate, Michigan State Normal College, Ypsilanti, 1912. Instructor in Home Economics, High School, St. Petersburg, Florida, 1912-1915; Assistant Professor of Home Economics, University of New Mexico, 1918—.

**PEARL ANJANET STONE**, Librarian.

Adm. 14, 10-12.

B. Pd., Missouri State Normal School, Springfield, 1908. Student, Drury College, 1908-1909; Library School, University of Illinois, 1915-1916. Reference Librarian and Instructor in Library Science, Wisconsin State Normal School (LaCrosse), Summer Session, 1916; Librarian, High School, Maywood, Illinois, 1916-1917; Public Library, Morris, Illinois, 1917-1918; University of New Mexico, 1919—.

**CATHARINE A. CRAIG**, Instructor in Home Economics.

Graduate, Hackley Manual Normal School, Muskegon, Michigan, 1915. Instructor in Home Economics, Sturgis, Michigan, 1915-1918; University of New Mexico, 1918—.

**HESTHER KENAMORE**, Instructor in Spanish, and Matron.

Student, North Texas Normal School, 1902-1903; East Texas Normal School, 1905-1906. Teacher, Garcia's Commercial College, Monterey, 1911-1912; American School, Tampico, 1912-1913; Instructor in Spanish, University of New Mexico, 1918—. Mexican Travel, 1910-1913.

**MRS. W. H. PARTRIDGE**, Instructor in Expression and Physical Training for Women.

Graduate, Columbia College of Expression, Chicago, 1903, Student, Summer Session, 1918. Instructor in Expression and Physical Education, Drury College, 1903-1904; Instructor in Expression, Conservatory of Music, South Bend, Indiana, 1908-1910; Indiana Central University, 1915-1917; Instructor in Expression and Physical Training for Women, University of New Mexico, 1918—.



## COMMITTEES OF THE FACULTY.

The first named member of each committee is chairman.

Admission and Standing: MITCHELL, WEESE, SHERWIN, LANDERS, WILLIAMS.

Schedule and Curriculum: BARNHART, MITCHELL, LANDERS, ELLIS, LEUPOLD.

Graduate Study: CLARK, MITCHELL, WEESE, BARNHART, DOW, DRAKE.

Publications: HODGIN, BOYD, SHERWIN.

Catalogue: SHERWIN.

University News: HODGIN.

Relations with Secondary Schools: LANDERS, HODGIN, MITCHELL.

Public Exercises: CLARK, HICKEY, LANDERS.

Student Affairs: CLARK, SHERWIN, HICKEY, DRAKE, SIMPSON.

Audit of Student Accounts: HOWARD, DUHADWAY, McCARTY.

Student Eligibility: WEESE, BARNHART, DOW.

Athletic Council (Faculty Representatives): WEESE, CLARK.

Literary Contests (Faculty Representatives): HODGIN, DOW.

# HISTORY.

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New Mexico was acquired from Mexico by the treaty of Guadalupe Hidalgo, February 2, 1848, and held under military control until the first territorial legislature was assembled in 1850. During the early years of territorial existence conditions were unfavorable for educational development and little was accomplished in the scattering efforts to establish schools of any kind. The centers of population were small and far apart, in the sparsely settled territory of that day. Unfriendly Indians were a source of considerable annoyance to the citizens. The passing between New Mexico and the states was infrequent, mail coming at long intervals. The expense of getting teachers was great, and there was a disposition on the part of many citizens to oppose public education. In the face of this discouraging situation succeeding legislatures sent memorials to the Federal Congress, making strong appeals for direct government aid in establishing some kind of educational facilities in New Mexico. Congress early made land appropriations (which brought in no funds) and turned a deaf ear to every appeal, not making provision even for teaching English to the Spanish-speaking people gathered under the American flag.

Various inadequate school laws were passed by the territorial legislatures from time to time, but nothing was done to provide for higher educational institutions until 1889, when a bill introduced by the Honorable Bernard S. Rodey was passed by the Legislative Assembly, creating the University of New Mexico, to be located at Albuquerque. The new institution was opened in rented rooms as a summer normal school, June 15, 1892, beginning regular instruction September 21, in the first building erected on the campus. The Honorable E. S. Stover, a member of the charter Board of Regents, was made the nominal president, and served five years. During this term Principal George S. Ramsay was in direct charge of the institution for two years, followed by Professor Hiram Hadley, Vice-President in charge from 1894 to 1897. During this administration, the period of organization, there were many difficulties to encounter. Education throughout the territory was at an exceedingly low ebb, the law creating the University having preceded the general school law which made possible the establishment of high schools in the towns. And while the territorial institution bore the name of University, it was in reality a preparatory school. Throughout the administration there was but one building on the campus for educational purposes, and legislative appropriations for maintenance were very meagre. In addition to the normal and preparatory curricula, a commercial school was instituted in 1893.

The Board of Regents in the summer of 1897 elected Dr. C. L. Herrick, of Denison College in Ohio, as active president to take full charge of the University. President Herrick was a man of scholarly attainments in science and philosophy, and though in ill health he put into the science work new life which gave it an interest and impetus that meant continued growth. The great need for a science building, and the failure of the

legislature to provide for this need, prompted an effort on the part of President Herrick to solicit funds for a new building from friends of the institution. The result was that Mrs. W. C. Hadley became interested in the project, and made a gift of \$10,000 for a science hall. Other smaller donations from New Mexico citizens were added to this amount and in 1899 an excellent three-story building was erected, and named the Hadley Laboratory. About the same time a small gymnasium was built on the campus and physical training was made a part of the curriculum. President Herrick materially strengthened the teaching force of the University, and gathered about him a number of science students from the East and from New Mexico, giving to the small institution something of a college atmosphere.

In 1901 Dr. William G. Tight, a geologist, also from Denison College, was elected as successor to President Herrick, and served until 1909. The call to New Mexico at first seemed to Dr. Tight to open the way to a great, new field for geological research. But upon entering the work of the University and learning its needs, he found it necessary to sacrifice much of his professional scientific work to the duties of his executive office, into which he threw the vigor of his physical and mental energy for the larger interests of the institution. Dr. Tight saw a vision of a greater University for New Mexico in the future and began to conceive large plans. The grounds were laid out with a thought of permanency, and hundreds of trees were placed in orderly arrangement as a start for a beautiful campus. A deep well was dug, a large windmill for motive power constructed; and an irrigating reservoir built, in an effort to furnish the abundance of water needed, on an economical basis. Another policy pointing toward permanency was that of uniformity in the style of buildings to be erected. After studying and photographing various buildings in Indian villages throughout New Mexico, President Tight formulated plans for a distinctive type of University architecture, choosing the style from the native soil, instead of borrowing ideas from foreign lands. A Power House was first constructed on the new plan, and then dormitories—one for women, named Hokona, the Indian significance being virgin butterfly; and one for men, called Kwataka, or man-eaglet. The Administration Building, a large three-story structure and the first building on the campus, was remodeled on the lines of the adopted Pueblo plan, and an assembly room added and designated Rodey Hall, in recognition of the valuable services rendered the University by the Honorable B. S. Rodey in the Territorial Legislature and the Federal Congress. The administration of Dr. Tight was marked also by definite advance in all college departments as well as in athletic activities. While special emphasis was placed upon the science work, other courses were not neglected. An excellent school of music and expression was organized, and housed in the upper rooms of the Albuquerque Public Library building. It was President Tight's plan to place music on the same basis as all other subjects in the University, as has since been done. A beginning was also made in putting the University into closer touch with the few high schools then in existence throughout the territory.

In 1909 Dr. E. D. McQueen Gray was chosen to succeed President Tight, and served until 1912. Dr. Gray, although a resident of the United States and of New Mexico for a number of years, had been educated in

English universities and had spent much time traveling in European countries. His very considerable scholarly attainments lay in the classics, modern languages, and history. He was of great assistance to Rhodes scholarship candidates, for he had spent a number of years preparing men for Oxford University. He held also to English tradition in many features of university administration. With the beginning of the academic year 1909-1910 President Gray introduced a number of important changes. The College of Science and Engineering was separated from the College of Letters and Arts and placed under the direction of a Dean and College Faculty; and three new administrative positions were created—Dean of the College of Science and Engineering, Dean of Women, and Principal of the Preparatory School, the work of the first two years of this school being largely eliminated. The burning of Hadley Laboratory in 1910 made necessary the erection of a new building with very limited funds, to serve as a temporary science building. In this construction a deviation from the Pueblo type of architecture was introduced.

When New Mexico was granted statehood in 1912, President Gray was succeeded by Dr. David Ross Boyd, who brought to the position a ripe experience in educational work and university administration, having been for a number of years president of the University of Oklahoma, from its struggling days to its successful establishment as a thriving state institution. Upon election President Boyd began a careful study of the general educational situation in New Mexico and the needs of the University. One of the first things to demand attention was the securing of a larger campus for immediate and future needs, while land could be purchased at a reasonable price. By persistent effort, the campus has been extended from 25 acres, when President Boyd assumed office, to a tract of over 300 acres. This additional land, which is well located, was purchased at an exceedingly favorable figure, and none too soon, as adjacent land has already more than doubled in value. With a view to unity in the development of plans for the greater university, the administration secured the services of Mr. Walter Burleigh Griffin of Chicago, a landscape architect and expert in city planning, who had planned and supervised the construction of the new capital city of Australia at Canberra, and had laid out the grounds of the new federal district. Mr. Griffin visited the University and studied the possibilities of developing the large campus and constructing buildings in a modified form of the unique Pueblo type of architecture. His plans are now in the hands of the Regents for the permanent arrangement and beautification of the grounds, and the attractive grouping of new buildings. The rapidly growing chemistry department called for the first building under the new plans. It is a plain, substantial structure, covering a ground space of 165 by 50 feet, with the interior marked by the most modern arrangement, and latest equipment for laboratory work. The next building will be for general science, bids for its construction having already been called for. The well has been very considerably deepened and the capacity of the irrigation system sufficiently increased to supply the needs of the University grounds for many years to come. The entire frontage of the campus has been levelled and terraced, and planted with grass, trees, and shrubbery. The land grant of Congress for the University totals about 350,000 acres, now secured by title and nearly all surveyed. The amount

of 50,000 acres has been sold, and the proceeds invested in a permanent producing fund, the income of which is available for University use. About 300,000 acres are leased and are thus the source of a small income for the University.

With President Boyd's administration have come some important changes in the University curriculum. As high schools in the state have been increasing in numbers and improving their instruction, preparatory students are now admitted only for the fourth year's work. A beginning has been made in university extension and correspondence study in order to accommodate those who may seek advancement, but who are unable to attend the University. The department of home economics has been introduced, with excellent up-to-date electrical equipment. A chair of theoretical and applied psychology has been added to the College of Arts, Philosophy, and Sciences. Courses in Latin-American and Spanish history have been provided and greater emphasis has been placed upon the teaching of the Spanish language. In addition, several full curricula in music have been organized in the College of Fine Arts. The University has become better known both within and without the state than ever before, and the college enrollment has been materially increased.

Several important changes have been wrought by the war in the administration and the life of the University. The chief changes in administration are due to the change in the academic calendar by which four quarters running through the year have been substituted for the old calendar of two semesters with the long summer vacation. This change, which makes for greater and more efficient service to the students and to the people of the state as a whole, was brought about in the first instance by the necessity of accommodating the calendar of the University to the large proportion of men students who wished to take part in the movement for increased and intensified agricultural production during the spring and summer months of the year. Engagement in agricultural and industrial services and in the military and naval forces of the nation had drawn practically all men students from the University by the opening of summer in 1918. Many alumni and former students were similarly engaged. But in October the establishment of a unit of the Students' Army Training Corps brought 160 men between 18 and 21 to the campus and classrooms of the institution. After the signing of the armistice, however, the Students' Army Training Corps was demobilized at the close of the autumn session in December, and the University is now returning to normal status as rapidly as permitted by after-war conditions in a thinly-populated state which has contributed liberally in men and resources to the national effort.

## GOVERNMENT AND MAINTENANCE.

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The University of New Mexico is the culmination of the educational system of the State. In the educational plan of the State, the University is closely connected with the high schools in the same way as the high schools are related to the grammar and primary grades. Just as it is not expected that all who complete the grammar grades will advance to and through the high school, it is likewise not expected that all who complete the high school course will go forward to and through the University, but the relation between the University and the high schools is such that the graduates from the latter may enter the University on a certificate plan in much the same way as graduates of the grammar school may pass to the first year of the high school, as easily and naturally as possible. The University encourages scholarship and learning and the application of scientific knowledge to the arts of life. It has also established and to some extent has worked out a plan for extending the privileges of the University to those who are unable to be present in residence, through a division of extension that is organized and is developing on a broad basis. Its aim is to place the resources of the University, so far as possible and with the least possible restriction, at the disposal of any person who desires and has sufficient qualifications to use them.

The University is supported by the income from the proceeds of the sale of lands granted to it by the Federal Government on New Mexico's becoming a state, together with the income from leases and other uses of the lands. Its chief support, however, is that of appropriations made for its maintenance by the State Legislature. Small beginnings have been made in the way of donations by interested friends of the University. The beginning of a rotating loan fund for the benefit of worthy and needy students has been made. The chief contributors to this beginning fund were the Honorable Felix Martinez and the Honorable George A. Kaseman. A gift of \$500.00 has been made by Mrs. William Jennings Bryan, and is known as the Philo Sherman Bennett Fund, the income of which, after a certain amount has been realized, is to be used to assist needy students. Numerous valuable donations have been made of collections of scientific interest and of valuable books for the library.

The government of the University is vested in a Board of Regents who possess the powers to accomplish the objects of the University's establishment, and to perform the various duties prescribed by law. Five regents are appointed by the Governor of the State; the Governor and the Superintendent of Public Instruction are ex-officio members of the Board. The Regents appoint all officers of administration and instruction, and all faculty rules regarding the government of the students are subject to their approval. The University Faculty exercises authority, subject to the approval of the Board of Regents, in educational policy, scholastic standards, and general matters relating to the University. All instructors of the institution with the rank of assistant professor or above, constitute a faculty with power to take action on matters within the jurisdiction of that body.

## SITUATION AND ENVIRONMENT.

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The southeastern slopes and spurs of the Rocky Mountain range, with their elevated plateaus, upland valleys, and gently sloping stretches of open country, embrace within their boundaries the most salubrious region in the United States. In the center of this region stands the city of Albuquerque, the most populous town in New Mexico, and the commercial capital of the State. The situation of the city is in every respect admirable. It occupies the center of a strip of highly fertile land on the left bank of the Rio Grande—the Rio Grande del Norte of the Spanish discoverers—at an elevation of five thousand feet above the level of the sea, in the valley formed by the river as it makes its way between the mountain ranges to the east and west; and the protected situation of the city has contributed not a little to the salubrity of its climate. On the mesa, or elevated plateau, about a mile east of the city, stand the eleven buildings of the University, overlooking the wide valley of the Rio Grande. The pure air of the mesa, bracing and invigorating, surrounds the spot, and lassitude and depression are unknown in this atmosphere. Extremes of temperature, whether of heat or cold, which not infrequently impede the progress of educational work in other localities, never visit this part of New Mexico.

The New Town of Albuquerque—for there is also an Old Albuquerque, dating from the times of the first Spanish settlers, and still typically Spanish in appearance—is an essentially modern city, with paved streets, concrete sidewalks, electric light, street railway, two daily newspapers, and important mercantile and manufacturing establishments. It is also an educational center, possessing in addition to the University many schools of various kinds; while the public school system of the city compares favorably with the systems of much larger Eastern towns. All the leading religious denominations are efficiently represented; and the members of all churches gladly welcome the University students to share in their religious and social life. The University's position in regard to religion is strictly non-sectarian, and the students are encouraged to attach themselves to the religious organizations with which their families are connected.



Albuquerque lies on the main line of the Atchison, Topeka & Santa Fe Railway system, at the junction of the lines to El Paso and Mexico on the south, Arizona and California to the west, the Pecos valley and southwestern Texas to the east, and through Colorado to Kansas City and Chicago to the north, so that it enjoys railroad facilities unequalled by any other town in this region. The advantageous position of the city on the main line of passenger traffic east and west, furnishes to the citizens many opportunities of seeing and listening to persons of distinction in almost every department of public effort; and lectures and addresses, concerts and plays, musical and literary gatherings occur throughout the year. The advantage of association and environment of this kind to the young student can hardly be over-estimated.

## BUILDINGS.

At the southwest corner of the campus is the ADMINISTRATION BUILDING. This, the oldest building on the campus, has been remodeled to conform with the adapted Pueblo style of architecture in which the newer buildings have been constructed. The ground floor contains the Home Economics laboratories and classrooms, and a part of the stacks of the Library. The first floor houses the administration offices, and the reading and checking rooms and the remainder of the stacks of the Library. The two upper floors are given up to classrooms and departmental offices.

Just north stands RODEY HALL, an exact replica of the centuries-old Pueblo church at Taos, New Mexico. It has a seating capacity of 500, and is used for all assemblies and public lectures.

Further to the north and west is the POWER HOUSE, the heating plant which supplies all the buildings on the campus. It also is constructed in the adapted Pueblo style.

To the east is the UNIVERSITY COMMONS, a wooden frame building, which contains a dining room with seating capacity of 175, kitchen, scullery, and servants' quarters.

Just east of this building is ENGINEERING HALL, a one-story cement structure having laboratories, classrooms, a lecture room, and departmental offices for Civil and Electrical Engineering, Geology, Physics, and Practical Mechanics.

The new CHEMISTRY BUILDING, north of ENGINEERING HALL, is of the adapted Pueblo style of architecture with an open patio in the center. It is the largest building on the campus and has laboratories, lecture rooms, and classrooms, as well as stock rooms and departmental offices for Chemistry, Animal Biology, and Botany.

Facing these buildings on the east stand the Men's Dormitory, KWATAKA, and the Women's Dormitory, HOKONA, both good examples of the adapted Pueblo architecture. They are divided into suites of rooms, each consisting of a study and two bedrooms and intended for two students. The ground floor of HOKONA contains the women's parlors as well.

Southeast of HOKONA is the WOMEN'S GYMNASIUM, and further to the south are the MEN'S GYMNASIUM and the swimming pool. Considerably to the east of the main campus are the athletic field and the UNIVERSITY FIELDHOUSE for the use of the athletic teams. These three buildings are wooden frame structures, but are well provided with showers, lockers, dressing rooms, apparatus, and floor space for training classes and indoor athletic sports. The MEN'S GYMNASIUM contains the examination room and departmental office for Physical Training.

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## THE LIBRARY.

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The University Library occupies rooms on the main floor of Administration Building, with stack rooms below. The general reading room contains about five hundred reference books, one thousand volumes of bound magazines, and over one hundred current periodicals. Indexes, bibliographies, and a dictionary catalogue in which Library of Congress cards are used, furnish aids for reference work.

There are in the library sixteen thousand volumes and several thousand pamphlets. In addition, the shelves contain the periodical publications of a number of learned societies. The University is also a depository for United States government publications and for the publications of the Carnegie Institution.

The resources of the library are made available to the people of the State through extension work. Reference work by correspondence is gladly undertaken, especially for the high schools of the State. Loans of books to individuals are made on condition of payment of postage, and to communities having no library privileges traveling libraries are sent for periods of three months each.

Training in library methods is offered to a limited number of students.

The library is open every day except Saturday and Sunday from 8 a. m. to 5 p. m.; on Saturday from 8 to 12 a. m.

## PUBLIC ASSEMBLIES.

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University Assemblies are held in Rodey Hall, at intervals averaging about once a week, during the regular hours of instruction and at other times. All University classes are suspended during the Assembly hour. In addition to a number of Student Assemblies, lectures and addresses are delivered on various topics of interest by members of the Faculty and by visitors to the University and the city, occasional musical and dramatic recitals are given, and literary contests in oratory and debating are held. The Young Men's and Young Women's Christian Associations hold regular Sunday afternoon joint services, open to the public.

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## SCHOLARSHIPS AND HONORS.

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### THE CECIL RHODES SCHOLARSHIPS.

In accordance with the provisions of the will of Cecil Rhodes, awarding two scholarships every three years to each state and territory in the United States, tenable at Oxford, England, and of the annual value of \$1,500, New Mexico has the privilege of electing a scholar from among the candidates who pass the qualifying examination set by the Oxford delegacy. The selection of scholars is made by a Committee of Selection approved by the Rhodes trustees. The scholars hitherto selected are: 1906, Thomas S. Bell; 1908, Frank C. Light; 1910, Hugh M. Bryan; 1911, Karl G. Karsten; 1914, W. Coburn Cook; 1916, George Adlai Feather.

### HONOR FRATERNITY.

The national honor fraternity of Phi Kappa Phi granted a chapter to the University of New Mexico in May, 1916. Elections from the Senior class only are made in the spring quarter of each year. A Senior, in order to be eligible for election, must have been in residence for five quarters and must stand in the highest fourth of his class in scholarship. The students elected from the class of 1918 were: John D. DeHuff and James E. Hoover.

## STUDENT ORGANIZATIONS.

The students of the University form a general Student Body organization which controls the other organizations of general interest. The editorial and managerial boards of the newspaper, the U. N. M. Weekly, and the year-book, The Mirage, are elected by the Student Body. Under the direction of the Dramatic Association an annual play or musical comedy is presented. The Glee Club, the Orchestra, and the Chorus are of interest to many students. The University participates in the state oratorical contest held annually at the meeting of the New Mexico Educational Association. Debates are held with the New Mexico Agricultural College and the Universities of Arizona and Southern California. All athletic activities are under the direction of the Athletic Association, which is controlled by the Athletic Council. All members of the Student Body are members of the Association. The University has been a member of the Rocky Mountain Conference since 1916.

The students support several other organizations which are independent of the Student Body control. Among these are the Y. M. C. A., the Y. W. C. A., El Circulo Espanol, the Tennis Club, and the Rifle Club, which is affiliated with the National Rifle Association.

Two national fraternities and one local fraternity are represented among the University men, and three national fraternities and one local fraternity among the women. The women's fraternities have formed a local Panhellenic Association which regulates "rushing" and other fraternity matters. Several of the fraternities own houses near the campus.

# ADMISSION TO THE UNIVERSITY.

## METHODS OF ADMISSION.

Students are admitted either upon examination at the University or upon presentation at the University of certificates, such as that to be found at the end of this catalogue, from accredited schools, except that adult special students are admitted in accordance with the provisions stated under the Admission of Adult Special Students.

The following high schools in New Mexico are accredited :

Alamogordo	Gallup
Albuquerque	Hagerman
Artesia	Lake Arthur
Aztec	Las Cruces
Belen	Portales
Carlsbad	Raton
Carrizozo	Roswell
Clayton	Santa Fe
Clovis	Santa Rosa
Deming	Socorro
East Las Vegas	Tucumcari
Farmington	

Diplomas from these high schools admit the holders thereof to the Freshman class whenever the course of study pursued meets the entrance requirements of the College in which the student desires to matriculate.

## ADMISSION TO THE COLLEGES.

The requirements for admission are stated in terms of units. The term "unit" means the completion of a course of study consisting of five recitation periods of at least forty minutes each per week during thirty-six weeks. A laboratory or other practice period should extend over at least two consecutive recitation periods and is considered the equivalent of one recitation.

Fifteen units, some of which are prescribed and the remainder elective, are required for admission to any College of the University. But conditional admission is granted students offering not less than fourteen units, the condition being that the deficiency be made up in the first year of residence. The variation existing between the prescribed subjects and those which may be offered as electives is shown in the following exhibit, in which

List A in every case is prescribed, and the remainder of the fifteen units required for entrance may be elected from Lists B and C in the amounts indicated.

FOR ADMISSION TO THE COLLEGES OF ARTS, PHILOSOPHY,  
AND SCIENCES AND OF FINE ARTS.

List A.

English .....	3 units
Foreign Language (in one language) .....	2 units
History, Government, and Economics .....	1 unit
Algebra .....	1 unit
Geometry, Plane .....	1 unit
Laboratory Science .....	1 unit
Total prescribed .....	9 units
From List B (see below) .....	2-6 units
From List C (see below) .....	½-4 units
Total, to make .....	15 units

(Note.—A high school science, in order to be accepted as a laboratory science, must be truly scientific in its nature, and represent some real laboratory work. This work involves the development of the power to observe carefully and correctly the phenomena of science and to state clearly the deductions drawn therefrom.)

FOR ADMISSION TO THE COLLEGE OF ENGINEERING.

List A.

English .....	3 units
Foreign Language (in one language, preferably modern) .....	2 units
Algebra .....	1½ units
Geometry, Plane and Solid .....	1½ units
Physics .....	1 unit
Total prescribed .....	9 units
From List B .....	2-6 units
From List C .....	½-4 units
Total, to make .....	15 units

The matriculant must offer the subjects contained in List A for admission to the College of which he expects to be a member. Under List C are given the minimum and maximum numbers of units that are accepted from that list for each College. The remainder of the fifteen units required for entrance is to be offered from List B. None of the subjects contained in List C is prescribed for entrance and if no electives are offered from this list the number of units needed in addition to List A to make a total of fifteen is to be offered from List B.

LIMITATIONS.—Not more than four units will be accepted from any one group in List B except in the case of foreign languages, including the amounts of that group prescribed in List A. Not more than four units will be accepted from List C.

**List B.**

1. English Grammar and Composition, English and American Literature ..... 3 units  
 Additional Composition, English or American Literature... 1 unit

(Note.—In the case of foreign students, their native language and literature will be accepted in lieu of the above requirement of English, if equal to this requirement in nature and amount. When this substitution is made, a reading and speaking knowledge of English is to be offered to meet the requirement of two units in a foreign language.)

2. Group of Foreign Languages.

Six units is the maximum accepted from this group.

- |                               |                |
|-------------------------------|----------------|
| French .....                  | 1-4 units      |
| German .....                  | 1-4 units      |
| Greek .....                   | 1-3 units      |
| Latin .....                   | 1-4 units      |
| Spanish .....                 | 1-4 units      |
| Other foreign languages ..... | 1-4 units each |

3. Group of History, Government, and Economics.

- |                                   |                       |
|-----------------------------------|-----------------------|
| Ancient History .....             | $\frac{1}{2}$ -1 unit |
| Medieval and Modern History ..... | $\frac{1}{2}$ -1 unit |
| English History .....             | $\frac{1}{2}$ -1 unit |
| American History .....            | $\frac{1}{2}$ -1 unit |
| Civics .....                      | $\frac{1}{2}$ unit    |
| Economics .....                   | $\frac{1}{2}$ unit    |

4. Group of Mathematics.

- |                                  |                    |
|----------------------------------|--------------------|
| Algebra to Quadratics .....      | 1 unit             |
| Algebra, completed .....         | $\frac{1}{2}$ unit |
| Plane Geometry .....             | 1 unit             |
| Solid Geometry .....             | $\frac{1}{2}$ unit |
| Algebraic Theory, advanced ..... | $\frac{1}{2}$ unit |
| Trigonometry .....               | $\frac{1}{2}$ unit |

- 5A. Group of Laboratory Sciences.

- |                          |                       |
|--------------------------|-----------------------|
| Physics .....            | 1 unit                |
| Chemistry .....          | 1 unit                |
| Geology .....            | $\frac{1}{2}$ -1 unit |
| Physical Geography ..... | $\frac{1}{2}$ -1 unit |
| Botany .....             | $\frac{1}{2}$ -1 unit |
| Zoology .....            | $\frac{1}{2}$ -1 unit |
| Physiology-Biology ..... | 1 unit                |

- 5B. Group of Non-Laboratory Sciences.

Any of the above if given without adequate laboratory work, and the following:

- |                       |                       |
|-----------------------|-----------------------|
| General Science ..... | $\frac{1}{2}$ -1 unit |
| Astronomy .....       | $\frac{1}{2}$ unit    |
| Psychology .....      | $\frac{1}{2}$ unit    |

**List C.**

The maximum amount that may be offered from this list for entrance to the various Colleges of the University is indicated above. The maximum that will be accepted in any one subject contained in the group is shown below:



Agriculture .....	½-2 units
Home Economics (Domestic Science).....	½-3 units
Manual Training and Arts.....	½-2 units
Commercial Subjects.....	½-4 units
Music .....	½-2 units

**OPTIONAL SUBJECTS.**—An optional subject is any subject taken in the high school course but not included in List B or List C. A maximum of one unit in optional subjects may be accepted, subject to the nature and quality of the work done, but not with four units from List C.

## COURSES ACCEPTED FOR ADMISSION.

### 1. GROUP OF ENGLISH.

Three units prescribed, one additional elective.

It is expected that three years of the high school course in English will conform to the following standard. This amount of work, if of satisfactory quality, will be accepted as fulfilling the prescribed requirement of three units in English.

**Uniform college entrance requirements in English.**—The study of English in school has two main objects which should be considered of equal importance: (1) command of correct and clear English, spoken and written; (2) ability to read with accuracy, intelligence, and appreciation, and the development of the habit of reading good literature with enjoyment.

**Grammar and composition.**—The first object requires instruction in grammar and composition. English grammar should be reviewed in the secondary school; and correct spelling and grammatical accuracy should be rigorously exacted in connection with all written work during the four years. The principles of English composition governing punctuation, the use of words, sentences, and paragraphs should be thoroughly mastered; and practice in composition, oral as well as written, should extend throughout the secondary school period. Written exercises may well comprise letter-writing, narration, description, and easy exposition and argument. It is advisable that subjects for this work be taken from the student's personal experience, general knowledge, and studies other than English, as well as from his reading in literature. Finally, special instruction in language and composition should be accompanied by concerted effort of teachers in all branches to cultivate in the student the habit of using good English in his recitations and various exercises, whether oral or written.

**Literature.**—The second object is sought by means of two lists of books, headed respectively **Reading** and **Study**, from which may be framed a progressive course in literature covering four years. In connection with both lists, the student should be trained in reading aloud and be encouraged to commit to memory some of the more notable passages both in verse and in prose. As an aid to literary appreciation, he is further advised to acquaint himself with the most important facts in the lives of the authors whose works he reads and with their place in literary history.

**A. Reading**—The aim of this course is to foster in the student the habit of intelligent reading and to develop a taste for good literature, by means of a first-hand knowledge of some of its best specimens. He should read the books carefully, but his attention should not be so fixed upon details that he fails to appreciate the main purpose and charm of what he reads.

With a view to large freedom of choice, the books provided for reading are arranged in the following groups, from each of which at least two selections are to be made, except as provided under Group I.

#### Group I—Classics in Translation.

The Old Testament, comprising at least the chief narrative episodes in Genesis, Exodus, Joshua, Judges, Samuel, Kings, and Daniel, together with the books of Ruth and Esther.

The Odyssey, with the omission, if desired, of Books I, II, III, IV, V, XV, XVI.

The Iliad, with the omission, if desired, of Books XI, XIII, XIV, XV, XVII, XXI.

The Aeneid.

The Odyssey, Iliad, and Aeneid should be read in English translations of recognized literary excellence.

For any selection from this group a selection from any other group may be substituted.

#### Group II—Drama.

Everyman.

Shakespeare:

Midsummer Night's Dream,

Merchant of Venice,

As You Like It,

Twelfth Night,

Tempest,

Romeo and Juliet,

King John,

Goldsmith: She Stoops to Conquer.

Sheridan: The Rivals.

Richard II,

Richard III,

Henry V,

Coriolanus,

Julius Caesar, { If not chosen

Macbeth, { for study

Hamlet. { under B.

#### Group III—Prose Fiction.

Malory: Morte d'Arthur (about 100 pages).

Bunyan: Pilgrim's Progress, Part I.

Swift: Gulliver's Travels (voyages to Lilliput and Brobdingnag).

Defoe: Robinson Crusoe, Part I.

Goldsmith: Vicar of Wakefield.

Frances Burney: Evelina.

Scott's Novels: any one.

Jane Austen's Novels: any one.

Maria Edgeworth: Castle Rackrent, or The Absentee.

Dickens' Novels: any one.

Thackeray's Novels: any one.

George Eliot's Novels: any one.

Mrs. Gaskell: Cranford.

Kingsley: Westward Ho! or Hereward, the Wake.

Reade: The Cloister and the Hearth, or Griffith Gaunt.

Lytton: Last Days of Pompeii.  
 Blackmore: Lorna Doone.  
 Hughes: Tom Brown's Schooldays.  
 Stevenson: Treasure Island, or Kidnapped, or Master of Ballantrae,  
 or Dr. Jekyll and Mr. Hyde.  
 Kipling: Kim, or Captains Courageous, or Jungle Books.  
 Cooper's Novels: any one.  
 Poe: Selected Tales.  
 Hawthorne: The House of the Seven Gables, or Twice Told Tales, or  
 Mosses From an Old Manse.  
 Howells: The Rise of Silas Lapham, or A Boy's Town.  
 Wister: The Virginian.  
 Cable: Old Creole Days.  
 A collection of Short-Stories by various standard writers.

#### Group IV—Essays, Biography, Oratory, Etc.

Addison and Steele: The Sir Roger de Coverley Papers, or Selections from The Tatler and Spectator (about 200 pages).

Boswell: Selections from the Life of Johnson (about 200 pages).

Franklin: Autobiography.

Washington: Farewell Address.

Burke: Speech on Conciliation With America.

Irving: Selections from the Sketch Book (about 200 pages), or Life of Goldsmith.

Southey: Life of Nelson.

Lamb: Selections from the Essays of Elia (about 100 pages).

Lockhart: Selections from the Life of Scott (about 200 pages).

Thackeray: Lectures on Swift, Addison, and Steele in the English Humorists.

Macaulay: Any one of the following: Lord Clive, Warren Hastings, Milton, Addison, Goldsmith, Frederick the Great, Madame d'Arblay, Life of Johnson, Two Speeches on Copyright, History of England, Chapter III.

Trevelyan: Selections from the Life of Macaulay (about 200 pages).

Carlyle: Essay on Burns, with a selection from Burns' Poems.

Ruskin: Sesame and Lilies, or Selections (about 150 pages).

Dana: Two Years Before the Mast.

Webster: First Bunker Hill Oration.

Lincoln: Selections, including at least the Speech at Cooper Union, the two Inaugurals, the Speeches in Independence Hall and at Gettysburg, the Last Public Address, the Letter to Horace Greeley; together with a brief memoir or estimate of Lincoln.

Parkman: The Oregon Trail.

Emerson: Manners, or Self-Reliance.

Thoreau: Walden.

Lowell: Selected Essays (about 150 pages).

Holmes: The Autocrat of the Breakfast Table.

Burroughs: Selected Essays.

Warner: In the Wilderness.

Curtis: Prue and I, or Public Duty of Educated Men.

Stevenson: *An Inland Voyage and Travels With a Donkey.*

Huxley: *Autobiography and selections from Lay Sermons, including the addresses on Improving Natural Knowledge, A Liberal Education, and A Piece of Chalk.*

Hudson: *Idle Days in Patagonia.*

Clemens: *Life on the Mississippi.*

Riis: *The Making of an American.*

Bryce: *The Hindrances to Good Citizenship.*

A collection of *Essays* by Bacon, Lamb, DeQuincey, Hazlitt, Emerson, and later writers.

A collection of *Letters* by various standard writers.

#### Group V—Poetry.

Palgrave: *Golden Treasury (First Series): Books II and III, with special attention to Dryden, Collins, Gray, Cowper, and Burns.*

Palgrave: *Golden Treasury (First Series): Book IV, with special attention to Wordsworth, Keats, and Shelley (if not chosen for study under B).*

Milton: *L'Allegro, Il Penseroso; Comus, Lycidas.*

Goldsmith: *The Traveler and The Deserted Village.*

Pope: *The Rape of the Lock.*

A collection of *English and Scottish Ballads*, as, for example, some Robin Hood ballads, the *Battle of Otterburn*, *King Estmere*, *Young Beichan*, *Bewick and Grahame*, *Sir Patrick Spens*, and a selection from later ballads.

Coleridge: *The Ancient Mariner, Christabel, and Kubla Khan.*

Byron: *Childe Harold, Canto III or IV, and The Prisoner of Chillon.*

Scott: *The Lady of the Lake, or Marmion.*

Macaulay: *The Lays of Ancient Rome, The Battle of Naseby, The Armada, Ivory.*

Tennyson: *The Princess; or The Coming of Arthur, Gareth and Lynette, Lancelot and Elaine, The Holy Grail, and the Passing of Arthur.*

Browning: *Cavalier Tunes, The Lost Leader, How They Brought the Good News From Ghent to Aix, Home Thoughts From Abroad, Home Thoughts From the Sea, Incident of the French Camp, Hervé Riel, Pheidippides, My Last Duchess, Up at a Villa—Down in the City, The Italian in England, The Patriot, The Pied Piper, "De Gustibus—", Instans Tyrannus.*

Arnold: *Sohrab and Rustum, The Forsaken Merman, and Balder Dead.*

*Selections from American Poetry, with special attention to Bryant, Poe, Lowell, Longfellow, Whittier, and Holmes.*

**B. Study.**—This part of the requirement is intended as a natural and logical continuation of the student's earlier reading, with greater stress laid upon form and style, the exact meaning of words and phrases, and the understanding of allusions. The books provided for study are arranged in four groups, from each of which one selection is to be made.

#### Group I—Drama.

Shakespeare: *Julius Caesar, Macbeth, Hamlet.*

**Group II—Poetry.**

Milton: L'Allegro, Il Penseroso, and Comus.

Tennyson: The Coming of Arthur, The Holy Grail, and The Passing of Arthur.

Palgrave: Golden Treasury (First Series): Book IV, with special attention to Wordsworth, Keats, and Shelley.

**Group III—Oratory.**

Burke: Speech on Conciliation With America.

Macaulay: Two Speeches on Copyright; and Lincoln: Speech at Cooper Union.

Washington: Farewell Address; Webster: First Bunker Hill Oration; and Lincoln: Gettysburg Address.

**Group IV—Essays.**

Carlyle: Essay on Burns, with a selection from Burns' Poems.

Macaulay: Life of Johnson.

Emerson: Essay on Manners.

**Examinations.**—However accurate in subject-matter, no paper should be considered satisfactory if seriously defective in punctuation, spelling, or other essentials of good usage.

The examinations should be divided into two parts, one of which should be on grammar and composition, and the other on literature.

In grammar and composition, the candidate should be asked specific questions upon the practical essentials of these studies, such as the relation of the various parts of a sentence to one another, the construction of individual words in a sentence of reasonable difficulty, and those good usages of modern English which one should know in distinction from current errors. The main test in composition should consist of one or more essays, developing a theme through several paragraphs; the subjects should be drawn from the books read, from the candidate's other studies, and from his personal knowledge and experience quite apart from reading. For this purpose the examiner should provide several subjects, perhaps eight or ten, from which the candidate may make his own selections. He should not be expected to write more than four hundred words an hour.

The examination in literature should include:

A. General questions designed to test such a knowledge and appreciation of literature as may be gained by fulfilling the requirements defined under **A. Reading**, above. The candidate should be required to submit a list of the books read in preparation for the examination, certified by the principal of the school in which he was prepared; but this list should not be made the basis of detailed questions.

B. A test on the books prescribed under **B. Study**, which should consist of questions upon their content, form, and structure, and upon the meaning of such words, phrases, and allusions as may be necessary to an understanding of the works and an appreciation of their salient qualities of style. General questions may also be asked concerning the lives of the authors, their other works, and the periods of literary history to which they belong.

The work outlined above is suggested for a three years' course in English in high schools. It will be accepted by the University as meeting the prescribed entrance requirement of three units in English.

An additional full year's study, which should consist of one period of composition and four periods given to the study of either American or English literature taught as a systematic historical survey with textbook and supplementary readings, may be offered as a fourth unit in English.

## 2. GROUP OF FOREIGN LANGUAGES.

Two units in one language are required for admission. For admission to the College of Engineering a modern language is preferred. A maximum of six units may be offered from this group for admission.

### 1. French.

**First year's work.**—Elementary grammar, with the more common irregular verbs. Careful training in pronunciation. About 100 pages of easy prose should be read.

**Second year's work.**—Advanced grammar, with all the irregular verbs. Elementary composition, and conversation. About 300 pages of modern French should be read.

**Third year's work.**—Intermediate composition, and conversation. About 500 pages of standard authors should be read, including a few classics.

**Fourth year's work.**—Advanced composition, and conversation. Standard modern and classical authors should be read and studied to the extent of 700 pages.

### 2. German.

Pupils should be trained to understand spoken German, and to reproduce freely, in writing and orally, what has been read. Whatever method of teaching is used, however, a thorough knowledge of grammar is expected.

**First year's work.**—Pupils should learn to read intelligently and with accurate pronunciation simple German prose, to translate it into idiomatic English, and to answer in German easy questions on the passage read. A few short poems may well be memorized. Elementary grammar should be mastered up to the subjunctive as arranged in most books for beginners. Easy prose composition rather than the writing of forms will be the test of this grammatical work.

**Second year's work.**—About 250 pages of modern writers should be read, preferably material which lends itself readily to conversational treatment in the classroom. Recitations should afford constant oral and written drill on the elementary grammar of the previous year. More importance is attached to accuracy and facility in simple modes of expression than to theoretical knowledge of advanced syntax.

**Third year's work.**—Most of the time should be devoted to good modern prose. There should be work in advanced prose composition—based on German models—and daily oral practice. Pupils ought by this time to understand spoken German fairly well.

**Fourth year's work.**—The reading should be divided about equally between modern and classical authors. At the end of this year a pupil

should be able to read at sight prose or verse of moderate difficulty. He should also express himself orally or in writing with considerable readiness, and a high degree of accuracy. Composition should include both free reproduction of the texts studied, and translation of English selections.

### 3. Greek.

**First year's work.**—The exercises in any of the beginning books, and one book of the *Anabasis* or its equivalent.

**Second year's work.**—Two additional books of the *Anabasis* and three of Homer, or their equivalent, together with an amount of Greek prose composition equal to one exercise a week for one year.

**Third year's work.**—Three additional books of the *Iliad*, three of the *Odyssey*, and Books VI, VII, VIII of Herodotus, or an equivalent from other authors.

### 4. Latin.

The requirements for admission in Latin are those recommended by the Commission on College Entrance Requirements in Latin, as follows: (a) In grammar and prose composition a knowledge of forms and syntax shall be acquired sufficient for writing simple Latin prose. (b) In reading, the amount shall not be less than Caesar: *Gallie War*, I-IV; Cicero: six orations; and Vergil: *Aeneid* I-VI, and shall be chosen from Caesar (complete), Nepos, Cicero (Orations, Letters, and *De Senectute*), Sallust, Ovid, and Vergil (complete). (c) Out of the above, the following reading is prescribed: Cicero: *Manilian Law* and *Archias*; and the *Aeneid* I, II, and either IV or VI. (d) Sight translation shall be performed of prose and verse of such difficulty as the scope of the above would justify.

### 5. Spanish.

**First year.**—The first year should include: The elements of grammar, including all the regular and the more common irregular verbs, the forms and order of the personal pronouns, the uses and meanings of the common prepositions, adverbs, and conjunctions, the uses of the verbs *ser*, *estar*, *haber*, and *tener*, the personal accusative, and other elementary rules of syntax. The reading of not less than 100 pages of prose texts. Careful drill in pronunciation, including accentuation. Occasional dictations and oral and written composition should be employed as aids to memory and expression. Suitable text books are: Hills and Ford's *First Spanish Course* or Wagner's, or Coester's *Spanish Grammar*; Harrison's *Elementary Spanish Reader*; Hills' *Tales for Beginners*; Johnson's *Cuentos Modernos* (too difficult for a first reader).

**Second year.**—In addition to the foregoing, the reading of not less than 300 pages of easy modern prose in the form of stories, plays, and short novels. Conversation, grammar, and composition based upon the reading. Suitable texts for the second year are: Gil Blas de Santillana (*Padre Isla*); Mariánela (Galdós); La Barraca (Ibáñez); *Novelas Cortas* (Alarcón); *Spanish Short Stories* (edited by Hills and Reinhardt); *El Pájaro verde* (Valera); *Zaragueta* (Ramos Carrión and Vital Aza); *Fortuna* (Pérez Escrich).

**Third year.**—The third year calls for the ability to use the language effectively as a means of written and oral expression. The work should

comprise: The study of a more complete and detailed grammar. The reading of not less than 500 pages of Spanish prose and poetry of ordinary difficulty. The translation of English into Spanish, conversation, letter writing, and simple business forms. Suitable texts for the third year are: Ramsey's Text Book of Modern Spanish; Umphrey's Spanish Composition; José (Valdés); María (Jorge Isaacs); Amalia (José Mármol); Pepita Jiménez (Valera); Guzmán el Bueno (Gil y Zárate); El Haz de Leña (Núñez de Arce); Consuelo (López de Ayala); Bécquer's Legends, Tales, and Poems (edition by Olmstead); Selections from Mesonero Romanos (edition by Northup).

The Department of Romance Languages will be particularly pleased to supply upon request additional information concerning Spanish texts, periodicals, bibliography, foreign study, etc.

### 3. GROUP OF HISTORY, GOVERNMENT, AND ECONOMICS.

One unit from this group is required for admission to the Colleges of Arts, Philosophy, and Sciences and of Fine Arts. A maximum of four units may be accepted from this group towards admission.

#### 1. History.

Each year's work should cover some standard high school text, together with a book of readings and the drawing of maps. The McKinley Outline Topics are recommended as providing excellent material for map work, as well as giving outlines, references, illustrations, and additional source materials for collateral reading. It is advisable that students present their map work and notebooks upon entering the University.

The following texts and source books are indicated as examples of the amount and character of the material for each unit:

**A. Ancient history.**—Botsford: History of the Ancient World (Macmillan); West: The Ancient World (Allyn and Bacon); Wolfson: Essentials of Ancient History (American Book Co.); Davis: Readings in Ancient History (Allyn and Bacon); G. W. and L. S. Botsford: Source Book of Ancient History (Macmillan).

**B. Mediaeval and modern history.**—West: The Modern World (Allyn and Bacon); Harding: Essentials in Mediaeval and Modern History (American Book Co.); Robinson: Readings in European History, abridged edition (Ginn); Ogg: Source Book of Mediaeval History (American Book Co.).

**C. English history.**—Cheyney: Short History of England (Ginn); Andrews: History of England (Allyn and Bacon); Walker: Essentials of English History (American Book Co.); Cheyney: Readings in English History (Ginn); Tuell and Hatch: Selected Readings in English History (Ginn).

**D. American history.**—Muzzey: American History (Ginn); Montgomery: Student's American History (Ginn); James and Sanford: American History (Scribners); Muzzey: Readings in American History (Ginn); James: Readings in American History (Scribners); Hart: Source Book of American History (Macmillan).

If only one year's work is offered in high school, Ancient History is recommended; if two years', Ancient and American; if three years', An-



cient, Mediaeval and Modern, and American; if four, the order should be Ancient, Mediaeval and Modern, English, and American.

## 2. Government and Economics.

**Civics.**—This course must not be confined to the study of the form of our government, but must investigate the functions that it performs and the manner in which it performs them. Only modern texts should be used. Among the best of these are: Beard and Beard: American Citizenship (for first-year courses); Garner: Government in the United States; and Guitteau: Government and Politics in the United States. Students should have access to Macy and Gannaway: Comparative Free Government.

**Economics.**—Acceptable work in this subject necessitates the use of modern texts, such as Johnson: Introduction to Economics; or either of Bullock's texts in Economics. Reference books should be available to the students.

## 4. GROUP OF MATHEMATICS.

One unit of Algebra and one of Plane Geometry are required for entrance except to the College of Engineering where the requirement calls for one and one-half units in Algebra and, in addition, Solid Geometry. A maximum of four units may be offered from the group.

1. **Algebra.**—One unit. Elementary Algebra through simple Quadratics, including the elementary operations of polynomials and fractions, the solution of linear equations, factoring, powers, and roots.

2. **Algebra.**—One and one-half units. Complete elements of algebra, and thorough work in quadratic equations, surds, exponents, and graphs, such as is given in standard textbooks.

3. **Plane geometry.**—One unit. The work in Plane Geometry, in order to be acceptable, must cover a whole year's work in a good text and should include the applications of algebra to geometry and geometry to algebra.

4. **Solid geometry.**—One-half unit. The work, to be acceptable, must cover one-half of a year's work in such texts as that of Wentworth or Wells.

An additional one-half unit in advanced algebra beyond 2, outlined above, and one-half unit in trigonometry will be accepted only upon the approval of the Department of Mathematics.

## 5. GROUP OF SCIENCES.

### A. Laboratory Sciences.

One unit from this group must be offered for admission to the University, and in the case of the College of Engineering, this unit should be Physics. For the present some other science may be substituted for Physics, but when this substitution is made, Physics 1, 2, and 3 must be taken by Freshmen who are registered in this College.

1. **Physics.**—One unit. One year's high school work covering the elements of physical science as presented in the best of the current high school textbooks of physics. Laboratory practice in elementary quantitative experiments should accompany the textbook work. The candidate's laboratory notebook must be presented as part of the requirement.

**2. Chemistry.**—One unit. The instruction must include both textbook and laboratory work. The work should be so arranged that at least one-half of the time shall be given to the laboratory. The course as it is given in the best high schools in one year will satisfy the requirements of the University for the one unit for admission. The laboratory notes, bearing the teacher's endorsement, must be presented as evidence of the actual laboratory work accomplished.

**3. Geology.**—One-half or one unit. The student must show familiarity with the principles of dynamic and structural geology, and some acquaintance with the facts of historical geology as presented in Scott: *Introduction to Geology*; Brigham: *Textbook of Geology*; or an equivalent, with notebook of laboratory and field work. The laboratory and field work should follow one or more of the lines indicated below, and notebooks should be presented showing the character and amount of work done: (a) studies of natural phenomena occurring in the neighborhood, which illustrate the principles of dynamic geology; each study should include a careful drawing of the object and a written description of the way in which it was produced; (b) studies of well-marked types of crystalline, metamorphic, and sedimentary rocks which will enable the student to recognize each type, and state clearly the conditions under which it was formed; (c) studies of minerals of economic value, including the characteristic of each, its origin, and the uses to which it is put; (d) studies of the types of soil occurring in the neighborhood, including the origin of each and the cause of differences in appearance and fertility.

**4. Physical Geography.**—One-half or one unit. The amount and character of the work required may be seen by referring to the texts of Gilbert and Brigham, Davis, Tarr and Martin, etc. The recitations must be supplemented by at least an equal amount of time devoted to laboratory work. The laboratory exercises should follow one or more lines such as are indicated below, and each student should present a notebook showing what he has done: (a) studies in mathematical geography in which map and scale only are used; these should embrace such topics as length of a degree of longitude in various latitudes; length and breadth of continents, etc., in degrees and miles; relative latitudes of places; distances between cities, etc., in degrees and miles; differences in length of parallels and meridians; problems in time; location of time belts, etc.; (b) studies of local topographical features which illustrate the various phases of stream work; each study should include a drawing or topographic map of the object, and a full, clear description of the way in which it was formed; (c) studies of glacial deposits as shown in terminal and ground moraines, kames, eskers, etc.; distribution of dark and light colored soils; occurrences of lakes, ponds, gravel beds, clay banks, and water-bearing strips of sand and gravel; (d) studies of stream work as shown in the topographical sheets which may be obtained from the United States Geological Survey at a nominal cost; (e) studies of the form, size, direction, and rate of movement of high and low barometer areas, and the relation of these to direction of wind, character of cloud, distribution of heat, and amount of moisture in the air, as shown by the daily weather maps; later these studies should lead to the making of weather maps from the data furnished by the daily papers, and to local prediction of weather changes

based on the student's own observation; (f) studies of the climate of various countries compared with that of our own, the necessary data being derived from such topographic, rainfall, wind, current, and temperature maps as are found in Sydow-Wagner's or Longman's atlases.

**5. Botany.**—One-half or one unit. A familiar acquaintance with the general structure of plants, and of the principal organs and their functions, derived to a considerable extent from a study of the objects, is required; also a general knowledge of the main groups of plants; and the ability to recognize the more common species. Laboratory notebooks and herbarium collections should be presented.

**6. Zoology.**—One-half or one unit. The instruction must include laboratory work equivalent to four periods a week for a half-year, besides the time required for textbook and recitation work. Notebooks and drawings must be presented to show the character of work done and the types of animals studied. The drawings are to be made from the objects themselves, not copied from illustrations, and the notes are to be a record of the student's own observations of the animals examined. The amount of equipment and the character of the surroundings must, of course, determine the nature of the work done and the kinds of animals studied; but in any case the student should have at least a fairly accurate knowledge of the external anatomy of each of eight or ten animals distributed among several of the larger divisions of the animal kingdom, and should know something of their life histories and of their more obvious adaptations to environment. It is recommended that special attention be given to such facts as can be gained from a careful study of the living animal. The names of the largest divisions of the animal kingdom, with their most important distinguishing characteristics, and with illustrative examples selected, when practicable, from familiar forms, ought also to be known.

**7. Biology-Physiology.**—One unit. A profitable year's work may be done, consisting of a half-year of Zoology, as described above, and a half-year of Physiology. There should be laboratory work throughout, with carefully kept notebooks which should be presented when this combination course is offered to satisfy the requirement of one unit of laboratory science. The laboratory work in physiology should consist of demonstrations and simple experiments. The compound microscope should be used occasionally, but macroscopic studies are more important. A large place in the course should be left for such practical topics as diet, sanitation, and personal hygiene.

#### **B. Non-Laboratory Sciences.**

Four units are the maximum amount acceptable from groups 5A and 5B combined towards admission to the University. Group 5B consists of any of the subjects in 5A, if taught without laboratory work, and also the following:

**1. General science.**—One-half or one unit. Intended for the first year of high school. Hessler, or Caldwell and Eikenberry is recommended as a textbook.

**2. Astronomy.**—One-half unit. In addition to a knowledge of the descriptive matter in a good textbook, there must be some practical familiarity with the geography of the heavens, with the various celestial mo-

tions, and with the positions of the heavenly bodies conspicuous to the naked eye.

3. **Psychology.**—One-half unit is allowed for the completion of some such textbook as Halleck: *Psychology and Psychic Culture*; or Pillsbury: *Essentials of Psychology*.

#### LIST C.

This list consists of various industrial subjects and Music. A maximum of four units is acceptable from the subjects contained in this list. The amount that is acceptable in each subject of the list is also to be noticed.

##### 1. Agriculture. $\frac{1}{2}$ -2 Units.

The courses under this head may consist of Agronomy, Crops, Horticulture, Irrigation, Animal Husbandry, etc. There should be laboratory work given as a part of each course, and notebooks should be presented.

##### 2. Home Economics (Domestic Art and Science). $\frac{1}{2}$ -3 Units.

(a) An equivalent of 180 hours of prepared work in foods, with at least two recitation periods a week. (b) An equivalent of 180 hours of prepared work in clothing, with at least one recitation period a week. (c) An equivalent of 180 hours of prepared work on the home, with at least two recitation periods a week. (Two periods of laboratory work are considered equivalent to one period of prepared work.) Of the foregoing, (a) will be accepted as a unit's work; or two half units taken from (a) and (b), or (a) and (c), or (b) and (c) will be accepted as a unit's work. The work is to be done by trained teachers, with individual equipment for students.

##### 3. Manual Training and Arts. $\frac{1}{2}$ -2 Units.

1. **Drawing.**—Free-hand or mechanical drawing, or both. Drawing books or plates must be submitted. The number of units allowed depends on the quantity and quality of the work submitted.

2. **Bench, lathe, and forge.**—The number of units allowed depends upon the amount and quality of work done and evidence of the work completed should be submitted.

##### 4. Commercial Subjects. $\frac{1}{2}$ -4 Units.

1. **Bookkeeping.**—One unit. This unit should consist of a working knowledge of both single and double entry bookkeeping for the usual kinds of business. The student should be able to change his books from single to double entry and from individual to proprietorship. At least one set of transactions should be kept by single entry and at least two sets by double entry in which the uses of the ordinary bookkeeping books and commercial papers should be involved. The student should be drilled in the making of profit and loss statements and of balance sheets and should be able to explain the meanings of the items involved in both kinds of instruments. The work should be done under the immediate supervision of a teacher and the student should devote to it at least ten periods of not less than forty minutes full time in class each week for one academic year.

2. **Business law.**—One-half or one unit. The fundamental legal principles governing the business relations of men should be presented in this course by means of simple, concrete examples and problems so far as pos-

sible. While no attempt should be made to present the intricate phases of the subject, the student should not be led to believe that he has mastered the whole of the law as applied. The recommended text for this work is Hufcut: *Essentials of Business Law*.

3. **Commercial arithmetic.**—One-half unit.

4. **Commercial geography.**—One-half or one unit. The amount and character of the work accepted in this subject is indicated by the scope of textbooks such as Adams: *Elementary Commercial Geography*; Brigham: *Commercial Geography*; Macfarlane: *Commercial and Industrial Geography*; Redway: *Commercial Geography*; Robison: *Commercial Geography*; and Trotter: *Geography of Commerce*.

5. **Stenography.**—One-half to two units.

#### 5. Music. $\frac{1}{2}$ -2 Units.

1. **Elements of composition; harmony and structure.**—One-half to one unit. Harmonic series. Intervals. Erection of the three primary triads. Root positions and doubling in major. Formation of scales. Relations of scale constituents to root and their tendencies. Consonance and dissonance. Chord connection in four parts. Harmonizing of melodies. Elements of melodic construction; cadence; phrase and double phrase. Minor mode. Secondary triads and their use. Other sevenths (within the key). Suspension and retardation. Modulation (simple). Anticipation and embellishment.

2. **Instrumentation and vocal technique.**—One-half to one unit. Ability to perform with satisfactory technique and intelligent interpretation one or more numbers in one of the following sections: (a) pianoforte: Bach: *Well-Tempered Clavichord*: *Prelude or Fugue*; 2 and 3 part inventions; Mozart or Beethoven: a sonata; Chopin: study, nocturne, or prelude of moderate difficulty; (b) violin: Bach, Handel, Mozart, Beethoven: a sonata; Rode, Fiorillo: a study of moderate difficulty; Viotti, Spohr: a concerto; (c) orchestral instruments: similar ability to perform on any orchestral instrument; (d) voice: Bach, Mozart, Schubert, Schumann, Brahms, Franz, Wagner: songs; or an aria by an old Italian master.

In order to obtain entrance credit for voice or any instrument, the candidate must submit to an examination, given by the department concerned, on one of the above numbers or a similar one and upon ability to read at sight a piece of moderate difficulty.

### ADMISSION FROM OTHER COLLEGES AND UNIVERSITIES.

Students from other institutions who have pursued standard college courses will be admitted and will receive credit for such courses upon the presentation of proper certificates of creditable standing and honorable dismissal.

Students entering with advanced standing must complete in this University at least 45 hours of work before graduation.

**ADMISSION OF ADULT SPECIAL STUDENTS.**

Students over twenty-one years of age who are not working for a degree may register for courses of their selection without fulfilling the entrance requirements, provided they give evidence of ability to pursue such courses with profit.

**ADMISSION TO THE GRADUATE SCHOOL OF  
ARTS, PHILOSOPHY, AND SCIENCES.**

Students are admitted to the Graduate School of Arts, Philosophy, and Sciences upon the completion of all the scholastic requirements for the Bachelor's degree in this University or some other institution of approved rank.

# FEES, EXPENSES, AND EMPLOYMENT.

## REGISTRATION FEES.

Quarterly registration fee.....	\$2.00
Quarterly student activities fee.....	1.25
Quarterly non-resident fee.....	5.00

## SPECIAL FEES.

Breakage fee.....	\$10.00
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At the time of registration a deposit of ten dollars to cover possible breakage or damage to University property, is required of each student. This sum, or the remainder thereof after deduction for breakage or damage, is returned to the student at the end of the year or at withdrawal.

Late registration fee.....	\$1.00
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All students who present records of past work, register in courses, or pay fees at a later date than the time appointed for these purposes, pay an extra fee of one dollar.

Laboratory fees, per quarter hour.....	\$1.00
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All students who register in laboratory, field, or shop courses pay a fee of one dollar per quarter hour of credit.

## LODGING AND BOARD.

Lodging, per month.....	\$ 4.00
Board, per month.....	16.00
Single meals.....	.25

Quarters for resident students are provided in two dormitories, one for men and one for women. These dormitories are divided into suites, each consisting of two bedrooms and a study. Two students occupy a suite. The rooms are furnished and electric light and steam heat provided, but the students supply their own bedding, towels, etc., and pay their own laundry bills. The men's dormitory is in charge of a Proctor, and the women's dormitory is supervised by a Matron.

Meals are taken in the University Commons, which is a separate building. All regular boarders are required to pay the full monthly rate of sixteen dollars. Day boarders pay twenty-five cents a meal. Fractional parts of a month are charged at single meal rates.

Bills for board and lodging must be paid strictly in advance, on the first of each month. The University authorities have no power to extend credit.

### STUDENT EMPLOYMENT.

Many students earn the whole or a part of their expenses while attending the University. Students are employed on the campus wherever possible, as janitors, waiters in the dining room, helpers in the kitchen, etc. There is also some demand from the homes and business houses of Albuquerque for student help.

The Student Employment Secretary registers without charge all students who apply for employment, and supplies employers with student labor as demanded. The attention of new students who intend to earn the whole or part of their living is called to the following results of past experience:

1. There is always a waiting list for the jobs available on the campus. These jobs are usually assigned a year in advance to the students who have been in residence a year and who have made a good record in their studies and labor.

2. Students who can do any kind of domestic or manual labor *well*, and who have thoroughly good health, can earn their board and room by three hours' work a day. *But no student is advised to come to the University without resources sufficient for the expenses of one quarter.*

3. The University curriculum is adapted to those who have control of their entire time for study. The student who must earn his living, therefore, should expect to enroll for less than the usual amount of University work.

Particular inquiries concerning opportunities for employment should be addressed to the Student Employment Secretary.



# GENERAL REGULATIONS.

## REGISTRATION.

### REGISTRATION OF NEW STUDENTS.

All persons who expect to attend the University for the first time should send to the Dean at their earliest convenience a certified record of their past work. No fee is charged and no obligation whatever is incurred in having the proper authorities pass upon the credentials of prospective students. The University will gladly accredit records of past work no matter how remote are the prospects of attendance. These records must be received by the University before Registration Day.

On the first day of the term or quarter new students shall first pay the matriculation, tuition, and other fees at the office of the Financial Secretary of the University. They shall then furnish the Librarian the data called for by the Information Card blanks, and then consult the registration committee in the Dean's office and under their direction enroll in the courses which they are qualified to pursue.

### REGISTRATION OF OLD STUDENTS BEFORE END OF QUARTER.

Students in residence are required to make out their program of studies for the succeeding quarter before the close of the current quarter and to file the same with the Dean. They are not required, however, to pay their fees for the succeeding quarter until the Registration Day at the opening of that quarter.

### LATE REGISTRATION.

Certification of records of past work, registration in courses, or payment of fees after the time appointed for these purposes, except for reasons approved by the President or Dean, may be effected only after the payment of the late registration fee of one dollar.

### CHANGE OF REGISTRATION.

No student may drop a course or enroll in another after the first week of the quarter without the consent of his major professor or advisor and of the instructor in charge.

### STUDENT ADVISORS.

Each student arranges his program of studies with the advice of some member of the Faculty, whose final approval must be se-

cured on the selection made. The following is a list of student advisors for the current year:

Colleges of Arts, Philosophy, and Sciences and of Engineering:

Freshmen and Sophomores: Committee on Admission and Standing.

Juniors and Seniors: Major Instructor.

Curriculum Preparatory to Law: Professor DOW.

Curriculum Preparatory to Medicine: Professor WEESE.

Graduate School of Arts, Philosophy, and Sciences: Major Instructor.

College of Fine Arts: Assistant Professor PERRIN.

Division of Preparatory Studies: Committee on Admission and Standing.

### CREDIT HOURS.

#### CLASS HOURS AND CREDIT HOURS.

A class hour consists of 53 minutes, and one class hour a week of recitation or lecture throughout a quarter earns a maximum of one credit hour. One class hour of laboratory work, orchestra, chorus, or Physical Training earns a maximum of one-half credit hour. One class hour in Piano or Voice earns a maximum of two credit hours.

#### DEDUCTIONS IN CREDIT HOURS.

Deductions from the maximum number of credit hours that may be earned in a course in one quarter are made for the following delinquencies and in the following ways:

1. Three tardinesses may be counted by the instructor as one absence.

2. Absences due to late registration are counted on the same basis as absences incurred after registration.

3. Absences on the last day before and the first day after a holiday or recess are counted double.

4. When the number of absences exceeds the maximum number of credit hours that may be earned in a course, credit is deducted at the rate of one-tenth of a credit hour for each unexcused absence and for each excused absence where the lost work is not made up.

5. When deductions under the foregoing clause exceed one-fifth of the maximum of credit hours which may be earned in a course, the student is dismissed from the course involved and given a grade of F.

## EXCUSED ABSENCES.

A student may, within two weeks after absences are incurred, offer reasons for absence to the Dean and if these reasons are accepted he is given a permit, in the discretion of the instructor involved, to make up lost work. If the permit is filed with the Registrar before the end of the quarter and bears a statement that the lost work is made up, deduction for such absence will not be made in the record of credit hours.

## MAXIMUM SCHEDULE.

No candidate for a degree may register for more than 16 credit hours, unless his standing for the previous quarter be at least G in all his courses except one, with no grade below M, and then only by presenting a written petition to the Committee on Admission and Standing, who may, in their discretion, grant permission to register for extra work up to a maximum of 18 credit hours.

## MINIMUM SCHEDULE.

No student shall be registered for fewer than 12 hours per quarter except by permission of the President or Dean.

## GRADING AND EXAMINATIONS.

## GRADES.

The grades of students are based upon daily work and upon examinations and are intended to be an indication of the quality of work done. The markings used are S, G, M, W, I, X, and F, standing respectively for Superior, Good, Medium, Weak, Incomplete, Conditioned, and Failed, and represent respectively 96-100, 86-95, 76-85, 71-75, work not completed, 61-70, and below 61. No substitutions may be made for courses in which X or F has been earned whenever these courses are required for graduation. Students receiving I in a course are permitted within the following quarter to complete the unfinished work. When the work has been completed they will receive the grade and amount of credit to which their record is entitled. Students receiving a grade of X in any course are "conditioned" in that course. Such students may receive a passing grade and credit in that course if the condition imposed is removed in a way prescribed by the instructor under whom the condition is incurred. Any condition remaining unremoved at the end of the quarter following its incurrence automatically becomes a failure. Only one opportunity is allowed to remove a condition.

## SPECIAL EXAMINATIONS.

Special examinations, taken at other times than regularly with the class, except entrance examinations or examinations for advanced standing, may be taken only after the payment of a special examination fee of \$2.00 to the Financial Secretary and the issuance by her of a permit for the special examination.

No final examination may be given to a class or to an individual before the time appointed by the Committee on Schedule and Curriculum.

## SUSPENSION FOR DISHONESTY IN EXAMINATIONS.

A student detected in giving or receiving aid in a quiz, test, or examination renders himself liable to suspension or expulsion.

## SUSPENSION FOR LOW GRADES.

Any student who fails to maintain a passing grade in one-half of the schedule for which he has been registered, in the discretion of the Committee on Admission and Standing and of the President may be suspended from the University and debarred from registration until such time as they see fit to readmit him. (See also rule 5 under Deductions in Credit Hours.)

## HONORABLE DISMISSAL.

A student who leaves the University before the close of a quarter without the permission of the President and Dean will not be considered honorably dismissed.

## UNIFORM GRADUATION REQUIREMENTS.

## QUALITY OF WORK.

The number of credit hours required for all diplomas and degrees conferred by the University is based upon average work, which is designated by M. For every 15 credit hours of S work, the amount required for graduation is diminished by one credit hour. For every 30 credit hours of G work, the amount required for graduation is diminished by one credit hour. For every 15 credit hours of W work, the amount required for graduation is increased by one credit hour.

## DEGREE WITH HONORS.

To receive a degree with honors, candidates

1. Must have earned a grade of at least G in all work taken in the major course and in two-thirds of all other work, with no grade below M, and
2. Must receive the affirmative vote of two-thirds of the Faculty of the University.

## PHYSICAL TRAINING.

Physical Training 1, 2, and 3 or 5, 6, and 7 must be taken by all students in all Colleges of the University, in their Freshman year or in the first year of residence in the case of students who enter with advanced standing but without credit in this subject. The attainment of a passing mark in three of these six courses is prerequisite for any baccalaureate degree or undergraduate certificate and the credit hours thus earned may not be applied to the number otherwise required for a degree or certificate.

# COURSES IN THE DEPARTMENTS OF INSTRUCTION

Courses numbered 1-50 are open to Freshmen, 51-100 to none below Sophomore rank, 101-150 to none below Junior rank, 151-200 to none below Senior rank, 201 and above to graduates only.

## ANIMAL BIOLOGY.

ASA ORRIN WEESE, Professor.

**Major course.**—To obtain recognition for a major course in this department the student must present credits in courses 1, 2, 3, and 171 or their equivalent, and Botany 14 or its equivalent; but credits obtained in Animal Biology 1, 2, 3, and 26, and Botany 14 shall not be counted towards fulfilling the requirement as to the number of hours to be taken in the major course, except that, at the discretion of the head of the department, credits in excess of 12 hours gained in these courses may be so counted.

**Minor study.**—For a minor the student must present 16 hours, including course 1.

**Equipment.**—The department of Animal Biology is temporarily located in quarters in the new Chemistry Building, the rooms including a large general laboratory 24 by 60 feet, a lecture room 24 by 50 feet, office, stock room, etc. The general laboratory is so equipped that different sections of the room may be used at the same time by various classes. The laboratory is well equipped for the courses offered, the apparatus including an adequate supply of microscopes, with such accessories as mechanical stages, micrometers, camera lucida, ultra-microscopic attachments, microtomes, paraffin baths, microphotographic camera, etc. There is a large collection of illustrative models and charts for use in the laboratory and the lecture room. In the lecture room is a Bausch and Lomb balopticon equipped for the projection of transparencies, opaque objects, and microscopic slides.

### Primarily for Undergraduates.

**1, 2, 3. Zoology.**—A comparative study of the principles of structure, physiology, ecology, and development of animals. The laboratory work consists essentially of a detailed examination of one or more types in each phylum and a more superficial study of closely related organisms. A study of typical metazoan tissues is included. In the field, a beginning of the study of typical animal communities is made. Laboratory and field work, 2h. 4 hours, autumn, winter, spring, and summer quarters.

**26. Elementary physiology.**—A general survey of the work of the human body as a whole, with the relations and activities of its individual organs and systems of organs. The chemistry of the body processes. Prerequisites: 1 and Chemistry 1-2. Laboratory work, 1h. 4 hours, winter and summer quarters.

**51, 52, 53. Histology.**—The minute structure of the animal as an organism built up of tissues combined into organs. Practice in general methods of micro-technique and the use of apparatus. Prerequisites: 1, 2, and 3 or their equivalent. Laboratory work, 3h. 5 hours, autumn, winter, and spring quarters.

**54. Histological technique.**—Practical work in the preparation of histological and embryological material. May be taken in connection with courses 52 and 53. 3 hours.

**55. General embryology.**—The development of the individual treated from its broadly biological standpoint. The main facts of development are considered in the laboratory. Prerequisites: 1, 2, and 3 or their equivalent. Laboratory work, 3h. 5 hours.

**56. Vertebrate embryology.**—A continuation of course 55 in which special attention is given to the embryology of the chick. Practical work in the preparation of material for study. Reconstruction methods, etc. Laboratory work, 3h. 5 hours.

**64. Comparative anatomy.**—The detailed study of the anatomy of some mammal, e. g., the cat; the study of the brain of the sheep; and the comparative study of other animals, including man. Prerequisites: 1, 2, and 3 or their equivalent. Laboratory work, 3h. (Not given in 1919.) 5 hours.

**71. Entomology.**—The structure, physiology, development, and economic relations of insects. A discussion of the principles of taxonomy and their application to the classification of insects. Prerequisites: 1, 2, and 3 or their equivalent. Laboratory work, 3h. 5 hours.

**74. Hygiene and sanitation.**—This course includes personal, domestic, and public hygiene and sanitation; causes and dissemination of diseases; prevention of infectious diseases. 2 hours.

**85, 86, 87. Ecology.**—A study of the factors which make up the home of the organism. Response of the organism to its environment. Regional relations of animal life. Prerequisites: 1 and 2, or their equivalent. Laboratory and field work, 3 h. 5 hours, autumn, spring, and summer quarters.

#### For Advanced Undergraduates and Graduates.

**101. General physiology.**—The physical, structural, and functional features of living substance; the cell; present conditions and expressions of life; and the theories of the origin of life. The organism as a whole in relation to its surroundings. Prerequisites: 1, 2, and 3, and two other courses in the department. 3 hours.

**104. Animal behavior.**—The tropisms, instincts, and intelligence of animals, and the general evolution of the animal mind. Laboratory work, 1 or 2h. 3 or 5 hours.

**120. Organic evolution.**—The history of the evolution idea, modern theories, experimental evolution, practical aspects, present-day problems in genetics. Lectures and assigned reading. Much attention will be paid to the reading and discussion of current literature pertaining to the subject matter of the course. Prerequisites: four courses in the department. 3 hours, spring quarter.

**171, 172, 173. Advanced work** along the lines indicated by the above introductory courses may be elected by students having proper prepara-

tion. Problems. Semi-independent work. Details must be arranged in consultation with the professor in charge.

## BOTANY.

ASA ORRIN WEESE, Professor.

**Major course.**—No major course is at present offered in this department. For the requirements for a major course in Biology, see Animal Biology.

**Minor study.**—For a minor, the requirement is 16 hours in Biology, of which at least 12 must be in Botany.

**Equipment.**—For a description of apparatus and laboratories see Animal Biology. The equipment for bacteriology includes complete apparatus for individual laboratory work, oil immersion lenses, autoclaves and other sterilizers, incubators, and apparatus for dark ground illumination.

### Primarily for Undergraduates.

**14, 15. Botany.**—A study of the evolution of the plant kingdom and the underlying principles of plant life. Type studies of representatives of the principal plant groups. The life processes in the individual plant. Laboratory work, 2h. 4 hours, autumn and winter quarters.

**19. Plant identification.**—A laboratory and field course in the identification and recognition of common flowering plants of New Mexico. While this is not a formal course in taxonomy, the general principles of plant classification will be considered. The manuals of Wooten and Standley, Coulter and Nelson, and Clements will be used. Laboratory and field work, 2h. 2 or 3 hours, spring quarter.

**91. Bacteriology.**—Morphology, culture, and physiology of micro-organisms. Microbiology of air, water, and special industries. Plant and animal diseases and their control. Household bacteriology. Prerequisite: Chemistry 1. Laboratory work, 1 h. 4 hours, spring quarter.

## CHEMISTRY.

JOHN D. CLARK, Professor.

**Major course.**—For a major course in this department the student must present credits in courses 1, 2, 51, and 52 or their equivalent, but courses 1, 2, and 51 shall not be counted towards fulfilling the requirements as to the number of hours taken in the major subject, except that, in the discretion of the professor in charge of the department, credits in excess of eight hours gained in these courses may be so counted.

**Minor study.**—For a minor the student must present credits in courses 1, 2, 51, and 52.

**Equipment.**—The department of Chemistry is housed in the new Chemistry Building which was completed last year. The building is thoroughly fireproof and strictly modern. It is equipped for accommodating two hundred students. A large freshman laboratory, a laboratory for qualitative analysis, and a quantitative and organic laboratory occupy the larger portion of the building. A small special laboratory, a chemistry library, a balance room, offices, stock rooms, lavatories, locker rooms, and an apparatus room, together with a large lecture hall, make up the total space



devoted to chemistry within the building. Within the patio of the building are to be found work benches equipped with gas and water, so that students may do much of the ill-smelling laboratory work in the open air. Modern, fan-ventilated hoods serve to keep the indoor laboratories free from disagreeable odors. The laboratories are well equipped with the usual apparatus needed in the study of chemistry in its various branches. Apparatus for research is added as needed.

#### Primarily for Undergraduates.

1. **Inorganic chemistry.**—Lectures and recitations on general and theoretical chemistry, illustrated by demonstrations, charts, lantern slides, specimens, etc. Solution of chemical problems is required. Laboratory, 2 periods a week. 6 hours.

2. **Inorganic chemistry.**—Course 2 is a continuation of 1, but the time will be spent mainly on the metallic elements, their metallurgy, salts, etc. Prerequisite: 1. Laboratory, 3 periods a week. 6 hours.

51. **Qualitative analysis.**—Laboratory practice with occasional lectures. The student is expected to become proficient in the separation and detection of the common acids and bases, and to keep a full set of notes. Frequent quizzes are given. These dwell upon the theory of the work. Prerequisites: 1 and 2. 6 hours.

52. **Quantitative analysis.**—This course gives practice in the greatest variety of manipulation. Types of the important methods are taken up. Analyses of ores, metals, slags, alloys, fuels, soils, fertilizers, dairy products, food stuffs, waters, urine, poisons, drugs, gases, and oils are taken. The needs of the individual student will be considered in the work. Prerequisite: 51. Laboratory, 5 h. 5 hours.

101, 102. **Quantitative analysis.**—Continuation of 52. Laboratory, 5h. 5 hours each.

61. **Organic chemistry.**—Lectures and recitations. A study of the chemistry of the carbon compounds. Laboratory work taken in course 62. Prerequisites: 1, 2, and 51. (Given in alternate years.) 4 hours.

62. **Organic chemical laboratory.**—This course consists mainly of laboratory practice in preparing and purifying organic compounds and a study of qualitative organic reactions and analyses. Prerequisite: 61. Laboratory work, 4h. (Given in alternate years.) 4 hours.

112. **Industrial chemistry.**—This course consists of lectures on chemical manufactures such as sugar, sodium carbonate, fertilizers, sulfuric acid, glass, matches, paints, dyes, illuminating gases, petroleum, etc. The lectures will be illustrated by lantern slides and charts. Prerequisites: 1, 2, and 51. (Given in alternate years.) 3 hours.

113. **Metallurgy.**—This course consists of lectures describing the processes employed in the smelting of iron, lead, copper, zinc, silver, gold, etc. Prerequisites: 1, 2, and 51. (Given in alternate years.) 3 hours.

#### For Advanced Undergraduates and Graduates.

110, 111. **Physical chemistry.**—This work consists of advanced study of chemistry theory. As far as possible, lectures cover the whole field of physical chemistry. Students are required to do a great deal of supplemental reading in works of the best authors in the different branches

of physical chemistry. Prerequisites: 1, 2, 51, and 52. (Given in alternate years.) 4 hours each.

**121. Biological chemistry.**—Chemical constituents of the body tissues and food substances. The chemistry of metabolic processes. Qualitative and quantitative work on gastric juice, blood, urine, and milk; clinical aspects. Prerequisites: 51, 52, 61, and 62. (Given by special arrangement.) Hours as arranged.

**131. Geological chemistry.**—This course is intended primarily for major students of geology. The work of the course covers the main features of the chemistry of the atmosphere, hydrosphere, and lithosphere, and especially those processes involved in the formation, alteration, and decay of minerals and rocks. Prerequisites: Geology 1, 2, 3, and 4, and Chemistry 111. (Given in alternate years.) 3 hours.

**141, 142. Advanced work for individual students.**

## CIVIL ENGINEERING.

### For Advanced Undergraduates.

**51, 52. Elementary surveying.**—The theory, use, and adjustment of the compass, level, and transit. Field work; the determination of distances with chain and tape; the determination of areas with the transit, plane table, and compass; profile and differential leveling; city and farm surveying; practical problems. Prerequisites: Practical Mechanics 11; Mathematics 11 (or 3) and 12. 5 hours each.

**53. Topographical surveying.**—The theory and use of the plane table, stadia, and other instruments used in making a topographical survey. The plotting of field notes for making a complete topographic map. Prerequisites: 51 and 52. 3 hours.

**54. Railway curves.**—An introductory course in the computation and field location of simple and compound curves as applied to railroad work. Prerequisites: 51 and 52. 2 hours.

**101, 102. Railroad surveying.**—The principles of economic location and the construction of railways. The theory of field and office work necessary to survey and construct a railway line. Preliminary and location survey of a line of railroad, in which the student makes a complete set of notes, maps, profiles, and estimates. Prerequisites: 51, 52, 53, and 54. 4 hours each.

**105, 106. Analytical mechanics.**—The mechanics of engineering problems; fundamental concepts; statics; kinematics; kinetics; work and energy; impulse and momentum. Prerequisites: Mathematics 51 and 52. 5 and 3 hours.

**108, 109. Mechanics of materials.**—The mechanics of materials and problems in engineering construction. Theory of beams, columns, and shafts. The study of requirements for structural materials. Prerequisites: 105, 106, and Mathematics 51. 2 and 5 hours.

**110. Hydraulics.**—The elementary principles and theory of the mechanics of fluids; pressure and flow of water through orifices, channels, weirs, turbines, and water wheels. Prerequisites: 105, 106, and Mathematics 51. 5 hours.

**112. Graphic statics.**—Elements of graphic statics; determination of stresses in bridge and roof trusses. Solution of practical problems. Prerequisites: 105 and 106. 5 hours.

**130. Road engineering.**—Construction of earth, gravel, concrete, and bituminous macadam roads. Methods of construction, cost, and durability of roads. Street pavements; grades, kinds, and costs of pavements, maintenance and cleaning. Prerequisites: 51, 52, 53, and 54. 5 hours.

**151. Masonry construction.**—The study of the nature of stone, brick, lime, cement, sand, gravel, and concrete as applied to engineering. The theory of masonry structures; foundations, culverts, retaining walls, and arches. Prerequisites: 105, 106, and 112. 5 hours. (Not given in 1919.)

**152. Reinforced concrete.**—The principles of reinforced concrete beams, slabs, columns, retaining walls, dams, arches, and other masonry structures. The design of reinforced concrete structures. Prerequisites: 105, 106, 108, 109, and 151. 5 hours. (Not given in 1919.)

**155. Bridge analysis and detail.**—Computation of stresses in various forms of bridge trusses. Investigation of a bridge from a detailed shop drawing; standard details for bridges; estimate of cost. Prerequisites: 105, 106, 108, 109, and 112. 6 hours. (Not given in 1919.)

**156, 157. Bridge design.**—The design of a railroad plate girder and truss span; sections and details drawn, and a complete set of drawings. Prerequisite: 155. 4 hours. (Not given in 1919.)

**158. Metal structures.**—The design and calculation of stresses in mill and steel-skeleton buildings; standard details. Complete design of a mill building. Prerequisite: 112. 3 hours. (Not given in 1919.)

**171. Water supply.**—Source of supply; hydraulics of wells; stream flow; reservoirs, conduits, and pipe lines; pumps and pumping machinery; stand-pipes and elevated tanks; water supply systems. Prerequisite: 110. 5 hours.

**172. Sewerage.**—The design and methods of construction of sewerage systems; surveys and general plans; hydraulics of sewers; house sewerage and its removal; sanitary necessity of sewers; sewage disposal; estimate and specifications. Complete design and estimate of a small system. Prerequisite: 110. 5 hours. (Not given in 1919.)

**190. Seminar.**—Reading and discussion of important articles on engineering topics. Prerequisite: senior standing in Civil Engineering. 3 hours. (Not given in 1919.)

## ECONOMICS AND BUSINESS ADMINISTRATION.

RUSSELL M. HOWARD, Acting Professor.

GROVE SAMUEL DOW, Professor.

**Major course.**—A major course in this department must include courses 11, 61, and 62, Government 71, and Psychology 51 and 52. Other work in related departments may be included.

**Minor study.**—A minor study must include 11, 61, 62, and one other course in the department.

**Primarily for Undergraduates.**

**1. Introduction to accounting.**—Offers the student without adequate high school training in bookkeeping an opportunity to acquire a thorough

knowledge of the principles of double entry bookkeeping preparatory to the study of advanced accounting. The student receives training in the preparation and use of journals, ledger accounts, trial balances, and simple financial statements. 5 hours, autumn quarter.

**2. Principles of accounting.**—The fundamental principles of accounting and their application to modern business. The subject matter includes changing from single to double entry, partnership and corporation accounting with a careful consideration of the special problems connected therewith, points involved in closing books, financial statements, depreciation reserves, sinking funds, etc. Prerequisite: 1 or equivalent. 5 hours, spring and winter quarters.

**3. Advanced principles of accounting.**—The subject matter of this course includes statement of affairs, realization and liquidation accounts, trustee and executors' accounts, statements of application of funds, adjustment of partners' accounts, capital vs. revenue, advanced forms of balance sheets and income statements, and auditing. Prerequisite: 2. 5 hours, spring and summer quarters.

**11. Industrial evolution.**—This course traces the historical development of industry and the great social institutions connected therewith with a view to affording the student an historical background for the study of modern economic and social problems. The economic history of Europe, primarily that of England, is followed by the economic history of the United States. A desirable prerequisite to 61. 5 hours, summer quarter.

**61-62. Principles of economics.**—The aim of this course is to give a general introduction to the study of economics, preparing the student for advanced courses, and to give the student who can take but one course in Economics a general survey of the field. Text: Taussig, Principles of Economics, vol. I the first quarter and vol. II the second. 5 hours, winter and spring quarters.

**63. Transportation.**—A study of railway construction, finance, operation, rate making, and valuation. Particular attention is paid to rate making and the problem of government control or ownership. 5 hours, summer quarter.

**71. Business organization and management.**—The organization and management of a business, coordination of men and departments, delegation of authority, establishment of standards, maintenance of discipline and fixing of responsibility, rewards and punishment, business policies, etc., make up the subject matter of this course. 5 hours, autumn quarter.

#### For Advanced Undergraduates and Graduates.

**101. Factory cost accounting.**—This course considers the accounting problems and systems of accounts incident to the purchase and receipt of raw materials and their manufacture into finished products. Careful consideration is given to the various systems of distribution and allocation of factory, selling, and administrative expenses, the keeping of perpetual inventories, and the recording and paying of wages under the several piece work, profit sharing, and bonus systems of wage payment. Prerequisite: 2. 5 hours, autumn quarter. (Given in alternate years.)

**102. Auditing theory and practice.**—Primarily for students who expect to enter the accounting profession. The special problems and methods of procedure in the audit of corporations, municipalities, public institutions, banks, public utilities, etc., form the subject matter of the course. Special consideration is given the auditor's report and income tax statements. Prerequisite: 3. 5 hours, winter quarter. (Given in alternate years.)

**103. Accounting problems.**—The object of this course is to prepare students for C. P. A. examinations. Problems and questions taken from examinations given by C. P. A. examining boards are discussed and solved. Practical accounting problems and the analysis of balance sheets and income statements also receive attention. Prerequisites: 3 and 102. 5 hours, spring quarter. (Given in alternate years. Not given in 1919.)

**111. Insurance.**—The first part of this course takes up the nature, uses, forms, and science, the organization, management, and supervision of legal reserve companies, and the important legal phases of life insurance. The second part deals with the various kinds of property insurance, including fire, marine, surety, title, and credit insurance. 5 hours, summer quarter.

**113. Labor problems.**—The historical development of the wage earning class, the problems of woman and child labor, sweating, and immigration, the history of trade unions, their aims, methods, and organization, and the means of preventing and settling disputes between capital and labor form the subject matter of the course. Prerequisites: 61 and 62. 5 hours, summer quarter. (Given in alternate years. Not given in 1919.)

**121-122. Business law.**—This course deals with the common and statutory law governing the fundamental business relationships, such as contracts, agency, sales, debtor and creditor, partnerships, corporations, bankruptcy, negotiable instruments, insurance, etc. 5 hours, winter and spring quarters.

**131. Advertising and selling.**—The aim of the first part of this course is to teach the student the fundamental principles underlying successful advertising. In the second part the problems of selling are considered in their fundamental aspects. Application of these fundamentals is made to particular businesses, especially retailing. Buying is also considered. Prerequisites: Psychology 51-52 desirable though not required. 5 hours, autumn quarter.

**161. Public finance.**—This course deals with the history and methods of raising public funds, uniformity, justice, and reform in taxation, theories, classification, and direction of public expenditures, the nature, forms, and growth of the public debt and the problems created thereby, with special reference to the great national debts created by the World War. Prerequisites: 61 and 62. 5 hours, autumn quarter. (Given in alternate years. Not given in 1919.)

**163. Corporation finance.**—The salient points of the corporate organization of modern business, its legal organization, the classification of the instruments of finance, the promotion, underwriting, capitalization, and manipulation of corporate enterprises, methods of dealing with earnings, expenses, and surplus, insolvency, receiverships, reorganizations,

and regulation of corporate affairs are the main topics considered in this course. Prerequisites: 61 and 62. 5 hours, winter quarter. (Given in alternate years. Not given in 1920.)

**165. Money and banking.**—The first part of this course includes a brief discussion of the history and principles of money, the monetary system of the United States, the theory of the value of money, and index numbers. The second part takes up the history of banking in the United States, the functions of banks and bank credit, foreign exchange and gold movements, foreign banking systems and the banking system of the United States with special emphasis on the Federal Reserve System. Prerequisites: 61 and 62. 5 hours, spring quarter. (Given in alternate years. Not given in 1920.)

**168. Foreign trade and exchange.**—The methods of locating and developing foreign markets, the relationship of the prejudices, customs, habits, and social and economic conditions of peoples to the nature of their demand for foreign goods, the problems of transport, packing, and delivery of goods to foreign markets, and international credit and exchange form the subject matter of this course. Prerequisites: 61 and 62. 5 hours, summer quarter. (Given in alternate years. Not given in 1920.)

## EDUCATION.

CHARLES E. HODGIN, Professor.

**Major course.**—The department does not offer a major course in Education at the present time.

**Minor study.**—A student electing Education as a minor will be expected to complete 16 hours from the courses offered.

**Professional high school teacher's certificate.**—Courses 1, 2, and 51 are intended to meet the requirement in Education for the professional high school teacher's certificate.

**1. History of education.**—Relation of education to the civilization of any people and its effect upon national ideals. Significance of primitive education. Survey of education in the Orient. Development of educational ideals in the ancient classical nations, and in Europe from the beginning of Christian education to the present. Comparison of present educational systems of leading European countries. Study of educational theorists and leaders. Special reference texts:—Duggan: *A Student's Text-Book in the History of Education*; Graves: *A Student's History of Education*; Monroe: *Brief Course in the History of Education*; and Painter: *History of Education*. 5 hours, autumn quarter.

**2. Education in America.**—European influences which shaped early educational practices in the Colonies. Comparison of industrial and social conditions of different colonies in determining the differences in the development of their educational systems. Education during revolutionary and reorganization periods. Development and influence of academies and high schools. Study of leading American educators, higher educational institutions, junior colleges, state systems, extension work, school surveys, the Montessori and other modern systems, education of women, and professional education. Special texts:—Dexter: *History of Education in the United States*; and Brown: *Making of Our Middle Schools*. 5 hours, winter quarter.

**9. Study of spoken language.**—The subject is viewed under the following topics: vocal physiology as the basis for voice production; mechanism of muscles and cartilages of the voice box; the three principles upon which the various musical instruments are constructed, all involved in voice mechanism; organs of speech and of voice differentiated; the auditory mechanism; phonology and phonotypy; analysis and classification of vocal elements; vowel and consonant notation; comparison of different dictionary systems of notation; imperfections of English orthography; noted attempts at perfect phonetic representations; orthoepic elements—syllabication, accentuation, and articulation; vowels and consonants in unaccented syllables; value of vowel sounds; power of consonant combinations; principles of pronunciation; enunciation distinguished from articulation; exercises in pronunciation; special dictionary study; orthographic and phonetic spelling compared; origin of the phonic system; function of silent letters; physiognomy of words; comparison of number of words used in individual vocabularies; standards of pronunciation; attempts at simplified spelling; etymological significance of specially selected words; abnormal forms of vocality; discovery and significance of inflection in expression; use of inflection in the question; exercises in expression; onomatopoeia; theories of the origin of speech and language; difference of the speaking and singing tones; significance of sounds in the expression of emotions; special consideration of rhythm in human speech and animal utterances; a study of rhythm in prose and a visual system of its representation; the employment of gesture. This course is designed to be helpful, not only to the student himself, but in teaching also. Texts:—Hodgin: *Study of Spoken Language*; and other texts. 3 hours, autumn quarter.

**15. New Mexico school law.**—Early educational conditions and school laws in New Mexico as a territory. The change of education with statehood. The present school laws. The modern school system: its organization, the county unit, rural schools and high schools, city graded schools and high schools, state educational institutions. Reading circle and library movement. Early work of the denominational schools in New Mexico as a foundation for the building of the public school system. History and influence of the New Mexico Educational Association. References:—Hodgin: *The Early School Laws of New Mexico*; State compilation of present school laws; and various histories of New Mexico. 2 hours, spring quarter.

**21. Educational classics.**—A study of some of the best educational classics chosen from the writings of great philosophers and educators of ancient and modern times. 2 hours, autumn quarter.

**51. Principles of education.**—Emphasis upon secondary education and its place in the school system. Distinction of elementary and secondary education. Consideration of education as physiological, sociological, and psychological adjustment. Nature and educational possibilities of human beings, as compared with sub-human or animal life. Educational aims, values, and general methods. Adjustment of individual to institutional life. Aspects of social and athletic activities in secondary schools. Discipline through group control. Some special high school problems. Vocational and industrial education. Consideration of some special principles, such as analysis and synthesis, induction and deduction, concen-

tration, educational value of apperception, doctrines of interest and formal discipline, means of motivation of school work, and the "culture epochs" theory. Reference texts:—Klapper: *Principles of Educational Practice*; Monroe: *Principles of Secondary Education*; De Garmo: *Principles of Secondary Education*. 5 hours, spring quarter.

**64. Current educational problems.**—Designed to acquaint students with current educational thought as appearing in leading journals, periodicals, bulletins, surveys, and reports. Discussion of modern ideas and tendencies in education, and current problems. The changed conception of the function of the school. Recent tendencies in correlation of home work with that of the school. The closer relation of high schools with business concerns. Socializing school centers. The modern playground movement. Rural school development. Open air schools. Medical inspection and modern hygienic instruction. Vocational education and guidance. Work of the United States Bureau of Education. Assigned readings and discussions. 2 hours, winter quarter.

**65. School administration.**—The fundamental laws that underlie the organization of the school. The different factors to be held in unity. American ideals back of school systems. Adapting courses of study to social needs. The school as a community center. Changed conceptions of the function of the school and reforms in its organization and administration. Health supervision and medical inspection. Management of social activities. Causes of retardation and elimination. Compulsory education. Coeducation and segregation. College entrance requirements. Electives in high school. Examinations. Promotions. The junior high school. Six and six plan. Duties and opportunities of high school teachers, and means for their improvement in the service. Concrete problems of the high school with reference to management, discipline, equipment, library, and buildings. School economy. Artificial and natural incentives in class room activities. Special reference texts:—Holmes: *School Organization and the Individual Child*; Cubberly: *Public School Administration*; Dutton: *School Management*; Dutton and Snedden: *Administration of Public Education in the United States*. 3 hours, spring quarter.

**71. Moral education.**—Beginnings of morality as seen in the life of primitive man. Survey of the field of ethics. Origin and function of conscience and its relation to judgment. The problem of evil in the world. Meaning of natural evil. The problem of moral education and its agencies. Training the will to function in moral life. Study of instincts, impulses, motives. Necessity of instruction in morality. Value of right thinking. Power of suggestion. Distinction between moral and religious obligations. The rationality of moral living. Hedonism and the place of happiness in life. Authority and obedience. Conflict of duties. The school as an aid to the development of character, and character as the ultimate aim of the school. Co-operation of the home and the school. Development of ethical judgment through ethical choice in school and home activities. Moral influence of natural and artificial incentives to school work. Rewards and punishments. Moral problems arising in school activities—social and athletic. Value of the curriculum in stimulating moral life. Problems of daily life—duties to self and to



others. Certainty of the action of the moral law. Our ethical obligations to sub-human or animal life. Lectures, general and assigned readings, reports, and discussion. 3 hours, winter quarter.

## ELECTRICAL ENGINEERING.

LAWRENCE EDWARD McCARTY, Acting Professor.

**Equipment.**—The laboratory has five motor generator sets: two with constant speed induction motors, driving direct current generators; one with variable speed induction motor, driving direct current generator; one with variable speed direct current motor, driving alternating current generator; and one with direct current motor, driving direct current generator. There are three transformers of three kilowatts capacity each, a welding transformer, and several low voltage transformers. Four motor starters of different designs and seven generator rheostats are provided. There are twenty-five electrical measuring instruments, direct and alternating current voltmeters, ammeters, wattmeters, watthour meters, a powerfactor meter, and two frequency meters of various ranges, all of the latest design. In order that all of this equipment may be used to the best advantage, a specially wired testing table is provided, with six separate circuits containing nineteen switches, twenty-six fuses, rheostat shelves, and numerous places for meter connections. Tapered plugs are used to insert into tapered sockets on the testing table and various motor boards. This system reduces the task of connecting apparatus for experiments and makes the laboratory one of the most convenient to be found anywhere.

### For Advanced Undergraduates.

**62. Water power engineering.**—Rainfall, stream flow, dams, storage basins, water wheels, and auxiliary equipment. Prerequisite: Civil Engineering 110. 3 hours, winter quarter.

**101. Elements of electrical engineering: direct currents.**—A study of electric and magnetic circuits and their application to direct current machinery. The work is supplemented by the solution of practical problems and laboratory tests. Prerequisite: Physics 53. 5 hours, autumn quarter.

**102. Elements of electrical engineering: alternating currents.**—A study of simple alternating current circuits and the characteristics of alternating current machinery. The work is supplemented by the solution of elementary problems and laboratory tests. Prerequisites: 101 and Mathematics 53. 5 hours, winter quarter.

**131. Electrical measurements and meters.**—A laboratory course treating of the measurements of various electrical quantities, together with methods of checking and calibrating the instruments and meters used in Electrical Engineering. Prerequisites: Physics 51 and 52. 5 hours, autumn quarter. (Given in alternate years.)

**151. Direct current circuits and magnetism.**—Intended to supplement course 101 for Electrical Engineering students. Calculation of the voltage at various points in a complex system of conductors, generators, motors, and storage batteries. Calculation of the resistance of various shaped conductors, and the magnetic field about various shaped circuits. Division of load between direct current motors and generators running in parallel

or series. Laboratory tests and experiments. Prerequisites: 101 and Mathematics 53. 5 hours, autumn quarter. (Given in alternate years. Not given in 1919.)

**152. Alternating current theory and practice.**—Same as Physics 111. 5 hours, winter quarter.

**191, 192, 193. Seminar.**—Assigned readings and reports. Discussion of current articles in the technical journals. Prerequisites: 101, 102. 2 hours, autumn, winter, and spring quarters.

## ENGLISH LANGUAGE AND RHETORIC.

PROCTOR FENN SHERWIN, Professor.

**Group requirements.**—All candidates for first degrees must complete in their first two years 10 hours in courses in composition, including course 1, which must be taken in the first year. Students in the College of Arts, Philosophy, and Sciences must also elect in their first two years 10 additional hours from courses open to them in English Language and Rhetoric or in English Literature.

**Major course.**—In addition to 1, which may not be counted towards a major course, the latter must include a minimum of 24 additional hours in this department and 12 hours in English Literature. A maximum of 12 hours elected from suitable courses in any of the following will be accepted: History, Philosophy, Theory of Music, or advanced courses in any of the foreign languages and literatures. The continuous study of at least one other language and literature is especially recommended. The student is advised to elect one or more courses in Psychology as a desirable basis for advanced work in oral or written composition.

**Minor study.**—In addition to 1, which may not be counted towards a minor study, the latter consists of a minimum of 16 hours elected within the department and under its approval.

**Restrictions.**—1 is prerequisite to all courses in the department numbered above 50. Without the approval of the department no student may elect in any one quarter more than one course in composition, i. e. of courses 54-68. Ordinarily not more than one course in each of the following groups will be offered in any one quarter: 54-59, 61-68, 91-137.

**Speaking and writing for other departments and for student organizations.**—The courses in composition are intended to be sufficiently flexible to permit the giving of credit for a satisfactory amount and quality of work done for other departments or for student organizations. Such work must be performed under the supervision of this department or, in the case of other departments, under the joint supervision of the departments concerned.

### Primarily for Undergraduates.

**1. Rhetoric and English composition, oral and written.**—Lectures, recitations, oral and written exercises, conferences. Thorough review of English grammar. Oral and written practice of exposition. Collateral reading of expository prose. Training in the use of words, sentences, paragraphs, and whole compositions. Prescribed for Freshmen. 6 hours, repeated each quarter.

**12. English grammar review (for teachers).**—5 hours, summer quarter.

**51, 52, 53. Oral reading.**—Instruction and practice in the vocal interpretation of literary prose and poetry, including drama. Designed primarily for students who intend to teach English, or who are interested in practical dramatics and public reading. 2 hours, autumn, winter, and spring quarters.

**54, 55, 56, 57. Occasional, expository, and argumentative speaking.**—Study, with oral and written practice, of such forms as the speech for a cause, the eulogy, the commemorative address, the dedication, the toast and the after-dinner speech, speeches of presentation and acceptance, of welcome and farewell, the nomination speech, the inaugural address, the political speech. Practice in the presentation of original lectures, reports, and other expositions, and of informal arguments. Prerequisite: 1. 1-6 hours, winter quarter.

**58, 59. Debating and parliamentary law.**—Practice in writing briefs and arguments and in their use in public debate, and instruction in the conduct of parliamentary assemblies, writing minutes, reports, resolutions, etc. Prerequisite: 1. 1-6 hours, winter quarter.

**61, 62, 63. Expository writing.**—Practice in writing expository articles, personal essays, and news reports, with some attention to book reviewing. Designed both for students interested in writing magazine essays and newspaper articles and reports and for students [redacted] papers or theses in other departments. Prerequisite: 1. 1-6 hours, autumn and spring quarters. (Not given in 1919.)

**64. Informal argumentative writing.**—Practice in writing editorials, sales letters, advertisements, and similar informal arguments. Prerequisite: 1. 1-6 hours, spring quarter.

**67, 68. Descriptive and narrative writing.**—Practice in writing brief descriptions and narratives, and the short-story. Prerequisite: 1. 1-6 hours, autumn quarter.

#### **For Advanced Undergraduates and Graduates.**

**91. Elementary Old English.**—Elementary grammar, and reading of some of the prose in Bright's Anglo-Saxon Reader. 4 or 5 hours, autumn quarter.

**94. Chaucer.**—An introductory course with extensive reading in the narrative poems. 4 or 5 hours, winter quarter.

**99. Introduction to medieval English literature, c. 700-1557.**—Lectures, textbook, and selected readings, largely in translation. (Exclusive of Chaucer.) 4 or 5 hours, spring quarter.

**101. Principles and practice of literary criticism.**—Study and discussion of the principles of literary criticism, with some practice. Designed particularly for students who are doing major work in English literature. 3-6 hours, autumn and summer quarters.

**102, 103. History of rhetoric and literary criticism.**—Lectures and readings on the development of the principles and practice of rhetoric and literary criticism from Aristotle to the Renaissance, and from the Renaissance to the present day. Term papers. 4 or 5 hours, winter and spring quarters.

**131. Literary essay.**—Reading and study of the literary essay in English from Montaigne and Bacon to the present day. Term papers. 4 or 5 hours, autumn quarter.

**134. British and American orations.**—Reading and study of the chief orations of great British and American orators. Term papers. 4 or 5 hours, winter quarter.

**137. Short-story.**—Historical and critical study of the short-story from Poe and Mérimée to Kipling, with some consideration of ancient, mediæval, and Renaissance antetypes. Term papers. 4 or 5 hours, spring quarter.

## ENGLISH LITERATURE.

ETHEL HICKEY, Professor.

**Group requirements.**—Students in the College of Arts, Philosophy, and Sciences must elect in their first two years, besides 10 hours in courses in composition, 10 additional hours from courses open to them in English Literature or in English Language and Rhetoric.

**Major course.**—Students taking a major course in English Literature must complete courses 71, 72, 73, 74, 75, 76, and at least 15 other hours in the department. A minimum of 10 hours in English Language and Rhetoric, exclusive of course 1, is also required. Courses 101-103 are especially recommended.

**Minor.**—A minor in the department of English Literature consists of a minimum of 16 hours, exclusive of course 41.

### Primarily for Undergraduates.

**41, 42. Introduction to English literature.**—A general survey of the historical development of English literature by means of readings chronologically arranged, a brief textbook, and interpretative lectures from the instructor. 5 hours each.

### For Advanced Undergraduates and Graduates.

**71. English literature, 1557-1599.**—3 hours.

**72. English literature, 1599-1660.**—3 hours.

**73. English literature, 1660-1781.**—3 hours.

**74. English literature, 1782-1832.**—3 hours.

**75. English literature, 1833-1910 (poetry).**—3 hours.

**76. English literature, 1833-1910 (prose).**—3 hours.

**82. American literature.**—3 hours.

**121. Drama, 1551-1870.**—History and study of the English drama from the opening of the modern period to Ibsen. 3 hours.

**122. Drama, 1870-1918.**—Study of European and American drama from Ibsen to the present day. 2 hours.

**127. Novel, 1579-1800.**—The historical development of the English novel from Lyly's *Euphues* to Jane Austen. 3 hours.

**128. Novel, 1800 to the present day.**—Continuation of the above to Stevenson and Kipling. 5 hours.

**129. Comparative study of modern novel.**—Study of the modern novels of Russia, Germany, France, Italy, Spain, and Scandinavia. 3 hours.

141. **Shakespeare.**—5 hours.  
144. **Tennyson and Browning.**—5 hours.  
147. **Tendencies in modern literature.**—2 hours.  
91, 92, 93, 94. **Greek in English translation.**—(See Greek Language and Literature.) 2 hours each.

### EXPRESSION.

MRS. W. H. PARTRIDGE, Instructor.

1. **Bodily expression.**—Life study. Dramatic narrative. '2 hours, autumn quarter.
2. **Characterization.**—Representation of characters from fiction and modern comedy. 2 hours, winter quarter.
3. **Modern drama.**—Presentation of characters from modern drama. 2 hours, spring quarter.

### GEOLOGY.

ROBERT W. ELLIS, Professor.

Courses in this department are intended to give general culture as well as special training. Courses 1-8 are open to all students.

**Major course.**—The requirements for the major course are: 1-2, 3-4, and 5, or their equivalents; but credits in 1-2, and 5, 7 or 8 may not be counted towards fulfilling requirements as to the number of hours to be taken in the major course, except that, at the discretion of the professor in charge of the department, credits in excess of 10 hours may be so counted. Not more than 5 hours' credit in 105 may be counted towards a major.

**Minor study.**—For the minor the student must present credits in courses 1-2; additional minor work should include 3-4.

**Equipment.**—The department is supplied with the usual apparatus for determinative mineralogy and field geology. It has especially fine equipment for the study of minerals and rocks in thin sections. There are several collections of specimens for laboratory work in mineralogy, general and economic geology, and paleontology. The museum contains considerable material illustrative of New Mexico's mineral resources, while the library includes the publications of the several state surveys and of the United States Geological Survey.

#### Primarily for Undergraduates.

1a, 1b. **Physical geology.**—Physiographic, structural, and dynamic processes. Studies of topographic and geologic maps, and the handling, identification, and interpretation of illustrative minerals and rocks. Elementary chemistry, and physics are desirable prerequisites. 3 hours, autumn and winter quarters.

2. **Historical geology.**—The principles of courses 1a and 1b, together with the elements of paleontology, are applied to the study of the origin and development of the earth, and to the evolution of life forms as governed by their migrations and adaptations. Prerequisites: 1a and 1b. 3 hours, spring quarter.

**3. Mineralogy, introductory.**—Crystallographic, physical, chemical, and descriptive mineralogy are given in lectures and recitations, and illustrated by specimens, models, and slides. A limited number of unknowns are determined, as an introduction to course 4. Chemistry 1-2 are required, but may be taken along with the course, if high school chemistry is presented for entrance. 3 hours.

**4. Mineralogy, determinative.**—Blow-pipe analysis of minerals, and practice of sight identification. Occurrence, origin, uses, conservation, and, where applicable, the principles of metallurgy of the minerals, are considered in lectures and recitations. Prerequisites: 3 and Chemistry 1-2. Chemistry 2 may accompany, if high school chemistry is presented for entrance. 3-5 hours.

**5a, 5b. Physiography.**—This course is planned to supplement the usual courses in general geography and at the same time to lead to an understanding of the geologic control of surficial features and products. It includes a study of the earth's astronomical relations, atmosphere, rivers, oceans, landmasses. 3 hours each.

**6. Meteorology.**—A study of the atmosphere; its composition, properties, movements, etc.; the laws of storms; weather and weather forecasting; climate; the practical application of meteorology. 2 hours.

**7. Commercial geography.**—A study of the important natural resources and industries of the United States, with their comparative relationship to the industries and resources of other countries. The effect of geographic conditions upon trade and industrial activities. 2 or 3 hours.

**8. Geography of New Mexico.**—To those wishing to study the physical conditions of the Southwest in a broad manner, New Mexico offers a typical field; four of the important physiographic provinces of the United States border within this state. Early human adaptation and development in these environments are traced, as well as the modern geography of places, resources, trade and diplomatic relations. Either high school physical geography or Geology 5 or 7 is a desirable prerequisite. 2 or 3 hours.

#### For Advanced Undergraduates and Graduates.

**51a, 51b. Economic geology.**—Occurrence, geographic and geologic distribution, origin, alterations, uses, and conservation of useful geologic products are investigated, particularly those common to the United States. The principles of mining and metallurgy are dealt with to some extent. Publications and maps of the United States Geological Survey as well as those of state and foreign surveys are used freely. Illustrative specimens are handled, practical field problems are submitted to the class, and quantitative laboratory work is conducted. Prerequisites: 1a, 1b, and 2, or 101 and 102; elementary chemistry and mineralogy. 3 hours each.

**51c. Economic geology.**—Continuation of 51a and 51b with special emphasis upon the geology of oil and gas. 58 gives the field work that supplements this theoretic course. 3 hours.

**53. Historical geology.**—The origin and development of the earth and its oceans and land masses receive detailed attention. Succession of life forms, significance of faunal and floral connections and separations, likenesses and unlikenesses, climatic conditions, structural features, prob-

able land-and-sea boundaries form subjects for discussion. Reading researches are assigned. Certain phases of oceanography as well as continental conditions are involved. Prerequisites: 1a, 1b, and 2, or 101 and 102. 3 hours.

**54. Paleontology.**—Studies of those plant and animal forms useful in representing geologic history and biologic development. The influence of enemies, barriers, migration, and commingling are investigated. Characteristic or index species receive especial attention. Prerequisites: 1a, 1b, and 2, or 101 and 102. 3 hours.

**56. Petrology.**—The aim of this course is training in rock identification and classification and the interpretation of rock structures as arrived at through petrographic, chemical, and field studies of the rock-forming minerals and their possible combinations. Prerequisites: 3-4, and preferably 1a and 1b. 3 hours.

**57. Interpretation of maps.**—Topographic and geologic maps and folios are the bases of this course. Training in detecting topographic forms and geologic structures. The making and criticism of contour and geologic maps and of geologic cross-sections. Prerequisites: 1a, 1b, and 2, or 101 and 102. 2 or 3 hours.

**58. Geologic field mapping.**—In this course training is given in the use of the telescopic and sight alidade with stadia and plane-table, pacing, use of hand-level, compass, and clinometer, contour running, and general geologic mapping problems. Prerequisites: plane trigonometry, and either 1a and 1b or 101 and 102. 2 or 3 hours.

**101, 102. Engineering geology.**—A course intended for those doing major work in Civil Engineering. It includes the elements of mineral and rock recognition, and the principles of weathering, erosion, sedimentation, and particularly structural geology, with brief attention to historical phases. Prerequisites: Chemistry 1-2 and Physics 1, 2, and 3. 3 hours each.

**103. Local geology.**—This includes the broader geologic problems of the Southwest, and the geology of New Mexico as far as known. Particular attention is directed to conditions in the region of the University. Faulting, vulcanism, local water supply, soils, road metals, and other structural and economic features offer problems for solution here. 2 hours.

**104. Geologic seminar.**—The geologic problems in New Mexico are as yet blocked out only in their broadest outlines, and await investigation by those acquainted with local conditions and the published results from this and related regions. Those desiring to emphasize local phases should precede or accompany this course with 103. 2-5 hours.

**105. Field work in absentia.**—Credit, up to 15 hours, may be allowed toward graduation to students in the College of Engineering for practical or applied field work, under the guidance of the professor in charge of the department, on the basis of one hour's credit for each two calendar weeks occupied. Prerequisite: at least 10 hours of theoretic geology.

## GOVERNMENT.

GROVE SAMUEL DOW, Professor.

**Major course.**—No major course is offered in this department at present.

**Minor study.**—A minor study consists of 16 hours in the department.

**Primarily for Undergraduates.**

**71. Introduction to political science.**—A study of the origin and nature of the state and the forms and functions of government. Text, lectures, and collateral readings. 5 hours, spring quarter.

**72. Comparative government.**—A study of the governments of the chief European nations and the United States. 5 hours, winter quarter. (MITCHELL)

**74. Municipal administration.**—Same as Sociology 74. 5 hours, winter quarter.

**78. Socialism.**—A study of the history of socialism and an analysis of some of the leading forms of socialism today. 5 hours, spring quarter. (Not given in 1919.)

**141. International law.**—An elementary consideration of the principles governing the relationships which exist among the nations in peace and war. The contributions of the United States to the rules of international conduct and the effects of the World War upon international legal principles will be especially emphasized. Text, case book, and assigned collateral readings. 5 hours, autumn quarter.

## GREEK LANGUAGE AND LITERATURE.

LYNN BOAL MITCHELL, Professor.

**Group requirements.**—The requirement in Group IB for graduation may be met by the earning of sufficient credit hours in courses 1-63.

**Major course.**—Major courses are not at present offered in this department.

**Minor study.**—A minor study in Greek consists of 16 credit hours, selected from courses 21-63, and must include 61-63.

**Rhodes scholarships.**—The minimum preparation in Greek for the Rhodes scholarships is considered to be courses 1, 2, 12, 61, 62, 63.

**Miscellaneous.**—Greek 91-94 may receive credit in the department of English Literature. Classes will not be organized every year in all the courses described below. Students who desire to enroll in courses not offered annually should consult with the instructor in advance.

**Primarily for Undergraduates.**

**1, 2. Elementary Greek.**—The common forms, idioms, constructions, and grammatical principles of Attic Greek prose are studied in some beginning Greek book. 5 hours, autumn and winter quarters, annually.

**12. Elementary reading course.**—Xenophon: Anabasis, Books I-III. A review of Greek history from the close of the Peloponnesian war through the time of Alexander the Great. 5 hours, spring quarter, annually.



**21. Attic Greek prose.**—Selected orations of Lysias, and Plato: Apology of Socrates are translated. Assigned readings in reference works. Prerequisites: 1, 2, and 12 or their equivalent. 5 hours.

**24. Epic Greek poetry.**—Selections from the Iliad of Homer are translated in class. A study of the epic as a species of literature and of early Greek civilization. The remainder of the Iliad and all of the Odyssey are read in translation. 5 hours.

**51. Greek history.**—Herodotus: Book I or VII, or selections. A study of the beginning and development of historical writing. Reading in English of other portions of Herodotus and other Greek historians. 5 hours.

**54. Greek drama.**—One play of Sophocles and two of Euripides are studied. The origin and development of the drama as a species of literature are treated. Assigned readings on correlated topics. 5 hours.

**61, 62, 63.—Advanced Greek grammar and composition.**—2 hours each.

**91, 92, 93.—Greek in English translation: the drama.**—The rise and development of the drama among the Greeks and Romans. Intensive study of several Greek plays and outside reading of other plays of Aeschylus, Sophocles, Euripides, Aristophanes, Seneca, and Plautus. Lectures, assigned readings, quizzes, and reports. No previous knowledge of Greek is required for admission to this course. 2 hours, autumn, winter, and spring quarters.

**94. Greek in English translation.**—A study is made of the contribution of the Greeks to other species of literature outside of the drama, especially in the realms of epic and lyric poetry, history, philosophy, and the romance. 2 hours, spring quarter.

## HISTORY.

LYNN BOAL MITCHELL, Acting Professor.

WILLIAM HARVEY PARTRIDGE, Assistant Professor.

**Major course.**—Students taking a major course under the direction of the Department of History must take a group of courses in the department amounting to not less than 32 credit hours, so arranged as to give a knowledge of the general field of history, with special reference to one chosen field. In addition, 16 credit hours must be taken in some other department which shall be determined in consultation with the head of the department of History. In courses numbered less than 50 only credits in excess of 10 hours may be counted toward the fulfillment of the above requirement. All students taking a major course under this department will be required to take at least one of the courses 151, 152, or 153 before graduation, unless excused by the head of the department.

**Minor study.**—A minor in this department consists of 16 credit hours, subject to the approval of the head of the department, and exclusive of 10 credit hours in courses numbered less than 50.

**Restrictions.**—While it is advisable that courses continuing for two or more quarters be completed, permission may be secured from the head of the department to pursue the work of one quarter separately. Ten credit hours in courses numbered less than 50 are prerequisite to all other courses in the department.

**Primarily for Undergraduates.**

1. **Mediaeval and modern European history.**—A general survey of European history, 375-1648, from the first barbarian invasions of the Roman Empire to the Peace of Westphalia. 5 hours, autumn quarter.

2. **Modern European history.**—A general survey of European history, 1648-1918, from the age of Louis XIV to the present time. (A continuation of course 1.) 5 hours, winter quarter.

3. **Military history.**—European and American history leading up to the great war. 3 hours, autumn quarter.

21. **American colonial history, 1492-1789.**—From the earliest discoveries to the adoption of the Constitution. 5 hours, autumn quarter.

22. **American history, 1789-1850.**—The first half of the national period, from the election of Washington to the Compromise of 1850. (Continuation of course 21.) 5 hours, winter quarter. (Not given in 1919.)

23. **American history, 1850-1918.**—The second half of the national period, from the Compromise of 1850 to the present time. (Continuation of courses 21 and 22.) 5 hours, spring quarter. (Not given in 1919.)

24. **General course in American history, 1492-1829.**—Combination of course 21 and first half of 22, but a less intensive study. 5 hours, summer quarter. (Not given in 1919.)

25. **General course in American history, 1829-1918.**—Combination of second half of course 22 and 23. (Continuation of course 24.) 5 hours, summer quarter.

36. **History of New Mexico.**—A study of the native races of New Mexico, the establishment of Spanish rule, the colonial period, the Mexican regime, the acquisition by the United States, the struggle for statehood, and the progress of the state of New Mexico. Designed especially for public school teachers in New Mexico. 5 hours, summer quarter.

41. **History of Greece, from the earliest times to the Roman Conquest.**—5 hours. (Not given in 1919.)

42. **History of Rome, from the earliest times to the barbarian invasions.**—5 hours, spring quarter. (Not given in 1919.)

55. **European history, 1789-1815.**—The French Revolution and Napoleonic Era. 3 hours, autumn quarter.

56. **European history, 1815-1878.**—Europe from the Congress of Vienna to the Congress of Berlin. (Continuation of course 55.) 3 hours, winter quarter. (Not given in 1919.)

57. **European history, 1878-1918.**—Europe since the Congress of Berlin. (Continuation of courses 55 and 56). 3 hours, spring quarter. (Not given in 1919.)

61. **English history, 55 B. C.-1603 A. D.**—A general survey of the history of England from the earliest times to the end of the Tudor period, giving attention to the political, constitutional, economic, and social phases. 5 hours, autumn quarter.

62. **English history, 1603-1918.**—A continuation of course 61, from the end of the Tudor period to the present time. 5 hours, winter quarter.

83. **Spain and Latin America, 1492-1918.**—A general survey of the European background of American history, the Age of Discovery, the es-

establishment and development of the Spanish and Portuguese colonial systems, the struggle for independence, the establishment and progress of the several Latin-American states, and their present political conditions. 5 hours, spring quarter.

**For Advanced Undergraduates and Graduates.**

**151. Historical method and criticism.**—A course in the principles employed in the study and writing of history. Designed for students who expect to teach history or to do advanced work in the subject. 3 hours, autumn quarter.

**152. Historiography.**—A study of the chief historians of the Nineteenth century and a critical estimation of the relative value of the works of each. Designed for the same class of students as 151. 3 hours, winter quarter.

**153. The teaching of history.**—A study of the principles and methods used in the teaching of history, designed for students who expect to teach history in high schools. 3 hours, spring quarter.

**171. History of political parties in the United States, 1789-1918.**—5 hours, autumn quarter.

**191. History of American diplomacy.**—A study of our foreign relations, 1789-1918. 5 hours, spring quarter.

## HOME ECONOMICS.

ELIZABETH P. SIMPSON, Assistant Professor.

CATHARINE A. CRAIG, Instructor.

**Major course.**—For a major course in Home Economics, students must present credits in courses 5, 6, 7, 57, 58, 59, 73, 132, 194, and either 127 or 135. The following is a suggested course of study for the four years:

	Freshman Year.			Sophomore Year.		
	Autumn.	Winter.	Spring.	Autumn.	Winter.	Spring.
Home Economics -----	5	6	7	57	58	59
Chemistry -----	1	2	Foods	61	62	
English -----	41	42	1			
Animal Biology -----					26	
Botany -----						91
Foreign Language—						
hours -----				3-5	3-5	3-5
Electives—hours -----				2-4	2-4	2-4

**Junior and Senior Years.**

Home Economics -----	18-30 hours
Animal Biology 1, 2, and 3 -----	12 hours
Psychology 51 and 52 -----	10 hours
English (completed) -----	4 hours
Foreign Language (completed) -----	0-12 hours
Group II -----	21 hours
Electives to make up the total of -----	186 hours

**Minor study.**—For a minor study in Home Economics, students must present at least 16 credit hours in the department.

**Primarily for Undergraduates.****5. Freshman course.—5 hours, autumn quarter.**

a. Foods and cookery.—Lectures and laboratory work. This course includes the study of foods in relation to source, composition, value to body, cost, and proper combinations. The practical work deals with beverages, cereals, vegetables, and candy. Special emphasis is laid upon skill and speed in handling material and equipment. 2 two-hour periods per week. (SIMPSON, CRAIG)

b. Elementary hand work and sewing.—Discussion and demonstration of primitive forms of industrial work as weaving, crocheting, knitting, basketry, etc. As a foundation for later courses, all the stitches and processes commonly used in sewing are studied and employed in the making of simple articles. Care and repair of clothing. 2 two-hour periods per week. (SIMPSON, CRAIG)

c. Drawing.—Line drawing—pencil, flower, vegetable, and fruit. Perspective—light and shade. Study of Egyptian art. 1 two-hour period per week. (CRAIG)

**6. Freshman course.—5 hours, winter quarter.**

a. Foods and cookery.—Continuation of 5a. Practice includes egg, milk, cheese, meat, and flour mixtures. Study of composition and comparative value of foods. 2 two-hour periods per week. (SIMPSON, CRAIG)

b. Elementary clothing.—Continuation of 5b. Introduces the use of commercial patterns, the care and use of the sewing machine and its attachments. Hand and machine sewing as applied to simple garments. Prerequisite: 5b. 2 two-hour periods per week. (SIMPSON, CRAIG)

c. Drawing.—Plant and animal forms in black and white and color. Study of Greek and Roman art. 1 two-hour period per week. (CRAIG)

**7. Freshman course.—5 hours, spring quarter.**

a. Foods and cookery.—Continuation of 5a and 6a. Practice deals with flour mixtures, fats, salads, desserts. Preparation and serving of breakfast, luncheon, and dinner, special attention being given to cost, nutritive value, and artistic arrangements of table and food. 2 two-hour periods per week. (SIMPSON, CRAIG)

b. Drafting and pattern making.—Practice in drafting, cutting, and fitting. Patterns are drafted to personal measurements, fitted, and used in making undergarments. 2 two-hour periods per week. (SIMPSON, CRAIG)

c. Drawing.—Printing and illuminating. Study of examples from old manuscripts. Lettering. Spacing of quotations, with color. 1 two-hour period per week. (CRAIG) Prerequisites: 5 and 6.

**57. Sophomore course.—5 hours, autumn quarter.**

a. Foods.—Study of food preservation and pure food laws. Practice includes canning, preserving, jelly making, and pickling. This course also includes advanced cookery in which some of the more difficult food problems are considered. 2 two-hour periods per week. (SIMPSON, CRAIG)

b. Elementary dressmaking.—Continuation of drafting work. Foundation waist and skirt patterns are made and used in making thin waist and simple dress. 2 two-hour periods per week. (SIMPSON, CRAIG)

c. Drawing.—Free brush handling of plant forms in India ink. Composition in ink line. Landscape. Ink massing from good reproductions. 1 two-hour period per week. (CRAIG) Prerequisites: 5, 6, 7, Chemistry 1, 2, and Chemistry of Foods.

**58. Sophomore course.**—5 hours, winter quarter.

a. Foods.—Special study is made of the nutritive value of foods. The 100-calorie portion is introduced and its value in the household emphasized. Diетaries are prepared for family for given period, special attention being given to cost. 2 two-hour periods per week. (SIMPSON, CRAIG)

b. Intermediate dressmaking.—A skirt of wool material and a silk shirt waist, tailored in style, are made. Alteration of patterns and original design studied. 2 two-hour periods per week. (SIMPSON, CRAIG)

c. Drawing.—Costume design. Pose drawing. Color. 1 two-hour period per week. Prerequisite: 57. (CRAIG)

**59. Sophomore course.**—5 hours, spring quarter.

a. Foods.—General review of work covered in the preceding courses. A study is made of the demonstration lecture, its purpose and results. Method of presentation and equipment necessary. Each student gives demonstration or lecture before class. 2 two-hour periods per week. (SIMPSON, CRAIG)

b. Advanced dressmaking.—A plain silk dress is cut and made. A thin dress is also cut and made—the decorations, findings, etc., all to cost less than a given sum. 2 two-hour periods per week. (SIMPSON, CRAIG)

c. Drawing.—This course is planned to cover the decorative part of the sewing taught in the grades and in high school. The theory of flower arrangement and table decoration also receives attention. 1 two-hour period per week. Prerequisite: 58. (CRAIG)

**73. Hygiene and home nursing.**—Study of personal and domestic hygiene; sick-room location, furnishing, and care; beds and bed-making; care of patient; contagion and disinfection; simple emergencies and bandaging. 4 hours, spring quarter. (SIMPSON)

**127. Dietetics.**—Study of dietary standards; relation of food to health; quantitative requirements of the human body according to varying conditions of age, occupation, and health. Prerequisites: 59 and Bacteriology. 4 hours. (SIMPSON)

**132. House management and sanitation.**—This course treats of care of the house; household accounts; ventilation; water supply, heating, and lighting. The home as a social center, and rules of conduct. Site and surroundings of the house. Drawing of plans and house furnishings. 5 hours, spring quarter. (SIMPSON)

**135. Study of textiles.**—Primitive forms of manufacture. Present day methods. Cotton, silk, wool, and linen are studied. Hygiene of

clothing. Wardrobe is planned for different members of the family. A layette is given special attention. Prerequisite: 59. 4 hours. (SIMPSON)

**185. Embroidery.**—A study of forms of decoration as applied to clothing and articles in the home: knitting, crocheting, tatting, French embroidery; Swedish darning, weaving. 4 two-hour periods. Prerequisite: 7. 4 hours. (SIMPSON)

**194. Teachers' course.**—Methods of presentation; the principles underlying the planning of curricula; the planning of domestic science laboratories and their equipment. Prerequisite: 59. 4 hours. (SIMPSON)

## LATIN LANGUAGE AND LITERATURE.

LYNN BOAL MITCHELL, Professor.

WILLIAM HARVEY PARTRIDGE, Assistant Professor.

**Group requirements.**—The requirements in Group IB for graduation may be met by the earning of sufficient credit hours in courses 5-62, 101-106.

**Major course.**—A major course in this department consists of 48 credit hours, exclusive of courses 5-10, and must include courses 31-32 or 61-62. A maximum of 18 of the 48 credit hours required for a major course may be taken in allied or related departments, such as Greek, Romance Languages, German, Ancient History, etc., subject to the approval of the head of this department.

**Minor study.**—A minor study in this department consists of 16 credit hours selected from courses 25-30, 101-106, but must include 31-32 or 61-62.

**Restrictions, etc.**—Courses 5-10 cover the ground usually covered in high schools in a four-year course and are intended for those students who come to the University with less Latin than is offered in high schools, and who are able to take these courses at a rapid rate. They are not accepted towards a major course or a minor study. Courses 137-139 may receive credit in Government and are recommended to students pursuing the Curriculum Preparatory to Law.

**Equipment.**—The department is equipped with maps, charts, lantern slides, etc., and has made a start towards a museum of casts.

**Primarily for Students Who Enter with Less than Four Units of Latin.**

**5. Beginning Latin.**—This course is for students who have not previously studied Latin. Nutting: Latin Primer. 5 hours, autumn quarter annually.

**6. Elementary reading, grammar, and composition.**—Nutting: First Reader. Open to students who have completed 5 or have had one year of Latin in high school. 5 hours, winter quarter, annually.

**7. Caesar.**—Translation of Book II and selections from Books IV, V, VI, VII. 5 hours, spring quarter, annually.

**8. Cicero.**—The Manilian Law and Defense of Archias and two other orations or the Catiline of Sallust. Open to students who have completed courses 5-7 or have had two years of Latin in high school. 5 hours, autumn quarter, annually.

9, 10. **Latin poetry.**—Six books of the Aeneid, grammar, prosody, and composition. Outside readings from Homer's epics in English translation. Comparison of the religious beliefs held by the ancients and people of the Middle Ages, as portrayed by the Odyssey, Book XI; the Aeneid, Book VI; and the Divine Comedy of Dante. Some Ovid may be substituted for two books of the Aeneid. 5 hours, winter and spring quarters, annually.

**Primarily for Freshmen and Sophomores Who Enter With  
Four Units of Latin.**

(One of the following reading courses is offered each quarter.)

25. **Roman historians.**—Translation of selections from Livy, or from Livy and Sallust. A study is made of the development of historical writing. 3 hours.

26. **Essays.**—Cicero's essays on Old Age and Friendship are read and especial attention is given to the art of translating. 3 hours.

27. **Horace.**—Selections from the Odes and Epodes with sidelights on lyric poetry. 3 hours.

28. **Rapid and sight reading.**—Selections from Cicero's rarely read orations, designed to develop facility and speed in translation. 3 hours.

29. **Lyric poetry.**—Selections from Catullus, Propertius, and Tibullus. 3 hours.

30. **Comedy.**—One play of Terence and one of Plautus are translated. The development of Roman drama is studied. 3 hours.

31, 32. **Composition.**—Translation into Latin of simple connected narrative. Grammar and syntax. Intended to accompany Freshman reading courses. 2 hours, autumn and winter quarters.

61, 62. **Advanced composition.**—Open to students who have completed 31, 32. 2 hours each.

71, 72. **Roman antiquities and private life.**—A study of the remains of ancient Rome and Pompeii, the organization of society, education, the house, furniture, dress, food, amusements, sources of income, wedding and funeral ceremonies, etc. Lectures, in part illustrated; assigned readings and reports. Prerequisite: at least three years of high school Latin. 2 hours each.

**For Advanced Undergraduates and Graduates.**

101. **Advanced Latin.**—Tacitus: Germania, and Agricola; and the Letters of Pliny the Younger. Outside readings bearing on the condition of Roman society in the first century A. D. 3 hours.

102. **Advanced Latin.**—Apuleius or Petronius. A study of the development of the Roman novel and romance. 3 hours.

103, 104. **Advanced Latin.**—Selections from the philosophical writings of Cicero, Lucretius, and Seneca. Assigned readings and reports on the philosophical systems of the Greeks and Romans. 3 hours each.

105, 106. **Advanced Latin.**—Selections from Lucilius, Horace, Persius, and Juvenal. A study is made of the development of Roman satire. 3 hours.

137, 138, 139. **Roman political institutions and law.**—A study of the Roman constitution, the contribution of the Romans to modern government and political science, the acquisition of civic rights, and the de-

velopment of law codes. Investigations are made of the Roman methods of dealing with the initiative and referendum, the recall, the tariff, the government of cities, provinces, protectorates, financial panics, and imperialism. Lectures, outside readings, and reports. Prerequisite: three years of high school Latin. 2 hours, autumn, winter, and spring quarters.

**162. Teachers' course.**—A study and criticism of various textbooks. Lectures on the scope and aim of Latin study, a teacher's equipment and reference library, and methods of teaching. Discussion of the difficulties which confront a teacher of Latin. A special study of syntactical difficulties. 3-5 hours, summer quarter.

## MATHEMATICS.

CHARLES ANTHONY BARNHART, Professor.

RAYMOND DUHADWAY, Associate Professor.

**Major course.**—A major course in Mathematics consists of courses 11 (or 3), 12, 13, 50, 51, 52, 53 and at least four courses of number above 100.

**Minor study.**—A minor in Mathematics consists of courses 11 (or 3), 12, 13, 50, 51, 52, 53 and at least one course of number above 100.

### Primarily for Undergraduates.

**1, 3. College algebra.**—Engineering students with a condition of  $\frac{1}{2}$  unit in secondary algebra will take this course and receive 5 hours credit upon its completion. The course extends over two quarters and no college credit will be given until the work of both quarters is complete. The first quarter's work will consist of a detailed study of linear and quadratic equations and related topics, variables, variation, functional notation, graphical representation of functions, progressions, and the binomial theorem; to be followed during the second quarter by the study of commensurable, incommensurable, and complex numbers, permutations and combinations, probability, limits, infinite series, determinants, and the elementary theory of equations. Prerequisites: 1 unit of secondary algebra and 1 unit of plane geometry. (5 hours recitation.) 4 hours, autumn and spring quarters. (DUHADWAY).

**2. Solid geometry.**—Engineering students with a condition in solid geometry will take this course with no college credit. Prerequisites: 1 unit of secondary algebra, 1 unit of plane geometry. (5 hours recitation.) 4 hours, winter or summer quarter. (DUHADWAY)

**11. College algebra.**—Prerequisites:  $1\frac{1}{2}$  units of secondary algebra and 1 unit of plane geometry. 5 hours, autumn quarter. (BARNHART)

**12. Plane trigonometry.**—Prerequisites: 1 unit of secondary algebra and 1 unit of plane geometry. 5 hours, winter or summer quarter. (BARNHART, DUHADWAY)

**13. Plane analytic geometry.**—Prerequisites: 11 (or 3) and 12. 5 hours, spring or summer quarter. (BARNHART)

**21. Descriptive geometry.**—Prerequisite: Practical Mechanics 16. 5 hours, autumn quarter. (DUHADWAY)

**22. Spherical trigonometry and introduction to astronomy.**—A mathematical description of the motions and positions of the earth and



other planets; solutions of astronomical triangles. Prerequisite: 12. 4 hours, winter quarter. (DUHADWAY)

23. **Modern geometry.**—Prerequisites: 11 (or 3) and 12. 5 hours, spring quarter. (DUHADWAY)

50. **Solid analytic geometry.**—Elementary course. Prerequisite: 13. 2 hours, autumn quarter. (BARNHART)

51, 52, 53. **Differential and integral calculus.**—Prerequisite for all advanced courses in Mathematics, all courses in engineering, and all courses in Physics of number above 100. 50 is to be taken in conjunction with 51. Prerequisite: 13. 3 hours, autumn quarter; 5 hours, winter and spring quarters. (BARNHART)

62. **History of mathematics.**—Prerequisite: 51. 5 hours, winter quarter. (BARNHART)

63. **Teaching of mathematics.**—Prerequisite: 13. 5 hours, spring quarter. (BARNHART)

#### For Advanced Undergraduates and Graduates.

131. **Differential equations.**—Ordinary differential equations. Prerequisite: 53. 4 hours, autumn quarter. (BARNHART)

132. **Differential equations.**—A continuation of 131; study of partial differential equations and various existence theorems. 4 hours, winter quarter. (BARNHART)

133. **Advanced calculus.**—In any one year, selection will be made from such of the following topics as will best fit the student's choice of major work; complex numbers and vectors; special functions defined by integrals; introduction to the calculus of variations, to the theory of functions of real and complex variables; Fourier's series, and elliptic functions and integrals. Prerequisite: 131. 5 hours, spring quarter. (BARNHART, DUHADWAY)

141. **Theory of determinants.**—Properties of determinants; applications to algebra; determinants of special forms; applications to calculus; linear transformations. Prerequisite: 53. 4 hours, autumn quarter. (BARNHART, DUHADWAY)

142. **Theory of equations.**—General properties and transformations of equations, solution of cubic and biquadratic, symmetric functions, elimination and elementary study of substitutions and groups. Prerequisite: 141. 5 hours, winter quarter. (BARNHART)

143. **Analytic geometry of space.**—Lines and planes in space, quadric surfaces; tetrahedral co-ordinates. Prerequisite: 141. 5 hours, spring quarter. (BARNHART, DUHADWAY)

151. **Fourier's series.**—Expansion of functions into series, with applications to Physics. Prerequisite to Physics 142. Prerequisite: 131. 5 hours, autumn quarter. (DUHADWAY)

152, 153. **Projective geometry.**—Prerequisites: 23 and 53. 3 hours, winter and spring quarters. (BARNHART)

161, 162, 163.—**Theory of functions of a complex variable.**—Prerequisites: 131 and 142. 3 hours, autumn, winter, and spring quarters. (BARNHART)

## PHILOSOPHY.

JOSEPH SAMUEL LANDERS, Professor.

The chief aim of the work in this department is to provide an organizing center for the various subjects pursued in acquiring a liberal education. Philosophy is an efficient means for the development of breadth, balance, and culture. Historically the source of the most important branches of knowledge, philosophy yet continues the intermediary between the physical, biological, and sociological sciences on the one hand, and the fundamental conceptions of practical life on the other.

**Major course.**—28 credit hours in the department together with 20 credit hours in the department of Psychology are required for a major course.

**Minor study.**—Any course in the department will be accepted towards a minor study.

**Restrictions.**—To secure the necessary sequence, courses 151 and 152 will not be given in 1919-1920.

## Primarily for Undergraduates.

**50. Outline of philosophy.**—The nature and scope of philosophy. A preliminary survey of the typical philosophical problems, and of the principal theories arising out of the endeavor to gain a unified view of the world. The relation of philosophy to the sciences, to art, to morality, to religion, to society, and to the state, introducing the student to the philosophic point of view in the consideration of the facts of the material world and of life. 5 hours.

**61, 62. Ethics.**—An elementary course dealing with the ideals and principles of conduct. A study of the facts and theories of moral life as it appears in the individual and in society from the point of view of their historical development and their practical application to the affairs of private life and citizenship in a democracy. An examination of the principles of morality in the light of modern biology, psychology, and sociology. 5 hours, autumn and winter quarters.

**63. Logic.**—A study of the laws of thought in accordance with which judgments are formed, including a critical discussion of traditional logic. The course gives practice in logical analysis, with particular attention to the processes of inductive reasoning in its application to scientific investigation; and to deductive reasoning, in its application to the detection of fallacies in argument; each finding practical application in the logic of daily life. 5 hours, spring quarter.

## For Advanced Undergraduates and Graduates.

**101, 102. History of philosophy.**—A systematic consideration of the stages in reflective thinking upon the questions of the world-order and human life, beginning with the most naive primitive conceptions, through Greek speculation and the periods following it, to the rise of the modern doctrine of evolution and its effect upon present-day thinking, including a view of the principal philosophic systems in their development and their relations to the economic, social, and political conditions of the times. 3 hours, winter and spring quarters.

**103. Practical ethics.**—The evolution of man's moral nature and conduct, and the relation of the evolutionary theory of ethics to Intuitionism, Utilitarianism, and Idealism; including a study of Alexander, Darwin, Spencer, Stephen, Sutherland, Hobhouse. An analysis of the main problems of individual and social conduct, and their application to everyday life, noting how moral ideals, ideas of right and wrong, and standards of value are developed, and related to the biological, social, and religious phases of human life; the conditions of happiness, duty, and responsibility. 4 hours, spring quarter.

**151, 152. Introduction to philosophy.**—A critical and constructive study of the principal types of philosophic thought, developing the conceptions of Reality, Mind, Matter, Force, Purpose, Reason, Deism, Theism, Immortality, Freedom, and Determinism, and showing the application of the leading hypotheses to science, ethics, religion, and government. An examination of the merits of the teachings of the different schools of thought—Materialism, Idealism, Dualism, Monism, etc. 3 hours, autumn and winter quarters.

### PHYSICAL TRAINING (FOR WOMEN).

MRS. W. H. PARTRIDGE, Instructor.

**Graduation requirements.**—All women whose rank is below that of a Sophomore, are required to take courses 5, 6, and 7. This required work amounts to 3 hours each week through the autumn, winter, and spring quarters. It includes a course on personal hygiene during the autumn quarter, and consists of systematic exercises for the development of all parts of the body. The training and exercise are under the immediate oversight and authority of the instructor.

**Equipment.**—A well-equipped gymnasium, containing locker rooms and shower baths, is open throughout the year for the use of the young women of the University. Women pursuing these courses are required to provide themselves with a gymnasium suit, consisting of a blouse waist and bloomers, with the regulation shoes. In addition to the class work, sports and pastimes, such as basketball, tennis, etc., are open to all women of the University.

#### Primarily for Undergraduates.

**5, 6, 7, 8. Physical training for women.**—Freshman required courses. Elementary exercises to correct slight body defects, as well as exercises to promote muscular tone, vigor, vitality, and endurance. Marching, Indian club and wand drills; rhythmical movements and folk dancing to give the student ease and grace. 1 hour, each quarter.

### PHYSICS.

LAWRENCE EDWARD McCARTY, Professor.

RAYMOND DUHADWAY, Associate Professor.

**Major course.**—A major course in Physics consists of courses 51, 52, and 53, and at least four courses having numbers above 100.

**Minor study.**—A minimum of 3 hours, in addition to courses 51, 52, and 53, is required for a minor study in Physics.

**Equipment.**—The physics laboratory is located in Engineering Hall. It is well equipped for giving the work in both elementary and general physics. Physics students have ready access to the Electrical Engineering equipment for laboratory work. Direct and alternating current generators are available for supplying current for experiments at various voltages and currents up to eight horsepower capacity. Twenty-five electrical meters, eight galvanometers, five resistance boxes, in addition to the engineering rheostats, together with many other pieces of apparatus, give good facilities for experimentation.

#### Primarily for Undergraduates.

1. **General physics.**—Mechanics and molecular physics. A practical, elementary treatment of mechanics, with applications to simple engineering problems; and a study of the phenomena connected with surface tension, elasticity, and moving and stationary fluids. 5 hours, autumn and summer quarters. (McCARTY, DUHADWAY)

2. **General physics.**—Heat and sound. This course includes a study of calorimetry, hygrometry, the kinetic theory of gases, and thermodynamics, wave motion in sound transmission, and acoustic properties of vibrating bodies. 5 hours, winter and summer quarters. (McCARTY, DUHADWAY)

3. **General physics.**—Magnetism and electricity, and light. The derivation and experimental verification of the most important laws relating to magnetic and electrical phenomena, with applications to electrical machines and meters. A brief treatment of the subject of light. 5 hours, spring and summer quarters. (McCARTY, DUHADWAY)

51. **Mechanics.**—This course is a continuation and amplification of course 1. Lectures, experiments, and problems. Prerequisite: one year of Physics. 5 hours, autumn quarter. (McCARTY)

52. **Heat.**—This course is devoted to a general study of the subject of heat, special attention being given to refined methods of heat measurements. Prerequisite: one year of Physics. 5 hours, winter quarter. (McCARTY)

53. **Electricity.**—A more intensive treatment than that given in course 3. Prerequisites: 51 (or 62) and 52. 5 hours, spring quarter. (McCARTY)

61. **Statics.**—This course, together with course 62, treats, by both mathematical and graphical methods, of all the general topics of theoretical mechanics, except moments of inertia and its applications. The theory will be illustrated by the solution of numerous problems. Prerequisites: 51 (or 62) and 52, and Mathematics 12. 4 or 5 hours, spring quarter. (DUHADWAY)

62. **Dynamics.**—A course similar to 61, and having the same prerequisites. (If taken parallel with 52, this course may be substituted for course 51.) 5 hours, winter quarter. (DUHADWAY)

63. **Mechanics and properties of materials.**—Same as Civil Engineering 109. Prerequisites: 61, and Mathematics 53. 5 hours, autumn quarter. (DUHADWAY)

64. **Light.**—Spectroscopy and diffraction. A laboratory course. Prerequisite: 53. 2 hours. (DUHADWAY)

**For Advanced Undergraduates and Graduates.**

**110. Electricity and magnetism.**—A mathematical treatment of the subject, intended for advanced students who have had calculus. Prerequisites: 53, and Mathematics 53. 3 hours, autumn and winter quarters. (McCARTY)

**111. Alternating currents.**—Practical problems connected with varying currents. Prerequisites: 53, and Mathematics 53. 5 hours, spring quarter. (McCARTY)

**121. Theoretical mechanics.**—Principles of mechanics treated with the aid of the calculus. Prerequisites: 53, and Mathematics 53. 5 hours, autumn and winter quarters. (McCARTY)

**130. Radioactivity.**—A survey of recent discoveries in this field of research, with their bearings on the electron theory of electricity. Prerequisite: 53. 2 hours, spring quarter. (McCARTY)

**131. Precision of measurements.**—This course includes a discussion of the nature of errors and methods for their elimination, and the application of the calculus to the solution of precision problems in direct and indirect measurements. Prerequisites: 53, and Mathematics 53. 2 hours, spring quarter. (McCARTY)

**141. Thermodynamics.**—A theoretical course dealing with mechanical equivalents, expansion of gases in cycles, entropy of steam, and applications to refrigeration and gas engines. Prerequisites: 53, and Mathematics 53. 4 hours. (DUHADWAY)

**142. Fourier's series and spherical harmonics.**—Applications to the flow of heat, vibrations, electro-statics, and the Newtonian potential. Prerequisites: 53, and Mathematics 151. 5 hours, winter quarter. (DUHADWAY)

**144. Vector analysis.**—Prerequisites: 53, and Mathematics 53. 4 hours. (DUHADWAY)

**145. Generalized coordinates in mechanics and physics.**—Prerequisites: 53 and 62, and Mathematics 131. 2 hours. (DUHADWAY)

**PIANO.**

HENRY FOOTE PERRIN, Assistant Professor.

**Prerequisites.**—Requirements for entering course 1 are the ability to play correctly, with proper style and phrasing, major scales in all keys in octaves, and Mozart: First Sonata; or Loeschorn: Op. 52; or the equivalent. Any deficiency must be made up before entering course 1.

**Primarily for Undergraduates.**

**1, 2, 3. Freshman course.**—Exercises for independence of fingers; scales in thirds and sixths, parallel and contrary motion; arpeggios; chord playing; octaves begun. 12 studies from Loeschorn: Op. 66; Heller: Op. 46 and 47; Czerny: Op. 636 and 299; and 12 pieces by standard classic and modern composers. 2 hour lessons each week. 4 hours, autumn, winter, and spring quarters.

**51, 52, 53. Sophomore course.**—Octaves continued; scales in double thirds; special technical exercises suited to the student. 10 studies select-

ed from Cramer: Etudes; Kullak: Octave School; Bach: Easy Preludes and Fugues; pieces by Beethoven, Mozart, Mendelssohn, Grieg, Scharwenka, and others. 2 hour lessons each week. 4 hours, autumn, winter, and spring quarters.

**101, 102, 103. Junior course.**—Advanced technical work, greater velocity in scales and arpeggios. 8 studies from Clementi: Gradus ad Parnasum; Bach: Two and Three Part Inventions; Philipp; School of Double Notes. Pieces by Beethoven, Weber, Henselt, Moszkowski, and modern composers. 2 hour lessons each week. 4 hours, autumn, winter, and spring quarters.

**151, 152, 153. Senior course.**—Special technical exercises. 6 studies from Bach: Well Tempered Clavichord; Chopin: Etudes; Philipp: School of Octaves. Sonatas and concert pieces by Beethoven, Schumann, Chopin, Liszt, Henselt, Schubert, Brahms, Grieg, MacDowell, and others. 2 hour lessons each week. 4 hours, autumn, winter, and spring quarters.

## PRACTICAL MECHANICS.

ARNO K. LEUPOLD, Professor.

**Group requirements.**—Courses in this department are open to all students. Courses 1 and 2, or 3 and 4, 5, 11, 12, and 16 are required in the Curricula in Chemical, Civil, Electrical, and Mechanical Engineering; and courses 11, 12, and 16 in the Curriculum in Geological Engineering.

**Equipment.**—Shop equipment consists of twenty-four woodworking benches with complete sets of tools; five 12-inch woodturning lathes with full equipment; one circular saw table with attachments; one 6-inch engine lathe, four 13-inch engine lathes, one 14-inch engine lathe, and one 15-inch engine lathe; milling and key-seating attachment for lathe; Dumore grinder for lathe; one 9-inch sensitive drill press; one 20-inch backgeared drill press; two machine shop benches with sets of hand tools. Drawing room equipment consists of twenty-four drawing desks and three cabinets for keeping work on file. Students furnish their own instruments, T-square, triangles, etc.

### Primarily for Undergraduates.

**1, 2. Elementary shop work.**—Bench and lathe work in wood. Practice in the interpretation of working drawings. 3 hours each.

**3, 4. Advanced wood work.**—A continuation of course 2, including pattern making and the principles of cabinet work. Prerequisite: 2, or its equivalent. This course may be taken by students who have had the equivalent of course 2 in their preparatory work. 3 hours each.

**5. Machine shop.**—Lathe work in metals; turning, boring, and thread cutting in cast iron, steel, brass, etc. 4 hours.

**11, 12. General engineering drawing.**—Freehand lettering, mechanical lettering, and making of name plates and titles for mechanical drawings. Orthographic projection, working and detail drawings. Isometric, oblique, and perspective drawing. 3 hours each.

**16. Descriptive geometry.**—The point, line, and plane; the properties of surfaces; intersections and developments. Practical problems. Prerequisite: solid geometry. 4 hours. (DUHADWAY)

**20. Lettering.**—This course may be taken by any college student and consists of exercises in freehand and mechanical lettering. Methods of construction and spacing for mechanical lettering. Proper proportions for titles and name plates. Methods of securing prominence. 2 hours.

## PSYCHOLOGY.

JOSEPH SAMUEL LANDERS, Professor.

**Major course.**—At least 30 credit hours must be earned in this department to satisfy the requirements for a major course. Courses in the department of Philosophy, Physics 51, 52, and 53, or Animal Biology 1, 2, 64, 104, or 120, will be accepted as allied subjects for a major course in this department.

**Minor study.**—Any course in the department will be accepted toward a minor study.

**Restrictions.**—Courses 51 and 52, or their equivalent, are prerequisite to other courses in the department. Courses 151, 152, 161, 163 will be arranged for properly qualified students.

**Equipment.**—The psychological laboratory is equipped with instruments for typical experiments in sensation, perception, association, reaction; and with models of the brain, eye, and ear. Constant additions are being made to the present equipment, thus providing the means for acquiring a thorough knowledge of modern psychological methods, apparatus, and results.

### Primarily for Undergraduates.

**51, 52. General psychology.**—An introductory course designed as an outline study of the whole subject, including the elements of descriptive, physiological, and genetic psychology, and dealing with the physical conditions of mental life, the fundamental facts and laws of normal human consciousness, and the nature of psychic development. 5 hours, autumn and winter quarters.

**61, 62. Experimental psychology.**—A laboratory course in which the student carries on for himself a series of typical psychological experiments, designed to give training in the methods of introspection and to lead to first-hand acquaintance with the facts of mental life. The laboratory exercises are followed by full reports of the individual results attained and their psychological significance, and supplemented by classroom discussions of the principles involved. The exercises are conducted so as to familiarize the student with typical experiments in approved lines of psychological research. Topics: the sense fields, optical and stereoscopic illusions, tactual space perception, auditory localization, attention, reaction time, memory types, tonal fusion, association, analysis of judgments. 2 hours, autumn and winter quarters.

**63. Applied psychology.**—The application of psychological principles and laws to educational, vocational, and commercial activities. A consideration of the problems dealing with individual differences, revealed through mental and physical tests, which determine educational possibilities and vocational fitness. 5 hours, spring quarter.

**64. Educational psychology.**—Psychology applied to the processes of development and education. A treatment of the problems of educa-

tion from the psychological standpoint. The dynamic conception of psychic life is made the basis of a study of mental growth, with emphasis upon the elements of conscious states, attention, interest, apperception, habit, fatigue, play. A practical study of the factors influencing the development of body and mind, and involving the fundamentals of the learning process. 5 hours, summer quarter.

**For Advanced Undergraduates and Graduates.**

**101. The psychology of advertising and business efficiency.**—A study of the psychological principles applicable to industrial and commercial life. 5 hours, autumn quarter.

**102. Social psychology.**—A study of the social nature of the individual and the significant effects of mutual interaction on individuals in association. The social consciousness as displayed in various social, economic, and political groups, considered from the genetic standpoint, and analyzed and compared with individualistic tendencies. 5 hours, winter quarter.

**103. Comparative psychology.**—The course deals with the genesis and development of consciousness through the animal realm, and includes: (a) the evolution of animal intelligence and its significance for human psychology, and the results of experimentations and research upon animal behavior; and (b) the tracing of the psychic evolution of the race and of the individual. The development of the child mind—a survey of the material of child study; infancy, childhood, youth; adolescence, normal adult life, old age. 5 hours, spring quarter.

**104. Psychology of high school subjects.**—A consideration of the mental processes involved in the study of the various subjects pursued in high school. A comparison of the methods of study and of teaching, suited to subjects of high school grade, with the corresponding methods employed in the elementary school. 5 hours, summer quarter.

**151. Advanced psychology.**—A systematic study of the most essential problems of psychic life, involving their metaphysical bearings and modern interpretations. 5 hours.

**152. Pathological psychology.**—A study of double consciousness, multiple personality; the etiology, diagnosis, prognosis, and effects of most frequent psychoses, with a view to obtaining a better understanding of normal consciousness. A consideration of hypnotism, spiritualism, dreams, delusions, etc. 5 hours.

**161, 162. Modern psychology problems.**—Seminar for advanced students, arranged through consultation with the head of the department. 2 hours, autumn and winter quarters.

**163. Intellectual measurements and determination of vocational abilities.**—Provided for special students through consultation. 2 hours, spring quarter.



## ROMANCE LANGUAGES AND LITERATURES.

CHARLES BAILE DRAKE, Professor.

HESTER KENAMORE, Instructor.

**Entrance requirements.**—French 1, 2, 3, 51, 52, and 53, or Spanish 1, 2, 3, 51, 52, and 53 may be used to fulfill the general college requirements for entrance. Students who enter with two units of French or Spanish may enroll in French 51 or Spanish 51, and students who enter with four units may enroll in French 101 or Spanish 101.

**Major course.**—To complete a major course in Romance Languages and Literatures, it is necessary for the student to earn at least 25 credit hours in one language and literature (French or Spanish) above courses 1, 2, and 3, which may not be counted towards his major course. The remainder of the 48 credit hours shall be taken in the other languages and literatures in the department (French, Italian, and Spanish) under the direction of the major professor.

**Minor study.**—A minor study in Romance Languages and Literatures consists of a minimum of 16 credit hours in one language and literature (French or Spanish), not counting courses 1, 2, and 3.

## FRENCH.

## Primarily for Undergraduates:

1. **Elementary French.**—Pronunciation, grammar, reading. Daily oral and written composition. Fraser and Squair: French Grammar, 25 lessons. Francois: Easy French, 75-100 pages., 5 hours, autumn quarter, annually. Summer quarter, 1919. (DRAKE)

2. **Elementary French (continued).**—Grammar, reading, conversation. Phonetics. Irregular verbs. Fraser and Squair, Part I, and special topics in Part II. Ballard and Tilly: Phonetic French Reader; Harvitt: Contes divers. 5 hours, winter quarter, annually. Spring quarter, 1919. (DRAKE)

3. **Intermediate French.**—Reading, conversation, composition. Selections from Hugo, Balzac, Daudet, Béranger, Faguet, et al. Francois: Introduction to French Prose Composition. 5 hours, spring quarter, annually. (DRAKE)

51. **Advanced French.**—Political and literary history of France in the nineteenth century. Readings from representative poets, novelists, essayists, and critics. Composition based upon assigned topics. Comfort's French Prose Composition. 4 hours, autumn quarter, annually. (DRAKE)

52. **Advanced French.**—French novelists of the nineteenth century. A brief survey of the great French novelists of the century with particular attention to Chateaubriand, Vigny, Sand, Balzac, Mérimée, Flaubert, Alphonse Daudet. 4 hours, winter quarter, annually. (DRAKE)

53. **Advanced French.**—French poets of the nineteenth century. Romanticism. Parnassianism. Symbolism. Hugo, Musset, Vigny; Leconte de Lisle, Sully Prudhomme; Verlaine. Memorizing of poems. Short biographies in French by members of the class. The elements of French versification. Text: Henning: French Lyrics of the Nineteenth Century. 4 hours, spring quarter, annually. (DRAKE)

60. **Scientific French.**—Class reading of about 200 pages from the different sciences. Text: Bowen's Scientific French Reader. Prerequisite: Intermediate French. 3 hours, spring quarter. (DRAKE)

101. **Alfred de Musset.**—3 hours, autumn quarter, annually. (DRAKE)

102. **The French short-story.**—Special attention will be given to Mérimée, Daudet, Flaubert, and Maupassant. 3 hours, winter quarter, annually. (DRAKE)

103. **French literature in the seventeenth century.**—Boileau: *L'Art Poétique*; Corneille, Racine, La Fontaine, Bossuet, La Bruyère, and others. Text: Schinz and King: *Seventeenth Century Readings*. 3 hours, spring quarter, annually. (DRAKE)

#### For Advanced Undergraduates and Graduates.

151. **Balzac.**—Rapid reading of several novels, with a survey of the entire *Comédie Humaine*. Texts for class use: *Ursule Mirouet*; *Eugénie Grandet*. F. Brunetiere: *Balzac* (Nelson edition). 3 hours, autumn quarter, annually. (DRAKE)

152. **French thought in the eighteenth century.**—The great minds of the century: Fontenelle, Montesquieu, Voltaire, Rousseau, and Diderot. Brief consideration of the literary contributions of Lesage, Marivaux, Buffon, Bernardin de Saint-Pierre, Beaumarchais, and André Chenier. 3 hours, winter quarter, annually. (DRAKE)

153. **Molière.**—His life and dramatic works. Class reading of several plays. Textbooks: G. Larroumet: *La Comédie de Molière*; E. Rigal: *Molière*. 3 hours, spring quarter, annually. (DRAKE)

170. **The sixteenth century in France.**—The French literary Renaissance. The influence of John Calvin's *Institution chrétienne* upon Christian theology. The philosophy which Rabelais presented to his contemporaries. Montaigne's *Essays*. His skepticism. Amyot's translations of Plutarch. The poets of the French Renaissance: Marot, du Bellay, Ronsard. 3 hours, winter or spring quarter. Prerequisite: 103. (DRAKE)

#### SPANISH.

##### Primarily for Undergraduates.

1. **Elementary Spanish.**—Pronunciation, grammar, reading. Daily oral and written composition. Hills and Ford: *First Spanish Course*, 30 lessons. Espinosa: *Elementary Spanish Reader*, 75-100 pages. 5 hours, autumn and summer quarters, annually. (KENAMORE, DRAKE)

2. **Elementary Spanish (completed).**—Grammar, reading, irregular verbs. Written and oral composition. Hills and Ford: *First Spanish Course (completed)*. Hills: *Tales for Beginners*. Crawford: *Spanish Composition*, 12 lessons. 5 hours, winter and summer quarters, annually. (KENAMORE, DRAKE)

3. **Intermediate Spanish.**—About 200 pages from the less difficult modern prose writers: Taboada, Valera, Galdós, Valera, et al. Crawford: *Spanish Composition (completed)*. 5 hours, spring quarter, annually. (KENAMORE)

51. **Advanced Spanish.**—Modern Spanish novelists. An outline of the Spanish novel in the nineteenth century to 1898. Readings from Valdés, Alarcón, Valera, Pereda, Bazán, Galdós, Ibáñez. Wilkins: *Spanish Prose*

Composition (15 lessons). 4 hours, autumn quarter; summer quarter if demand warrants. (KENAMORE, DRAKE)

**52. Advanced Spanish.**—Modern comedies and dramas. Class and outside reading with reports, of the less difficult authors: Gutiérrez: *El Trovador*; Martínez de la Rosa: *La Conjuración de Venecia*; Carrión and Vital Aza: *Zaragueta*. Wilkins: *Spanish Prose Composition* (to lesson 29). 4 hours, winter quarter, annually. (KENAMORE)

**53. Advanced Spanish.**—Spanish American Literature. Readings from prominent writers. Spencer: *Trozos de Historia*. Bardin: *Leyendas Mexicanas*. Isaacs: *María*. Marmol: *Amalia*. Darío: prose works. Composition work based upon Waxman: *A Trip to South America*; or Wilkins: *Spanish Prose Composition* (*A Trip to South America*, lesson 29 to 43). 4 hours, spring quarter, annually. (KENAMORE)

**90. Commercial Spanish.**—Readings from commercial Spanish texts. Letter writing. Whittem and Andarde: *Spanish Commercial Correspondence*. Prerequisite: Spanish 53, or an equivalent. 3 hours, winter or spring quarter. (KENAMORE, DRAKE)

**101. The Spanish drama in the nineteenth century.**—Dramatic and literary tendencies as reflected by the works of L. F. de Moratín and Ramón de la Cruz; El Duque de Rivas; Gil y Zárate; Hartzenbusch; Gutiérrez; Zorrilla; Bretón de los Herreros; López de Ayala; Tamayo y Baus; Echegaray; Núñez de Arce; Galdós; Benavente; los Quintero; Felú Codina; Ricardo de la Vega; Luceño, et al. 3 hours, autumn quarter. (KENAMORE)

**102. Introduction to Spanish classics.**—Padre Isla's *Gil Blas*; Cervantes; *Don Quijote* (Ford's edition). Fitz-Maurice Kelly: *Cervantes Saavedra: A Memoir* (Oxford, 1917). 3 hours, winter quarter. (KENAMORE)

**103. Spanish poets.**—A study of some of the important poets since the middle of the fifteenth century. J. Manrique; Garcilaso; Luis de León; Herrera; Góngora; Lope; anonymous poets; Espronceda; Campoamor; Bécquer; Rosalia de Castro; Darío; los Machado; Jiménez; Chocano; Diez Canedo. The writing of short biographies in Spanish. The memorizing of poems. Elements of Spanish versification. 3 hours, spring quarter. (DRAKE, KENAMORE)

#### For Advanced Undergraduates and Graduates.

**151. Survey course.**—A survey of Spanish literature from the earliest times to the present. 2 or 3 hours, autumn quarter, annually. (DRAKE)

**171. Spanish literature since 1898.**—The novel; the drama; essayists and critics. Lectures with considerable outside reading. 2 or 3 hours, winter quarter, annually. (DRAKE)

**199. An introduction to the classic Spanish drama.**—Rueda; Lope; Calderón; Tirso. Class reading of two dramas. Outside reading. Fitz-Maurice Kelly: *Lope de Vega and the Spanish Drama* (London, 1902). 2 or 3 hours, spring quarter. (DRAKE)

#### ITALIAN.

##### For Advanced Undergraduates or Graduates.

**51. Elementary Italian.**—Pronunciation. Elements of grammar. Practice in the identification of forms, with a study of special topics

leading to an early reading of Italian texts. Grandgent: Italian Grammar (Revised edition, Wilkins, 1915). Wilkins and Altrocchi: Italian Short Stories. Not open to freshmen, nor to students taking Elementary French or Elementary Spanish. 3 hours, autumn quarter, annually. (DRAKE)

**52. Intermediate Italian.**—Manzoni: *I Promessi Sposi* (Heath edition); Fogazzaro: *Peregrinatio*; Testa: *L'Oro e l'Orpello*. Prerequisite: 51, or an equivalent. 3 hours, winter quarter, annually. (DRAKE)

**53. Goldoni.**—Class reading and study of Goldoni's best comedies (except those in the Venetian dialect). 3 hours, spring quarter, annually. (DRAKE)

## SOCIOLOGY.

GROVE SAMUEL DOW, Professor.

**Major course.**—For a major course in Sociology a student may present 48 hours from this department or may include in the 48 hours required a maximum of 18 hours from the departments of Economics, Government, or History. If Economics credits are offered they must include Economics 61-62; if Government credits are offered they must include Government 71.

**Minor study.**—A minor study consists of any 16 hours, including 51-52, selected from the department.

### Primarily for Undergraduates.

**51-52. Introduction to sociology.**—A general survey of the field of Sociology, taking up the study of population, social evolution, social organization, and the problems of present day society. Particular attention is given to immigration; the race question; the family, including problems of the modern family, such as divorce, individualism, women in industry, race suicide, and family budgets; poverty; crime; and feeble-mindedness. Its aim is to give sufficient foundation for advanced work and to give the student who can take but one course a general idea of the science. Text, lectures, and collateral reading. 5 hours, autumn and winter quarters.

**55. Primitive society.**—A study of the origin of some of the leading institutions of society, such as the family, religion, invention, art, government, morals, and education. Lectures and collateral reading. Prerequisites: 51-52. 5 hours, spring quarter.

**57. Poverty.**—A study of the causes, conditions, relief, and prevention of poverty. Lectures and collateral reading. Prerequisites: 51-52. 4 hours, autumn quarter.

**59. Crime.**—A study of the causes, psychology, and methods of treatment of crime. Lectures and collateral reading. Prerequisites: 51-52. 4 hours, autumn quarter. (Not given in 1919.)

**74. Cities.**—Municipal administration and city problems. A text in municipal government will be used. Lectures and collateral reading on such city problems as city planning, streets, health, protection, housing, recreation, and municipal ownership. Prerequisite: 51. 5 hours, winter quarter.

**76. Rural sociology.**—A study of the forces and factors operating in rural life. A consideration of some of the leading rural problems, such as economic efficiency, the rural school, the rural church, and the need of community centers. Prerequisite: 51. 4 or 5 hours, winter quarter.

**For Advanced Undergraduates and Graduates.**

**101. Social psychology.**—5 hours, winter quarter.

**103. Social insurance.**—A study of some of the modern methods of treating distress, such as minimum wage, sickness and accident insurance, old age pensions, unemployment insurance, and co-operation. Lectures, collateral readings, and discussions. A term paper on some one form of social insurance is required. Prerequisites: 51-52. 5 hours, spring quarter.

**151-152. Sociological theory.**—Primarily an advanced course for students specializing in Sociology. A study of the leading theories of the growth, development, and organization of society, such as conflict, consciousness of kind, imitation, social control, and group interest. Lectures, readings, and discussions. Offered when there are sufficient students qualified to take it. 5 hours, autumn and winter quarters.

## THEORY OF MUSIC.

HENRY FOOTE PERRIN, Assistant Professor.

**Primarily for Undergraduates.**

**1, 2. Harmony.**—Study of scales, intervals, triads, close and open harmony, dominant ninth and diminished seventh chords and inversions. Harmonization of melodies and basses. Chadwick: Harmony. 5 hours each.

**41. Public school music.**—Study of the child voice; methods of drilling grade children; study of rote songs of various grades of difficulty. Lectures and demonstrations. 3 hours.

**51, 52. Advanced harmony.**—Study of modulations, irregular resolutions, altered chords, suspensions, passing tones, organ point. Chadwick: Harmony, for reference; Prout: Harmony; and Hull: Modern Harmony. Prerequisite: 2. 3 hours each.

**61, 62. History of music.**—Comprehensive study of the evolution of music from ancient to modern times, with special attention given the periods of Palestrina, Bach, Mozart, Beethoven, and the Romantic composers. Hamilton: Outlines of Music History. 3 hours each.

**121, 122. Counterpoint.**—Different species of single counterpoint in two, three, four, and five or more parts. Double counterpoint at the octave, twelfth, and fifteenth. Modern counterpoint. Bridge: Counterpoint. Prerequisite: 2. 3 hours each.

**125, 126. Composition.**—Simple song and dance forms. Theme with variations, analysis of classical models, and original work. Stainer: Composition, for reference; Stanford: Musical Composition. Prerequisite: 52. 2 hours each.

**141, 142. Normal class.**—Methods of arranging and presenting courses in theoretical and practical music. Lectures and demonstrations. 1 hour each.

**171. Canon and fugue.**—Various forms of canon and their use; fugue in two, three, and four parts; analysis of Bach fugues and original work. Bridge: Double Counterpoint and Canon; Higgs: Fugue. Prerequisite: 122. 1 hour.

**175, 176. Advanced composition.**—Sonata and rondo forms, analysis of classical works, and original works in larger forms. Prerequisites: 122 and 126. 1 hour each.

**182. Instrumentation.**—Nature and treatment of the orchestral instruments; analysis of classical and modern scores; original work in orchestration. Prout: Instrumentation. Prerequisite: 126. 1 hour.

**191, 192. Musical analysis.**—Analysis, from standpoints of form and content, of Bach fugues, Beethoven sonatas and symphonies, compositions of Schumann, Schubert, Chopin, Brahms, Tschaiakowsky, and others. 1 hour each.

## VOICE.

HENRY FOOTE PERRIN, Assistant Professor.

### Primarily for Undergraduates.

**1. Freshman course.**—Tone production; exercises with lectures on tone placing, vowel formation, and breathing. Elements of the theory of music. 2 hour lessons each week. 4 hours, autumn quarter.

**2, 3. Freshman course.**—Continuation of 1 with special attention to ear training and sight reading. 4 hours, winter and spring quarters.

**51, 52, 53. Sophomore course.**—Advanced work in tone-sustaining. Marzo: Art of Vocalization, Vol. I. Easy songs. Ensemble work. 2 hour lessons each week. 4 hours, autumn, winter, and spring quarters.

**101, 102, 103. Junior course.**—Advanced work in breath control. Concert songs, classic opera and oratorio; ensemble work. 2 hour lessons each week. 4 hours, autumn, winter, and spring quarters.

**151, 152, 153. Senior course.**—Special attention given to interpretation. Marchesi: Twenty-four Vocalises for perfecting the mechanism of the voice. Modern songs, oratorio, and modern opera. 2 hour lessons each week. 4 hours, autumn, winter, and spring quarters.

# DEGREES GRANTED BY THE UNIVERSITY.

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## FIRST DEGREES.

COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCES.

Bachelor of Arts, Bachelor of Science.

COLLEGE OF FINE ARTS.

Bachelor of Music.

COLLEGE OF ENGINEERING.

Bachelor of Science in Chemical Engineering.

Bachelor of Science in Civil Engineering.

Bachelor of Science in Electrical Engineering.

Bachelor of Science in Geological Engineering.

## SECOND DEGREE.

GRADUATE SCHOOL OF ARTS, PHILOSOPHY, AND SCIENCES.

Master of Arts, Master of Science.

# COLLEGE OF ARTS, PHILOSOPHY, AND SCIENCES.

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The College of Arts, Philosophy, and Sciences aims to provide a liberal as well as a thorough education. It offers courses of both cultural and practical nature in various departments, including animal biology, botany, chemistry, economics and business administration, education, English language and rhetoric, English literature, geology, government, Greek language and literature, history, home economics, Latin language and literature, mathematics, philosophy, physics, psychology, Romance languages and literatures, and sociology. It gives opportunity also for special work in the Curricula Preparatory to Law and to Medicine. In addition, it accepts a certain amount of work from the Colleges of Fine Arts and of Engineering.

## GRADUATION REQUIREMENTS.

A total of 186 credit hours of work of M grade (see page 50) is required for graduation with the Bachelor of Arts degree. A little more than one-third of the curriculum is prescribed for the program of the first two years with the intention that every student shall lay a sufficiently broad foundation in English, other languages, the sciences and mathematics, and history, government, economics, sociology, and philosophy. During the last two years he devotes about half of his time to his major course and chooses his electives under the advice and approval of his major professor. The curriculum for the first two years is arranged in groups and a specified amount of work must be taken in each group.

### GROUP I.

- A. English.
- B. Foreign Language.

### GROUP II.

- History.
- Government.
- Economics.
- Sociology.
- Philosophy.



## GROUP III.

Mathematics.  
Physics.  
Chemistry.  
Geology.  
Botany.  
Animal Biology.  
Psychology.  
Home Economics (food courses).

## REQUIREMENT IN GROUP IA.

English Language 1 must be taken in the first year. Before the close of the second year, the student elects four hours of work which must be in composition and ten additional hours which may be selected from those courses open to him in English Language and Rhetoric or in English Literature.

## REQUIREMENT IN GROUP IB.

Courses normally earning 21 credit hours must be taken in languages other than English in the first two years. But for students who enter with six units in languages other than English, the requirement may be reduced to 12 credit hours, and for those who enter with five units in languages other than English the requirement may be reduced to 17 credit hours. In high school and the first two years of college the student must have credit in at least two languages other than English and of at least one of these he must have a practical working knowledge. The reductions mentioned above may be obtained only after a year of residence at the University and on the written recommendation of the head of the language department most concerned.

## REQUIREMENT IN GROUP II.

Courses normally earning 18 credit hours are required in this group in the first two years.

## REQUIREMENT IN GROUP III.

Courses normally earning 27 credit hours must be completed in this group in the first two years. But the amount required may be reduced to 14 credit hours for students who offer for entrance two additional units in laboratory sciences or one additional unit in laboratory science and one additional unit in mathematics. Reduction on account of additional units in laboratory sciences is granted only on presentation of notebooks and other evidence of satisfactory completion of the work for

the approval of the head of the department concerned. The above exemption does not apply in so far as it may involve courses prerequisite to other courses in which a student desires to enroll after the completion of the Freshman or Sophomore year.

#### REQUIREMENTS IN MAJOR COURSE AND MINOR STUDY.

When registering for the Junior year each student shall declare a major course and his curriculum of study for the last two years shall meet the approval of the head of the department in which the greater part of the major course lies. He shall complete in this major course at least 48 credit hours, in 36 of which a grade of at least G must be attained, with no grade below M in the remaining 12 hours. Not more than 6 hours of work of M grade may lie in the department in which the major course has been declared. When a lower grade than M is earned in any course, another course may be substituted therefor, in the discretion of the major professor. The major course ordinarily consists of 32 credit hours in one department and 16 credit hours in an allied department or allied departments, but the amount of work to be taken in different departments shall lie in the discretion of the major professor.

The student may change his major course only by permission of the faculty, and in so doing he must complete in his newly declared major course the required amount and quality of work, no matter how many credit hours he may have earned in his previously declared major course.

At least 6 credit hours in the major course must be earned in this University. No advanced standing in the major course is granted to any student presenting credits from another institution until after he has been in residence at this University for at least one quarter and then only after the completion of 6 credit hours in the major course at this University.

If in addition to his major course a student completes a minor study of 16 credit hours, in 12 of which a grade of at least G is attained, with no grade below M in the remaining 4 hours, he will receive recognition for it in his diploma.

#### RESTRICTIONS IN ELECTIVES.

Not more than 75 credit hours from courses open to Freshmen will be accepted towards the degree of Bachelor of Arts without reduction in the amount of credit usually given for such courses.

Not more than 30 credit hours in Theory of Music and Instrumental or Vocal Music will be accepted as electives towards the degree of Bachelor of Arts.

#### DEGREE.

Upon recommendation of the President and Faculty, the degree of Bachelor of Arts is conferred upon those candidates who have completed at this institution not less than the last three quarters of a four years' curriculum in accordance with the requirements and regulations of the University. If such candidates have completed a major course in Group III, they may, upon request, receive the degree of Bachelor of Science.

#### PROFESSIONAL HIGH SCHOOL TEACHER'S CERTIFICATE.

Graduates of the University are awarded a professional high school teachers' certificate upon the completion of the following requirements:

The inclusion in the four years' curriculum of 30 credit hours in the group of Psychology and Education: to-wit, Psychology, not less than 15 credit hours; History of Education, not less than 10 credit hours; and Principles of Secondary Education, not less than 5 credit hours; and

The completion of a major course, including methods of teaching the major subject.

The requirements in Physiology, United States History and Civics, and the History and Civics of New Mexico, to which all applicants for all grades of certificates are held, must be met by applicants for the professional high school certificate. If these subjects have not been offered for entrance they must be taken before graduation.

Graduates of the University who include in their curriculum the above prescribed subjects receive a certificate showing that they have completed this work. Upon the presentation of this certificate to the State Department of Education, a professional certificate is issued permitting the holder thereof to teach in high schools in New Mexico for a period of three years. Upon the expiration of this time and upon the presentation of evidence of successful teaching, this certificate will be renewed.

#### CURRICULUM PREPARATORY TO LAW.

All law schools of high rank are now requiring a certain amount of work in the College of Arts, Philosophy, and Sci-

ences before admission to the study of law. The student who plans to take up the study of law should first gain a broad foundation for his later work, and should take at least two years of English, History, Government, Economics, and Sociology, the languages and the sciences. The exact curriculum will depend on the requirements of the law school of which the student plans to become a member, but he should, in general, pursue the regular required course for the Freshman and Sophomore years, choosing his electives under the direction of the Professor of Government.

The School of Law of Northwestern University has effected an affiliation with the College of Arts, Philosophy, and Sciences, by the terms of which the student may secure the advantages of the following seven years' program of combined liberal and professional studies. He may spend three years in residence in the College of Arts, Philosophy, and Sciences and then proceed to the School of Law for the remaining four years, receiving his Bachelor of Arts degree from the University of New Mexico at the end of the first four years of study, and his Bachelor of Laws degree from Northwestern University at the close of the seven years' program.

#### CURRICULUM PREPARATORY TO MEDICINE.

The standard of preliminary education which is required as the minimum for admission to the study of medicine is two years of college work based on a four-year high school education. This standard has now been generally adopted by the medical colleges of the United States. The minimum requirement for admission to medical schools approved by the Council on Medical Education in the United States, in addition to the high school work specified above, is 90 quarter credit hours, extending through six quarters of at least eleven weeks each, exclusive of holidays, in the College of Arts, Philosophy, and Sciences. It is recommended that, whenever possible, the student spend at least three years, i. e. nine quarters, in residence in the College of Arts, Philosophy, and Sciences before proceeding to the medical school. He should determine, before registration, what medical school he desires to attend and should arrange his curriculum, under the direction of the Professor of Animal Biology and Botany, to meet the requirements of that particular school.

The subjects included in the minimum six quarters of required college work or the recommended nine quarters of desirable college work should accord with the following curriculum:

**Two- or Three-Year Curriculum Preparatory to Medicine.**

90 Quarter Credit Hours Required.

135 Quarter Credit Hours Strongly Urged.

Required Courses:	Quarter Hours
Chemistry .....	18
Physics .....	12
Animal Biology .....	12
English Language and Rhetoric.....	10
Other non-science courses.....	18

**Courses Strongly Urged:**

French or German.....	9-18
Advanced Botany or Advanced Zoology.....	5-9
Psychology .....	5-9
Advanced Mathematics, including Algebra and Trigonometry....	5-9
Additional Chemistry .....	5-9

**Suggested Elective Courses:**

Additional English Language and Rhetoric or English Literature, Economics, History, Sociology, Government, Logic, Mathematics, Latin, Greek, Drawing.

**Suggestions Regarding Individual Subjects.**

**Chemistry.**—18 quarter credit hours required, of which at least 12 must be in general inorganic chemistry, including 6 credit hours of laboratory work. Work in qualitative analysis may be counted as general inorganic chemistry. The remaining 6 hours may consist of additional work in general chemistry or of work in analytic or organic chemistry.

**Physics.**—12 quarter credit hours required, of which at least 3 must be laboratory work. It is urged that this course be preceded by a course in trigonometry. This requirement may be satisfied by 9 quarter credit hours of college physics, of which 3 must be laboratory work, if preceded by a year (one unit) of high school physics.

**Animal Biology.**—12 quarter credit hours required, of which 6 must consist of laboratory work. This requirement may be satisfied by a course of 12 quarter credit hours in either general biology or zoology, or by courses of 6 quarter credit hours each in zoology and botany, but not by botany alone.

**English Language and Rhetoric.**—The usual 10 quarter credit hours of college composition are required.

**Non-Science Courses.**—Of the 90 quarter credit hours required as the measurement of two years of college work, at least 27, including the 10 quarter credit hours in English Language and Rhetoric, should be in departments other than Physics, Chemistry, Animal Biology, or Botany.

**French or German.**—A reading knowledge of one of these languages is strongly urged. If the reading knowledge in one of these languages is obtained on the basis of high school work, the student is urged to take the other language in his college course. It is not considered advisable, however, to spend more than 18 of the required 90 quarter credit hours on foreign languages. In case a reading knowledge of one language is obtained by 9 quarter credit hours of college work, another 9 quarter credit hours may be well spent in taking the beginner's course in the

other language; if this is followed up by a systematic reading of scientific prose, a reading knowledge of the second language may be readily acquired. When a student spends more than two years in college he may well spend 18 quarter credit hours of his college work in the second language.

# GRADUATE SCHOOL OF ARTS, PHILOSOPHY, AND SCIENCES.

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## ADMISSION.

Students are admitted to the Graduate School upon the completion of all the scholastic requirements for the Bachelor's degree in this University or some other institution of approved rank. Admission to the Graduate School, however, does not imply admission to candidacy for an advanced degree and gives no right or claim to such admission.

## THE MASTER'S DEGREE.

For the present only the Master's degree in Arts or in Science is conferred by the University.

## RESIDENCE REQUIREMENT.

At least three quarters must be spent by the candidate in residence before the Master's degree will be conferred upon him.

## SCHOLASTIC REQUIREMENTS.

Each candidate for a Master's degree shall elect a major and a minor study, which shall bear satisfactory relationship to each other. The selection of the minor study must meet the approval of the head of the department in which the major study lies. A committee of at least three members of the Faculty of a rank above that of instructor shall supervise the candidate's program of study. The head of the department in which the major study lies shall be the chairman of this committee. The other members of this committee shall be those professors under whom work is taken. If study is pursued under only two members of the Faculty, these two shall elect a third member of the committee.

A reading knowledge of one modern foreign language is required for admission to candidacy for a Master's degree. The language offered must meet the approval of the chairman of the committee. The committee may ascertain by examination or in any other way whether this requirement has been satisfied.

The amount and nature of the work required for the second degree lie in the discretion of the committee supervising the candidate's study, but they shall always represent a certain amount of intensive study, or investigation, or both, in some limited field, and may also include some extensive study.

#### MASTER'S THESIS.

A thesis is required of each candidate for the Master's degree and it shall embody the results of intensive study or research done in some field of the major study. The latest date for announcing the subject of such thesis shall be twenty-two weeks before the date on which the candidate expects to receive the degree. The thesis must be approved by the major professor at least three weeks before the date on which the candidate expects to receive the degree. A typewritten copy must be deposited in the Library at least one week before Commencement Day. (The Librarian should be consulted in regard to size and quality of paper and binding required.)

#### EXAMINATIONS.

Examinations covering the work required of the candidate by his committee may be held only at the close of the term of study, and may be entirely oral or partly oral and partly written, but there shall be at least a public oral examination.

#### DIPLOMA FEE.

A diploma fee of eight dollars is due and payable before Commencement Day.



## COLLEGE OF FINE ARTS.

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The College of Fine Arts offers courses in instrumental and vocal music, and in the theory of music. At a later date it is planned to incorporate courses in painting, drawing, oratory, and allied subjects coming within the field of this College. Full four-year curricula are offered in piano and voice, including a study of theoretical music and cultural subjects, and leading to the degree of Bachelor of Music. These curricula thus combine the advantages of specific musical study with those of a liberal college course.

### FEEES.

In addition to the usual fees for entrance to the University, students enrolled in the Curricula in Piano or Voice, are required to pay the following fees:

Per quarter, one lesson-hour each week.....\$10.00

Per quarter, two lesson-hours each week.....\$20.00

### REQUIREMENTS FOR GRADUATION.

All candidates for the degree of Bachelor of Music must complete 186 credit hours of M grade in one of the Curricula outlined below, i. e. in Piano or Voice. In addition they must complete 3 credit hours in Physical Training.

### CHORUS, ORCHESTRA, AND BAND.

All students registered in the curricula of this College are required to enroll in either Choral or Orchestral work, unless excused by the Director. Thorough training in part-singing, secular and sacred, is given by the University Choral Club, which appears in concert several times during the year. An orchestra of some twelve or fourteen pieces is maintained, in which is offered training in the routine of orchestral playing. Music is furnished for assemblies, plays, concerts, and other public occasions. A uniformed band of twenty pieces has also been organized to play at athletic contests and musical events. Applicants must be fairly proficient on their respective instruments.

### CLASS HOURS AND CREDIT HOURS.

An "hour" consists of 53 minutes. But 2 hours each week of Chorus or Orchestra earn 1 credit hour. 2 half-hour lessons

each week in Piano or Voice, with a passing grade in the required work of the course, earn 4 credit hours. Other courses earn as many credit hours as there are exercises each week.

#### **Curricula in Piano and Voice.**

**English Language and Rhetoric.**—10 hours in composition, including course 1.

**English Language and Rhetoric, or English Literature.**—10 hours to be elected.

**Romance Languages and Literatures.**—30 hours to be elected.

**History, Government, Economics, Sociology, or Philosophy.**—18 hours to be elected.

**Theory of Music.**—1, 2, 51, 52, 61, 62, 121, 122, 125, 126, 141, 142, 171, 175, 176, 182, 191, 192.

**Chorus or Orchestra.**—Unless excused by their major instructor, all students registered for curricula in music must enroll for chorus or orchestra during each quarter in residence.

**Piano.**—1, 2, 3, 51, 52, 53, 101, 102, 103, 151, 152, 153.

or

**Piano.**—1, 2, 3.

and

**Voice.**—1, 2, 3, 51, 52, 53, 101, 102, 103, 151, 152, 153.

**Electives.**—To make up the total of 186 hours.

## COLLEGE OF ENGINEERING.

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The College of Engineering offers courses in chemical, civil, electrical, and geological engineering, and practical mechanics; it offers, in addition, at least the first two years of four-year curricula in mechanical, mining, and sanitary engineering. The aim of each department is to make entrance requirements and requirements for graduation meet the standard of the leading engineering colleges. The curricula have been so outlined as to include both professional and cultural studies in order that the student may not only receive instruction in theory and practice but may also enlarge his mental horizon.

It is the endeavor of the departments of engineering to give a thorough grounding in mathematics and theoretical subjects during the earlier years, with a reasonable amount of specialization during the later years in each curriculum. The drawing and laboratory instruction continues progressively throughout the four years in each curriculum. Sufficient foreign language is introduced to enable the graduate to read professional French, Spanish, or Italian.

### INSPECTION TOURS.

From time to time throughout the curriculum inspection tours are made, under the direction of an instructor, to engineering and industrial establishments in the city of Albuquerque, and the coal and metal mines, the mills, kilns, and smelters in this region. Through the courtesy of these establishments it is possible for the engineering students to get a much better idea of the actual processes and methods in use in up-to-date, practical plants than could possibly be gained in the shops and laboratories 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 laboratories offers excellent opportunity for the students to become familiar with practical applications.

### FIELD WORK.

College credit is allowed for practical or applied field, laboratory, or office work, under the guidance of the professor

in charge, on the basis of 1 hour's credit for each two calendar weeks occupied, provided that no more than 15 hours of such credits be allowed toward the graduation of any student.

### GRADUATION REQUIREMENTS.

All candidates for the degree of Bachelor of Science in curricula in engineering must complete 186 credit hours with an average grade of M.

#### MAJOR COURSE.

The major course of the student in the College of Engineering is fixed by his choice of curriculum.

The student may change his major subject only by permission of the Faculty but in so doing he must complete all the work required for graduation in his new major subject, no matter how many hours he may have completed in other departments.

#### Curriculum in Chemical Engineering.

**English Language and Rhetoric.**—10 hours in composition, including course 1.

**Romance Languages and Literatures, English Language and Rhetoric, or English Literature.**—21 hours to be elected.

**Economics.**—61, 62.

**Mathematics.**—11 (or 3), 12, 13, 50, 51, 52, 53.

**Practical Mechanics.**—1 and 2, or 3 and 4, 5, 11, 12, 16.

**Physics.**—51, 52, 53.

**Chemistry.**—1, 2, 51, 52, 61, 62, 101, 102, 110, 111, 112, 113, 171.

**Civil Engineering.**—105, 106, 108, 109, 110.

**Electrical Engineering.**—101, 102.

**Electives.**—To make up the total of 186 hours.

#### Curriculum in Civil Engineering.

**English Language and Rhetoric.**—10 hours in composition, including course 1.

**Romance Languages and Literatures, English Language and Rhetoric, or English Literature.**—21 hours to be elected.

**Economics.**—61, 62.

**Mathematics.**—11 (or 3), 12, 13, 50, 51, 52, 53.

**Practical Mechanics.**—1 and 2, or 3 and 4, 5, 11, 12, 16.

**Physics.**—51, 52, 53.

**Chemistry.**—1, 2.

**Geology.**—101, 102.

**Civil Engineering.**—51, 52, 53, 54, 101, 102, 105, 106, 108, 109, 110, 112, 130, 151, 152, 155, 156, 157, 158, 171, 172, 190.

**Electrical Engineering.**—101, 102.

**Electives.**—To make up the total of 186 hours.

**Curriculum in Electrical Engineering.**

**English Language and Rhetoric.**—10 hours in composition, including course 1.

**Romance Languages and Literatures, English Language and Rhetoric, or English Literature.**—21 hours to be elected.

**Economics.**—61, 62.

**Mathematics.**—11 (or 3), 12, 13, 50, 51, 52, 53.

**Practical Mechanics.**—11, 12, 16.

**Physics.**—51, 52, 53, 54, 55, 110, 121, 124, 141.

**Chemistry.**—1, 2.

**Civil Engineering.**—51, 52, 53, 105, 106, 108, 109, 112.

**Electrical Engineering.**—62, 101, 102, 151, 152, 191, 192, 193.

**Electives.**—To make up the total of 186 hours.

**Curriculum in Geological Engineering.**

**English Language and Rhetoric.**—10 hours in composition, including course 1.

**Romance Languages and Literatures, English Language and Rhetoric, or English Literature.**—21 hours to be elected.

**Economics.**—61, 62.

**Mathematics.**—11 (or 3), 12, 13, 50, 51, 52, 53.

**Practical Mechanics.**—11, 12, 16.

**Physics.**—51, 52, 53.

**Chemistry.**—1, 2, 51, 52, 113, 131.

**Geology.**—2, 3, 4, 51a, 51b, 51c, 54, 56, 58, 101, 102, 103.

**Animal Biology.**—1, 2.

**Civil Engineering.**—51, 52, 53, 54, 130.

**Electives.**—To make up the total of 186 hours.

**Curriculum Preparatory to Mechanical Engineering.**

(First two years.)

Same as Curriculum in Geological Engineering.

**Curriculum Preparatory to Mining Engineering.**

(First two years.)

Same as Curriculum in Geological Engineering.

**Curriculum Preparatory to Sanitary Engineering.**

(First two years.)

Same as Curriculum in Civil Engineering.

## DIVISION OF UNIVERSITY EXTENSION.

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The various services extended by the University to residents of the state include the following:

**Correspondence Study** under the direction of the University Faculty;

**Lectures** in series, with syllabi, for study-clubs, and single lectures for special groups and general audiences;

**Extension Teaching** in co-operation with educational institutions conducting continuation and evening schools;

**Debating and Public Discussions** stimulated and organized by state contest, bulletins containing formulated questions with briefs and bibliographies, and library loan material;

**General Information** on matters pertaining to education, state and local government, public health, civic improvement, and other subjects of special but common interest;

**Surveys, Research, and Investigation** in fields and on subjects of community and state importance;

**Suggestive Aid** for county, town, and municipal boards, commissions, and councils, school boards, commercial clubs, civic and economic betterment associations;

**Exhibits, Conferences, and Institutes** for public information upon vocational, educational, and social welfare matters.

### CORRESPONDENCE STUDY COURSES.

The University offers to non-resident students a considerable number of courses by correspondence. These courses enable the ambitious to pursue their studies anywhere in the state. Leisure time may thus be utilized to the best advantage. The papers sent in by the student are read and corrected by regular members of the Faculty only; no student-assistants are assigned to do this work. A high standard of instruction is thus assured. The charge for tuition in these courses is \$3 for each credit hour. For example, a five-hour University course costs \$15.00. A full year's preparatory course also costs \$15.00.

All courses carry a credit of five hours, unless otherwise indicated.

**Animal Biology.**

1. General biology.
2. Elementary physiology.
3. Zoology.

**Botany.**

1. Botany.

**Chemistry.**

1. Foundations of chemistry.

**English Literature.**

1. English literature, 1557-1599.
2. English literature, 1599-1660.
3. English literature, 1660-1781.
4. English literature, 1782-1832.
5. English literature, 1833-1910 (poetry).
6. English literature, 1833-1910 (prose).
7. American literature.
8. Short history of the novel.

**French Language and Literature.**

1. Elementary French.
2. Elementary French (continued).
3. Intermediate French.

**Geology.**

1. General geology.

**Greek Language and Literature.**

1. Elementary Greek.
2. The Anabasis of Xenophon.
3. Attic Greek prose.
4. Greek drama.

**History.**

1. Ancient history.
2. Medieval history.
3. Modern European history.
4. English history, 55 B. C.-1603 A. D.
5. English history, 1603-1910.
6. American history, 1492-1829.
7. American history, 1829-1913.
8. Latin-American history.

**Latin Language and Literature.**

1. Elementary Latin.
2. Caesar: De Bello Gallico; and Latin composition.
3. Cicero: Orations; and composition.
4. Sallust: Catiline; and composition.
5. Vergil: Aeneid.
6. Latin prose composition.
7. Advanced composition.

**Philosophy.**

1. Ethics.
2. Logic.
3. History of philosophy.
4. Introduction to philosophy.

**Physics.**

1. General physics.

**Practical Mechanics.**

1. Mechanical and freehand lettering.
2. General engineering drawing.

**Sociology.**

1. Introduction to sociology.

**Spanish Language and Literature.**

1. Elementary Spanish.
2. Elementary Spanish (continued).
3. Intermediate Spanish.

**Theory of Music.**

1. Harmony.
2. History of music.

**LECTURES AND LECTURE COURSES.**

The University Faculty has prepared a list of lectures which will be given in any locality in the state whenever suitable arrangements can be made. The lectures given cover a wide range of thought. They will be presented to the general public in a popular way, so as to be both instructive and interesting.

The University makes no charge for these lectures. It does, however, require the locality or group of cities to pay the traveling expenses of the lecturer. Cities may arrange lecture courses during the autumn, winter, or spring. By organizing a circuit, they can reduce the expense of the lectures to a minimum.

The following is a partial list of the lectures offered:

**PRESIDENT BOYD.**

- (1) Personality in a Democracy.
- (2) A Look Forward.
- (3) College Education as a Business Asset.

**VICE-PRESIDENT HODGIN.**

- (1) Seven Hundred Miles up the Nile.
- (2) The Holy Land.
- (3) Greece—"Yesterday and Today."
- (4) Modes of Travel and Customs of the People.
- (5) Removing Limitations.
- (6) The Emotional Life.
- (7) Rousseau—"The Strangest Man of France."
- (8) "The Story of the Stars."



## DEAN MITCHELL.

- (1) Education for Citizenship.
- (2) Efficiency and the American University.
- (3) The Debt of Democracy to the Romans.
- (4) Life in Ancient Pompeii (illustrated).

## PROFESSOR CLARK.

- (1) Matter in the Making.
- (2) The Air We Breathe.
- (3) The Great Iron and Steel Industry.
- (4) The Fixation of Nitrogen.
- (5) Ptomaines and Leucomaines.
- (6) Chemistry in Warfare.
- (7) Dangers of Fire and Explosions.

## PROFESSOR WEESE.

- (1) Modern Aspects of Heredity.
- (2) Some Physico-Chemical Properties of Living Matter.
- (3) The Origin of Life.
- (4) The Philosophy of Science.
- (5) The New Natural History.

## PROFESSOR SHERWIN.

- (1) Great English Prose Writers.
- (2) Great English Literary Critics.
- (3) The Literary Essay in England.
- (4) The Short-Story in America.

## PROFESSOR LANDERS.

- (1) The Progressive Development of Consciousness in the Animal Realm.
- (2) The Educational Value of Play.
- (3) Modern Application of Intelligence Measurements.
- (4) The Psychology of Nations.
- (5) The Meaning of Democracy.
- (6) The Extension of the Monroe Doctrine.
- (7) The Evolution of the Moral Instinct.
- (8) The Relation of Mind and Matter.

## PROFESSOR DOW.

- (1) Immigration.
- (2) The American Race Question.
- (3) The Family.
- (4) The Evolution of Religion.
- (5) Poverty.
- (6) Crime.
- (7) Feeble-mindedness.

## PROFESSOR DRAKE.

- (1) Alphonse XIII.
- (2) Spain Today.
- (3) Spanish Literature since 1898.
- (4) Benito Pérez Galdós.
- (5) Lope de Vega.
- (6) Simón Bolívar, El Libertador.
- (7) Napoleon and his Family.
- (8) France.
- (9) Louis Pasteur.

## PROFESSOR ELLIS.

- (1) North American Elephants.

## PROFESSOR McCARTY.

- (1) Some Recent Developments in the Electron Theory.

## ASSISTANT PROFESSOR PERRIN.

Piano and organ recitals.

# DIVISION OF PHYSICAL TRAINING AND ATHLETIC SPORTS.

## THE UNIVERSITY GYMNASIUMS.

Two well equipped gymnasiums are at the disposal of the young men and women who attend the University. When not in use for the required work, the gymnasiums are open to all members of the University. All Freshmen women are required to take a course in hygiene and physical training. Classes of one hour duration, three times a week, extending through three quarters, are required. This work earns one credit hour each quarter. It must be completed for graduation.

## ATHLETIC SPORTS.

The athletic sports in vogue in the University are football, baseball, track and field, basketball, and tennis. All students who are physically fit are encouraged to take part in these sports, but in order to take part in any competitive intercollegiate contest the student must conform to the scholarship rules of the University, which are administered by the Faculty Committee on Student Eligibility.

Besides the gymnasium, the Varsity Fieldhouse, containing shower baths and lockers, is for the use of the Varsity teams, and is convenient to the Athletic Field. The Athletic Field contains a quarter-mile running track, 220 yards straightaway, baseball diamond, football gridiron, as well as places for broad and high jumping and pole vaulting, and for throwing the hammer and discus, and putting the shot. Several tennis courts are kept up for the use of the students. All outdoor athletic contests are held on the grounds of the University Athletic Field.

The University is a member of the Rocky Mountain Conference and its teams may compete with those of any other members, i. e., of the state and other institutions of higher education in Colorado, Utah, Wyoming, and Montana.

## DIVISION OF PREPARATORY STUDIES.

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The University offers no regular courses in the work of the secondary school. Certain beginning courses in the languages and the sciences and some other subjects are open to students of sub-Freshman grade who come to the University with less than the fifteen units required for regular admission. They must in all cases, however, present a minimum of twelve units (three full years) of high school work before admission to the Division of Preparatory Studies. Prospective students of this class should, before coming to the University, inform the Dean concerning the amount and quality of secondary school work they have accomplished, and learn from him what courses, if any, are open to them during the quarter or quarters they plan to attend the University.

Inasmuch as the majority of the students who present themselves for preparatory courses are more mature in years than the average of the students attending high schools and desire to make as rapid progress as possible, practically all of the courses offered in this division cover the field more rapidly than is done in high schools. Some courses accomplish two years of high school work in one year and others accomplish in the same time one and one-half years of high school work. The Preparatory Division exists, therefore, only for those earnest and diligent students who are desirous of making rapid progress and are willing to exert themselves sufficiently.

# PUBLICATIONS.

## BULLETINS OF THE UNIVERSITY OF NEW MEXICO.

### CATALOGUE SERIES.

	Whole No.
v. 1 Catalogue 1892	1
v. 2 Catalogue 1892-93	2
v. 3 Catalogue 1893-94	3
v. 4 Catalogue 1894-95	4
v. 5 Catalogue 1895-96	5
v. 6 Catalogue 1896-97	6
v. 7 Catalogue 1897-98	7
v. 8 Catalogue 1898-99	8
v. 9 Catalogue 1899-1900	9
v. 10 Catalogue 1900-01	10
v. 11 Circular of information 1902	11
v. 12 Catalogue 1902-03	12
v. 13 Catalogue 1903-04	13
x. 14 Catalogue 1904-05	14.
v. 15 Catalogue 1905-06	40
v. 16 Catalogue 1906-07	43
v. 17 Catalogue 1907-08	46
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v. 18 Catalogue 1908-09	50
v. 19 Circular of information 1909-10	54
v. 20 Catalogue 1909-10	55
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v. 26 Catalogue 1912-13	70
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v. 27 Catalogue 1913-14	74
v. 27 No. 2 Annual reports of Treasurer and Registrar	77
v. 28 Catalogue 1914-15	78
v. 28 No. 2 Departments of music and home economics	79
v. 28 No. 3 Information about the University of New Mexico	80
v. 28 No. 4 Interscholastic track meet	81
v. 29 Catalogue 1915-16	82
v. 29 No. 2 Annual reports of Treasurer and Registrar	85
v. 30 Catalogue 1916-1917	86

		Whole No.
v. 30	No. 2 Athletic bulletin	87
v. 31	Catalogue 1917	90
	No. 2 Alumni directory	91
	No. 3 Summer quarter 1918	92

## BIOLOGICAL SERIES.

v. 1	(Bound with Geological Series v. 1)	
	No. 1 Herrick Physiological corollaries of the equilibrium theory of nervous action and control	15
	No. 2 Herrick & Coghill Somatic equilibrium and the nerve endings in the skin	16
	No. 3 Cockerell Tables for the determination of New Mexico bees	19
	No. 4 Herrick and others Notes on a collection of lizards from New Mexico	22
v. 2	No. 1 Weinzirl Bacterial flora of the semi-desert region of New Mexico	29
	No. 2 Maltby & Weinzirl Some observations on the lung capacity of young people living in New Mexico	30
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	No. 3 Herrick Papers on the geology of New Mexico	20

		Whole No.
	No. 4 Herrick Geology of the San Pedro and the Albuquerque districts	21
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	No. 1 Herrick & Johnson Geology of the Albuquerque sheet	23
	No. 2 Herrick Miscellaneous economic papers	24
	No. 3 Herrick Report of a geological reconnaissance in western Socorro and Valencia counties, New Mexico	25
	No. 4 Herrick Geology of the white sands of New Mexico	26
	No. 5 Herrick & Bendrat Identification of an Ohio coal measures horizon in New Mexico	28
	No. 6 Clark Cyanide process in New Mexico	28
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	No. 9 Mitchell High school manual	83
	No. 10 Boyd The University and the education of the nurse	84
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# STUDENTS' ARMY TRAINING CORPS.

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## ROSTER.

Autumn Quarter, 1918.

Baca, Fernando F., Santa Fe.  
Baca, Manuel R., Santa Fe.  
Becker, Arthur E., Albuquerque.  
Berger, Walter, Albuquerque.  
Binkert, Milton, Albuquerque.  
Blackwell, Jerry A., Texico.  
Blake, Vern, Albuquerque.  
Boldt, Chester C., Albuquerque.  
Bramlett, Forrest, Portales.  
Brewer, Mark A., Hope.  
Brooks, Ralph S., Albuquerque.  
Bruce, Richard C., Albuquerque.  
Bryan, George S., Albuquerque.  
Bunn, Thomas S., Albuquerque.  
Burnside, Thos. A., Gallup.  
Burt, Edwin, Canutillo, Tex.  
Chavez, Julian E., Albuquerque.  
Chess, James M., Albuquerque.  
Cristy, Edward J., Albuquerque.  
Collier, Dale, Lakewood.  
Colthorp, Lonnie E., Texico.  
Cowan, Lloyd S., Artesia.  
Culpepper, Chas. C., Carlsbad.  
Curry, John R., McIntosh.  
Davidson, William L., Belen.  
Dean, Roy, Estancia.  
DeBolt, Herman W., Raton.  
Deen, Ashworth, Lovington.  
DeLozier, Harran H., Texico.  
Donahue, Joseph, Santa Fe.  
Eshleman, William D., Clovis.  
Espinosa, Edmundo, Albuquerque.  
Espinosa, Gilbert, Albuquerque.  
Fairly, Albert S., Portales.  
Foraker, Chas. Burch, Albuquerque.  
Foreman, Blonnye H., Clovis.  
Freeburg, Walter B., Tucumcari.  
Fulcher, Raymond, Albuquerque.  
Gallagher, Thos. C., Texico.  
Gamble, Loy Lee, Las Vegas.  
Gamble, T. J., Clovis.  
Garcia, Tomas, Socorro.



Gentry, George V., Luna.  
Georges, Frank, Albuquerque.  
Gerpheide, Louis J., Albuquerque.  
Gillespie, Fred H., Fenton, Okla.  
Givan, George W., Carlsbad.  
Gonzales, Hilario C., Armijo.  
Grunsfeld, Clarence N., Albuquerque.  
Hall, LeRoy B., Roy.  
Henderson, John L., Lake Arthur.  
Hendry, Harvey, Elida.  
Hext, Howard A., Portales.  
Hill, Chas. C., Farmington.  
Hite, George C., Las Vegas.  
Hittson, Chas. H., Tucumcari.  
Houchen, George D., Clovis.  
Huffine, Clarence D., Raton.  
Humphries, R. W., Santa Rosa.  
Irwin, Alfred J., Santa Rosa.  
Jackley, Francis D., Albuquerque.  
John, Charles, Moriarty.  
Kauble, Theodore, Reelsville, Ind.  
Kelly, Donnal F., Pittsfield, Mass.  
Lampton, William, Artesia.  
Lewis, John R., Las Vegas.  
Longfellow, Harold H., Albuquerque.  
Lurton, Douglass, E. Grand Forks, Minn.  
Maharam, Edward A., Albuquerque.  
Marsh, Floyd P., Clovis.  
Martin, George B., Gallup.  
Mehrens, Harold E., Santa Rosa.  
Meyer, H. Clyde, Deming.  
Meyer, Jesse, Willard.  
Miller, Floyd D., Albuquerque.  
Miller, Harold, Hagerman.  
Miller, Joseph T., Albuquerque.  
Miller, Victor A., Hagerman.  
Mirabal, Monico, San Rafael.  
Mitchell, William A., Albuquerque.  
Moore, Carl F., Clovis.  
Moots, Edmund E., Lake Arthur.  
McArthur, H. Lester, Clayton.  
McBride, W. C. Ben, Artesia.  
McBurney, Calvin M., Ft. Bayard.  
McClure, Dwight L., Albuquerque.  
McClurken, Louis W., Albuquerque.  
McDonald, William M., Tucumcari.  
McDonough, Will D., Deming.  
Neher, Frank H., Albuquerque.  
Newcomer, Albert W., Albuquerque.  
Ogg, Frank C., Raton.  
Ostrander, Cecil M., Shawnee, Okla.

Otero, Antonio J., Albuquerque.  
Overstreet, Frank A., Optimo.  
Padilla, Isauro, Puerto de Luna.  
Page, Thomas, Tularosa.  
Papen, Allen N., Las Vegas.  
Pate, Ted H., Carlsbad.  
Patton, Perkins L., Albuquerque.  
Payton, Ralph W., Albuquerque.  
Peckham, George M., Glorieta.  
Pendergrass, Thomas M., Clovis.  
Prather, F. Watts, Lake Arthur.  
Pullen, Jack, Lake Arthur.  
Reeves, Young, Albuquerque.  
Robertson, Arthur L., Paducah, Texas.  
Robinson, Bruce H., Chandler, Ariz.  
Robison, Ralph R., Albuquerque.  
Rodriguez, Ralph, Santa Fe.  
Rogers, Burton A., Texico.  
Rogers, Glenn A., Portales.  
Rogers, Melville, Portales.  
Romero, Pedro V., Isidore.  
Romero, Samuel M., San Marcial.  
Rosenbach, Samuel, Albuquerque.  
Rosenthal, Nappelius, Las Vegas.  
Rosson, Chas. P., Loving.  
Roybal, Joseph S., Santa Fe.  
Ruiz, John B., Gallup.  
Sanchez, Antonio, Belen.  
Sanchez, Pablo, Albuquerque.  
Santo, Felix M., Hope.  
Schmidt, Charles, Albuquerque.  
Sganzi, William J., Albuquerque.  
Shirley, John E., Estancia.  
Smith, Arthur G., Raton.  
Smith, Louis T., Brilliant.  
Smith, William A., Albuquerque.  
Stackpole, James, Socorro.  
Steed, Paul, Clovis.  
Stroud, Thos. E., Clovis.  
Swedes, Gustave F., Albuquerque.  
Tadlock, Jas. A., Juan de Dios.  
Thomas, Joseph L., Sanford, Colo.  
Torrence, Everett W., McIntosh.  
Trujillo, Severino, Las Vegas.  
Wait, James L., Albuquerque.  
Walker, Henry, Kennett, Mo.  
Walker, Ray F., Albuquerque.  
Wallace, Riley D., Clovis.  
Wanser, Sterling F., New Raymer, Colo.  
Ward, Horton J., Tucumcari.  
White, Wilmer R., Carlsbad.

Williams, Allen M., Albuquerque.

Wilson, Byron F., Albuquerque.

Wisenberg, Victor, Albuquerque.

Young, Alex. C., Hope.

Young, Harry B., Sanford, Colo.

Zimmerman, George M., Ft. Sumner.

# GRADUATES, 1918.

## BACHELOR OF ARTS.

John David DeHuff.....	Major: English Literature
Lina Huning Fergusson.....	Majors: Modern Languages Psychology
Mary Rebecca Graham.....	Major: Economics
James E. Hoover.....	Major: Geology
Edward E. King.....	Majors: Economics English Literature
Louise Lloyd Lowber.....	Major: Biology
Alice Elizabeth Pennington.....	Major: History
Hayes J. Williams.....	Major: History Minor: Education

## BACHELOR OF SCIENCE.

### BACHELOR OF SCIENCE IN HOME ECONOMICS.

Ivy L. Lay  
Kathleen Long  
Shirley Warren

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# CANDIDATES FOR DEGREES, 1919.

## CANDIDATES FOR DEGREE OF BACHELOR OF ARTS.

Eleanor G. Anderman.....	Major: Mathematics
Elizabeth Arnot.....	Major: Chemistry
Mary C. Brorein.....	Major: Spanish
Martha R. Greenlee.....	Major: English Literature
William Ernest Hammond.....	Major: Chemistry
Vera Kiech.....	Major: English Literature
Marion I. Spicer.....	
Helen M. Vincent.....	Major: Psychology
Ethel T. Wolverton.....	Major: Chemistry

## CANDIDATES FOR DEGREE OF BACHELOR OF SCIENCE.

Allie M. Atkinson.....	Major: Home Economics
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# DIRECTORY OF STUDENTS.

**Explanation of symbols.**—After each name is given the College, School, or Division in which student has registered. APS—College of Arts, Philosophy, and Sciences; FA—College of Fine Arts; Eng—College of Engineering; Grad—Graduate School; Prep—Preparatory Division; Spl—Special; Uncl—Unclassified. The figures indicate the number of credit hours earned by the close of the autumn quarter of 1918, but when followed by \* they indicate units toward college entrance.

Name and Address	Division	Hours of Credit
Allen, Laura C., Albuquerque.....	Grad	
Anderman, Eleanor G., Albuquerque.....	APS	149.5
Angle, Katherine G., Albuquerque.....	APS	73
Armijo, Estelle, Albuquerque.....	APS	1.5
Arnot, Elizabeth, Albuquerque.....	APS	132.5
Ashdill, Ruth, Española.....	Prep	0
Atherton, Grace, Albuquerque.....	APS	16
Atkinson, Allie, Roswell.....	APS	150.6
Babcock, May A., Kelly.....	APS	8
Bacon, William T., Albuquerque.....	Uncl	0
Baldrige, Mrs. Viola, Albuquerque.....	FA	2
Barton, James R., Albuquerque.....	Eng	10.7
Bates, Modene, Roswell.....	APS	5
Battles, Mrs. J. A., Clifton, Ariz.....	APS	104
Baughman, Milo, Albuquerque.....	Eng	28
Beahm, S. E., Santa Fe.....	APS	152
Beals, Carolyn, Albuquerque.....	Grad	
Bear, Frances, Roswell.....	APS	49.6
Beatty, Mildred M., Albuquerque.....	APS	0
Beckham, Elma, Albuquerque.....	APS	45
Bell, Louise, Albuquerque.....	APS	118.5
Black, Beatrix, Wapanucka, Okla.....	APS	84
Blackwell, Jerry A., Texico.....	APS	31
Boellner, Edith L., Roswell.....	FA	30
Boldt, Chester C., Albuquerque.....	APS	93
Bolinger, Lucile, Miami.....	APS	3.5
Booker, Herald H., Dewey, Okla.....	APS	42
Bergerding, Martha, Melrose, Minn.....	APS	49.2
Bowers, Chalmers H., Alamogordo.....	Eng	109
Brandebury, Harold, Albuquerque.....	APS	8
Brenneman, Mrs. E. W., Albuquerque.....	APS	17
Brooks, Ralph, Albuquerque.....	APS	7
Brorein, Mary C., Albuquerque.....	APS	138
Brown, Dorothy E., Albuquerque.....	APS	52
Browne, Mrs. G. M., Williamson, W. Va.....	APS	0
Brown, Russell, Troy, Tenn.....	APS	49.5
Bruce, Richard C., Albuquerque.....	APS	2
Bryan, George S., Albuquerque.....	APS	10

Buckly, Howard S., Roswell.....	APS	42.8
Bunn, Thos. S., Albuquerque.....	APS	13
Bursum, Claire, Socorro.....	APS	53.9
Burt, Edwin, Jr., Canutillo, Texas.....	Prep	7
Cameron, Eleanor May, Albuquerque.....	APS	16
Carlisle, Mrs. D. S., Albuquerque.....	APS	0
Carter, Jennie, Albuquerque.....	APS	17
Cavanaugh, LeClier, Albuquerque.....	APS	18
Cavin, Bertha J., Nacogdoches, Texas.....	APS	18.5
Chavez, David B., Albuquerque.....	APS	26
Chess, Flora E., Albuquerque.....	APS	107.7
Chess, James M., Albuquerque.....	APS	23.7
Clark, Carlton E., Deming.....	Eng.	74.4
Clark, Clara L., Amherst, Mass.....	APS	62
Clark, Mrs. C. S., Amherst, Mass.....	Spl	10
Clark, Stella, Chelsea, Okla.....	Prep	
Cobb, Daphne, Albuquerque.....	APS	36
Colgan, Laura, Albuquerque.....	APS	88
Colwell, Dallas E., Texico.....	Prep	
Cooper, Hugh P., Albuquerque.....	APS	67
Conner, Reba, Albuquerque.....	APS	0
Craig, Reginald S., Ft. Sumner.....	Eng	63.6
Cristy, Anne G., Albuquerque.....	APS	119
Cristy, Edward J., Albuquerque.....	APS	105.5
Cullers,, Kate C., Shiprock.....	APS	97
Culpepper, Chas. C., Carlsbad.....	Prep	6
Dadey, Louise E., Magdalena.....	APS	90.3
Darrow, F. Helen, La Junta, Colo.....	APS	103.9
Davis, Irene E., Albuquerque.....	APS	48
Davis, Lois A., Cynthiana, Ind.....	APS	65.8
Davis, Myrle J., Toadlena.....	APS	0
Davis, Pauline W., Albuquerque.....	APS	25
Davis, Robert W., Toadlena.....	Eng.	22
Dawson, Dorothy, Albuquerque.....	APS	0
Dearing, Catherine, Albuquerque.....	FA	4
DeBaca, Alice C., Albuquerque.....	APS	0
De Baca, Antonio C., Albuquerque.....	Spl	0
DeHuff, John D., Albuquerque.....	APS	176
Dixon, Wenonah, Albuquerque.....	APS	53
Earle, India, Albuquerque.....	FA	4
Eldodt, Joseph, Chamita.....	APS	114.4
Favorite, Weinande A., Albuquerque.....	FA	0
Fenton, Carrie E., Albuquerque.....	APS	3.6
Fergusson, Lina H., Albuquerque.....	APS	190.4
Ferguson, W. R., Phoenix, Ariz.....	APS	110
Ferguson, Mrs. W. R., Phoenix, Ariz.....	APS	110
Fetzer, Clair A., Alamogordo.....	Eng	127
Floersheim, Lester, Roy.....	Prep	
Flinterman, Emilie A., Detroit, Mich.....	Spl	
Flurnoy, Margaret E., Albuquerque.....	APS	90.2
Foraker, C. Burch, Albuquerque.....	Eng	33.3
Frisbie, Mary M., Albuquerque.....	Spl	
Gallagher, Thomas C., Texico.....	Eng	36.5

Garcia, Dolores, Albuquerque.....	APS	0
Garrett, Opal, Albuquerque.....	APS	122.5
Garrett, Milan W., Canutillo, Texas.....	APS	104.3
Garton, Edna M., Rolla, Kans.....	APS	37.8
Gentry, George V., Luna.....	APS	8
Georges, James F., Albuquerque.....	APS	0
Gerhardt, Chas., Puerta de Luna.....	Prep	13.5*
Gerpheide, Louis J., Albuquerque.....	APS	7
Gibbs, Dorothy M., Albuquerque.....	APS	54
Gilmore, Fabiola R., Albuquerque.....	APS	44.7
Givan, George W., Carlsbad.....	APS	49.2
Glasebrook, Percy R., Albuquerque.....	APS	1.9
Goetz, Helen E., Albuquerque.....	APS	65
Goss, Katherine, Albuquerque.....	Prep	
Goss, Mable, Albuquerque.....	APS	8.3
Gould, Ralf F., Albuquerque.....	APS	47
Graf, Selma R., Farmington.....	APS	49
Graham, Rebecca, Lovington.....	APS	182.5
Greenfield, Mrs. Mary R., Albuquerque.....	Spl	3
Greenleaf, Frank O., Albuquerque.....	Eng	51
Greenlee, Martha, Sidney, Neb.....	APS	148
Grigsby, Gwyndolyn, Albuquerque.....	Prep	11 *
Grimm, Lola G., Albuquerque.....	APS	39
Gruner, John W., Albuquerque.....	Grad	18
Hagen, Martin S., Fargo, N. Dak.....	Grad	10
Hamm, Adlai E., Albuquerque.....	Prep	13.5*
Hammond, Wm. Ernest, Albuquerque.....	APS	134.8
Harlan, Esther, Albuquerque.....	Prep	13.3*
Harrington, Isis, Albuquerque.....	Spl	4.5
Harris, Anne Earle, White Mountain.....	APS	108
Harris, Doris, Albuquerque.....	APS	7
Harris, Estelle E., White Mountain.....	APS	88
Hart, Margarette, Raton.....	APS	88.5
Hart, Mayme B., Lovington.....	APS	87.5
Hawkins, Hazel, Albuquerque.....	APS	88.2
Hawthorne, Alberta O., Albuquerque.....	APS	86.9
Hayden, Gladys E., Albuquerque.....	APS	114.9
Hayden, Mrs. M. Inez, Albuquerque.....	Spl	0
Hayerford, Pearl, Belen.....	APS	56.5
Heacock, Abby G., Albuquerque.....	APS	62.8
Hendry, Harvey, Elida.....	APS	12
Hennrich, Freda, Albuquerque.....	APS	49
Herby, Ethel D., Albuquerque.....	APS	39
Herrick, Sarah E., Socorro.....	Prep	12.6*
Herron, Jane, Albuquerque.....	Spl	
Heslet, Guy F., Albuquerque.....	APS	129.5
Hext, Howard A., Portales.....	APS	14
Hickey, Herbert A., Albuquerque.....	Eng	68.8
Hickman, Elsie, Nelsonville, Ohio.....	APS	2.5
Higgason, Helen, Alamogordo.....	APS	104
Higgins, John M., Albuquerque.....	Prep	
Hill, Evangeline, Estancia.....	APS	2.3

Hittson, Chas. H., Tucumcari.....	APS	4.5
Hoge, Hermione, Socorro.....	APS	101.3
Hope, Myrl, Albuquerque.....	APS	154.3
Howard, King H., Albuquerque.....	APS	0
Howden, Esther, Albuquerque.....	APS	1.5
Howze, Mabel, Albuquerque.....	APS	0
Hubbard, Jewel, Carlsbad.....	APS	0
Hubbell, Anita, Albuquerque.....	APS	126.4
Hubbell, Julie, Albuquerque.....	APS	76.9
Hudiburgh, Chas. F., Carlsbad.....	APS	7
Huffine, Clarence D., Raton.....	APS	5
Hughes, Florence, El Paso, Texas.....	APS	0
Hunter, Carl L., Albuquerque.....	Prep	
Jackson, Mrs. Ray E., Kansas City, Mo.....	FA	3
Jacobson, Annette, Artesia.....	APS	14
Jahn, Violet E., Albuquerque.....	Prep	13 *
Johnson, E. Vay, Abbott.....	APS	7.5
Johnson, Lenora M., Lovington.....	APS	46
Jones, Katharine B., Albuquerque.....	FA	0
Jordan, Joseph C., Albuquerque.....	APS	42
Keen, Nola E., Albuquerque.....	FA	43
Keinath, Harold, Artesia.....	APS	88.1
Keleher, Katherine, Albuquerque.....	APS	92.9
Kellam, Lloyd A., Albuquerque.....	APS	39
Kempenich, Lillian M., Albuquerque.....	APS	86.9
Kiech, Vera, Albuquerque.....	APS	148.3
Kieke, Ethel L., Albuquerque.....	APS	219
King, Edward E., Albuquerque.....	APS	193.5
Kitching, Clara, Valley Mills, Texas.....	APS	0
Kitching, Ruby, Valley Mills, Texas.....	APS	0
Kraxberger, Lydia, Albuquerque.....	Grad	210.5
LeFleur, Hazel R., Waukon, Ia.....	APS	91.5
Lamb, Mariet G., Roswell.....	APS	40
Latamore, Eunice, Raton.....	APS	121
Lay, Ivy, Caprock.....	APS	223
Lease, Alice C., Plainville, Ill.....	Uncl	0
Lee, Harry B., Faison, N. C.....	APS	31.8
Lee, Helen J., Albuquerque.....	APS	4
Lee, Margaret, Albuquerque.....	APS	10
Leeson, Frances L., Santa Fe.....	APS	18
Leon, Concha, Albuquerque.....	APS	4
Lighton, Edward V., Albuquerque.....	Eng	12
Lincoln, Sophia, Albuquerque.....	Spl	3
Little, Clinton, Albuquerque.....	Spl	51
Long, Callie, Santa Fe.....	APS	93
Long, Evalyn, Albuquerque.....	APS	92.4
Long, Kathleen, Albuquerque.....	APS	171.5
Long, Lorraine, Albuquerque.....	APS	13
Longino, Lucille, Moriarty.....	APS	32
Lowber, Louise L., Albuquerque.....	APS	186
Luna, Romoncita, Albuquerque.....	APS	1
Lynwalter, Rose H., Albuquerque.....	Grad	3
Maharam, Edward A., Albuquerque.....	APS	23.5



Maisch, Herbert W., Albuquerque.....	APS	10
Makin, Lucile, Roswell.....	APS	12
Maloney, Mrs. Barbara, Gallup.....	APS	7.5
Marshall, Flora G., Albuquerque.....	APS	2
Martin, E. Madge, Albuquerque.....	APS	15
Mayberry, Emma, Aragon.....	APS	5.5
Mayo, Helen B., Albuquerque.....	APS	17
McAllister, Dorothy L., Albuquerque.....	APS	16
McCanna, Margaret R., Albuquerque.....	APS	86.3
McClure, Dwight L., Deming.....	Eng	31.2
McCormic, Rosa, Nowata, Okla.....	APS	
McDowell, M. Katherine, Albuquerque.....	APS	13
McGowan, Gertrude M., Taos.....	APS	36
McIntosh, Dorothy A., Lovington.....	APS	12
McKean, Chas. R., Albuquerque.....	Spl	
McKean, Emma M., Taos.....	APS	10
McMillen, Katherine L., Albuquerque.....	Prep	
McNabb, Mrs. Lillian W., Albuquerque.....	APS	6.5
Merrick, Amy B., Amherst, Mass.....	APS	3
Meyers, John E., Albuquerque.....	Eng	3
Meyers, Ralph E., Albuquerque.....	Eng	112.7
Miller, Floyd D., Albuquerque.....	Prep	13.5*
Miller, Harold, Hagerman.....	APS	35
Miller, Joseph T., Albuquerque.....	FA	20
Miller, Victor, Hagerman.....	Eng	7
Mills, Mayme R., Albuquerque.....	APS	33
Millsap, J. A., Rincon.....	Spl	2.5
Mitchell, Hallie E., Albuquerque.....	FA	10
Mitchell, William A., Albuquerque.....	Eng	3.6
Moore, Carl F., Clovis.....	APS	50
Moore, Mary S., Monrovia, Cal.....	APS	0
Moore, R. Jewel, Clovis.....	APS	67.5
Moots, E. Eugene, Lake Arthur.....	APS	8.5
Morris, Byron E., Albuquerque.....	Prep	
Morris, Clyde Y., Albuquerque.....	APS	110
Morris, Cola R., Albuquerque.....	FA	2
Morris, Mrs. Daisy, Albuquerque.....	Spl	32.9
Mozley, Paul P., Albuquerque.....	Eng	149.2
Mulvaney, Mrs. J., Mountainair.....	APS	13
Neher, Frank, Albuquerque.....	APS	6.5
Netzel, Mrs. Margaret, Wapanucka, Okla.....	APS	5
Newcomer, Albert W., Albuquerque.....	Eng	3.5
O'Brien, Mildred, McKeesport, Pa.....	Prep	
Ogg, Frank C., Raton.....	Eng	9
O'Hara, Mrs. Margaret N., Albuquerque.....	Spl	214
Ohmart, Dorothy, Albuquerque.....	APS	49
O'Laughlin, Mary, Albuquerque.....	APS	108.3
Olds, Earl P., Albuquerque.....	APS	80.5
O'Rielly, Katherine, Albuquerque.....	APS	0
Osuna, Anita, Albuquerque.....	APS	76.7
Osuna, Aurelia M., Albuquerque.....	APS	18
Overstreet, Frank A., Optimo.....	Eng	75.4

Padilla, Euclides M., Springer.....	APS	0
Papen, Allen N., Las Vegas.....	APS	32.2
Partch, Irene, Albuquerque.....	FA	0
Pate, Ted H., Carlsbad.....	Prep	12.5*
Patterson, Ruth, Roswell.....	APS	0
Patton, Perkins L., Albuquerque.....	APS	57.7
Paulsen, Herbert F., Las Vegas.....	APS	82.4
Pendergrass, Thos. N., Clovis.....	APS	2
Pennington, Elizabeth, Albuquerque.....	APS	211.9
Perez, Tonchita, Las Cruces.....	APS	16
Perry, Evangeline, Albuquerque.....	APS	100.8
Phillips, James L., Deming.....	APS	15
Pierce, Lois, Hudson, S. D.....	APS	129.3
Plumlee, William, Roy.....	APS	6.5
Postal, Paula, Albuquerque.....	APS	7.5
Rael, Mrs. L. M., Chilili.....	APS	5
Reagan, Maurine, Clovis.....	APS	11
Reagan, Thelma, Clovis.....	APS	37
Rees, Elinor, Roswell.....	APS	14.5
Reeves, Fern, Las Cruces.....	APS	189.5
Reynolds, Dovie I., Ambler, Okla.....	APS	121.5
Richardson, Donovan, Roswell.....	APS	116.1
Robison, Ralph R., Albuquerque.....	APS	4.5
Rodney, Maud B., Roswell.....	APS	42
Rogers, Glenn A., Portales.....	APS	26
Rogers, Maud E., Albuquerque.....	APS	14
Romero, Samuel M., San Marcial.....	Prep	15 *
Rosenbach, Samuel, Albuquerque.....	Eng	77
Ross, Leola, Albuquerque.....	APS	0
Russel, Helen, Roy.....	Prep	
Rutledge, Mrs. A. P., Albuquerque.....	Grad	
Sachs, Felix, Albuquerque.....	Grad	
Sands, Mary K., Las Vegas.....	APS	13
Santo, Felix M., Hope.....	APS	2
Scanlan, Emily K., Albuquerque.....	APS	2
Schumaker, Margaret, Albuquerque.....	APS	118
Scott, Carroll L., Albuquerque.....	APS	5
Scruggs, J. M., Albuquerque.....	Eng	66.9
Seder, Florence M., Albuquerque.....	Grad	3
Selsor, Beatrice B., Albuquerque.....	APS	93
Selsor, Mrs. D. Marie, Albuquerque.....	Spl	4
Sganzini, Wm. J., Albuquerque.....	Prep	
Sharp, Jonathan, Albuquerque.....	Eng	57
Shephard, Jean Key, Cambridge, Mass.....	APS	5
Shields, Adelaide A., Albuquerque.....	APS	82.7
Short, Fletcher L., Albuquerque.....	Eng	91.5
Shotwell, Katherine E., Albuquerque.....	APS	64.7
Simpkins, Eleanor G., Missoula, Mont.....	APS	113.8
Sims, Mrs. Anne, Albuquerque.....	Spl	5
Skelton, Arlene, Shiprock.....	Prep	
Skipwith, Rebecca, Roswell.....	APS	108.3
Slater, William B., Albuquerque.....	Grad	
Smith, J. C., Albuquerque.....	FA	2

Smith, Mary E., San Juan.....	Spl	1
Snyder, Wilma D., Albuquerque.....	APS	46
Spicer, Marion I., Albuquerque.....	APS	150.5
Spitzmusser, Mrs. M. S., Albuquerque.....	FA	2
Stacher, Herbert C., Crownpoint.....	Prep	
Standley, Margaret J., Laguna.....	APS	44
Stephenson, Dorothy, Alamogordo.....	APS	11
Staley, Mrs. William, Albuquerque.....	FA	
Stortz, Grace M., Albuquerque.....	APS	53
Stroud, Thos. E., Clovis.....	Eng	2
Swedes, Gustave F., Albuquerque.....	APS	12.5
Sweet, Emma Bell, Albuquerque.....	Spl	
Switzer, Hortense V., Albuquerque.....	FA	78
Taylor, Grace M., Stanley.....	Spl	45.5
Thacker, Helen, Raton.....	FA	127
Thomas, Luther R., Roswell.....	APS	10
Thompson, Ross C., Farmington.....	APS	22
Thompson, W. Paul, Farmington.....	APS	46
Thurman, Ruth, Albuquerque.....	Spl	0
Tompkins, Ruth A., Albuquerque.....	APS	16
Towner, H. Alva, Farmington.....	APS	43
Turner, Carrie, Albuquerque.....	FA	2
Vaughney, Alexandria, Albuquerque.....	APS	12
Vaughn, Ada, Albuquerque.....	Spl	
Vaughn, Manford Boone, Fruitland.....	Prep	
Venable, Jessie I., Albuquerque.....	APS	121
Vincent, Helen M., Albuquerque.....	APS	156
Waggoner, Wanda, Albuquerque.....	FA	
Wait, James L., Albuquerque.....	APS	85.5
Walker, Raymond F., Albuquerque.....	APS	48
Wallard, Jeannette, Portales.....	APS	7
Wardlaw, Desda, Albuquerque.....	APS	0
Warren, Shirley, Silver City.....	APS	206.5
Washburn, Harry L., Albuquerque.....	APS	2
Watson, Mrs. Edna, Albuquerque.....	APS	63
Weiller, Florence M., Albuquerque.....	APS	45
Weisenbach, Estelle A., Albuquerque.....	APS	59
Welch, Bertha F., Albuquerque.....	Spl	50
Wells, Lorena, Albuquerque.....	APS	3
White, Helen, Albuquerque.....	APS	0
Wicklund, Irene B., Roswell.....	APS	41
Wilkinson, Claude K., Ft. Sumner.....	Prep	
Williams, Allen M., Albuquerque.....	APS	60
Williams, Hayes J., Johnstown, Pa.....	APS	217.5
Wilson, Bernice G., Albuquerque.....	FA	4
Wilson, Byron F., Albuquerque.....	APS	50.5
Wilson, Mary E., Santa Fe.....	APS	7.5
Witten, Oliver B., Deming.....	Eng	14
Wolverton, Ethel T., Albuquerque.....	APS	165
Wood, Roberta, Lawrence, Ks.....	APS	124
Wood, Joseph E., Albuquerque.....	Uncl	12
Zimmerman, Ruth M., Albuquerque.....	APS	54
Zwiesler, Frances, Albuquerque.....	Spl	10

# SUMMARIES.

## OFFICERS.

REGENTS .....	7
FACULTY	
President and Professors.....	16
Assistant Professors.....	4
Total .....	20
OTHER OFFICERS OF INSTRUCTION AND ADMINISTRATION.	
Instructors .....	3
Secretaries .....	2
Total .....	5

## SUMMARY OF SECONDARY SCHOOLS REPRESENTED, 1918.

The following list shows the high schools or private schools in which students now enrolled in the University received their college preparatory work. A numeral indicates the number of students from each school.

### NEW MEXICO HIGH SCHOOLS.

Alamogordo .....	3	Gallup .....	1
Albuquerque .....	78	Lovington .....	1
Artesia .....	1	Magdalena .....	1
Belen .....	1	Miami .....	1
Carlsbad .....	1	Pleasant Hill.....	2
Clovis .....	2	Portales .....	2
Deming .....	2	Raton .....	1
DeDs Moines.....	1	Roswell .....	8
East Las Vegas.....	4	Roy .....	1
Farmington .....	3	Socorro .....	3
Fort Sumner.....	2	Taos .....	1
Fruitland .....	1		
			121.

### STATE EDUCATIONAL INSTITUTIONS (PREP. DEPT.)

Las Vegas Normal School (Prep. Dept.).....	2
New Mexico Normal School (Prep. Dept.).....	7
New Mexico School of Education.....	1
Silver City Normal (Prep. Dept.).....	5
University of New Mexico (Prep. Dept.).....	8

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### PRIVATE SCHOOLS IN NEW MEXICO.

Allison James School (Santa Fe).....	1
St. Vincent's Academy (Albuquerque).....	6
Albuquerque Business College.....	2

9

Students prepared in New Mexico.....	153
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## HIGH SCHOOLS IN OTHER STATES.

Altoona, Pa. ....	1	Owensville, Ind. ....	1
Amherst, Mass. ....	1	Palatine, Ill. ....	1
Collinsville, Tex. ....	1	Piggott, Ark. ....	1
Dalhart, Tex. ....	1	Quincy, Mass. ....	1
Dewey, Okla. ....	1	Rolla, Kans. ....	1
El Paso, Tex. ....	3	San Francisco, Cal. ....	2
Escondido, Cal. ....	1	Seattle, Wash. ....	1
Garden City, Kans. ....	1	Sedalia, Mo. ....	1
Greenville, Ill. ....	1	Shamrock, Tex. ....	1
Grinnell, Iowa ....	1	Stephensville, Tex. ....	1
Jackson, W. Va. ....	1	Tampa, Fla. ....	1
Jefferson City, Mo. ....	1	Texarkana, Ark. ....	1
La Junta, Colo. ....	1	Topeka, Kans. ....	1
Los Angeles, Cal. ....	1	Waco, Tex. ....	1
Mexico, Mo. ....	1	Wapanucka, Okla. ....	1
Monrovia, Cal. ....	1	Wichita Falls, Tex. ....	1
Mount Olive, N. C. ....	1		
			36

## OTHER STATE EDUCATIONAL INSTITUTIONS (PREP. DEPT.)

Ada, Okla., Normal ....	1	Missouri State Normal ....	1
Cope Normal ....	1	Oklahoma State Normal ....	1
Prof. Dick's Normal ....	1	Sam Houston Normal ....	1
Ellensburg Normal ....	1	San Diego Normal ....	1
Flagstaff Normal ....	1	No. Texas State Normal ....	1
Iowa State Normal ....	1		
Louisiana State Normal ....	1		12

## PRIVATE SCHOOLS IN OTHER STATES.

Bethlehem Prep. College ....	1	Oakfield Academy ....	1
Blackburn College ....	1	Pike Seminary ....	1
Branham & Hughes Mil. Acad. ....	1	Radcliffe College ....	1
Carthage College ....	1	St. Catherine's College ....	1
Crescent College ....	1	St. Peter's ....	1
Emporia College ....	1	St. Xavier's Academy ....	1
Fairmount College ....	1	Scudder School ....	1
Galloway College ....	1	University of Notre Dame ....	1
Girls' Collegiate School ....	2	Ward-Belmont ....	1
Georgetown College ....	1	Washburn College ....	1
Hamilton College ....	1	Winona College ....	1
McKendree College ....	1		
Meridian College ....	1		25
Secondary Schools of New Mexico represented.....			31
Secondary Schools of other states represented.....			69
Total .....			100

## SUMMARY OF STUDENTS BY HIGHER INSTITUTIONS REPRESENTED.

**Explanatory note.**—Students who have entered the University with advanced standing above the Freshman Class by presenting credits earned elsewhere. The names of institutions attended by such students before

matriculation at the University of New Mexico and the number of students from each institution is given in the appended table:

Amer. Conservatory of Music..	1	Ohio State Normal .....	1
Baker University .....	2	Oklahoma State Normal .....	2
Carnegie Inst. of Technology..	1	Oregon Agri. College .....	1
Carroll College .....	1	Peru Normal School .....	1
Chicago Normal .....	1	Smith College .....	2
Christian College .....	2	University of Arizona .....	1
Columbia University .....	1	University of Arkansas .....	1
Florida College for Women....	1	University of California .....	3
Horner Institute .....	1	University of Chicago .....	3
Howard-Paine College .....	1	University of Colorado .....	2
Iowa State Normal .....	1	University of Indiana .....	3
Kansas Agricultural College...	1	University of Kansas .....	1
Kansas State Normal .....	1	University of Minnesota .....	1
Kid Key College .....	1	University of North Dakota...	1
Michigan State Normal .....	1	University of Ohio .....	1
Missouri State Normal .....	1	University of Oklahoma .....	1
New Mexico A. & M. College..	1	University of Texas .....	2
New Mexico Normal .....	3	University of Washington .....	1
North Dak. Agri. College .....	1	University of Wisconsin .....	1
Northwestern University .....	1		
Total students with advanced standing.....			53
Number institutions not named.....			40
Higher institutions represented .....			39
Total institutions .....			79

### SUMMARY OF STUDENTS BY COUNTIES IN NEW MEXICO AND BY STATES.

Bernalillo .....	194
Chaves .....	14
Colfax .....	4
Curry .....	7
De Baca .....	2
Dona Ana .....	3
Eddy .....	4
Grant .....	1
Guadalupe .....	1
Lea .....	3
Lincoln .....	2
Luna .....	3
McKinley .....	4
Mora .....	4
Otero .....	4
Rio Arriba .....	2
Roosevelt .....	1
San Juan .....	10
San Miguel .....	3
Santa Fe .....	5
Socorro .....	7
Taos .....	2
Torrance .....	3
Valencia .....	2

Total New Mexico ..... 285

Arizona .....	2
California .....	1
Illinois .....	1
Indiana .....	1
Iowa .....	1
Kansas .....	2
Massachusetts .....	4
Michigan .....	1
Minnesota .....	1
Missouri .....	1
Nebraska .....	1
North Carolina .....	1
North Dakota .....	1
Ohio .....	1
Oklahoma .....	6
Pennsylvania .....	1
South Dakota .....	1
Tennessee .....	1
Texas .....	6
West Virginia .....	1
<hr/>	
Total other states .....	34
Total S. A. T. C. students (less duplications) .....	112
<hr/>	
Total .....	431

#### SUMMARY OF STUDENTS BY COLLEGES, SCHOOLS, AND DIVISIONS.

Graduate School of Arts, Philosophy, and Sciences .....	25
College of Arts, Philosophy, and Sciences .....	227
College of Fine Arts .....	20
College of Engineering .....	20
Special .....	7
Preparatory Division .....	20
<hr/>	
Total S. A. T. C. Students (less duplications) .....	319
Total .....	112
<hr/>	
Total .....	431

# ALUMNI ASSOCIATION.

## CONSTITUTION.

### ARTICLE I.—NAME.

The name of this association shall be the Alumni Association of the University of New Mexico.

### ARTICLE II.—OBJECT.

This association is formed for the purpose of forwarding the interests of the University and of the State, and of bringing the State and the University into closer touch, each with the other.

### ARTICLE III.—MEMBERS.

Any graduate or ex-student of the College of Arts, Philosophy, and Sciences (not dishonorably dismissed), and any graduate of any other college, school, or curriculum of the State University prior to the summer of 1915, may become a member of this Association by making application to the Secretary of the Association, presenting therewith proper proof of his eligibility as herein set out, together with his annual dues.

### ARTICLE IV.—OFFICERS.

The officers of the Association shall consist of a President, a Vice-President, a Secretary, and a Treasurer, all of whom shall be elected at the annual meeting.

### ARTICLE V.—PRESIDENT AND VICE-PRESIDENT.

The President, or in his absence, the Vice-President, or in the absence of both President and Vice-President, one of the members, shall preside at all meetings of the association.

### ARTICLE VI.—SECRETARY.

The Secretary shall collect all dues and fees, and other moneys, and turn them over to the Treasurer, giving the sources from which moneys were received, and taking his receipt therefor, and shall keep a record of the proceedings, and conduct all necessary correspondence of the Association, and shall discharge such other duties as shall be required of him by the Association.

### ARTICLE VII.—TREASURER.

The Treasurer shall open and keep an account with each



member as reported to him by the Secretary, and by order of the Executive Committee shall disburse the moneys of the Association and discharge such other duties as shall be required of him by the Association. He shall give security in the sum and in such form for the safe keeping of and accounting for moneys of the Association coming to his hands, as shall be required by the Executive Committee.

#### ARTICLE VIII.—EXECUTIVE COMMITTEE.

The President, Vice-President, Secretary, and Treasurer shall constitute the executive committee, who shall manage the affairs of the Association, subject to the By-Laws. They shall have charge of the property of the Association. They shall arrange the program for the regular meeting, and shall do and perform all acts imposed by the By-Laws, and incident to their duties as such executive committee.

#### ARTICLE IX.—UNIVERSITY COMMITTEE.

There shall be a committee of three members, who shall furnish information about the University to all preparatory schools, and colleges and universities in New Mexico. One member shall be elected at each annual meeting to serve three years.

#### ARTICLE X.—MEETINGS.

The annual meeting of the Association shall be held at such time and place as shall be determined upon at the annual meeting of the Association each year, which annual meeting shall continue as one session for all general purposes until it is finally adjourned; and there shall be such adjourned meetings as the Association may determine, and at such adjourned meetings any business of the Association may be transacted except the election of officers.

Special meetings may be called at any time by the President.

At every meeting of the Association the presence of five members shall be necessary to constitute a quorum.

#### ARTICLE XI.—ELECTIONS.

At each annual meeting there shall be elected by ballot the officers of the Association for the year next ensuing, and they shall hold office until their successors have been duly elected and qualified.

In case of a vacancy in any office, it shall be filled by appointment by the Executive Committee.

## ARTICLE XII.—FEES.

The admission fee shall in all cases be one dollar, which shall be paid as provided in the By-Laws, and which shall cover dues in the year in which the applicant is elected.

## OFFICERS.

ERNA FERGUSON, President.

ALLAN ELI BRUCE, '17, Vice-President.

ERNEST W. HALL, '16, Secretary-Treasurer.

IMPORTANT: No work is to be reported on this certificate which was done in grades below the High School.

SUBJECT:	NO. REC. PER WEEK	NO. MIN. IN REC.	NO. LAB. PERIODS PER WEEK	NO. MIN. IN LAB. PERIOD	NO. WEEKS	STANDING	SCHOOL AND DATE
Grammar Review							
Comp. and Rhetoric							
Classics							
Engl. Lit.							
Am. Lit.							
French							
German							
Greek							
Latin							
Spanish							
Anc. Hist.							
M. and M. Hist.							
Engl. Hist.							
U. S. Hist.							
Civics							
N. M. Hist. & Civ.							
Economics							
Algebra							
Geometry							
Trigonometry							
Adv. Arith.							
Physics							
Chemistry							
Phys. Geog.							
Botany							
Zoology							
Physiology							
General Science							
Agriculture							
Drawing							
Manual Training							
Sewing							
Cooking							
Stenography							
Bookkeeping							
Com'l Arith.							
Com'l Law							

Unless grades are given in figures, a key to the letters should always be furnished on the certificate.

# University of New Mexico

## FOR USE OF COMMITTEE ON ADMISSION

Name\_\_\_\_\_

College\_\_\_\_\_ Units\_\_\_\_\_

Conditions\_\_\_\_\_

Date\_\_\_\_\_ Signed\_\_\_\_\_

## HIGH SCHOOL CERTIFICATE

(Name of applicant in full.)

School officials are urgently requested not to permit candidates for admission to fill out their own certificates.

School officials are urged not to hand certificate to applicant, but to return it by mail directly to the Committee on Admission before the Registration Day of the quarter in which the applicant desires to attend the University.

\_\_\_\_\_ was graduated from the\_\_\_\_\_

\_\_\_\_\_ (Name of School)

\_\_\_\_\_ County, \_\_\_\_\_ State,

on the\_\_\_\_\_ day of \_\_\_\_\_ 19\_\_

His age is\_\_\_\_\_

His standing was in the

1st. }  
2nd. } quarter of his class.  
3rd. }  
4th. }

The candidate desires to enter the\*

*College of Arts, Philosophy, and Science.*

*College of Fine Arts*

*College of Engineering*

This certificate is a correct statement of the high school record.

\_\_\_\_\_  
Date\_\_\_\_\_, 19\_\_ Principal.

\_\_\_\_\_  
(Address of Applicant)

\_\_\_\_\_  
\*Check College desired.

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